Ben Archer MAAD 005 • August 2007 • Exegesis

HTTP://WWW.100TYPES.COM: DEVELOPING A COMPUTER-MEDIATED MODEL FOR THE TEACHING OF TYPE DESIGN HISTORY

Art & Design Research
Faculty of Design & Creative Technologies
AUT University

Colophon:

Typeset in FF Scala Regular & Italic 9.5/14pt. Headings, listings, captions and supplementary material set in FF Scala Sans Bold and Italics.

Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

……………………………………………………………………… .

Ben Archer   Date

Intellectual Property Rights

MEMORANDUM
Auckland University of Technology Ethics Committee (AUTEC)

To: John Eyles
From: **Madeline Banda** Executive Secretary, AUTEC
Date: 6 August 2007
Subject: Ethics Application Number 07/84 **Making a computer-mediated model to teach a history of type design.**

Dear John

Thank you for providing written evidence as requested. I am pleased to advise that it satisfies the points raised by a subcommittee of the Auckland University of Technology Ethics Committee (AUTEC) at their meeting on 21 May 2007 and that as the Executive Secretary of AUTEC I have approved your ethics application. This delegated approval is made in accordance with section 5.3.2.3 of AUTEC's *Applying for Ethics Approval: Guidelines and Procedures* and is subject to endorsement at AUTEC's meeting on 10 September 2007.

Your ethics application is approved for a period of three years until 6 August 2010.

I advise that as part of the ethics approval process, you are required to submit to AUTEC the following:

- A brief annual progress report indicating compliance with the ethical approval given using form EA2, which is available online through *http://www.aut.ac.nz/about/ethics*, including when necessary a request for extension of the approval one month prior to its expiry on 6 August 2010;

- A brief report on the status of the project using form EA3, which is available online through *http://www.aut.ac.nz/about/ethics*. This report is to be submitted either when the approval expires on 6 August 2010 or on completion of the project, whichever comes sooner;

It is also a condition of approval that AUTEC is notified of any adverse events or if the research does not commence and that AUTEC approval is sought for any alteration to the research, including any alteration of or addition to the participant documents involved.

You are reminded that, as applicant, you are responsible for ensuring that any research undertaken under this approval is carried out within the parameters approved for your application. Any change to the research outside the parameters of this approval must be submitted to AUTEC for approval before that change is implemented.

Please note that AUTEC grants ethical approval only. If you require management approval from an institution or organisation for your research, then you will need to make the arrangements necessary to obtain this.

To enable us to provide you with efficient service, we ask that you use the application number and study title in all written and verbal correspondence with us. Should you have any further enquiries regarding this matter, you are welcome to contact Charles Grinter, Ethics Coordinator, by email at charles.grinter@aut.ac.nz or by telephone on 921 9999 at extension 8860.

On behalf of the Committee and myself, I wish you success with your research and look forward to reading about it in your reports.

Yours sincerely

Madeline Banda
Executive Secretary
Auckland University of Technology Ethics Committee

Cc: Ben Archer ben.archer@aut.ac.nz, AUTEC Faculty Representative, Design and Creative Technologies

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Abstract: Making a Computer-Mediated Model to Teach a History of Type Design.

This project's purpose is to relocate traditional paper-based library content about typographic history to a website, curated as a digital museum. The project process is defined as three distinct parts:

1. Scholarship and research.
2. Model-building and website creation.
3. Deployment, testing and evaluation.

To support this, the project included the following substages:

- An informal needs analysis generated by reflection on practice.
- A survey of contemporary typeface classification systems, type education literature and online resources for typographic study.
- The building of animated and three-dimensional prototype models.
- The creation of a database of 100 historically significant typeface designs.
- The sourcing of samples, references, images and the gathering of reproduction permissions from designers, institutions and foundries whose work features in the database.
- The writing, editing, design and launch of the website at http://www.100types.com
- Peer feedback and review.
- An evaluation study of the website with students at AUT University in Auckland, New Zealand.
- A series of revisions to the website structure and presentation.
- The writing up of the research process and findings.

I chose this topic as the direct result of my experiences teaching typography at AUT University and other tertiary institutions. The need for graphic design students to demonstrate competencies in typography (as a sub-discipline of graphic design) has always been present, but has been foregrounded over the last two decades; however, a recent PhD thesis on the subject has argued that traditional delivery of print-based typographic knowledge no longer serves undergraduate requirements for today's divergent screen-based media (Yee, 2006, p.11). This has been accompanied by a significant rise in the number of available typefaces (Cahalan, 2004, p.62). Unfortunately the means with which to study them has not kept pace with these developments (Dixon, 2002, p.4).

Changes occurring within the type manufacturing industry and the wider field of creative industries during the last two decades have made the historical, background context of typography harder to comprehend from an undergraduate point of view. Students complain that they are under-resourced for information (in their preferred research medium) about the typefaces they must demonstrate care and deliberation in choosing. From experience gained in observing an online-learning pilot scheme in 2005, I elected to develop an online reference resource designed for self-directed research of typographic history as a complement to the existing tuition of typographic applications face-to-face in the classroom.

While the project offers a useful example of how practice-led research can augment a teaching situation, and is concerned with the promotion of student-centred and self-directed learning at AUT University, this is not its only objective as a public-access location on the internet. In keeping with the rising philosophy of open content for web-based education resources, a conscious decision was made at the project's inception to host and present the website independently of AUT University and its online learning environment.

1.1 Chapter Summary

This chapter provides background context to the project at local and international levels. Beginning with an outline of concerns specific to undergraduate learning experience within my classes at AUT University, the scope widens, via consideration of the subject literature, to a broad-ranging survey of typographic education material across different media, and concludes with the identification of a research gap.

1.2 Context of Project

Changing student profiles and wide variance in classroom experience have resulted in the increased desirability of adopting more and better flexible-learning strategies for tertiary education. This is largely due to a new emphasis on online learning, reflected in the fact that the internet has now become the learning medium of choice for both students and tertiary institutions;

> Services need to be modified… to allow for higher level information literacy teaching… libraries must ensure services are placed in the users' preferred environment – the Web. Future librarians will need to be guided by how users access, consume and create content (AUT Library Newsletter, November 2006. See Appendix 3).

Design schools in particular face challenges in deciding which parts of their specific curricula, including content that encompasses both software/practical/technical and conceptual/theoretical/research-based material, should be taken up by online learning.

At AUT University, students in the School of Art and Design progress their learning by enrolling in a succession of low-level undergraduate courses, which as yet do not have a structured online learning component. These courses are the three-year Bachelor of Arts Graphic Design (BAGD), two-year Diploma in Graphic Communication (DipGC) and the six-month Certificate in Computer Graphic Design (CCGD), rated at NZQA levels 7, 6, 5 and 4 respectively. However, the last two courses have only recently experimented with incorporating online learning components into their course content; the DipGC in 2004, and the CCGD in 2005.

Students on all three courses have to learn print applications and the central role of typography within these, as an integral part of their study, but this knowledge is not explicitly taught as much as implicitly acquired through project-based processes of learning-by-doing. This necessarily entails a 'trial and error' method of learning, as students failing summative assessments are required to correct and resubmit project work. Criteria for successful outcomes include the acquisition of knowledge about the history of type, demonstration of basic typographic skills and relevant or appropriate choices of typeface.

However, it has been shown by Yee (2006, p.11) that the traditional terminology associated with print-based typography is no longer appropriate for describing and developing a skillset in today's divergent screen-based typography. Thus there is a need to sequence and deliver appropriate course content accordingly. This is less of an issue for the print applications-only CCGD course than it is for the DipGC and BAGD courses, which both include print-based applications and multimedia (web and interactive) applications.

How best to develop, sequence and deliver course content for these courses is the subject of ongoing debate. The DipGC has evolved from what used to be the New Zealand National Printing School Apprenticeship Certificate to an ambitious multi-disciplinary programme that taxes even the most dedicated students within its two-year timeframe.

The BAGD has evolved from a course rooted in illustration and printmaking technique. There is tension between advocating web-based materials at the expense of print-based materials, and vice versa. Traditional print-based areas of the curriculum, such as typography, are still largely delivered on paper, regardless of the projected media outcome for the assignment in question.

For learning typography in print applications the structure of the first year of the DipGC is not evenly balanced, and the majority loading for learning and assessment in this subject area falls firmly within a single summative assignment, *Paper 114637 (Design and Digital Imaging 1A)*, the *Gutenberg* assignment (see Appendix 1). This assignment requires students to research the history of type design and publishing from the time of Gutenberg to the present day. Pedagogically this is appropriate to the level of the course and makes sense in the context of a progression of learning. However, students at this level (many of them school leavers new to tertiary study) are generally young and academically borderline (poor writing skills, insufficient communication skills, short attention span) and resistant to top-down, rote-learning methods. The weakest students typically use only the simplest search terms in internet searches and investigate just the very first search result from their enquiry, meaning that the content of their assignment is often copied and pasted directly from www.redsun.com/type/classification and www.redsun.com/type/abriefhistoryoftype. The significant mistakes (spelling, misattribution etc.) reproduced from these particular webpages allows assessors to instantly identify the shallowness of the research effort.

1.3 Result of Needs Analysis

An opportunity was identified for a practice-based research and design project to improve student resources for researching type history. This was informed by three things:

1. The changing student profile showing a dropping-off of traditional research skills and behaviours.
2. The University's ongoing call to adopt more online teaching resources to support blended educational experience both on and off campus (see Appendices 2 and 3).
3. The experience with an external online tutorial-based system for teaching software techniques, which had been trialled with students on the DipGC in 2005.

Evaluation (in late 2005) of this previous attempt to introduce online learning had highlighted the inadequacy of reports generated by the provider's website for determining specified learning outcomes. Although the provider's online library component was used extensively by some students, the accessibility and robustness of the provider's interactive dynamic content – the online tutorial component – was found to be very problematic, and was significantly less effective than their static content – the online library archive (AUT internal report, Element K Online Learning Pilot Study, 2004. See Appendix 4).

Working conclusions drawn from this were that the learning of particular software techniques should remain within the classroom, but that supporting reference or research material for the DipGC could be better repositioned online to support a blended educational experience.

1.4 Summary of the Project

This exegesis describes the development stages of a resource which relocates traditional library content about the history of type to a specifically designed website in order to benefit students of typography generally, and the students on the BAGD and DipGC courses in addition. The developmental stages were as follows:

- An informal needs analysis generated by reflection on practice.
- A review of contemporary typeface classification systems.
- The building a three-dimensional prototype model.
- The databasing of 100 historically significant typeface designs.
- The design and launch of a website incorporating this material.
- The trialling of the website with students on the DipGC course.

1.5 Student-Centred and Self-Directed Learning

Students need to be able to perform online research into the history of type design independently and outside of scheduled classes in order to complete their graphic design assignments on undergraduate courses at AUT University and elsewhere. With the Gutenberg project, there is an expectation from the lecturing staff that students will engage with the research component during the long summer break. Thus a major motivation for this project is to improve teaching practice and learning outcomes with particular emphasis on facilitating student-centred and self-directed learning.

Student-centred learning typically requires individuals to negotiate their own learning outcomes, and encourages student engagement with coursework by allowing individual interpretation of a project brief. Self-directed learning places responsibility for progression of study with the student, and requires the discipline necessary to study outside of class. Each undergraduate student is supposed to take control of their own academic progress by performing twenty hours of self-directed learning each week. Because this necessarily occurs outside of class, materials produced for self-directed learning must be readily available from any location at all times and easily comprehensible. The creation and provision of a didactic, open-ended online resource as a digital museum can therefore be seen in both student-centred and self-directed contexts.

Within this context, there is still a pressing need to develop new methods and approaches for delivering course content in such a way that students actually access it. An obvious response to this is to issue a number of search-based 'treasure hunt' tasks as set homework or goals for self-directed study. The Gutenberg project (Figure 1) specifically asks students to investigate, itemise, describe and illustrate six different categories of typeface, in addition to drawing up two timeline diagrams to show the historical development of type styles and the technological development of their reproduction in printed form.

Figure 1: excerpt from the Gutenberg assignment sheet

Subject range	**TYPE & TYPE FACES** *complete all of the following*
	• Johann Gutenberg and his place in the history of the printed word.
	• A time-line of type styles and overview of typeface design from the time of Gutenberg to the present day.
	• A description and time-line of type face reproduction formats from Gutenberg to the present day — range: metal, film, digital (type 1 etc).
	• Explain the term: "Postscript" and its origins relative to printing devices.
	• Describe the characteristics of the following typeface classifications: Roman, Sans Serif, Slab Serif, Script, Black Letter and Decorative.
	• Include an example of a typeface that falls into each of these classifications.
	• Explain the terms: font (fount) and typeface.
	• Explain the terms: uppercase and lowercase and their origins.
	DESIGNERS
	• Select **two** of the following designers: Neville Brody, April Greiman, Paul Renner, Erik Spiekermann, Jan Tschichold, David Carson, Rudy Vanderlans, and Wolfgang Weingart.
	• Make detailed comments on each of the two selected designers under these headings:
	• Philosophy of, and their approach to typography.
	• Development of their style.
	• Publications they have influenced, and how.
	• How their approach to typography has influenced others.
	• Dedicate a page to each of the selected designers, these pages are to reflect the designers design style. All other pages are to follow a consistent design style.

1.6 Existing classifications for typeface design

To put the specified requirements of the fifth bullet point on the Gutenberg assignment sheet in context, a comparison of differing forms of typeface classification is presented here.

Traditional typeface classification has a reliance on precedent and historical form; prior to the nineteenth century, and beyond the printing trade, there was little need of a classification of typefaces because (comparatively speaking) there were so few of them. Early writers (Moxon, 1683; Fournier, 1768; Bodoni, 1818; Updike, 1937) interlaced historical development and classificatory appellation in typeface design in a simple manner; there were the 'old' faces from the sixteenth century, the new or 'modern' faces from the late eighteenth century, and something in between, the 'transitional' faces from the early eighteenth century.

The category nomenclature in the Gutenberg assignment brief derives from work done in 1954 by the French typographer, Maximillien Vox, whose name is associated with the traditional typeface classifications following his model, including the last internationally ratified standard, the *British Standard 2961/DIN 16518* (1967). Vox-based classification always sought to tie typeface designs either to the historical periods from which they derived, or to a stylistic genre reflecting the type's morphology, especially the serif shape. Vox categories employ compound names from those of famous typefounders, hence *Garalde* is a joining of the names GARamond and ALDus, and *Didone* is a compound of DIdot and boDONI (Figure 2).

Figure 2: diagram from the Classification Vox of 1954

The Gutenberg assignment specifically asks for a diagrammatic interpretation of type history, which in itself had traditionally been inseparable from type classification. However, traditional type classification, based on historical and morphological forms, is surprisingly poorly represented in visual terms; although the project review identified 26 different schema for classifying typefaces from 1923 to 2006, the research counted only five diagrammatic renderings of the same information from the same period (Warde, 1935, p.133 – 135; Hostettler, 1949, p.12 – 15; Wulfrun, 1959, p.94, 96, (Figure 3); Biggs, 1961, p.18

– 20; Dixon, cited in Baines and Haslam, 2002, p.49 – 70).

These simple diagrams all rely on a 'visual system of attack' – a process of morphological differentiation to present both the family trees of typefaces and the individual stylistic permutations within them. It is worth recognising that four out of the five diagrammatic examples were generated prior to the mid-1980s, when the classification problem was simpler *per se*.

Figure 3: visual classification diagrams after John Wulfrun, 1959
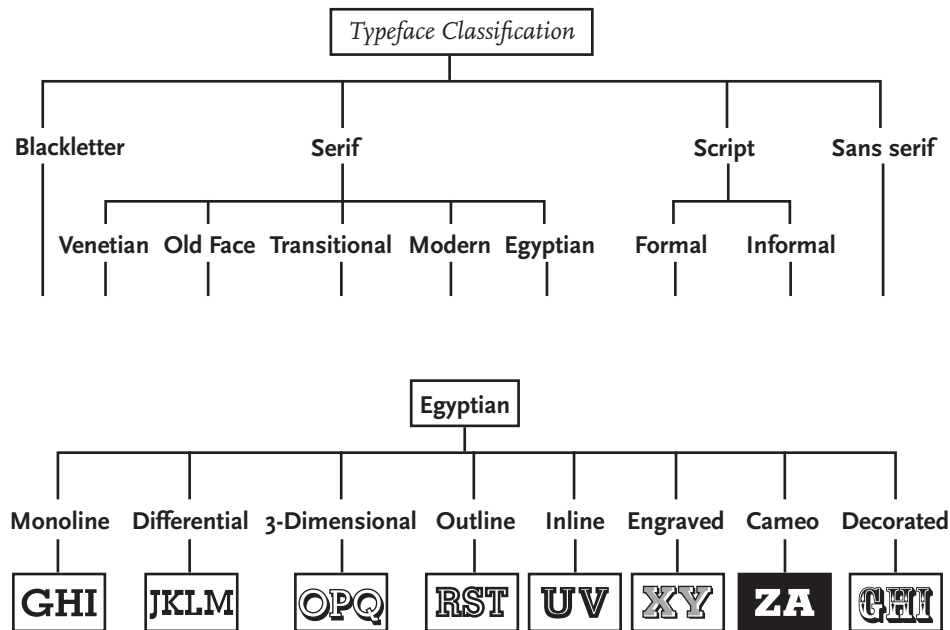
In the English-speaking world, according to Baines and Haslam (2002, p.46) new schemes for typeface classification, including the *BS 2961*, have largely foundered for several reasons:

1. Inherent bias of traditional schemes in favour of text typefaces went unrecognised or unaddressed.
2. Lack of consensus as type manufacturing technologies continued to evolve and the surrounding industry continued to decentralise.
3. Vox-based nomenclature fell into disuse among rising numbers of type consumers in the new world, and within creative technologies industries.
4. Straight morphological/visual approach failed to address everyday practice.

The third point suggests why Vox-based systems have proved increasingly unpopular outside of Europe. The last point highlights a key finding of recent research in this area; that ever-increasing numbers of type designers consciously 'aim for the gaps' in extant type categorisations to create new designs (Dixon, 2002, p.4), which results in a field of enquiry now characterised by increasingly large numbers and unprecedented diversity.

In Germany the adoption of the *DIN 16518* was contentious and led to numerous suggestions for reform without success (Alessandrini, 1980; Aicher, 1988; Noordzij, 1991; Sauthoff, Gilmar & Willberg, 1998; Beinert, Bollwage, Kupferschmidt & Willberg, 2001, cited in Petri, 2003, p.7). This widespread dissatisfaction provided a background context in which the *DIN 16518* was ultimately abandoned by some of the larger (German-based) type manufacturers (Linotype, FontShop) who have since published their own replacement systems both on their websites and in their catalogues and promotional material (Figure 4).

Figure 4: comparison of DIN 16518 and FontShop classifications, 2006

In addition to the boundary-blurring impetus of new designs, such as sans/serif 'hybrid' typeface families, designers and manufacturers since the 1970s have also concentrated on the creation of very large interchangeable type families. Increasingly this has led to a situation where some typeface designs for these 'megafamilies' are homogenised to the point of indistinction.

To cope with both the similarities and dissimilarities of the new designs, a standard desk reference, *Rookledge's International Typefinder* (Rookledge & Perfect, 1983), employs a system of 'earmarks' or distinguishing characteristics to identify typefaces. Although the book is organised under the Vox-based *BS 2961* classification, its chief method is (again) a 'visual system of attack' aimed at those needing to identify typefaces without knowing their names or categorisations. A similar method is used in both Bauermeister's *Manual of Comparative Typography; the PANOSE System* (1988) and Wansick's four-volume *Identafont* (1998) which, taken together, list samples of fewer than 3,000 typefaces and hold to generally agreed (traditional) principles in their underlying classifications.

At the time of their publication (before the rise of the internet), Bauermeister's and Wansick's books represented newer methods for type identification that began to diverge from the established Vox-based system still adhered to in the earlier book by Rookledge. Despite an admission (Gordon Rookledge, personal communication, 2004) that substantial updating would be required to make the title relevant to the plethora of type designs created since its initial publication, the new (2005) republication of *Rookledge's Classic International Typefinder* (Figure 5), is materially unimproved from its 1983 first edition.

Figure 5: Rookledge's International TypeFinder 2005 (Classic) edition
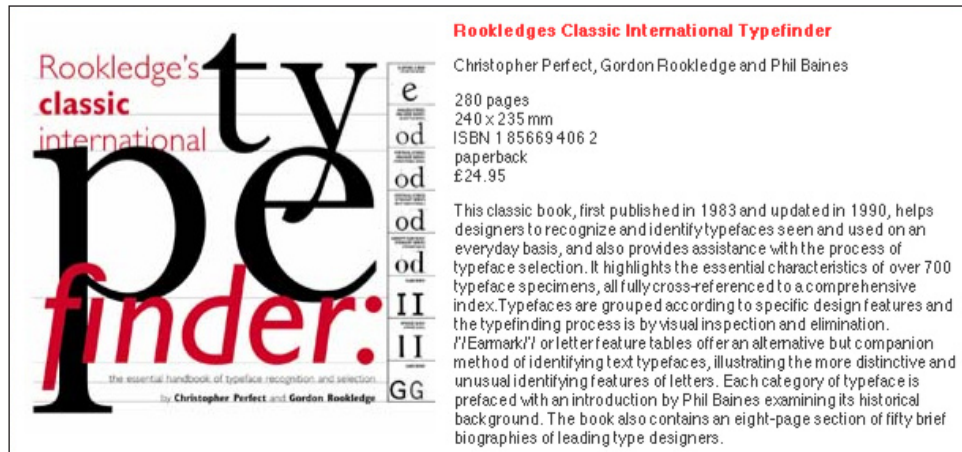
In an attempt to reformulate the Vox terminology of the *BS 2961*, and make the subject approachable for non-Europeans now working in the creative industries in the 21st century, Robert Bringhurst makes a direct association between the nomenclature of historical type designs and period styles of fine and applied arts. The classifications appearing in *The Elements of Typographical Style* (Bringhurst, 2002, p.12 – 15) therefore list typefaces as 'baroque', 'rococo', 'neo-classical' etc. in preference to a traditional terminology. However, this is an approach directed to the educated, rather than those 'about to be educated', and is arguably as Eurocentric or jargon-laden as the system it seeks to replace.

During the late 1990s Catherine Dixon at the Central Lettering Record, Central St. Martins School of Art, London, argued convincingly for the scrapping and replacement of the traditional Vox-based systems, citing their inherent bias towards text typefaces at the expense of display typefaces (a style which, however loosely defined, can be said to be a clear majority today). Her work led her to describe earlier classifications as "a top down approach to categorisation... without intuitive application... (was) really nothing more than nine descriptive buckets in which types could be placed..." (Dixon, 2002, p.2). As Dixon's colleague Phil Baines (2002, p.47) writes, "In terms of classification this presents both a practical and a philosophical nightmare. While some writers may question the right of many new typefaces even to exist, the purpose of any classification system is to record actual practice, and try to make sense of it."

Dixon and Baines are joined in this critique by Karen Cheng (2005) in the introduction to *Designing Type*:

> Today, type... requires classification on the basis of several additional factors, including, notably, function and intent. Ideally, fonts designed for specific media (newspapers or low-resolution digital screens, for example) should be grouped together; placing them within the historical Vox categories prevents designers from understanding their intended use. Similarly, fonts created under the influence of specific artistic or social movements (such as modernism or post-modernism) should also be separated. Finally, fonts designed as related sets of serif, semi-serif and sans serif components (as in Rotis, Officina, Stone and Thesis, for example) also require a unique classification.
>
> The original Vox classification system also fails to account for important geographic and cultural differences that influence the design of type... Clearly, designers and typographers need a new classification system that addresses these and other issues of modern type design. Ide-

ally, the new system would be capable of ordering types on several scales – including the visual, historical, technological, functional, cultural and geographic. (p.16 – 17)

Cheng goes on to list 'eight hard-to-classify typefaces' (Figure 6) – the ones that blur established boundaries of morphological distinction, but are nonetheless well-known and widely distributed; their further significance will be discussed later in the exegesis.

Figure 6: seven of Karen Cheng's 'hard-to-classify' typefaces, from Designing Type 2005

Palatino (Venetian/Garalde)

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Optima (substituted for Angie Sans: Incised/Tapered Sans Serif)

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Matrix (New Transitional Serif/Wedge Serif)

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Melior (New Transitional Serif/Slab Serif)

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

PMN Caecilia (Slab Serif/Typewriter)

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Bell Gothic (Sans Serif – designed for telephone directories)

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Chicago (Display/Sans Serif – designed for low resolution digital screens)

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Underlying the morphological or semantic difficulties encountered by anyone contemplating either systems of type classification or diagrams of the history of type are the numbers; the rate at which typefaces are produced has increased dramatically in the last two decades. *The Encyclopedia of Typefaces, second edition* (1953, p.353 – 358) indexed fewer than 1,000 types in general use; the expanded and revised fourth edition (1970) cited an upper range of 6,000 typefaces, but not all of these were generally available. In 1974, the Association Typographique Internationale (ATypI) listed 3,621 named typeface designs according to Robin Kinross; a figure taken to project a 2,761% increase over a 28-year period (Cahalan, 2004, p.62).

Since the release of the widely adopted digital font creation software (Altsys Inc.'s Fontographer, 1987), reported totals have been steadily climbing upwards from 25,000,

but no-one is really certain how many typefaces there are anymore; conservative estimates suggest 40 – 60,000 (Peter Bilak, personal communication, 2004), but the total number, whatever it is, now increases daily.

In 2007, the largest single online supplier of typefaces, MyFonts.com (a subsidiary of Bitstream) lists 54,772 digital typefaces available. In second place, FontShop lists 32,000 typefaces. These figures include cross-licensed products in addition to their own libraries. In response to the issues cited above and because of the complexity of their inventories, both sites employ their own non-standard classifications and state-of-the-art online search tools. In the case of FontShop's *Type Navigator* (2006), the visual methodologies of Rookledge, Bauermeister and Wansick have been updated for the web. This is necessary because of the economics involved in producing any accompanying paper reference. FontShop's massive three-kilo *FontBook* (2007) (Figure 7) retails at AU\$225.00, but has a very limited lifespan due to the continual growth of the library it references. An expensive and unwieldy addition to any university library, the *FontBook* employs a classification system that fails to match any of the traditional Vox-based systems or therefore, the prescriptions of the Gutenberg assignment.

Figure 7: the FontBook 2007 edition

FontBook is the largest type reference in the world.
Since 1991, "the big yellow book" has been the trusted friend of designers, typographers, advertisers, manufacturers, publishers, historians, and anyone else who uses type.

FontBook is the only guide that compiles original, digital typefaces from multiple manufacturers and presents them in a systematic way.

FontBook is all-inclusive, with typefaces both old and new. It contains all the classics of the art of printing, insofar as they are available digitally, as well as the latest font releases and extensions.

FontBook is a type encyclopedia with an abundance of carefully researched notes on type designers, year of publication, similar fonts, and additional language versions.

Educators, anxious to point students towards accepted industrial practice, cite the alphabetical listing of typeface names as being the situation that students are most likely to encounter in (commercial) studio practice. But typefaces are rarely ever named for their function or appearance, which makes alphabetical arrangement the least useful method of organising them. This is perhaps why the site at www.redsun.com/type/classification continues to appeal to students in spite of its inaccuracies, and why Catherine Dixon's work, with its state-of-the-art visual interface and intended CD-ROM delivery, would be an appropriate tool for today's students. Unfortunately the publication of Dixon's *Typeform Dialogues* (Figure 8) in this format has been shelved indefinitely.

Figure 8: Catherine Dixon's proposed Typeform Dialogues 2005

Since the inception of the Vox-based *BS 2961/DIN 15618* in 1967, methods of identifying and classifying typefaces have evolved through various attempts to cope with the changing technologies of type manufacture, and the rising numbers of typefaces created as a result. In conclusion, this literature review locates a spectrum of differing approaches to classification which can be loosely identified as a historical evolution in itself; commentators on the subject now agree that there are several ways to organise typefaces and that several independent methods may be necessary to either identify individual specimens or catalogue typeface collections.

At one end appear to be the traditional classificatory Vox-based references (Jaspert, Johnson & Turner-Berry, Rookledge, Craig, Dodd), while at the other end new methods of locating individual typefaces (Identifont, typeindex.org, type_expertise.com, FontShop's *Type Navigator* and MyFont's *What the Font*) using online search-engines are emerging. Between these two points are a range of writers and experts advocating hybrid methods that either modify Vox or provide new conceptual models for organising typeface reference (Bringhurst, Bauermeister, Dixon, Baines, Cheng, Headley, FontShop, Will-Harris' *Esper-Fonto* and others).

Figure 9: diagram of differing approaches within literature on type classification/identification
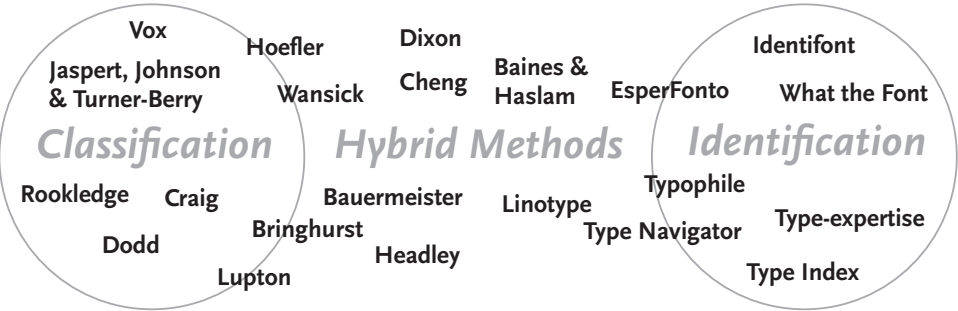
Although the internet offers unparalleled opportunity for visual research, one needs to be a skilled and determined researcher to use it well. Type-related commercial websites (digital foundries such as Linotype and FontShop) provide very good educational resources, but this information is usually buried some distance within their websites. Education is not their core business, so this material is not allowed to interfere with the primary functions of showcasing and retailing. None of the foundries are able (or willing) to provide an overview of all the typefaces for reasons of commercial exclusivity and competition. In addition, the typeface industry has long been typified by illegal copying, and the conversion of its stock-in-trade to small digital files, easily duplicated, has exacerbated this situation – so much so that many typefaces are different in name only. The 1987 arrival of inexpensive digital font-creation software has both fragmented the type industry into myriad 'micro-foundries' and enabled digital software piracy on an unprecedented scale.

To alleviate this, a number of websites offer font-identification services, including Identifont (www.identifont.com), MyFonts (www.myfonts.com/WhatTheFont), FontShop (www.typenav.fontshop.com), Will-Harris (www.will-harris.com/esperfonto), Type Expertise (www.type-expertise.com) and Type Index (www.typeindex.org). These last two sites offer a similar service – a downloadable front-end interface to their online typeface reference databases – but one carries a subscription fee, while the others are entirely free of charge to the end user. Unsuprisingly perhaps, the Type Expertise business model has proved unsuccessful and the site is no longer online.

The typical student response to this is "why pay for an online finding service when you can Google it?" Other factors such as the presence of university firewalls and chargeable student internet access also have a bearing on whether students would download and use such search agents. Linotype's FontExplorer X (Figure 10) is a freely downloadable front-end search engine: the primary function of this software is font management on the users' local hard drive, but it doubles as a front-end search agent for the Linotype catalogue online. However the issue that FontExplorer X responds to is a software event ('application reports missing font'), rather than a human decision-making process ('what font should I use?').

AUT University, with a large computer network and a large font library, employs the server-based Font Reserve software from Extensis Inc. (Figure 11) in preference to Linotype's FontExplorer X. Font Reserve does allow searches to be performed on the (local network) server for particular categories of typeface, and in fact supports a traditional classification structure. However these functions are not:
- particularly well-supported by the typeface manufacturers,
- intuitive enough for end users to grasp without instruction,
- primary features within the interface design.

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Figure 10: Linotype FontExplorer X; freely downloadable from the Linotype website
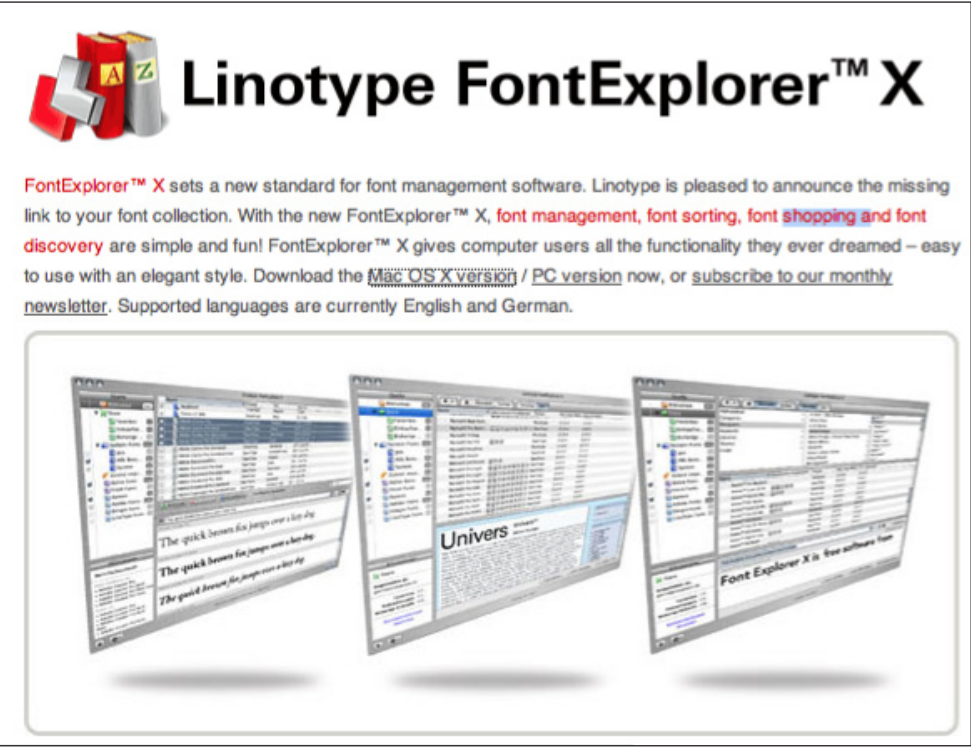
Figure 11: screenshot from Font Reserve in use at AUT University

○ ▶	BerlinerGrotesk	PS Pair	adobe systems	Sans serif	BerlinerGrotesk
○ ▶	Bernhard Modern Std	OpenType (PS)	adobe systems	Transitional	Bernhard...dern Std
○ ▶	Birch Std	OpenType (PS)	adobe systems	Ornamental	Birch Std
○ ▶	Blizzard D	PS Pair	urw	Humanist sans	Blizzard D
○ ▶	BlockBE	PS Pair	adobe systems	–	BlockBE
○ ▶	Bodoni	PS Pair	adobe systems	Modern	Bodoni
○ ▶	Bodoni	Bitmap	–	Modern	Bodoni
○ ▶	Bookman	PS Pair	adobe systems	Clarendon	Bookman
○ ▶	Bookman	Bitmap	–	Clarendon	Bookman
○ ▶	Boton	PS Pair	adobe systems	Slab serif	Boton
○ ▶	Boulevard	PS Pair	adobe systems	Script	Boulevard
○ ▶	Britannic	PS Pair	stephenson blake	Humanist sans	Britannic
○ ▶	Brush Script Std	OpenType (PS)	adobe systems	Script	Brush Script Std

While this project recognises a traditional academic bias about the unimpeach-ability of published journals and books as research sources, the growing breadth and authority of web-based resources such as the wikipedia (www.wikipedia.org) suggests that this medium has come of age, and is already the *de facto* method for research at this level. Whether or not the internet represents good value as a research source depends largely on its presentation, and its ability to be searched easily and comprehensively for primary, secondary and tertiary sources.

Observed over the duration of this project, the web as a medium has matured to the point where there is now a consensual orthodoxy of presentation, structure and navigation (Pring, 1999, p.137; Manovich, 2001, p.49; Krug, 2000, p.23). As with wider arguments about the impact of digital technology on graphic design in general, it can be said that after the visual excesses of the dot.com boom of the 1990s, a sense of sobriety and fitness-for-purpose has returned to inform contemporary graphics both online and in print. Websites now require a perceived neutrality of presentation in order to substantiate their claims of authority, and the current visual design of sites offering new pedagogic experiences online, such as Thinkmap (www.visualthesaurus.com, Figure 25) demonstrates this.

The boom in web-based educational resources is a consequence of better technologies driving better designs and the recent movement for open content and open access on the internet. This philosophy seeks to mitigate against the proprietorship of knowledge traditionally exercised by academe, declaring itself in initiatives such as open source code and creative commons copyright licensing. To create and present a digital museum for typography students everywhere, the project deliberately positions itself within this evolutionary wave. In doing so, it avoids the constraints of presenting within AUT University's proprietary online learning management system (LMS) – Blackboard (Figure 12), which is neither searchable by Google nor friendly to the display of visual information. LMS are prone to confirming that "confusion and clutter are failures of design, not attributes of information" (Tufte, 1990, p.51). As discovered in the earlier pilot project with the DipGC, LMS that exist behind institutional firewalls are not robust, and present difficulties for off-campus access and configuration, both of which had already been identified as priorities in this project.

Figure 12: screenshot from AUTonline

Given that art and design staff and students largely ignore university LMS, and research the web at large for typography-related reference, the project literature review includes the following web-based materials (some of which were previously used in class to introduce the topic to undergraduate students):

1. Jonathan Hoefler's essay 'On Reviving Types' and his 'Type Styles 101' at www.typophile.com (originally published in *Emigré* magazine, 1997). Well written, cleverly animated and illustrated, this is not a 'primer' text, so it is sometimes difficult for undergraduate students to comprehend the finer points of Hoefler's masterful arguments about type classification being ultimately irrelevant to modern type design.

Figure 13: screenshot from Jonathan Hoefler's Typography 101 essay and presentation
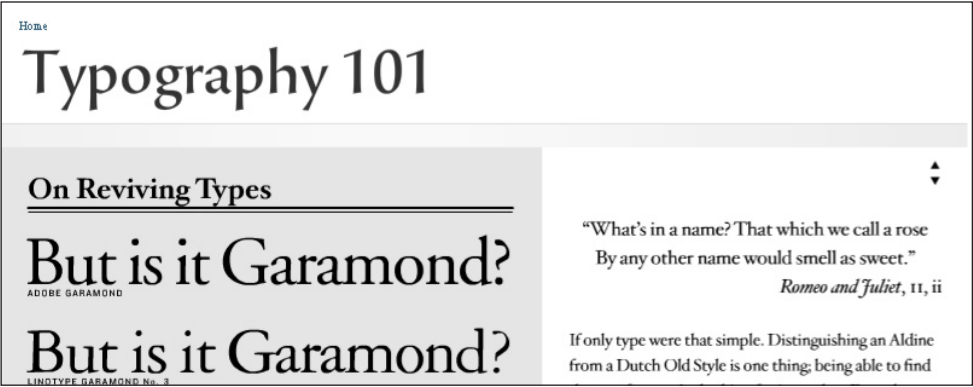
2. Ellen Lupton's 'thinkingwithtype' classification page (2004). The companion website to a critically acclaimed textbook of the same name; both serve as very good primers for the undergraduate audience, but fail to include categories for blackletter, script or decorative types. It therefore presents with a distinct bias towards contemporary American sans serif typography.

Figure 14: screenshot from Ellen Lupton's 'thinking with type' classification page
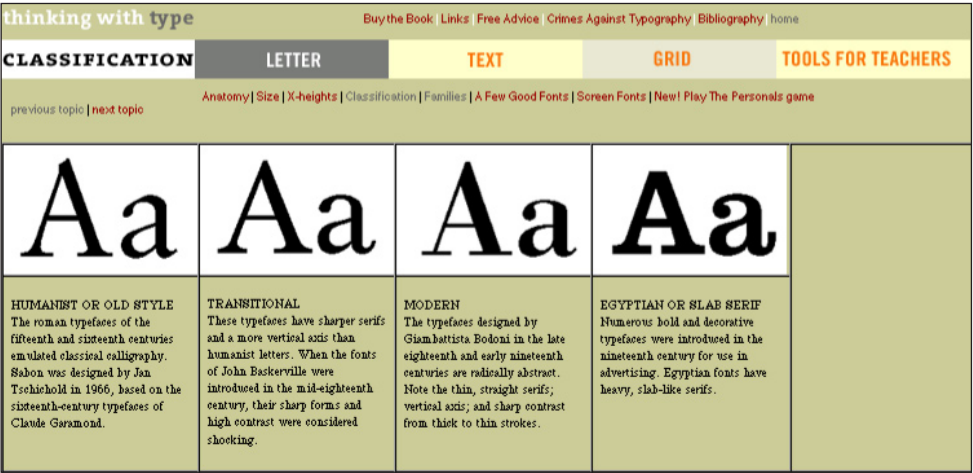
3. Mike Kohnke's Typebox visual history of early typography (2002). This was part of the literature review but is a resource no longer available online. The site presented an illustrated history of the incunabula (the early period of book printing in Europe). The text and illustrations were good, but the timeline described ended *circa* 1800.

Figure 15: screenshot from Mike Kohnke's typebox archive history of type page
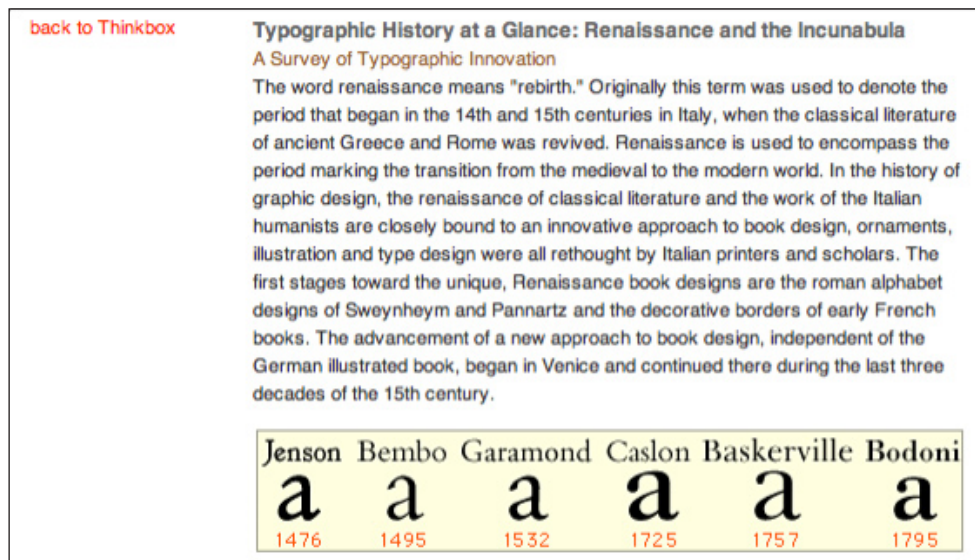
4. FontShop's own list of 100 best types at www.100besteschriften.de (2007). Although it is the most current literature on this topic, it is at present only available in German, but is a valuable visual reference and was launched to an enthusiastic reception. Featuring a site design driven by Flash animation, loud colours and vibrating patterns, this site is further discussed in chapter 4 of the exegesis.

Figure 16: screenshot from FontShop's 'die 100 beste schriften' website

5. Linotype's Font Explorer CD ROM (2002). This multimedia presentation was the preferred method for providing reference on the DipGC course prior to the inception of the current project, but is not to be confused with the previously mentioned font management programme of the same name (which is a stand-alone product not employed at AUT University). The old Font Explorer offers a broad historical overview, and a variety of ways to look at the examples, but is limited by both the delivery medium and the Linotype-only material within its frame of reference. Only available for an older version of the Mac OS, and therefore not for self-directed study outside the classroom.

Figure 17: screenshot from Linotype's OS9 Font Explorer CD-ROM
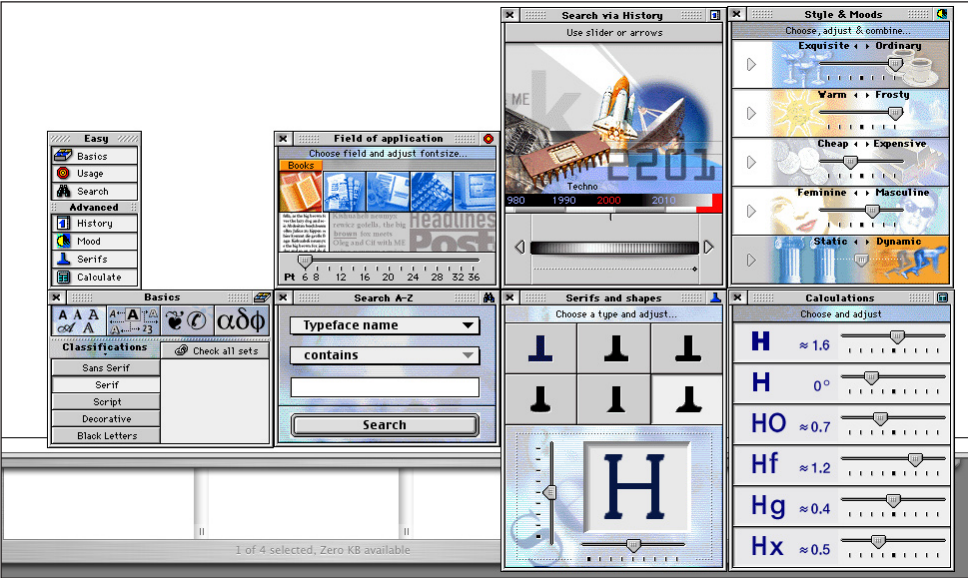
6. James Craig's designing with type website at www.designingwithtype.com (2003). A companion website to a standard textbook now in its fifth edition. The timeline page, although not clearly labelled, is very good but suffers from a text-only presentation and ends in the middle of the twentieth century.

Figure 18: screenshot from James Craig's 'Designing with Type' timeline page

7. Bitstream's online shop at MyFonts.com (www.MyFonts.com.) is a retail site that does a good job of providing extra information, including the search engine/ identification service called 'what the font?' It does not offer a history or classification page *per se,* but contains a lot of information for those prepared to browse the site extensively.

Figure 19: screenshot from MyFonts.com
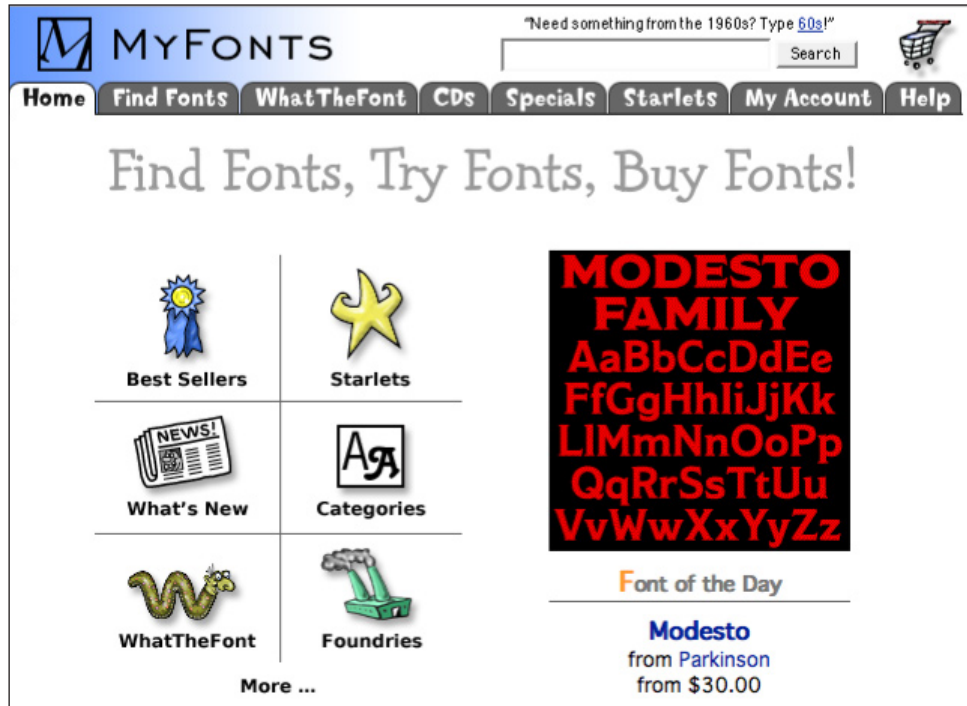
8. Daniel Will-Harris' EsperFonto system (www.Will-Harris.com) is a fully user-interrogative identification system and predates the other font identification sites listed. The system was licensed to computer vendors HP and Corel, and was the first to include classification by subjective impression – the listing of 'formal' and 'casual' as the initial criterion shows the depth of his reflection on user requirements for typeface identification.

Figure 20: screenshot from Daniel Will-Harris' EsperFonto

Although this selection is by no means comprehensive, and new resources come into being all the time, the conclusion here is that of the available delivery media, only the internet now has the economy and scalability required to provide contemporary educational typographic resource, yet the commercial constraints of the typeface manufacturers' websites sometimes actively work against the research efforts of the students, while the text-based bias of some academic websites fails to employ (better) visual resource.

1.9 Identification of Research Gap

Every year brings newer and better textbooks on the subject, but the uptake of this, in context of the Gutenberg assignment (and AUT University's School of Art and Design generally), remains very poor. In my experience, library staff routinely ask academic staff how their facilities can offer better service, and yet no intervention appears to stem the flow of students *away* from campus libraries. The usability study performed later in the project inadvertently confirmed the existence of a real antipathy towards book-based learning by current Art and Design students at AUT University. This situation appears to be echoed elsewhere in universities around the world. Despite this, the academic world of typographic study appears to insist on continuing to deliver yet more books, without realising that the audience has moved on.

Dixon's pioneering *Typeform Dialogues* (2002) project, designed as a hybrid delivery of book and multimedia CD, appeared to be an answer to such a stalemate. As stated earlier the project was stalled by unforeseen technical problems in 2004 and remains undelivered at the time of writing.

The hybrid delivery idea was not new however, but until the availability of multimedia programming and CD-ROM manufacture became widespread, this method was the sole province of high-end companies large enough to afford the research and development costs for such projects. Linotype's Font Explorer CD-ROM (the only typographic multimedia resource that DipGC students previously had access to), was a prime example of this, but is now five years out of date and unable to work on Apple's current operating system. However, within the last decade, better and cheaper web development software, coupled with falling prices for content hosting and increasing adoption of residential broadband internet access, have put this kind of high-end hybrid multimedia delivery within the reach of almost anyone with a PC.

Although the websites and articles presented here that were authored by individuals represent the pick of the crop for educational purpose, adequate research for the Gutenberg assignment would require students to correlate findings from several or all of them, in addition to the commercial type manufacturers' sites (which necessarily present an incomplete overview), as no single site presents all the necessary information to execute the assignment in total.

The research gap that this project aims for exists in the middle of the continuum in Figure 9. A computer-mediated model for teaching type design history should ideally provide referential (classificatory) structure to aid student enquiry, while reinforcing habits of identificatory search patterning. Combining the rigorous scholarship found within the classificatory paradigm with the pragmatic convenience of searchable web-based media, would provide a useful tool for undergraduate study of a contextualised typographic history.

2.1 Chapter Summary

This chapter posits two research questions and offers rationales for the project methodology and design. It details the sequential development of the project, citing formative influences and tangential experiences gained during the first two years of the project, culminating in a detailed description of the initial website design for a digital museum of typographic history. The chapter concludes with notes on costing and scheduling the website production, and a schedule of revision stages subsequent to its launch.

2.2 Introduction

To engage with the Gutenberg project (and assignments like it), today's students must work with a range of categorical and search-based approaches across an ever-widening field of enquiry. Apparent consensus among professional typographers and authors on the subject suggests there is no longer any singular way to do this. Naturally-occurring breaks in consensus offer research opportunities in the purest terms, because this provides the chance to reassess what has been previously 'taken as given'. This is just as true when it appears in articles by Dixon or Hoefler, or books by Baines or Cheng, as when voiced by students in the classroom.

2.3 Research Questions

Given the variability of existing visual resources online for this particular subject and the preference displayed by the target user group of DipGC students for researching via the internet, the project moved to address the following questions:

1. Is it possible to translate an existing body of library-based knowledge about typographic history to an online study aid that addresses the specified (student-centred and self-directed) research outcomes of the DipGC Gutenberg assignment?
2. How can such a study aid be improved by user feedback and an iterative design strategy?

Earlier reflection and hypothesis generation (June 2006), had produced the following hitlist of ideal outcomes by foregrounding likely student requirements:

"...so to make exploring typefaces, (their history and connotations, the differences between them), an exciting and informative thing to do, I want to be able to say to students – here is a reference piece for you that contains *x* dozen/hundred/thousand fonts which in turn represent *n* centuries of continuous historical, technical and artistic development; go and play with it and find out the (necessary? relevant?) stuff that will improve your work. Successful learning outcomes would be that they might subsequently demonstrate understanding of:

- typeface design or letterform as typographic 'personality' or 'tone of voice'
- contrast of form or historic style as a graphic device
- where the historic styles come from
- why specific type styles answer particular communications problems
- history of type as an illustration of the relationship between technologies and aesthetics
- their favourite typeface, how it relates to other types
- the main categorical divisions of type: sans vs. serif, classical vs. modern, humanist vs. machine
- the main subcategorical divisions of serif structure: oldstyle, transitional, didone, wedge, slab
- the main subcategorical divisions of sanserif structure: grotesque, geometric, humanist, neo-grotesque."

These ideas were based on the informal needs analysis conducted in the earlier stages of the project and my teaching on this subject to date – illustrated by the following quote from a student on the DipGC course;

> It's really hard to Figure out what font I should be using for my projects... I have a couple of favourites, but I think I overuse them... I don't know what else to look for... it's very time-consuming to go through Font Reserve double-clicking the fonts item by item... there is a mismatch between the printed reference we see in class and what's available on Font Reserve (personal communication from Fiona Dickson, student of the Diploma in Graphic Communication, AUT University, Auckland, September 2005).

Figure 21: Phase 1 of the project design
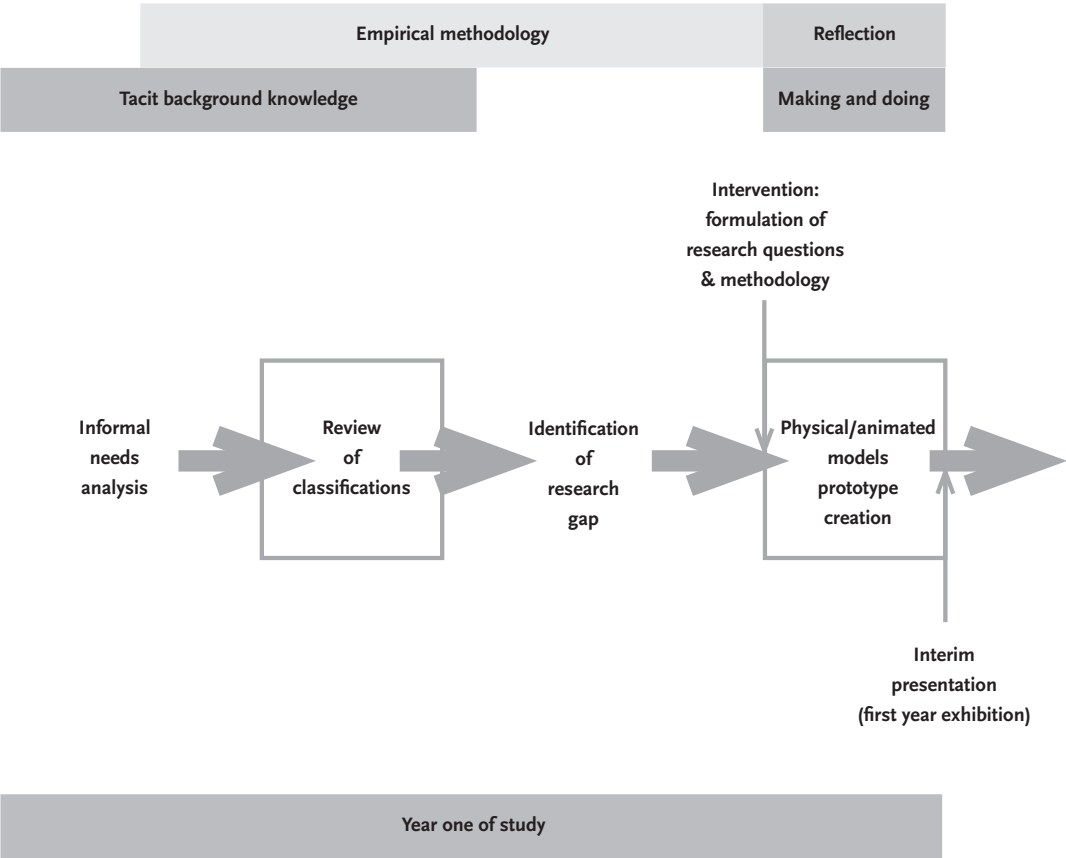
This led to a design specification for a non-foundry/non-commercial type education website that lists and shows a progression of designs from Gutenberg forward (1452 – 2000), and which might also allow the target user group to triangulate their research into typographic history. This triangulation should be arrived at via qualities inherent in the design of the website, such that it:

1. makes an impartial comment about the design intention/synthesis of the typeface in question (i.e. commentary is not a sales pitch);
2. offers alternate methods of interrogating the sample referenced (i.e. it is not enough to list the individual attributions on a particular font page – the typefaces need to be seen in context of one another);
3. lists 'current equivalent' hyperlinks to allow for cross-referencing and overlap with other web-based resources (i.e. manufacturer/current provider); and
4. displays 'see also' references that offer alternate names and related designs, promoting further background research via Google and other web-based resources.

2.4 Methodology

All phases of the project (reviews of classification literature and model building, further research, database and website creation) were rooted in an attempt to augment and improve classroom teaching and learning practice. In these respects the project can be readily located in the tradition of action research, whereby "experimental inquiry is based upon the study of groups experiencing problems" (Lewin, 1946, p.34). Action research, as applied to education, is known as curriculum action research, and has a general method which calls for observation, reflection and intervention within specific cycles of pedagogic practice and enquiry. As explained by James McKernan (1991), curriculum action research "is a root derivative of the 'scientific method' reaching back to the Science in Education movement of the late nineteenth century" (p.8).

As curriculum action research necessitates reflection on practice, it becomes requisite to ask 'what is it that graphic design lecturers *do?*' Ideally, they effect changes in curricula, delivery and assessment according to tacit industrial knowledge and observed classroom behaviour. The behaviour I had observed on the undergraduate courses at AUT was:

1. The desire to conduct all research online (avoiding books and libraries)
2. Confusion about historical development, typefaces and typography in general.

Besides observation, graphic design lecturers don't just 'chalk and talk', they make things. Within the sphere of wider design enquiry, the delivery of tangible artefacts to demonstrate, illustrate and 'talk to' supposes a practice-based research method. This project can therefore also be interpreted as an exercise in material thinking – engaging with the 'nuts and bolts' of graphic design practice in order to make design education more readily apprehensible. In doing so it is very much an effort to externalise and make tangible what the lecturer/practitioner/researcher knows about typographic history to an audience of undergraduate students. The project therefore takes both curriculum action research and material thinking as acknowledged platforms from which to set out its case, and these both form an underlying pragmatic stance of the project.

Thus while the project is intent on using current design technique to answer its own questions, and foregrounds concern with both a technological deployment and corresponding pedagogic uptake, it cannot be underwritten with only a single theoretical framework. In order to investigate the research questions the project needs to switch between frames of reference, in accordance with McKernan's (1991) statement that curriculum action research is methodologically eclectic and innovative: "Researchers may have to design new instruments and techniques to gather data, as dictated by the novelty of the problem. There is no single preferred method – indeed, 'triangulation' of methods, perspectives and theories is desirable" (p.32).

The project design was similarly informed by the design methodology formulated (quite brilliantly) as the 'soak-wash-rinse-spin' cycle of graphic design company Tolleson Design in their eponymous monograph of 1999. This can be reworded as 'research-collaborate-explore-consider', and denotes specific phases whereby the project shifts between modes of expansion and contraction and processes of external and internal exploration.

A hybrid model of 'hard' and 'soft' methodologies was developed and written into the project structure. This framework would allow for explicit oscillation between focus on making/doing and thinking/writing. Underpinning the research design of the project, including the more empirical start and end phases, and the reflective, designerly and iterative method of phase two, this 'sandwich' can be formulated as follows:

Phase 1.	Phase 2.	Phase 3.
• reflect/formulate and hypothesise	• reflect	• test
• review	• design research	• revise
• canvas opinion	• theorise	• test again
• form conclusions	• model	• measure responses
• frame intervention	• reflect/rationalise	• publish findings
	• build	• repeat as necessary

Figure 22: Phase 2 of the project design
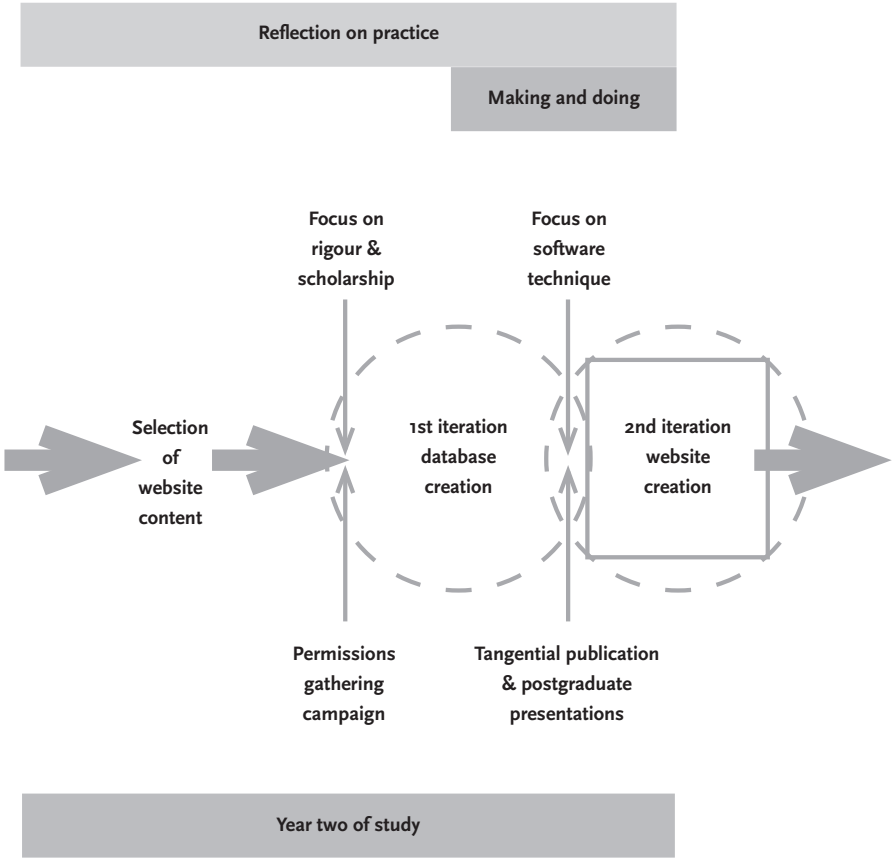
The theoretical aspect of the project contains both speculation about educational delivery of type history and classification, a consideration of how this could translate to a new delivery method, and the application of traditional academic rigour in the selection and analysis of the projected website content. This is further synthesised and concretised by the practical work, involving design and production of a digital museum – a tangible design artefact that anchors the pedagogic concerns inherent in the project concept. In terms of material thinking, although it is perhaps a *non-sequitur* to suggest that a website is a material thing, one can argue that while designers make things and lecturers deliver course content from tangible artefacts, design lecturers need to demonstrate they can encompass both of these activities simultaneously. From my own perspective, I believe it is pedagogically important that students actually see their lecturer's works-in-progress, and that a feedback loop between research activity and classroom practice is maintained.

The project's original conception was for dual purposing of the website – that it could be used in a self-directed manner and as a teaching aid in class. While the website itself can never demonstrate any single theory of typographic education, it is intended as a springboard for student enquiry – for which any validation would be contingent on student uptake and experiment.

Figure 23: Phase 3 of the project design

Reflection on practice	Empirical methodology
Making and doing	

Focus on usability & navigation

Analysis of evaluation results

Intervention: implications for curriculum identified

3rd iteration launch & testing

4th iteration website revisions

Exegesis write up

Informal peer feedback (local & international)

Design of target audience evaluation & feedback

Postgraduate presentation

Year three of study

2.5 Physical Model of 300 Types

Reflection on the working conclusions drawn from the review of classifications (the literature review) revealed problems with the diversity of contemporary typeface design and classification *per se*; as soon as this became apparent, the project switched into a practical phase. A model showing a timeline of typeface development was built in which the growing complexity and confusion in this field could be demonstrated (Figure 24). As a large static three-dimensional model, this piece used a sample of 300 typefaces in common use, including those distributed freely with computer operating systems, and 'bundled' *gratis* with software from companies now dominant in the creative technologies industries.

Figure 24: Detail 1 of the three dimensional prototype model
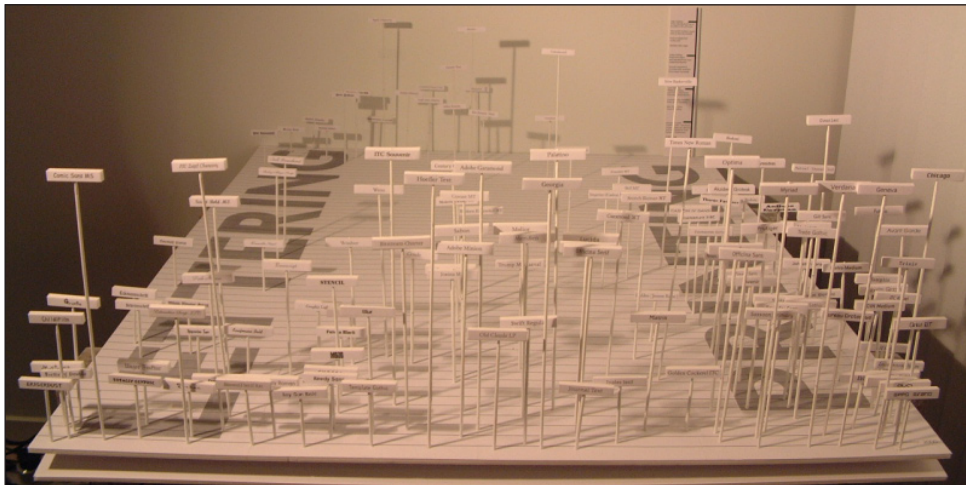
Rather than attempting to replicate the complexities of existing classifications, or provide yet another new and unrecognisable scheme, the model attempted to simplify the presentation by organising the sample data along three axes of organisation:

- history; 1450 – 2000
- visibility by sales volume; 1 – 10,000 units
- morphology of underlying design; 'printing types' – 'lettering types'.

The first axis of organisation is the best known and most widely used piece of information about typographic history, underlying traditional type classifications. The second is just as important but not often used for reasons of commercial sensitivity – yet from a student's point of view it might be desirable to understand the difference between a rare, expensive typeface and a cheap, quotidian one.

The third axis of organisation was arrived at after critical reflection on Catherine Dixon's (2002) work – the critique of which is that discrete categorisation no longer works for typeface designs (which are overall too numerous, but simultaneously too diverse and too similar for this to be meaningful any longer). It struck me as more appropriate to reduce the morphological aspect to a minimum and range the typeface designs along a continuum from one extreme to another. The model – constructed of dowelling rods driven into foam-core board – allows for easy repositioning and is intended to be interactive in this way. This 'democratises' the classification by letting viewers decide if particular typefaces are located in the 'right place', according to their own level of interest and expertise. As a pedagogic practice this would allow for more student-centred learning to occur, because decision-making involves a more active form of learning.

2.6 Database of 100 Types

Supervisory feedback and the practical exigencies of the project necessitated narrowing the field of focus. Accordingly, smaller samples of typeface groupings were reviewed and the best example selected. The Type Directors' Club (TDC) *Top 100 types of all time?* became the subject of extended scrutiny. The New York based TDC, in existence for sixty years, had sponsored the formulation of this list in 1998 and placed the result on their website at www.tdc.org/reviews/typelist. The author of this list, Paul Shaw, is a highly regarded calligrapher, lettering designer, author on typography, member of the TDC and a lecturer at the Parsons School of Design in New York. The list was the result of his canvassing TDC members for their opinions. Paul Shaw was contacted directly and asked for permission to use the list as the basis for further practical work.

It should be noted that although other lists of one hundred best typefaces exist, notably as sales rankings on the commercial typefoundry sites and as a Monotype-sponsored article in *Digit* magazine published in June 2006 (Figure 57), as well as the FontShop's own German website www.100besteschriften.de, launched in February 2007 (Figure 16), the TDC sample was consciously chosen as representing the interests of practising professionals rather than the suppliers and manufacturers.

At the same time I was influenced by the presentation of relational information at www.visualthesaurus.com for what I thought would be necessary to display the relationships of 'family trees' of recognised historical typeface classifications (Figures 25 – 27).

Figure 25: screenshot from www.visualthesaurus.com
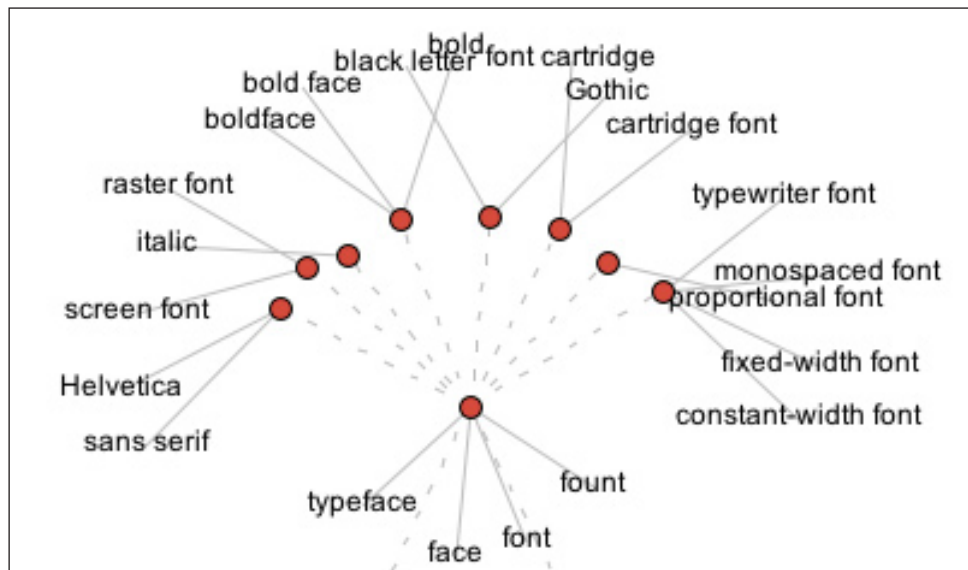
Figure 26: screenshot of a family tree branching diagram, coursework presentation, November 2005
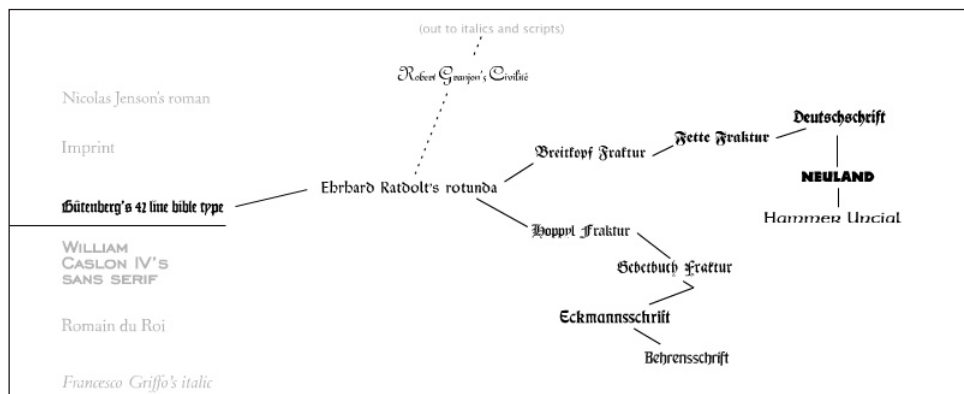
Figure 27: screenshot of a family tree branching diagram, www.100types.com, February 2007
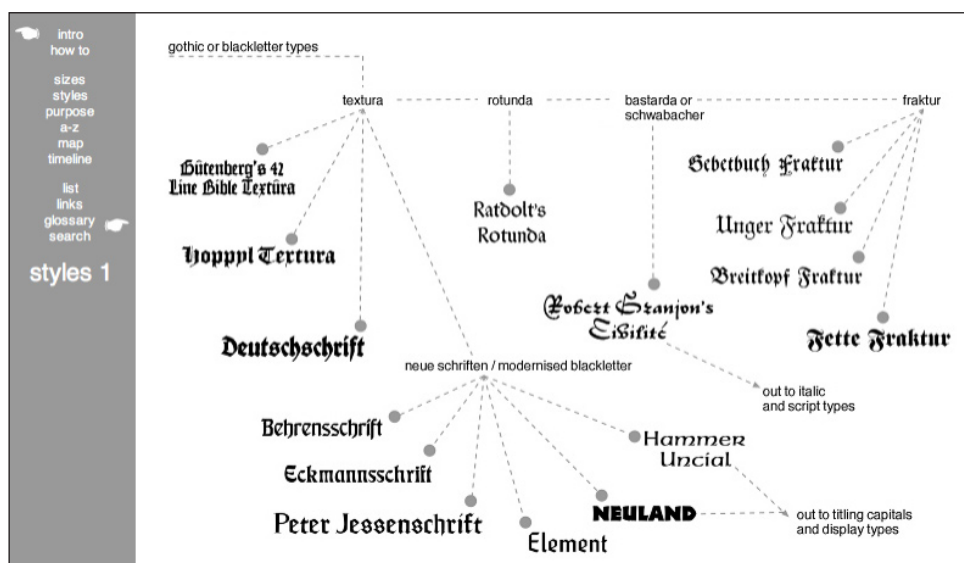
Beyond the TDC's own website, *The top 100 types of all time?* list had never been summarised, recategorised, annotated, illustrated, researched or published anywhere else before this project. Drawn up according to criteria of outstanding aesthetic or technological achievement in typeface design since (and including) Gutenberg, it provides an ideally independent and authoritative historical survey; it is not a ranking selection of current bestsellers. The TDC list acknowledges its own bias (with a question mark in its title), but is generally perceived as non-partisan. Moreover, it contains at least four of Karen Cheng's 'hard-to-classify' typefaces (Figure 6), meaning that this sample also partly reflects the current lack of professional consensus on typeface classification.

This led directly into a reflection phase of rigorous scholarship in which detailed correspondence with Paul Shaw was undertaken, and a database for the 100 types was drawn up to include:

- date of creation
- name of designer
- name and location of foundry/manufacturer
- current (digital) equivalents of the typeface
- near matches and similar designs
- reproduction technologies
- claim to fame
- application/original purpose of design
- relative ubiquity
- stylistic classification
- morphological characteristics
- a synopsis of the typeface design history

Figure 28: screenshot of the 100 types database during construction

Figure 29: animation sequence featuring the 100 types, coursework presentation, November 2005
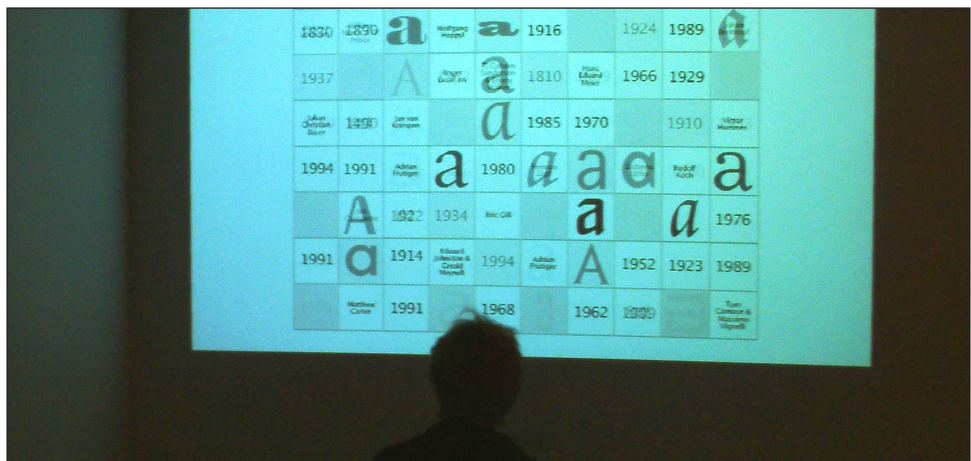
To provide the criteria above, a programme of detailed research was undertaken, including correspondence with a number of international experts, in particular Paul Shaw and Peter Bain in New York, Jan Middendorp and Jörg Petri in Berlin, and the Linotype and Bauer foundries in Frankfurt and Barcelona respectively. Other major foundries, Bitstream, Monotype, FontShop, ITC, Font Bureau and several important type designers, among them Matthew Carter, Gerard Unger and Erik Spiekermann, were approached directly and asked for samples, support and advice. A number of lesser-known typefaces (approximately a quarter of the total sample) were carefully identified, researched and itemised in the database. These included typefaces protected by corporate and state law, and typefaces held by private interests. Wherever possible, pictorial material featuring the typeface in use was collated and copyright holders approached for relevant permissions (see Appendices 5 and 6).

Foundries and individuals contacted were (in alphabetical order):
• Adobe Incorporated (Pacific Region Office, Singapore)
• Berthold Types Limited (Chicago, Ill. USA)
• Bitstream Incorporated (Cambridge, Mass. USA)
• Carter & Cone (Cambridge, Mass. USA)
• Dutch Type Library (Haarlem, Nederlands)
• Emigré Fonts (Berkeley, Cal. USA)
• Erik Spiekermann (Berlin, Deutschland)
• Font Bureau (Boston, Mass. USA)
• FontShop International (San Francisco, Cal. USA)
• Fundición Tipografica Bauer (Barcelona, Espana)
• Gerard Unger (Amsterdam, Nederlands)
• Hoefler Frere Jones Type Foundry (New York, NY. USA)
• ITC Fonts (Wilmington, Mass. USA)
• Lance Hidy (Merrimac, Mass. USA)
• Linotype GmbH (Bad Homburg, Deutschland)
• Lucas Fonts/Font Fabrik (Berlin, Deutschland)
• Jeremy Tankard (London, UK)
• Monotype Imaging (Reading, UK)
• MyFonts (online)
• P22 Type Foundry (Buffalo, NY. USA)
• The Enschedé Font Foundry (s'Hertgenbosch, Nederlands)
• Typoasis (online)

Several of the typefaces listed proved especially problematic in researching; besides the typefaces that had famously gone 'missing in action' (45. Doves Type, thrown into the Thames River) or were, as proprietary typefaces, unavailable to the typesetting trade or the general public (20. Romain du Roi), there were some unexpected anomalies. Some typefaces such as 91. Element (Figure 30) had two or three different designs sharing the same name. Number 70. Excelsior Script and 91. Element required repeated enquiries to ascertain the correct provenance and identification. Others like 95. Digi Grotesk, 80. Marconi and 100. WTC Our Bodoni simply had little or no reference, and no pictorial information.

Figure 30: three typefaces called Element

Over the course of several months the list of unknowns grew smaller, but, as if the results were to be published in a book, the exercise still demanded the rigour of traditional examinations of typeface provenance. The underlying scholarship of this 'pure research' phase was necessitated by the desired authority of the final artefact.

This projected desire for a kind of typographic authority was realised in the contribution of an article about the project to a journal titled *Typotastic*, published by the School of Art at the University of Tasmania in 2006 (Figure 31). The publication afforded me an opportunity to articulate the project's key concerns and underlying reflection-in-practice to a sympathetic (but remote) academic audience, and this in itself acted as a stepping stone to further involvement with overseas publishers and institutions.

Figure 31: article spread from Typotastic journal UTAS, 2006
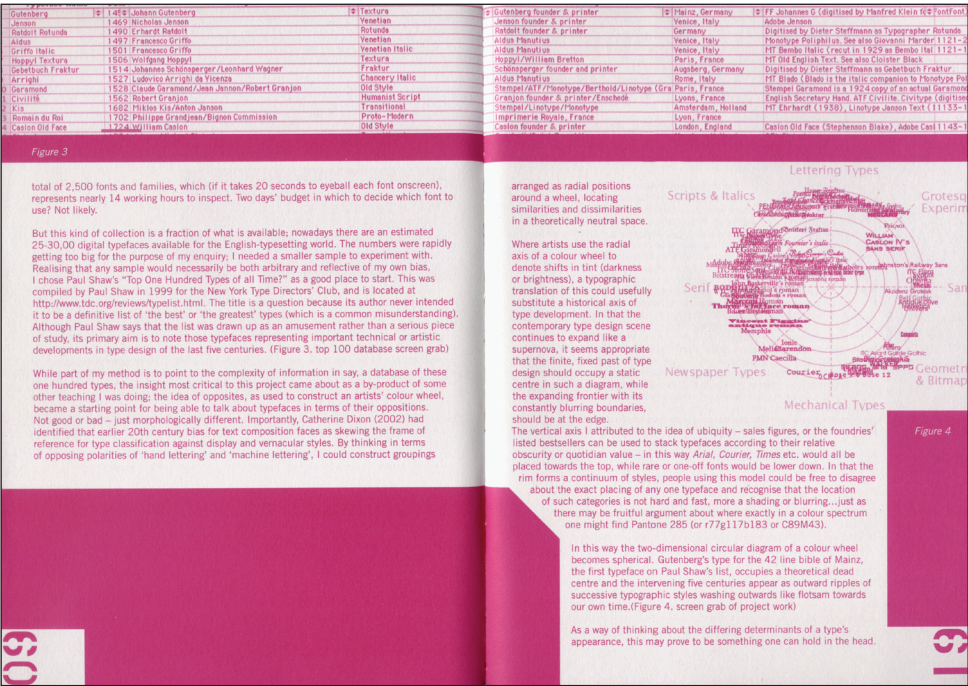
Other profile-raising side activities – related to the project's overall topic, but not central to it – included a detailed critique of a type history textbook, *Creative Type*, which had been co-authored by two university professors of typography and recently published by Thames & Hudson in the UK. The feedback I received from the publishers validated the approach; I was congratulated on the rigour of my research, and told that my suggestions would be incorporated in any further edition of the book. These activities, as part of an overall and ongoing process, enabled me to reach outwards into the larger world of academic typography in order to bring new reports and fresh material back to my classroom. In addition, I presented my work to colleagues at AUT University as part of a postgraduate research conference entitled *Becoming Visible with Research Initiatives* (Figure 32).

The presentation notes for one of the slides eventually became the basis of an article published in *Designer* magazine in Singapore early in 2007, in which a famous typeface, rather than a book, was critiqued. Extensive research and negotiation with copyright holders, picture sources, an overseas editor and publisher, culminated in an article that went on to be republished on the web at www.typotheque.com/articles/re-evaluation_of_gill_sans. According to Peter Bilak, the site owner, this article had been viewed by 7,000 people and had been re-presented or cited at four other typography sites within the month of its launch (Peter Bilak, personal communication, 27 March 2007).
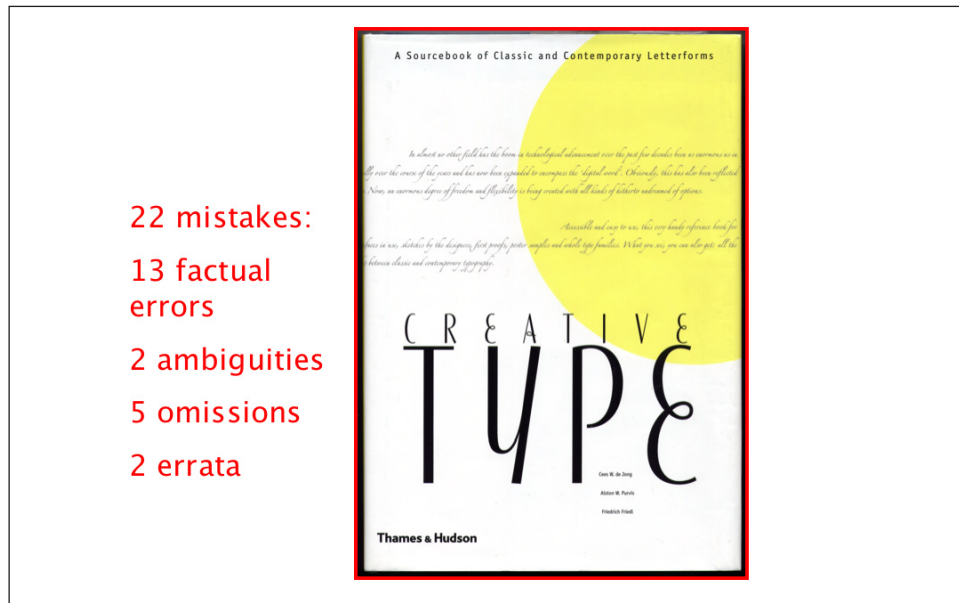
2.8 Studying Information Design Principles

Aside from these spin-off activities, which were mainly concerned with writing and networking, the database content was finalised, written up and checked late in 2006.
In that the original concept for the website had envisaged a Profile page for each typeface, the resulting website was to number at least 100 pages, but the essential problem of how to access the information held on the Profile pages remained. As an aphorism of information design puts it; the internet can be seen as an ocean of information; the problem is that it's no use to a thirsty man, so the job of (information) designers is to provide a tap. This highlights the practical concern of the project: how to make the content accessible and comprehensible, issues which again devolve from questions of classification and presentation.

In order to make the website a 'place to jump around in' and allow some exploration of the relativity of classificatory modes, three distinct approaches were identified and synthesised. The first is new media theorist Lev Manovich's concept of 'database as navigable space' in which new media (including websites) are likened to narrative filmic structures, in that they are non-linear experiences for the user. This non-linearity is employed to elicit student enquiry, thereby increasing student-centered learning and recall (Manovich, 2001, p.49). In terms of design for a digital museum this implies that although visitors can be herded through an online experience in a very specific and structured way, it is pedagogically counterproductive to do so – the point is to let them find their own way. The design of www.100types.com explicitly allowed for both internal and external hyperlinks to support this.

The second approach that informed the design of www.100types.com is the information architecture theory of Richard Saul Wurman (1989). This is the 'five ultimate hat racks' concept of ordering data (Figure 33). Wurman uses hat racks to talk about modes of organisation in much the same way that Edward de Bono talks about coloured hats as labels for modes of thinking (1985). Wurman's reduction of complex data organisation to five archetypical orders of enquiry – *alphabet, time, location, magnitude and category* – predates and underpins much that has since been written about making both old and new media understandable.

Since reading the 1989 issue (145) of *Design Quarterly* that Wurman had written and edited, I had looked for an opportunity to incorporate this approach into my own work. Therefore the design of the website initially favoured Wurman's 'five hat racks' method as a 'hub' page for navigating the website, in preference to an upfront search function or index page (see Appendix 18). This was later re-evaluated in light of the results from the usability testing conducted after the website launch.

Figure 33: 'five hat racks' or archetypal orders of enquiry, after Richard Saul Wurman
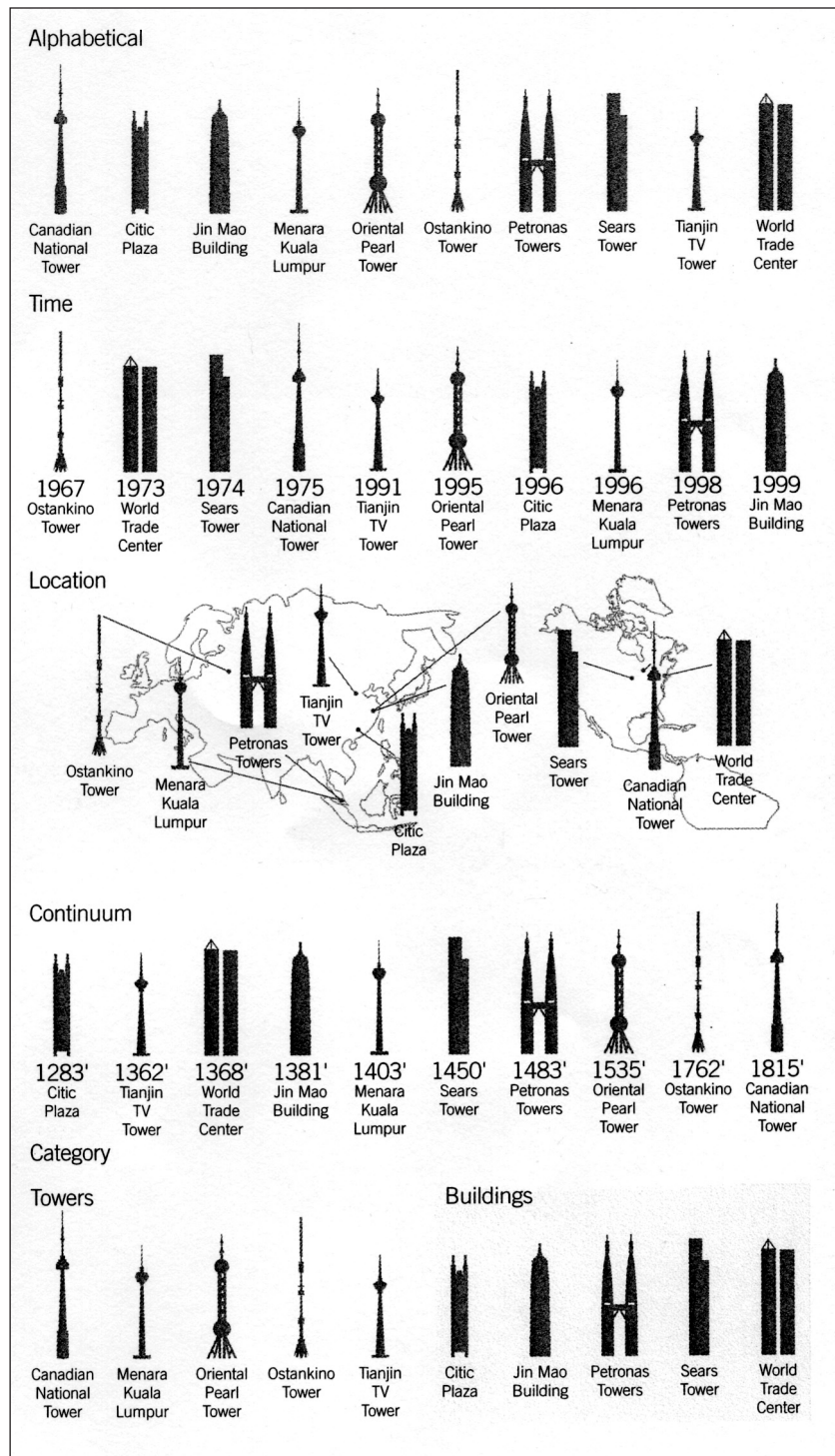
The third approach involved the working up of material I had generated for classroom use. Throughout the process, physical constructions were used to reflect on and diagram elements that were subsequently created digitally. I don't always work this way

– in many respects I am a 'digital native' – but for a certain level of complexity I find I need to engage with things at a material level as a basis to plan from. As an example of how this material thinking approach underpinned the creation of the website, the timeline page at www.100types.com (as a sub-index according to the 'five hat racks' concept underlying the overall site design) evolved directly from both model and diagram, as follows.

The prototypic three-dimensional model (Figure 34) had been introduced in an AUT University classroom as early as March 2006, but had been superseded by a two-dimensional hand-drawn whiteboard diagram (Figure 35). The translation to two dimensions rendered only the historical axis; information on sales volumes and the morphology between 'printing types' and 'lettering types' were both sacrificed for the sake of clarity. In spite of this, the students still reported that they found it useful, and the diagram was subsequently photographed and held on an AUT University server for continued student reference. Although the timeline webpage uses the smaller (TDC) sample of 100 typefaces (Figure 36), rather than the original 300 in the physical model, the illustration it provides remains valid, demonstrating at a single scroll "the late 20th century proliferation of typefaces – a 2,762 per cent increase since 1974" (Cahalan, 2004, p.62).

Figure 34: detail two of the three dimensional prototype model
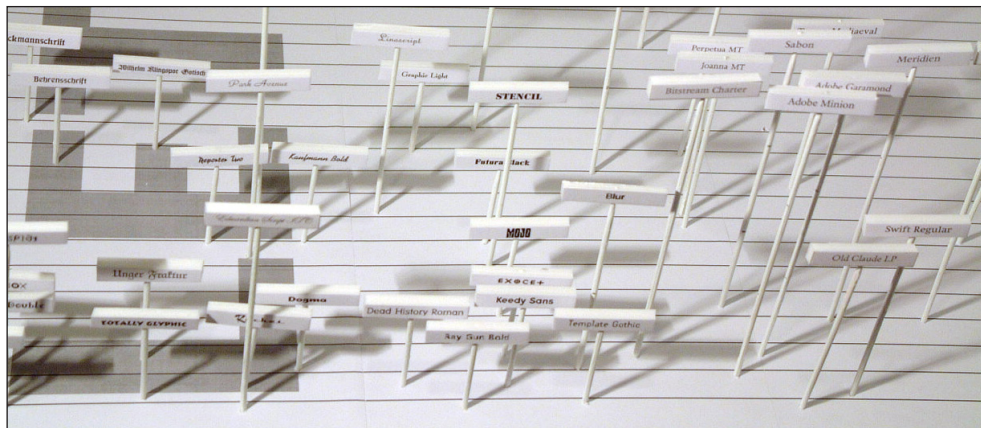
Figure 35: detail from whiteboard timeline diagram
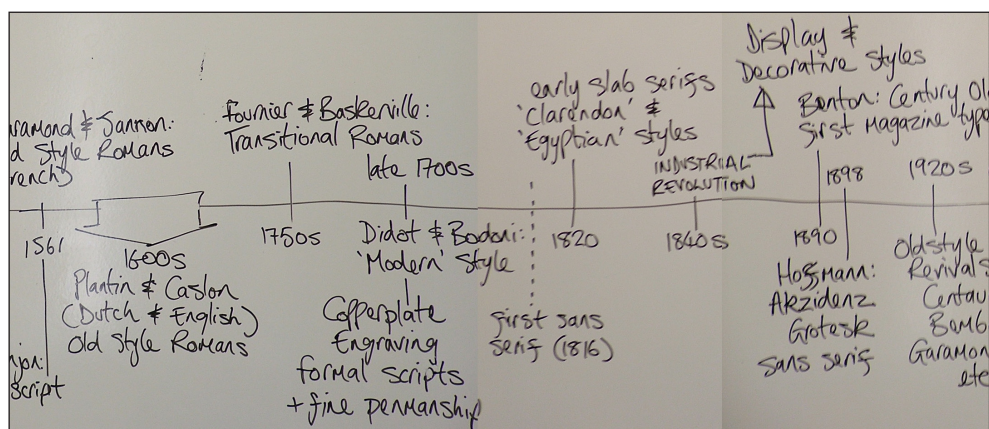
Figure 36: screenshot of the prototype version, www.100types.com timeline webpage
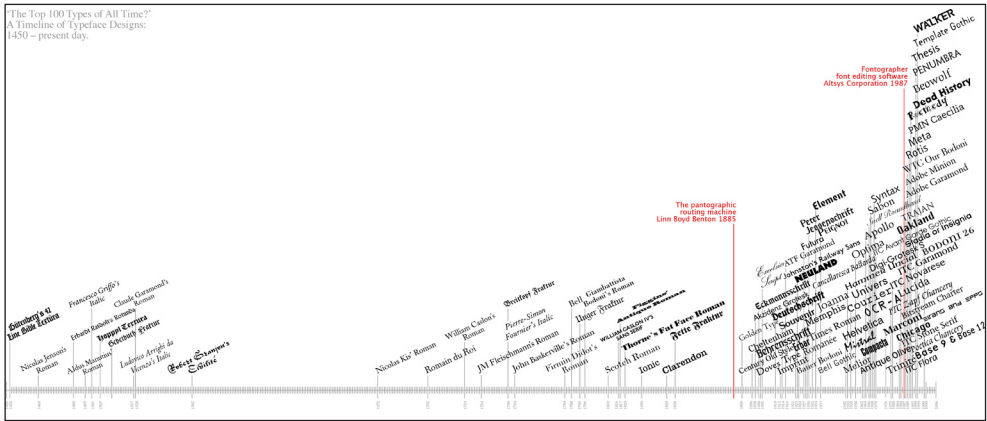
In a similar way, the website itself was designed from a physical process of repositioning hand-drawn labels across a studio wall (Figure 37) that employed a low technology, material approach, rather than using outlining software to produce a similar result onscreen.

The synthesis of these approaches led to the design of a website which allows the students to browse in a non-linear fashion, jumping backwards and forwards, off and onto the site from diverse points of reference, while getting a grip on the different ways in which the data can be ordered. "Understanding is a path, not a point. It's a path of connections between thought and thought; patterns over patterns. It is relationships" (Wurman, 1989, p.4).

My hope is that students and other visitors to the website may realise how the site is in itself a synthesis of a lot of library content and just one person's point of view (albeit supported by careful research). The website structure allows them to arrive at a point where they can triangulate the information by accessing it through a number of different means within the site, and corroborate this by accessing other sites for verification. User navigation was later found to be considerably varied in orientation (see chapter 3).

2.9 Making the '100 types' Website

Considerations for the overall layout or map of the website determined one point of entry to the website (as in a conventional museum), but rapidly divergent routes of enquiry from that point. Because of this, beyond the 'intro' page or entrance hall, the method page functions as a meta-index; it is a 'hub' from which hang the six differing methods of drilling down to the individual typeface Profile pages (see Appendix 18). The timeline, for example, performs the same function (an alternative index of the sample) as the pages denoting the alphabetical, geographical, magnitudinal and categorical indices of the 100 typefaces in the sample.

Figure 37: detail of the initial website planning, 'low-tech' wall diagramming
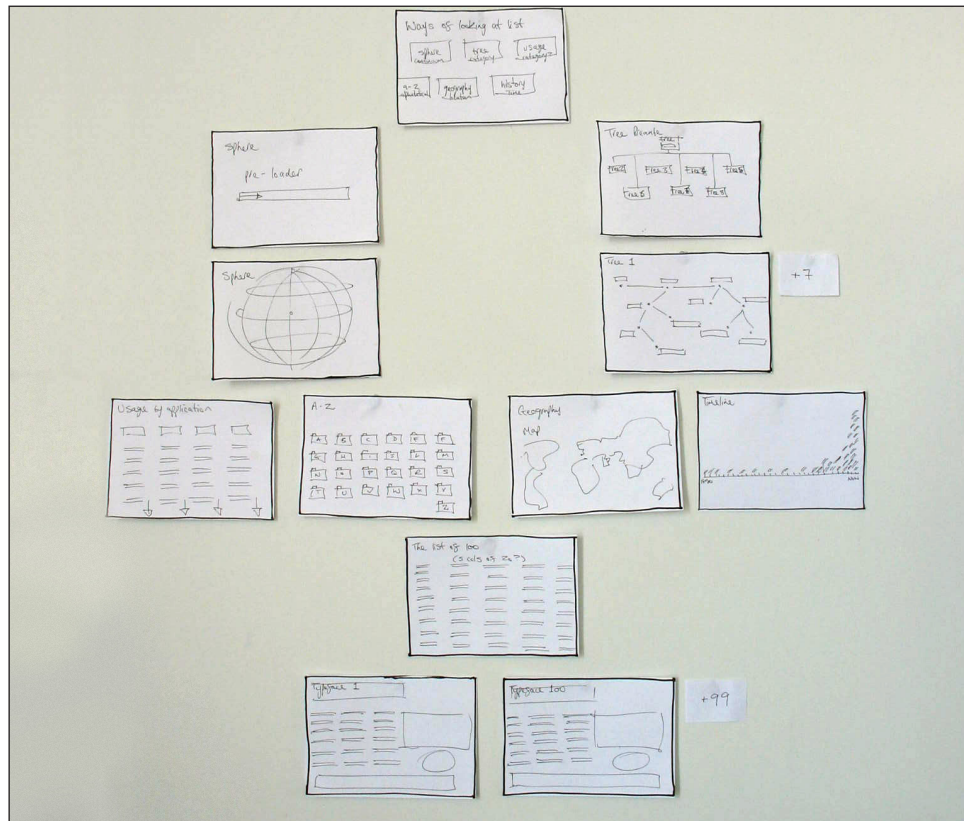
These alternative indices (co-indices to the site content) can be likened to the exhibition halls of a conventional museum, where the typeface names are displayed in their own style. This is a conscious nod to the accepted earlier practice (in typeface reference books) of setting a typefaces name in its own particular font for easy and repeated recognition. Where multiple sub-indices were required, for example in the seven pages of the categorical 'trees' section, this works well, because in addition to the mnemonic character of the association between the typeface name and its appearance, a hyperlink offers direct access to the typeface Profile page itself.

With the hyperlinks, identification of a blinking html rollover behaviour as an additional visual cue was decided as unnecessary; the prime requirement was to reinforce user identification of typeface names in respect of their morphological style, and encourage student enquiry. Not knowing at first glance which elements on the page are clickable hyperlinks introduces a level of uncertainty that increases concentration. Blinking html rollovers were only employed on the navigation bar on the site and the very first webpage on the site – the typecase Index page.

Other of the co-indices appear less successful; similar multiple sub-indices were required for the alphabetical, geographical, and magnitudinal co-indices, and although they too replicated this hyperlinking directly from typeface name to typeface Profile page, in the case of the alphabetical listing (where a graphic representation of folders listed A-Z appears in place of a straight alphabetised index), this approach appears forced. This reflects my own bias against alphabetical systems for ordering typefaces where novices are concerned. The purpose of the A-Z index then, is to demonstrate how poorly this particular index works (see Table 2 Part B, in chapter 3 for usability results and further discussion of this). It is worth noting that Font Reserve works the same way – it offers alphabetised listing as the foremost organisational principle, despite its searchability and more traditional Vox-based classificatory arrangement (see the citation from Fiona Dickson, p.20).

The relationship between the geographical Map co-index and its sub-indices appears more successful, in that the sub-indices offer some direct visual correlation to a perceived national style; for example, possible user expectations about German typefaces appearing overtly gothic and/or rational may be confirmed to an extent.

Figure 38: screenshot detail of the initial site layout in Freehand (see Appendices 18 and 19 for full website site map)
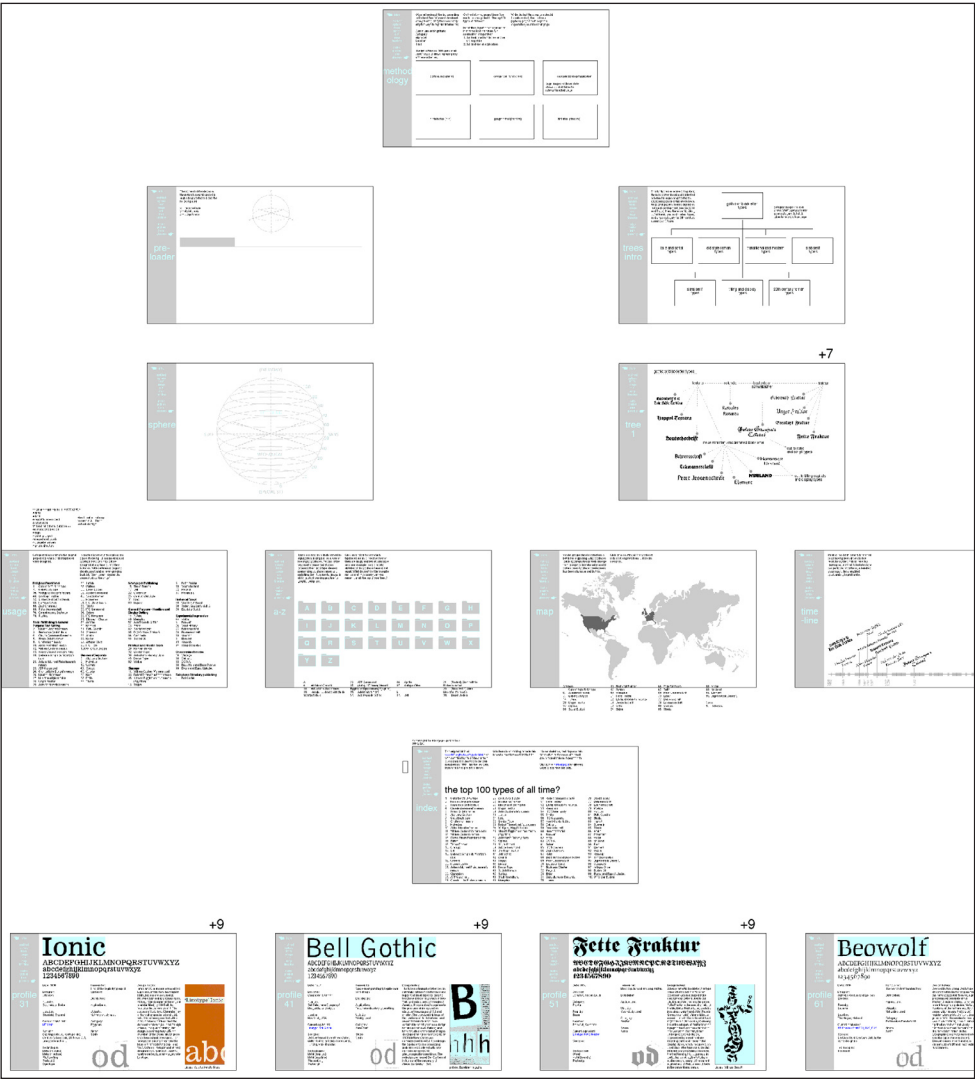
The case of the magnitudinal Chart page(s) was not straightforward; earlier ambitions to display magnitude in terms of ubiquity, rather than sales figures by volume, proved too difficult to realise. A secondary approach was adopted that took into account the volume of a given type family rather than its sales or distribution. Although it is a useful idea and could provide a guide for students, its direct visual presentation is not easy; one of the typefaces listed on the site has more than 140 variants, which means there is not enough space to display this particular typeface family in its entirety, while the overall effect would be lost on those typefaces (the majority in the sample) which comprise only a single variant. The same approach – visual representation as a pie chart, statistically showing the distribution of these characteristics within the entire sample – was then used for both ubiquity and family volume attributes of the typefaces (see chapters 3 and 4 for usability results and further discussion of this).

In addition to the above, co-indices showing both the original TDC ranking of *The top 100 types of all time?*, and their original usage or design intention, were provided to buttress the 'five hat rack' methods of negotiating the site content. While the TDC ranking is acknowledged to be subjective, and therefore contentious, it carries an authority superior to my own, having some established and respected consensus (TDC members) behind it. The co-index showing usage or design intention echoes commentary supplied on the individual typeface Profile pages, and is a recognition of Karen Cheng's previously cited statement that type classification now needs to include function and intent. These two 'non-Wurman' indices might provide ideal starting points for students wanting to know about the most-highly regarded typefaces or, conversely, those typefaces made expressly for specific functions such as newspaper printing.

It had always been part of the plan to include a glossary page and a links page for further reference and research; however, constraints of time and space meant that both pages perform double functions. The links page provides a point of departure from the website to other purposefully selected online resources (including those cited at 1.8), but also acknowledges those individuals and institutions who supported the project. The glossary page provides a simplified alphabetical summary of the specialist terminology on the site, running to more than 4,000 words. It also includes a search function optimised to work with the Google search engine. This last point was critical, because of what Paul Ayris, head librarian at University College London, has called 'the Google effect':

> In terms of universal provision, the Google effect is now well-known in universities. The predominance of Google is so great that users now expect this form of delivery, 24 hours a day and 7 days a week, as a matter of course. For most students, wishing to know the answer to a problem, their first port of call will not be a library or a reference book, it will be an internet search engine like Google (Ayris, 2005, p.9).

Therefore the project had earlier identified 'Google-friendliness' as a requisite quality of the site, to be driven by four quite diverse considerations:

1. Designing for low-bandwith, html-only pages as Google does not scan pages over 100k in size, nor does it scan image file types for text content – this had significant implications for how the site would appear and function.
2. Siting the website outside the AUT University firewall to allow access to the site by Google's remote software search agents.
2. Incorporating the Google search function directly within the website, and registering the site's main directory pages with Google Inc. online.
3. Accurately and concisely describing both page and site content within the meta tags written into the header of the individual pages' html code.

Once the site was constructed the search function was successfully incorporated into the design of the glossary page at www.100types.com (Figures 39 – 41) and subsequently tested to find out if the meta tag information had a net impact on the searchability of the site as a whole.

Figure 39: screenshot of Google search box html code in Dreamweaver

Figure 40: screenshot of page meta tag html code in Dreamweaver
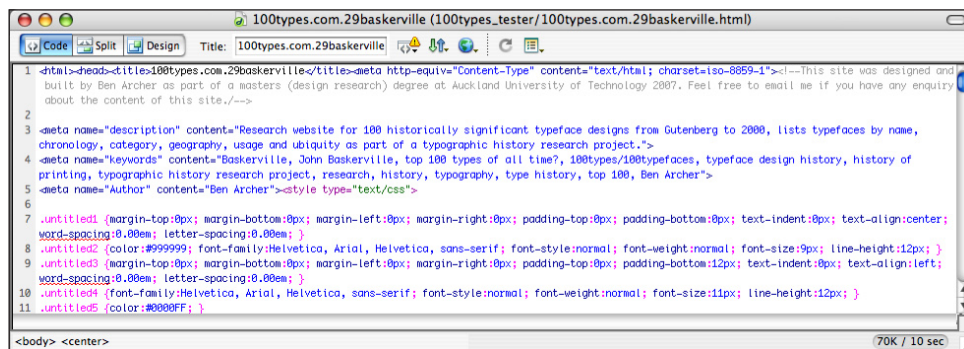
Figure 41: screenshot of glossary page search function at www.100types.com
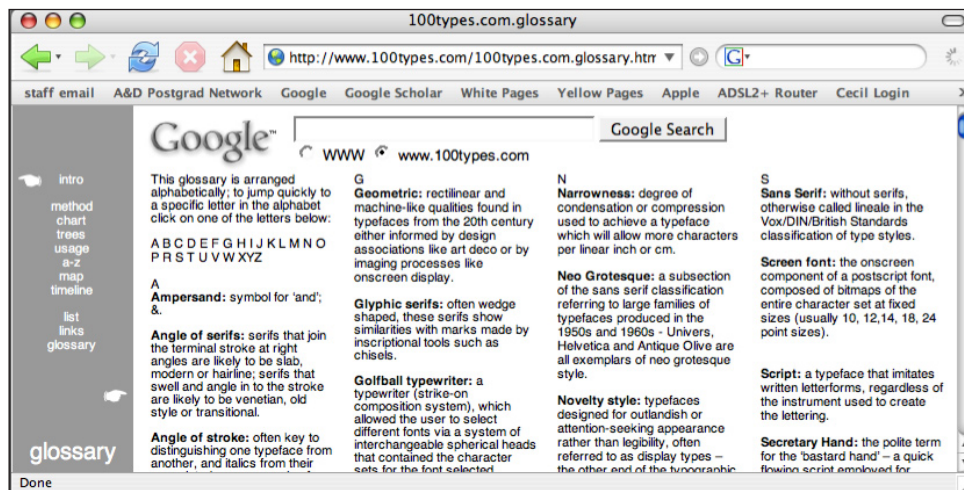
As a novice web designer, I felt the need to engage in a series of discussions with colleagues and friends with hands-on experience of website creation. Several prototype page grids were devised, including ones based on antique typecases (as a conscious referent to a visual signifier of type history), and ones based on the golden section (as a more aesthetically driven referent to art history in general).

For both practical and philosophical reasons the final design of the 100 types website pages present as visually neutral and minimalist. Sans serif typefaces, a grid structure incorporating white space, an absolute lack of decoration (unless occurring in the pictorial matter) and a low-contrast monochromatic colour scheme were all purposefully

employed to reinforce the notion that this is a utilitarian 'no frills' website designed for conveying textbook information as its primary function.

As a designer with experience in print, I found type choices for website design very limited, with only a handful of types considered safe options for a consistent viewing experience worldwide. For the body copy I chose the set that substitutes to whatever sans serif typeface is available on the viewer's computer – Helvetica, Arial, sans serif – in preference to any serif typefaces because I thought this should make for easy distinction between the style of the commentary text and the typeface being profiled. This was true in all cases except for the individual Profile page for 9. Helvetica, (which of course is included in the TDC *The top 100 types of all time?* list as one of the great typefaces of all time).

The final design evolved from consideration of the spatial hierarchy required for displaying thirteen pieces of separate data (of varying complexity and length) for each typeface Profile page, in addition to some of the established conventions of web page design. These conventions include the undesirability of irregular page sizes, unnecessary scrolling, and the screen clutter of extra pop-up windows. Conventional web site designs use a navigation bar generally positioned in the upper and leftmost part of the page as a kind of visual and directional keystone, which reinforces orientation of an overall reading direction (left to right, top to bottom).

Figure 42: first design of an example page, grid based on antique typecase layout

Figure 43: second design of an example page, grid based on golden section

1930

not widely used

Joanna

index | list | sphere | tree
profile | discussion
links | words

ọd̶

(No.75)

Eric Gill
20th Century Serif Roman

vertical stress
slab serifs

A light roman text face noted for the small size of its capitals and an almost vertical, highly condensed italic. In the original type there were no italic capitals, meaning the italic lowercase was to be used with the roman capitals; a practice defined by Aldus Manutius in the early 1500s. Joanna was named for Eric Gill's daughter, and was created expressly for printing by hand at the private press Gill ran with his son in law, Rene Hague. Gill's seminal tract, the 'Essay on Typography', was also printed using Joanna in 1931, and displays a number of this designer's idiosyncrasies in the layout of the pages. J. M. Dent, who acquired the Hague and Gill press, commissioned Monotype to make a machine composition version of this type in 1937, but Joanna was not generally available until 1958.

Hague and Gill / Monotype
England

Monotype Joanna

See also Aires and Linotype
Pilgrim by the same designer

Metal (foundry)
Metal (machine)
Postscript

Ubiquity value = 35

Dollar value = 21

> 50   An Essay on Typography
>
> ¶ A typically moral and conscientious English finds it exceedingly difficult to keep morals out art talk; he finds himself inclined to think, e.g. R ought to have a bow more or less semicircular and of a diameter about half the height of the st & a strongly outstanding tail; that an R with a
>
> (Fig. 16: *essential form*; 2, *too narrow*; 3 & 4, *absurd misconceptions*; 5 & 6, *normal*; 7, *overbold*; 8, *suitabl advertisements of 'Bovril'*; 9, *normal sans-serif*; 10, *sans bold*; 11, *sans overbold*; 12, *hardly recognisable*; 13 & thick and thin unusually disposed; 15, A undecided as to whether it is an A or an aitch; 16 and 17, *normal*; 18, t

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Figure 44: third design of an example page, grid based on dividing navigation from content

intro
index
profiles
method
sphere
trees
usage
a-z
map
timeline
links
glossary

profile
1

Gutenberg's Textura

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Date: 1452

Designer:
Johannes (Gensfleisch zur Laden zum) Gutenberg

Foundry:
Gutenberg founder and printer

Location:
Mainz, Germany

Current equivalent:
FF Johannes G
(digitised by Manfred Klein)

See also:
Goudy Text, Wilhelm Klingsporschrift, Cloister Black

Technologies:
Metal (foundry)
Postscript

Famous for:
The first moveable type used in Europe to print a book.

Distribution:

Applications:
Religious/Devotional

Ubiquity:
Very rarely used

Category:
Textura

Stress
Serifs

Design history:
This type is based on Textura, one of four categories of blackletter type used by northern Europeans in the monastic tradition of book making. Prior to this point, all books had been hand lettered, with woodblock prints to reproduce drawings. Gutenberg's invention utilised his skills as a goldsmith, in conjunction with a new, non-traditional use for a wine press. He also had a specific recipe for making metal type; 67% lead, 28% antimony, 5% tin. In doing so he proved that the new art of printing was aesthetically and economically superior. The B-42 Textura is a dark, even letter said to have been cast using sand or clay moulds, and used nearly 300 characters to mimic the look of handwriting and create the ligatures (joined characters) then in common use. The type had no numerals as these were added after printing by a rubricator.

picture: Yale University Press

Final page dimensions were 800 x 503 pixels, a size that was tested and optimised for printing at actual size on A4 paper with AUT University classroom printers. Pages were arranged with a navigation bar at extreme left and a four column grid for the content occupying the remainder of the page. All pages retained vestigial measurements from the golden section version, in the width of the navigation bar (106 pixels) and a common horizontal start line at 187 pixels from the top. The hexadecimal colour #CCCCCC (204r 204g 204b, a pale grey), was chosen as the site's key colour, while all the type was set as 11/12pt Helvetica, both in the content and the navigation bar where it is reversed, white out of grey. Headings were set as 20pt Helvetica lowercase with no extra line spacing. External links were colour coded as #0000FF (or 0g 255b, a bright blue) while the absence of a current equivalent typeface was listed in #FF0000 (255r 0g 0b, a bright red). Wherever possible, these proportions, colours and typesizes were employed throughout the website for consistency.

The production of the website involved a double-handling process whereby I used a vector-based drawing programme (Freehand) to lay out both the pages and the overall site before generating html code for 'post-processing' the site page-by-page in a web-editing programme (Dreamweaver). The advantage of working this way was that Freehand allowed the creation of a meta-document that comprised 168 pages – the entire site (Figure 38). This allowed me to work uninterruptedly at both macro and micro levels on the site and the pages; rearranging content, importing text and images, cutting and pasting elements, duplicating page layouts from master templates that held common elements (such as the navigation bar), and performing search and replace functions whilst only having to manage a single document. Only after 'publishing as html' each page of the Freehand document, did the pages become separate html documents that then had to be managed collectively as a website (Figure 45).

In addition, the ability of Freehand to convert typefaces into vector-based graphics (that are subsequently exportable in a variety of formats), meant that the website would not contain any proprietary font data – this was crucial in avoiding any infringement of copyright or end-user license agreement for any of the fonts featured on the site. This last aspect had already been declared in generic permission-gathering emails out to all the foundries, type designers and suppliers identified as the copyright holders of these featured typeface designs (see Appendix 5).

Working in Dreamweaver, the pages were processed to strip out extraneous html code, enforce html stylesheet coding for the text, and incorporate the hyperlinks and javascript buttons that enable movement from page to page around the site. At this point I was operating outside my comfort zone as the experience with this particular software was entirely new to me. Although the task took me longer due to my inexperience, there was a thoroughness applied to the un-automated page make-up that was satisfying. Some of the features, such as the ability to check page file sizes and locations, and preview pages in a variety of browsers, proved very useful for checking the job on the fly.

Figure 45: example of a page in production, showing html table-based layout in Dreamweaver
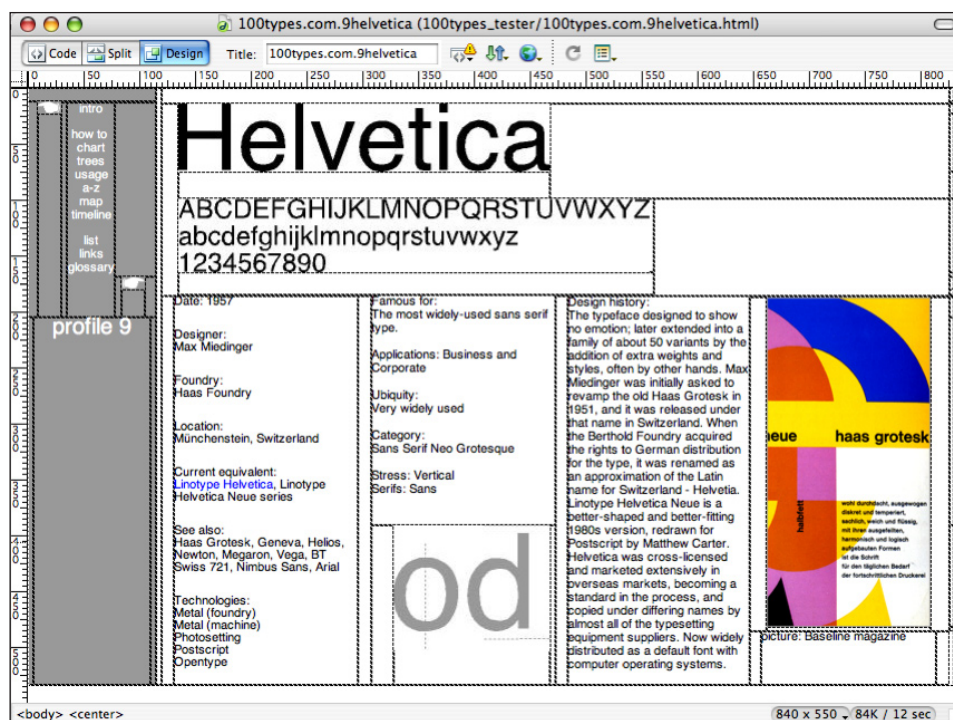
I also encountered a share of trial-and-error learning that included the unwelcome discovery that the file transfer protocol (FTP) module within Dreamweaver was quite unreliable for configuring connections with remote servers. After the insertion of the Google search function and the individual page meta tags already described, external links (URLs) from the online type foundries and suppliers were added to the both the links page and the 'current equivalent' listings of the individual type Profile pages. Another more robust FTP programme called Fetch was purchased to upload the finalised site pages to the internet service provider (ISP).

The service offered by both the ISP and the domain name registration (DNR) providers was exemplary, and I was very relieved to have accepted word-of-mouth recommendations for them both. With each provider, the economy of their pricing plans bore no relation to the professionalism with which they approached my custom and my project. Aside from the AUT University site-licensed copies of Freehand and Dreamweaver, the total material costs for the project ran to less than US$200 (see Appendices 16 and 17).

Although the preceding research phase and the writing up of the database of 100 types had run throughout the previous year, the execution phase was comparatively short and intense; from the initial design work to the uploading of the finalised files, the creation of the site took approximately seven weeks. As a work in progress, further minor revisions to the site were undertaken during its beta-testing phase (version 1.3, February to April 2007) in response to informal peer feedback (see Appendix 10). Subsequent to the student evaluation at the end of May 2007, various usability issues were identified that were specific to certain pages, and refinements were made to site structure and navigation (version 1.6) during three weeks in July 2007.

3.1 Chapter Summary

This chapter describes the initial announcement of the beta version of the website, followed by the subsequent generation of evaluation instruments to qualitatively test the website with a sample audience at AUT University. Brief annotation of these results is presented *in situ* with the presentation. Site statistics for the period under review, and correspondence detailing the website's critical reception among a wider audience are included. The chapter concludes with a consideration of how these different forms of feedback triangulate to provide future design direction.

3.2 Launch of the '100 types' Website

The launch of the 100 types website happened early in February 2007, before the start of the academic year in New Zealand. The site was in beta testing, but essentially ready to be scrutinised by both the general public and my colleagues, friends and students. News of the launch of a similar site at www.100besteschriften.de. forced my hand in announcing the existence of my project website to a rather more critical audience. A discussion thread at www.typophile.com (www.typophile.com/node/31132) had listed this German language-only site, sponsored by FontShop Berlin, as a new online resource, and one of the posts asked if there was an English language equivalent. My reply offered a hyperlink direct to www.100types.com. This was followed up by an email campaign to all those overseas individuals, foundries and institutions who had so generously supported the project, publicising the website launch. This email announcement included an explicit invitation to critique, offer comment, or correct the website content and design (see Appendix 9).

3.3 Website Usability Testing

At a local level, research into the website's usability was conducted by asking participants to browse the website 'live' while being observed and recording their responses. As the action research methodology indicated *in situ* testing, it was appropriate to use the AUT University DipGC classroom as the natural setting of the enquiry, and invite a representative sample group of DipGC students to be the participants. The website had been optimised for performance on computers specified as identical to those used within the School of Art & Design at AUT University, and the DipGC students identified as a representative end-user target audience.

Therefore a class of 33 students in the second year of the DipGC programme were asked to contribute. The data collection instruments were designed specifically to mitigate against a perceptible conflict of interest by researching only with past students of the Gutenberg assignment. It should be emphasised that the lecturer/researcher had no responsibility for assessment of these students coursework at the point at which the data collection occurred; therefore it was understood by all participants that student academic performance could not be jeopardised in any way by making unfavourable comment during the website evaluation and data collection. The research was also scheduled specifically to occur between student assignments, and therefore not to deprive participants of any class time or lecturer resource critical to their own studies.

In addition to the observation, written student questionnaires (including closed, evaluative and open questions), and a recorded focus group discussion were also undertaken to provide triangulation of the data collected.

The generation of the observation and questionnaire research instruments evolved through a process of cyclical refinement. Both tasks for observation and questions about

the website performance were generated and subjected to critique by John Eyles, the project primary supervisor, and website usability consultant Tom Dale. With their assistance, the focus of the observed tasks was narrowed to five questions related directly to the wording of the DipGC Gutenberg assignment, and designed to explore different parts or functions of the site. The questions were simplified, worded to focus on specifics and stripped of jargon, so that they would appear as easily comprehensible as possible. This was a distinct consideration derived from reflection on the target group, of which approximately half the students can be said to use English as a second language. Accompanying information sheets specified that participants could, if they chose to, have the questionnaires translated into another language.

The final wording of the questions is as follows:

A. specific enquiry-based tasks
Please use the following questions to get you started going around the website. Imagine you are needing the information for an assignment like the Gutenberg booklet project – see if you can find the answers within a three-minute timeframe for each. Please record the time it takes you to complete each task:

A.1. find the metal composition for Gutenberg's 42-line bible type, and the name and creator of its modern equivalent?

A.2. find the names, dates and creators of the two inventions responsible for large scale typeface manufacture listed on the timeline?

A.3. find the reproduction technology that the typeface Compacta was originally designed for? explain how this was different from previous typesetting technologies?

A.4. find a definition for the term Postscript? in what way did Postscript break new ground?

A.5. find and name one example each of roman, sans serif, slab serif, script, black letter and decorative typefaces?

B. specific questions
Please answer the following questions as you continue to go around the website. Feel free to ask any questions as they occur to you, and answer the written questions in your own time and style. You have 15 minutes to complete the questionnaire:

B.1. what is the slowest part of the site?

B.2. what is the quickest part of the site?

B.3. what is the most confusing part of the site?

B.4. what is the clearest part of the site?

B.5. are you able to find the links to other pages ok?

B.6. do you use the back/forward buttons?

B.7. are you able to find the links to other websites ok?

B.8. do the links to other websites match your expectations?

B.9. is it a problem to get back to a previous page or website?

B.10. a) are you able to find the index list? b) are you able to use the index list?

B.11. a) are you able to find the glossary? b) are you able to use the glossary?

B.12. a) are you able to find the search function? b) are you able to use the search function?

B.13. do you think you would use this site in preference to the type-related reference section of the AUT library?

B.14. do you think you would you use this site in preference to any other type-related reference website?

B.15. do you think you should you be able to download .pdf files from this site?

C. baseline indicators

Please mark the line scales below for where you think the website performs:

C.1. for navigation:

easy to get around   ok to get around   very hard to get around

C.2. for information:

good information   ok information   poor information

C.3. for usability:

can use this well   can use this ok   can't use this at all

D. open ended questions

How could the site be improved?

D.1. content:

D.2. design:

D.3. navigation:

The tasks to be observed and the questionnaire contents were simply coded for analysis: the time-based tasks were designated series A.1. – A.5., the closed questions series B.1. – B.15., the evaluative questions C.1. – C.3., and the open-ended questions D.1. – D.3. To aid participant response, graphic rating scales were used at the evaluative questions C.1. – C.3., and a lot of extra space was allowed for on the written questionnaire sheets.

Two research assistants were recruited to help with the data collection, and briefed a week before the event, as the size of the class meant a likely 1-11 ratio between observers and participants. Guidelines for the observers were drawn up explaining the context, the parameters and the potential outcomes of the data collection. Specific use was made of chapter 10 of Steve Krug's *Don't Make Me Think!* (2000), a guide for how to do your own website testing. Students were given a week's notice of the event and signed consent forms were obtained from 29 participants on the date of the data collection.

Limitations of the usability testing/data collection are several and are itemised here. Perhaps foremost is that an element of 'please the teacher syndrome' occurring within the data collection was identified but not verified; the researcher can only state that students *may* have felt obliged to dilute their critique of some aspects of the website in view of their relationship with the lecturer, but not (as noted above) in view of their academic status. Response bias on the observation material, based on both inexperience and gender difference between the three observers, can also be acknowledged as having occurred at the point of the data collection. It should also be noted that time and availability of both participants, observers and the computer equipment, placed a constraint on the data collection in terms of the size of sample and the lack of a control group. The unavailability of alternative rooms in which to conduct smaller focus-group discussions was problematic, and this led directly to a shortened discussion with the entire group, rather than several lengthier and more detailed discussions with smaller groups. As a consequence, certain student viewpoints about the website, its usability *per se,* and its relationship to the Gutenberg assignment may be under-represented.

3.4 Results of Student Evaluation

The above statements notwithstanding, the data collection from the student evaluation of the website gives the following results:

Table 1. Part A
student scores on timed specific enquiry-based tasks

	Complete/Correct	Incomplete/Wrong
A.1. (detail Gutenberg's invention)	9	19
A.2. (list two typefounding inventions)	14	14
A.3. (explain instant lettering)	12	16
A.4. (define Postscript)	21	7
A.5. (categorise six typeface classes)	25	3

Chart 1. Part A
student scores on timed specific enquiry-based tasks

Totals out of 29
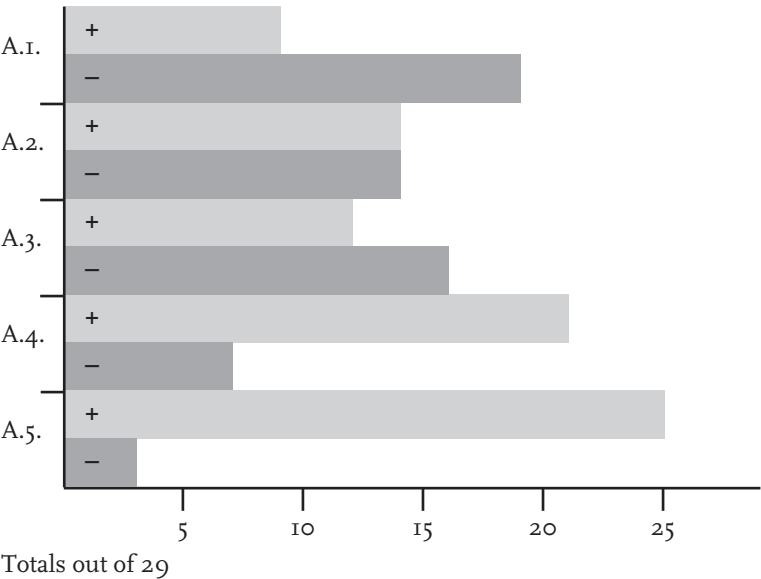
Observed behaviour suggested that many of the participants tackled these questions in reverse order; it is quite likely that certain participants ran out of time to answer questions A.2. and A.1. Reasons for this may be that question A.5. is a kind of 'shopping list' question best suited to browsing an unfamiliar site and gathering a general impression, whereas question A.1. in particular, asks for specific technical information located in the middle of a column of text on a single typeface Profile page, requiring greater effort to retrieve it. Answers to questions A.2. and A.4. were located on the more general-purpose timeline and glossary pages respectively, and were arguably easier to locate. The answer to question A.3. required as much effort to find as question A.1., but in addition called for a paraphrased or synthesized answer.

Table 2. Part B
website page-specific evaluation for performance

	Most	Least
B.1. (slow)	Timeline	Links
B.2. (quick)	Glossary	Timeline
B.3. (confusing)	Method/Chart/Timeline	Trees/Usage
B.4. (clear)	Trees/A-Z	Intro/Map/Chart

Chart 2. Part B
website page-specific evaluation for performance
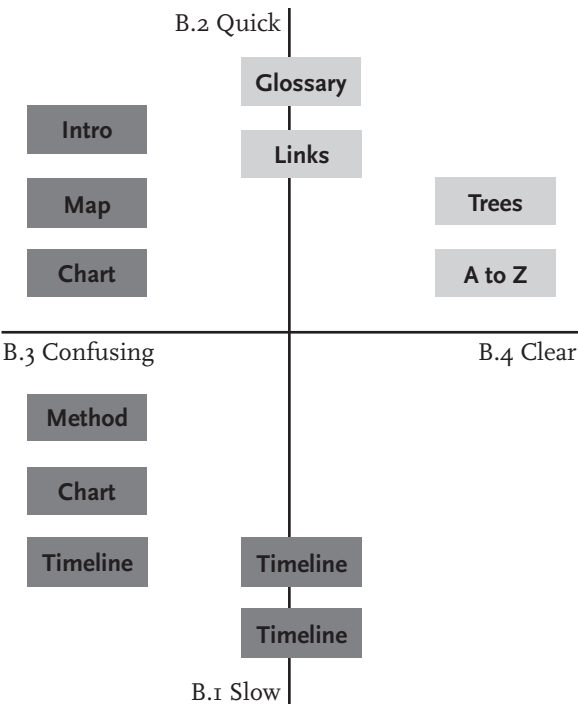
Answers to this question provided the most direct indications for how to improve the site's usability. Although it was gratifying to see a positive response to the Links, the Glossary and the diagrammatic indices for the type family trees, the result for the alphabetized A-Z index ran counter to my expectations about navigating with this method. In that the participants scored the A-Z index for clarity, my own misgivings about the overcomplicated nature of this index were perhaps unfounded, or perhaps this result simply reflects their preference for alphabetical ordering *per se*.

The negative scores for the general preamble to the site – the intro and method pages, confirmed that there was too much text on these pages and their purpose was unclear. Index pages for Map, Chart and Timeline also scored poorly; in particular, participants felt that the timeline diagram was crowded and confusing, while the Chart pages were badly labelled and presented. It is possible that the Map page highlights the Eurocentric nature of the 100 types sample in a way that this (Pacific Rim) audience finds inappropriate.

Table 3. Part B
website navigation scores

	Yes	No
B.5. (internal links)	25	4
B.6. (back/forward buttons)	15	14
B.7. (external links)	26	2
B.8. (external link expectations)	21	3
B.9. ('get back' problem)	4	25

Chart 3. Part B
website navigation scores

Totals out of 29
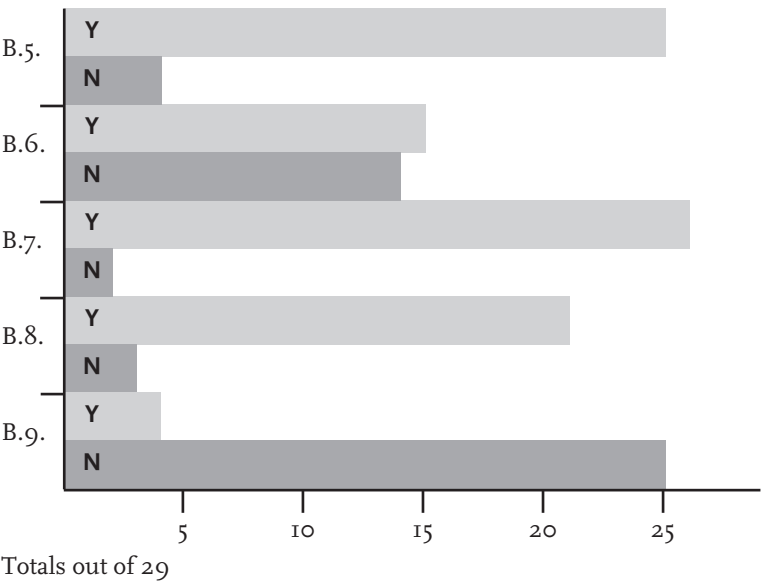
Answers to these questions confirmed that to user audiences composed of the likely target group (students comfortable with existing web browsing conventions), the website presented no major problems with either the internal navigation or with links to other, external websites. In particular, at question B.6. there was an even split between those using the back/forward buttons to aid navigation and those who didn't. Question B.9. (which was a 'planned negative' question inserted to the questionnaire to ensure that the participants were applying their full concentration) worked in tandem with question B.6. to identify how users apply the functionality of the back/forward buttons; the answers were taken to mean that such buttons – when appearing within the navigation bar of the site itself – could have a different function to the back/forward buttons provided by the browser software. This was a crucial determinant of the revisions to the site structure and the overhaul of the navigation bar that were undertaken in response to the feedback (see 4.2 and Appendices 18 and 19).

Table 4. Part B
website function scores for performance

	Yes	No
B.10. (index)	18	9
B.11. (glossary)	25	3
B.12. (search)	19	8

Chart 4. Part B
website function scores for performance

Totals out of 29
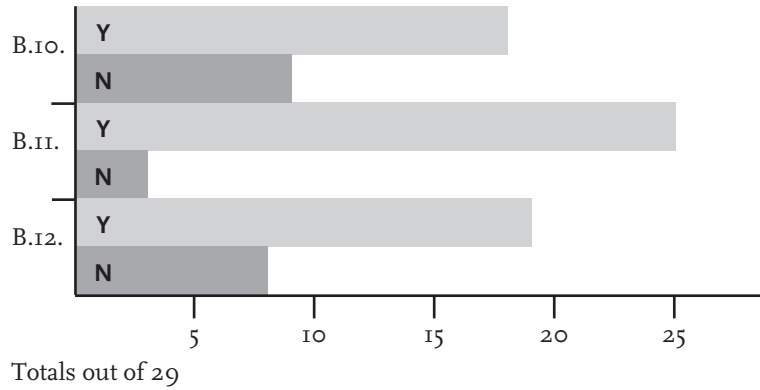
Answers to question B.11. indicated that despite containing a great deal of text, the glossary page (see Appendix 11) performed well by comparison. Question B.10, in hindsight, is a little unfair because the website contains multiple indices and it was not entirely clear which one was being referred to. Nonetheless, twice as many participants appeared to think the straight listing of the 100 types was usable to the point of performing well. Question B.12. provided evidence that the search function could be located and successfully used, even within a short time, although the Google search function shared space on the glossary page and was not clearly signposted within the navigation bar.

Table 5. Part B
student-expressed resource preferences

	Yes	No
B.13. (preference to AUT library)	22	6
B.14. (preference to other website)	23	4
B.15. (download .pdf or image)	22	4

Chart 5. Part B
student-expressed resource preferences

Totals out of 29
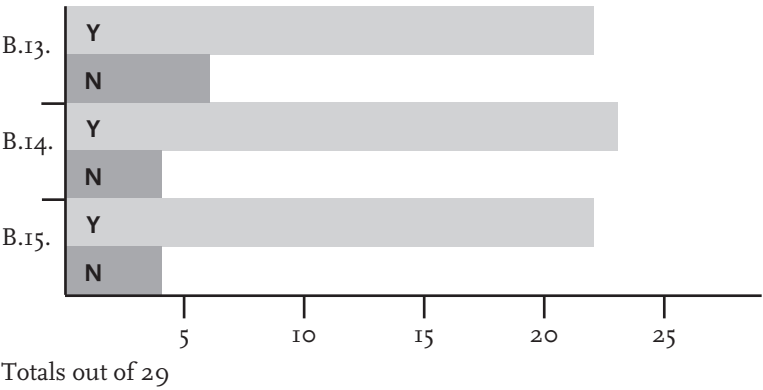
     Responses to these questions were gratifying to read at first glance, but perhaps say more about student expectations than they do about the website itself; I was surprised that the data collection revealed a considerable level of antipathy toward the AUT campus library. In that the website is a collected resource, it functions as a 'one-stop shop' for the research assignment that the participants understood from firsthand experience. However, their individual knowledge of other websites offering this information is open to question. Answers to questions B.13 and B.14. then, suggest that the participants recognised that this website could make their studies easier for them, and that any question about being able to download better-quality reference images (question B.15.) would generate an inevitably positive response.

Table 6. Part C
website performance indicator scale

	Good	OK	Bad
C.1. Navigation	13	13	3
C.2. Information	26	2	1
C.3. Usability	11	18	0

Chart 6. Part C
website performance indicator scale

Totals out of 29
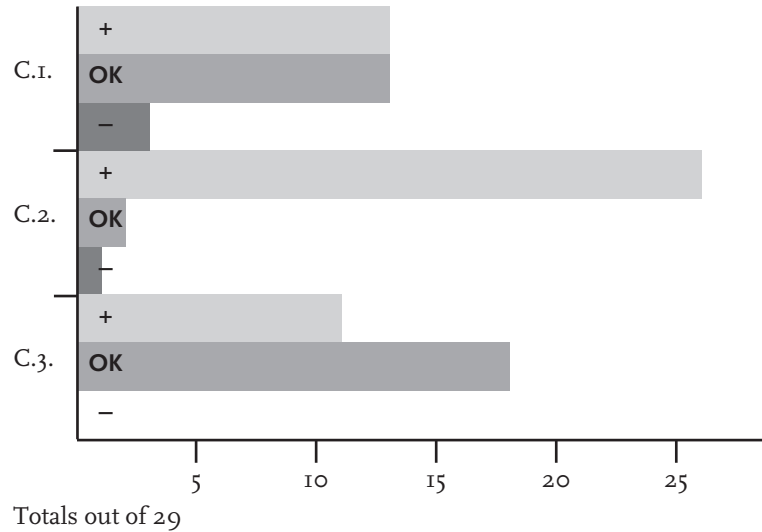
Answers to question C.2. indicated that the website, in its essential form as a repository of relocated typographic research, contains as much content as these participants are likely to need. However, the responses to question C.1. were split 50/50 between 'good' and 'adequate' and some participants clearly thought the navigation could be improved. This pattern was more pronounced in the answers to question C.3., which implied that the design of the website was just adequate but not optimal. As with the answers to B.1. – B.4., this provided clear indication for further refinement.

Table 7. Part D
website performance open-ended questions

	Good	OK	Bad
D.1. Content	10	1	0
D.2. Design	7	6	7
D.3. Navigation	7	4	7

Chart 7. Part D
website performance open-ended questions

Totals *not* out of 29
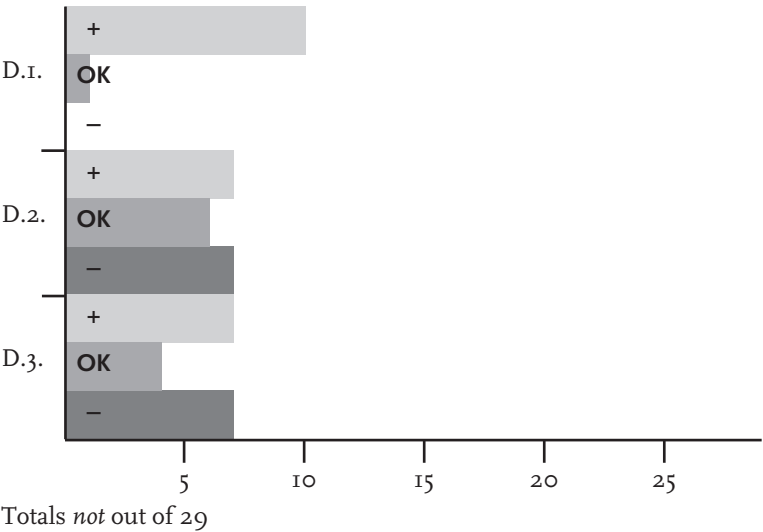
The responses to the open questions were not completed by all the participants and are presented here graphed in a quantitative manner, rather than reproduced *verbatim* or discussed at length. This is also for the sake of clarity and coherence with the rest of the presented findings. Answers to questions D.1. – D.3. reiterate and reinforce the findings at questions C.1. – C.3. because even with a smaller number of respondents, the answers show more variation; when allowed to choose their own words, more of the participants felt able to record a negative or constructively critical response in these open-ended questions. Quite tellingly, while the split in opinion on the website design (question D.2.) is even, there is a clear confirmation at question D.1. that, in their estimation, the content is superior to both the design and navigation.

Table 8. Observation
observed student behaviours on timed specific enquiry-based tasks

	Relaxed	Focused	Stressed
observer 1	7	0	2
observer 2	3	1	3
observer 3	4	4	3
Totals	14	5	8

Chart 8. Observation
observed student behaviours on timed specific enquiry-based tasks

Totals out of 29
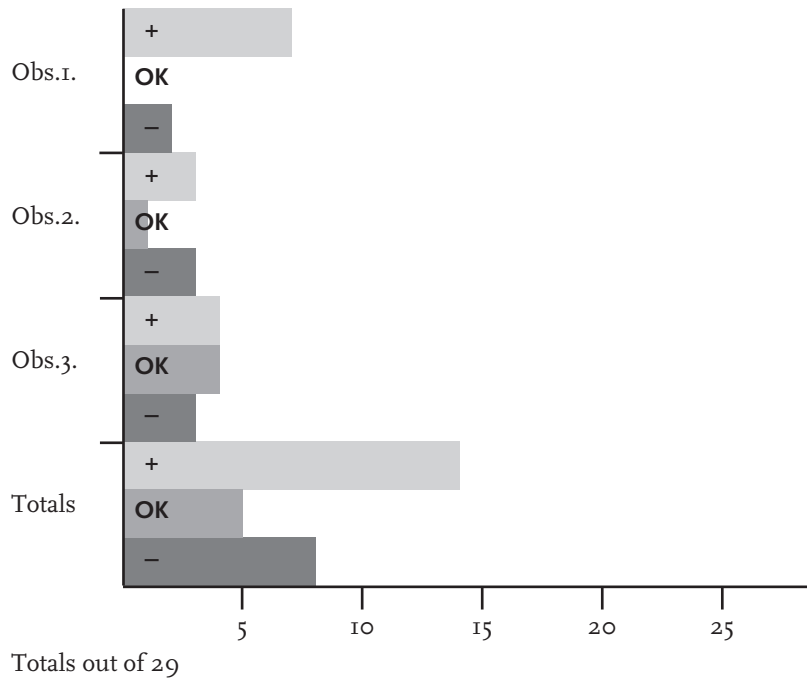
Although not conclusive, the data above appears to show an observation response bias when comparing the results recorded by Observer 1 against the results offered by Observers 2 and 3, and may be explained by gender difference between the observers.

This data proved useful when considering the pressure to perform short intensive timed tasks on a completely unknown website; overall the website appeared to perform 'well enough' in that a clear majority of participants recorded positive behavioural results rather than negative ones, and engaged with the website in a relaxed manner. Of those who appeared stressed or confused, none of the participants actually displayed any extremes of behaviour (such as leaving the room, giving up on the tasks completely, or saying 'I can't do this'). There was a (notable, but unrecorded) rise in the overall noise level during the three minutes of the first timed task, which the observers interpreted as a demonstrable easing of tension as the participants successfully negotiated the first navigational hurdle on the site.

The anonymised transcript of the recorded focus discussion with the participant group is presented in full at Appendix 13. Owing to constraints of time and location, the discussion was shortened to five minutes and did not include input from all 29 participants; understandably, the more confident and vocal members in the group made repeated comment and their views dominated this section of the data collection. In terms of constructive critique, the recorded discussion worked very well, because points were made directly and then immediately confirmed by the rest of the group indicating whether or not they agreed. Critical input from the research assistants (my colleagues on the teaching staff at AUT Uni-

versity) was also recorded at this point. Highlights of the discussion included the following statements:

1. "Um, I think it could have been more obvious that like on those pie charts that you could click out of them and go to the fonts..."
2. "It was like really good information... that you... you found everything you wanted about that certain font."
3. "I think... personally I think 'alphabetical' or 'geographical' would make it more kind of... you understand then how it's being sorted."
4. "All the content is there... you got the timeline, you got the categories, you got the families..."

3.5 Site Statistics

The website ISP reports on site traffic between February – July 2007 (Figure 46) are presented here as an entirely quantative contrast to the evaluative feedback data collected from the student participants, and record a steady month-on-month increase in the numbers of visitors to June 2007. The inflated total for May includes the data collection itself, but may be further explained by a number of (undocumented) follow-up visits by the people who had participated in the data collection.

Figure 46: site statistics – visitors for the first six months of www.100types.com

Monthly history

Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Jan 2007	56	66	467	12363	26.23 MB
Feb 2007	218	264	1562	23590	84.09 MB
Mar 2007	457	533	2951	51442	175.87 MB
Apr 2007	516	811	3691	46105	194.19 MB
May 2007	857	1055	5011	63036	277.35 MB
Jun 2007	620	730	3551	40382	196.08 MB
Jul 2007	515	640	3565	41002	209.10 MB
Aug 2007	307	358	1786	18929	99.97 MB
Sep 2007	0	0	0	0	0
Oct 2007	0	0	0	0	0
Nov 2007	0	0	0	0	0
Dec 2007	0	0	0	0	0
Total	3546	4457	22584	296849	1.23 GB

Most notably, the site statistics detail the originating points of incoming traffic; in the five months that the website has been operational, links to the site have been posted by others in the international typographic community, including

Donald Roos at www.typebase.com
Mark Jamra at www.typeculture.com
Clare Amos at www.stbride.org/library/links/lettersandtype
Richard Kegler at www.P22.com
Dan Reynolds at www.typeoff.de,

and most recently

Luc Devroye at http://cg.scs.carleton.ca/~luc/classify.html

Initial announcements of the website's launch were emailed out in February 2007 (see Appendix 9) to all parties who had supported and assisted the project, and included an explicit invitation to critique or correct the website content, as follows;

"I very much hope that you find... these acceptable in the overall context of the site, and that (if for any reason) I have made any factual error in the descriptions that you would be happy to correct me on it. Please feel free to have a look around; if you find it is likely to be of any use – please list or share the URL in any way you like..."

This invitation was made at a point in the project several months in advance of the target user-group evaluation. Direct responses came from an international reference group including Hrant Papazian, Richard Kegler, Mark Jamra, Donald Roos and others, who wrote back to say;

"Dear Ben,
It's great to see this site go up! Very useful. In fact I'll be pointing my students to it this coming Thursday. Unfortunately my time is extremely limited lately, so I won't be able to give you any useful feedback."
Hrant Papazian

"Hello Ben,
First look through... very nice job. I would think Paul Shaw would be proud to see his list expanded upon so thoughtfully. I will definitely link to it as our terminal links need some major freshening up."
Richard Kegler

"Hi Ben,
Thank you for the URL and for creating this very informative website. In fact, it has so many categorical facets that I am having a hard time deciding where to put it in the Research Directory. My inclination is to follow your lead, since you call it a type-education-related site, and list it under "Teaching Resources". That way, it will come to the attention of most educators and they can spread the word to their students. Thanks again for this and you'll be hearing more from me soon."
Mark Jamra

"Hi Ben,
Thanks for your site, nice job! I'll update typebase today!"
Donald Roos

Local peers and colleagues also volunteered generous constructive criticism and feedback; these included Tom Dale and Joanne Lush, both website designers who I had worked with previously at other tertiary education institutions, and Eden Potter, a colleague within the School of Art & Design at AUT University and a fellow MA Art & Design student who shares an interest in teaching typography;

"Hi Ben,
Looks pretty good to me. And given the inevitable code-bloat that DW introduces, and the number of images you have on there, the loading speed is pretty good."
Tom Dale

"Hi Ben
I have had a look at your site, it works really well – I didn't find any broken links. But then again I did not go through all of the 100 or so pages. I do have a few

comments on it though. I thought the size of the text was really small. I am used to small text on websites but I found this a little too small making it an effort to read. I would also like to see more hierarchy – some subheads and such. At present it is just functional looking not very designerly... but I am not sure if you have finished yet or if this is just the content part... I think it is excellent work though and will work great as a teaching resource and reference material."
Joanne Lush

"Hi Ben.
Generally... on my laptop, the menu list type looks quite small and a challenge to read at a glance. Also if there's any way you could redesign to lose the hyphenated heads on the menu, I would be much appeased. This is going to be a fantastic resource, Ben – not just for students! Hope the comments help."
Eden Potter

The full advice from Eden Potter is given at Appendix 10.

3.7 Triangulation of Results

"The process of gathering accounts from three distinct standpoints has an epistemological justification. Each point in the triangle stands in a unique epistemological position with respect to access to relevant data about a teaching situation" (Elliott, 1977, cited in McKernan, 1991, p.190).

The results presented and discussed above demonstrate that the research questions are being answered at a number of levels and from more than one direction. This, as the preceding citation states, is crucial to arriving at an aggregate position from which to consider the project and how it performs in context. Most importantly, the target audience for which the website was designed has confirmed that, as a pooling and translation of reference material from out of the library (both AUT University campus library and others available by library interloan), and onto their classroom screens, the website content is a critical success. In addition, they contributed directly to the identification of design problems occurring on specific pages within the site, and the upgrading of key elements in structure and navigation, which are detailed in the following chapter.

The informal feedback gathered from my peers and local reference group contributed to improvements in overall presentation and design for low bandwidth, while the international feedback and citations, although gratifying to receive, have perhaps only been useful in the same way that the site statistics allow me to gain an idea of numbers of visitors to the site and their origin. This gives an interim picture of how the 100types website is being adopted by a wider community as a currently available resource internationally.

4.1 Chapter Summary

This chapter provides evidence of how findings from the evaluation study informed the redesign of certain pages and features of the website. In addition it provides open-ended reflection on the implications for teaching and learning, firstly in context of the specifics of the Gutenberg assignment on the DipGC programme at AUT University, and further in the wider contexts of Art and Design undergraduate programmes in general. Limitations of the project are acknowledged, and the chapter concludes with a brief discussion of potential further development.

4.2 Implications for Website Revision

Findings from the evaluation study resulted directly in a number of revisions to the presentation, navigation and structure of the website during July 2007. Specific pages requiring troubleshooting and redesign were:

1. The website Index page/entry to the site.
2. The Method page.
3. The Chart pages.
4. The Timeline page.

Although the Map page had scored negatively for ease of comprehension at Chart 2. Part B, no attempt to remedy this was made at the time, until further information about the exact nature of its reported dysfunction becomes available. A before and after comparison of the specific page redesigns is presented here.

Figure 47: www.100types.com index page before revision
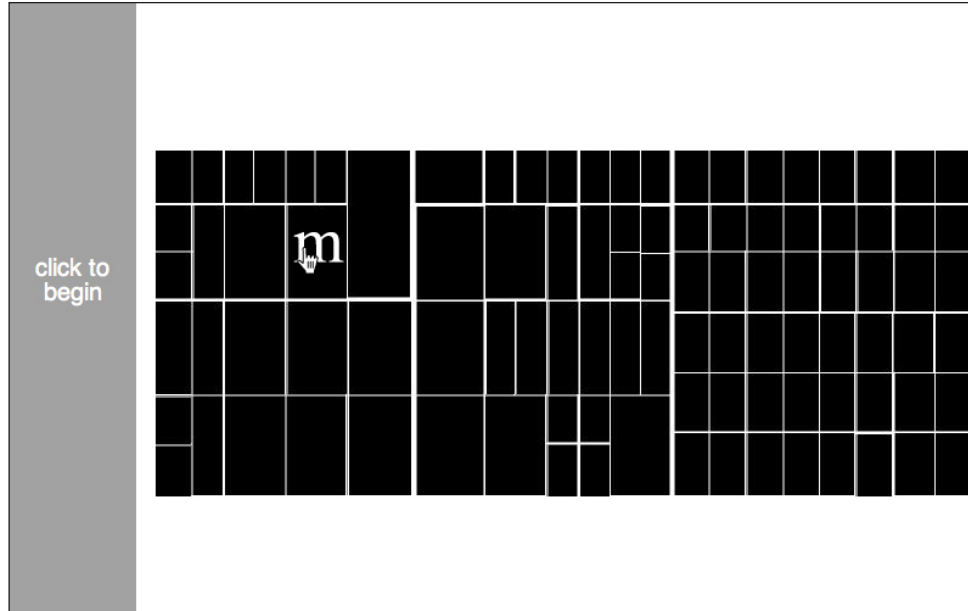
The design of the initial page of the site had always reflected the intention to provide a digital *wunderkammer* – a cabinet of curiosities, and it is no accident that real typecases, with their 89 subdivisions, are favoured by collectors of all kinds, not just type enthusiasts. I had amended the 'lay of the case' to 100 subdivisions showing sample characters from each of the 100 typefaces on the site, but arranged randomly. The revised version follows a defined orthodoxy for character placement within the typecase. This is likely to be important for older visitors to the site who have tacit knowledge of the technology to which this schema alludes. The revised version offers clearer instruction in the navigation bar.

Figure 48: www.100types.com index page after revision
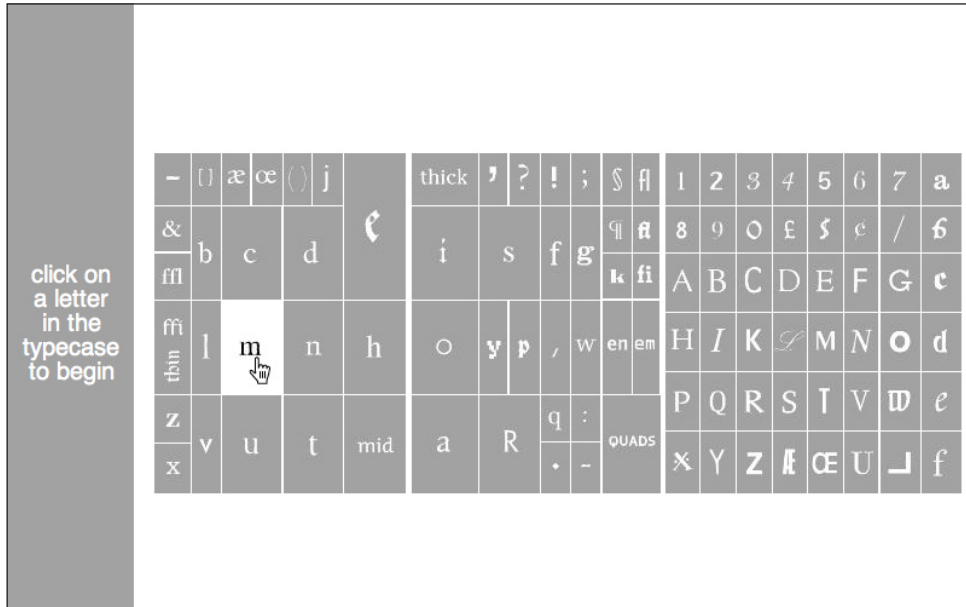
In that all hyperlinks in the typecase index led to the Intro page only, the site had previously worked like a conventional museum – access to the exhibition halls via a single front door. When this Index page was redesigned, these hyperlinks led directly to the typeface Profile pages instead, meaning that the museum could now be entered by a hundred different side doors (see Appendices 18 and 19). This was a consequence of observing how the users had treated the back and forward buttons on the site itself; orientation around the site actually increases as one moves around it, because the navigation bar, showing the other six indices of the site, is visible on all subsequent pages.

Figure 49: www.100types.com method page before revision

Figure 50: www.100types.com method page after revision
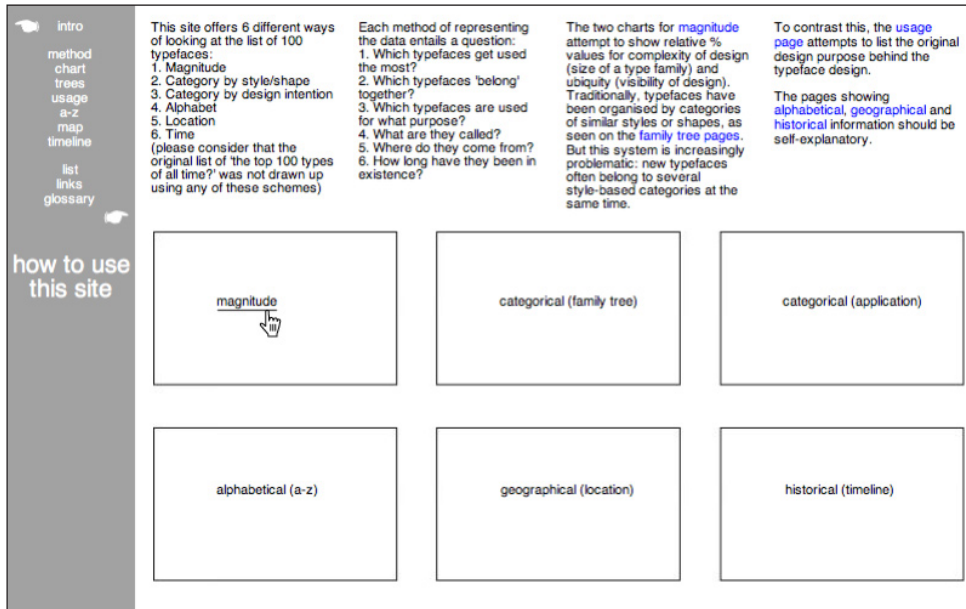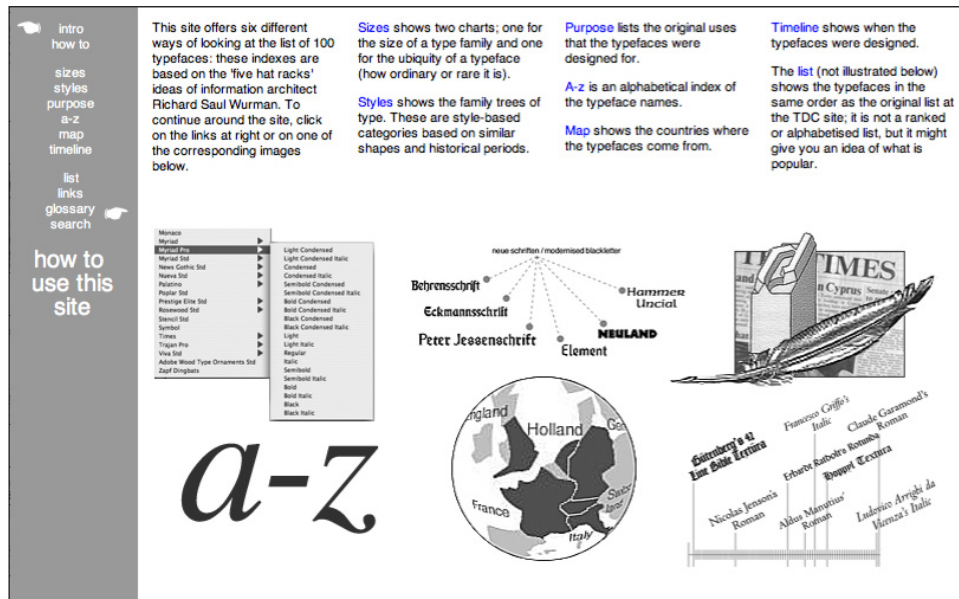
Although the graphic illustrations are probably advantageous for students with a limited amount of academic or technical English, the re-naming of this page (How To rather than Method) and its re-positioning in the navigation bar, as well as the revision of the explanatory text at the top of the page, were all more meaningful in terms of organisation.

Figure 51: www.100types.com chart page before revision
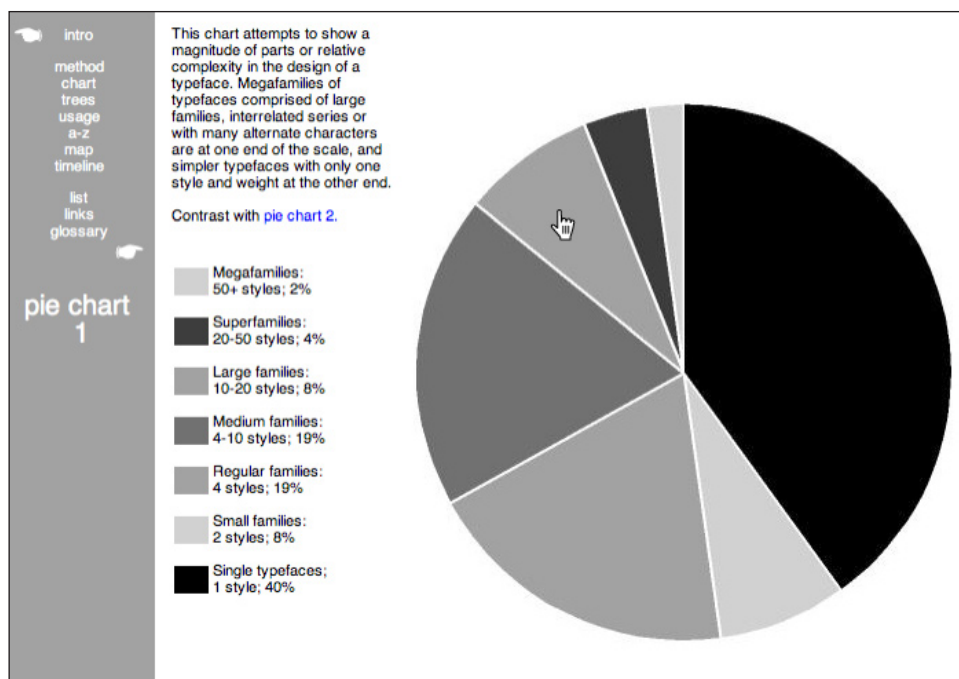
The Chart pages had a good function but were poorly implemented; I believe it is necessary for design students to learn which typefaces are ubiquitous and which are rare, also which are useful in terms of their extended family size and which are limited to only one variant. However, the pie charts were not a user-friendly solution to conveying this.

Figure 52: www.100types.com chart page after revision

With the revised version, the meaning of the categorisation being made becomes apparent at first glance, by indication of how a typical drop-down font menu would appear for these different groupings. Renaming the pages to Sizes rather than Charts, again, makes the function of the page easier to understand from a users perspective.

Figure 53: www.100types.com timeline page before revision (detail)

Crowded and cluttered, the overlap of the different typeface names on the Timeline page was disliked by a large number of the participants. Because it took them so much time to read the overlapping names, they also recorded this page as being slow in the website evaluation. Interestingly, they had no problem with the oversize page requiring them to scroll sideways. Conversely, the feedback about being able to jump – via hyperlink – direct from the timeline to a particular typeface Profile page, was very positive.

Figure 54: www.100types.com timeline page after revision (detail)
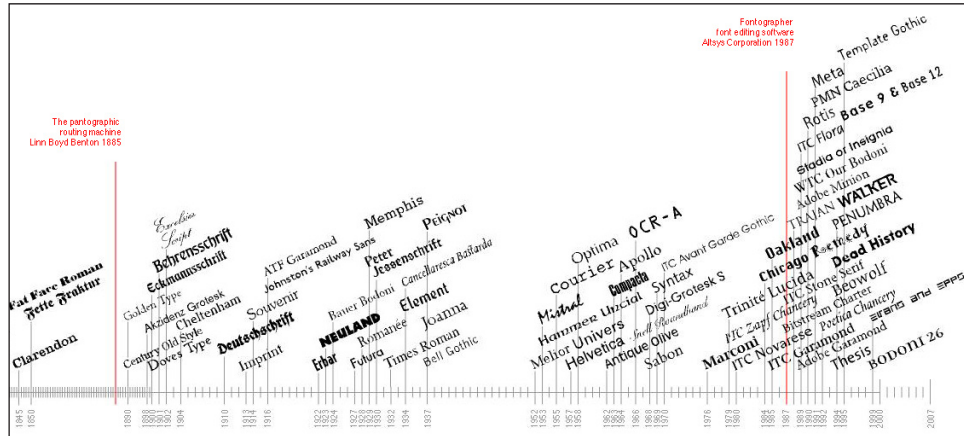
The solution was to increase the horizontal scale for the 20th century end of the timeline by a factor of 3. The relative density of the typeface names still conveys the overall growth in numbers, but they are now distinct enough to be identified easily.

Figure 55: revisions to the www.100types.com navigation bar
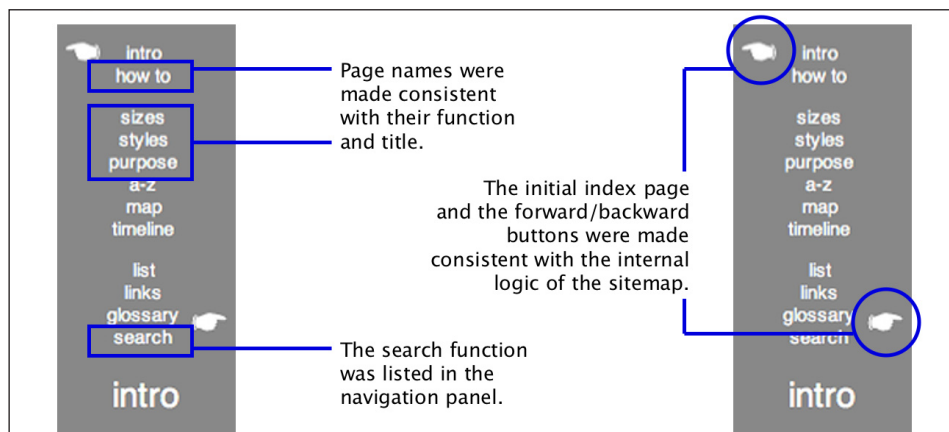
The slide above (Figure 55) from the AUT Art & Design Postgraduate Conference of August 2007 shows the changes made to the navigation bar in response to the user feedback. Better page naming, and a more logical back/forward button function (relative to the sitemap, rather than duplicating the web browser's own back and forward buttons), were incorporated at this point. The vertical grouping of page names with differing classes of function was retained, as this had registered no adverse feedback in the user evaluation.

The above redesigns addressed the most pressing findings of the student evaluation and represent fixes to approximately 80% of the reported negatives encountered at that time. Net gains of the redesign have yet to be tested in a similar manner, but the iterative and cyclical methodology of the project would allow for further refinement in future stages.

4.3 Implications for Teaching and Learning; Curriculum Development

Because of the diversity of typefaces now available and the multiplicity of technologies involved in their creation, different methodologies for their study are required to allow students to triangulate their own research efforts. As a consequence, it is arguable whether the prescriptions within the Gutenberg assignment adequately address the current situation within the field of study.

The most direct solution would be to rewrite and reschedule the Gutenberg as-

signment; I would start by faulting the list of designers on the brief – out of the eight listed, three of them are not type designers, but rather typographers and publication designers. In the case of Rudy VanderLans, with just 3 single-style typefaces to his credit, it should really be his partner Zuzana Licko, designer of 28 typefaces, including some 'landmark' designs and extended family styles, who should be listed. This highly visible (and undesirable) gender imbalance that the existing list presents can be remedied by inclusion of the names of many distinguished women active in type design, including Jill Bell, Margo Chase, Frieda Sack, Carol Twombly, Gudrun Zapf von Hesse and others. In view of how many young women are studying on the undergraduate programmes at AUT University, this would be a rectification already overdue.

Furthermore, it would be conducive to undergraduate understanding of the problems in contemporary type classification, if the Gutenberg assignment brief was to cross-reference the '8 hard-to-classify' types listed by Karen Cheng; four of them were designed by the same distinguished German type designer, Hermann Zapf, in the middle of the 20th century. At least three of these are very common (Palatino, Optima, and Melior) and are itemised in the TDC list – precisely because these designs broke with existing convention, but also involved elegant responses to the technologies of their reproduction. Zapf can therefore be identified as one of the first 20th century type designers whose work deliberately traversed previously held demarcations, and in doing so, set a trend subsequently exploited by the rise of digital type technologies and postmodernist design theories of hybridity. If the brief required exposition and analysis of Zapf's work, the students could gain greater understanding of the complexities and constraints applying to the several forms of type design and manufacture, as they have evolved in the last half-century.

This aligns with Yee's previously cited argument for more focus on recent developments in typographic history, as it is more likely to affect the working practices of these undergraduates; put simply, they need to know more about current digital font file formats than they ever will about the composition of Gutenberg's metal type for a bible printed in 1452. In particular, research questions concerning knowledge acquisition for the new Open-Type and ClearType font formats and the .pdf file format are required. Rather than being wrong footed by a list that doesn't actually qualify the experimental practices of Wolfgang Weingart or David Carson, students should be encouraged to collate examples of good practice for displaying type both in print and onscreen.

Discussion of the different media outcomes for student research on historical typography necessarily entails consideration of the context of the internet as a research medium for this subject. Looking at this in terms of rough numbers, the internet's arrival as a viable research medium amounts to about 1% of the total timespan of the preceding 500 years of development in publishing, printing and distributing knowledge via books.

Further to this, if one accepts Cahalan's uppermost estimate of how many typefaces are now in existence (100,000), then to examine even one hundred typefaces on the internet is comparable to the preparation of a microscope slide from a sample only 0.1% of the total density. However, within this analogy, Cheng's tally of 'hard-to-classify-typefaces' (including those typeface designs by Zapf mentioned above) implies that less than 0.01% of the total typeface population represents the larger trends of mutation, stylistic interbreeding and evolution.

Given the accompanying explosion in numbers and the lack of overall consensus about methodologies of classification and identification, the situation can be likened to a textbook observation of a chemical reaction – external forces, both practical and theoretical,

have multiplied the visible results at a rate so accelerated that it has proved impossible to accurately record or catalogue the results.

How should the students go about diagramming this? It might be more meaningful to ask them to illustrate an explosion of typefaces.

The requirement to provide diagrams should be counterbalanced; rewriting and re-scheduling the Gutenberg assignment should also necessitate the introduction of a GANTT-style timetable and critical path planning for the students at the outset, showing them how time-consuming the research, development and production phases of the project will be. Re-scheduling the assignment, so that it clearly falls within termtime only, would also mitigate against conflicting expectations for how much research should be done on this assignment. Even if, as the usability study participants suggested, the research phase could be cut to two weeks instead of two months, DipGC students will still miss the project deadlines, because as school-leavers, they have minimal experience of effective time management, online research (see chapter 5), layout and proofing, or print production.

4.4 Implications for Teaching and Learning; Wider implications
The ultimate rationale of the project is to provide a potential *trajectory* for undergraduate research in this area; the method of delivery (although consummately enabled by the internet) is merely the springboard – it is the students' own sense of curiosity that provides the run-up (the impetus) with which to take the plunge into a bigger pool – to negotiate and research the wider field(s) of their own discipline (Figure 56).

This has always been a key aspect of my teaching practice, and is illustrated by a 2005 experience with a fellow MA student and colleague (Mardo El Noor), on the CCGD course in which – under my auspices – he engaged directly with the London-based type designer Jonathan Barnbrook, to research a typographic class project I was teaching at the time. I have always tried to propel students outwards to the wider world of enquiry and practice, but in geographically remote New Zealand, where most students declare an intention to travel overseas at the completion of their studies, this directive takes on an increased relevance to their future development.

Figure 56: 100types website in an AUT DipGC classroom 2007
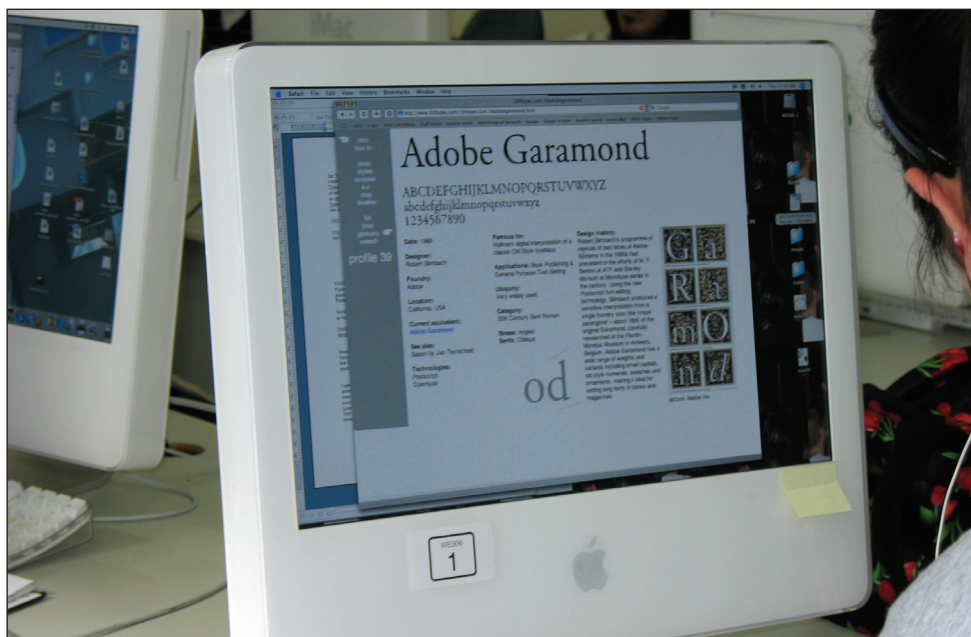
In terms of the observation that approximately half of the evaluation participants

(and by extension, half of AUT University undergraduates) now use English (the language of instruction on these programmes) as a second language, useful progress was made in considering this project's feedback into teaching practice. After the 100types.com site was launched I realised that the glossary page in particular, had a function as a translatable corpus of typographic terminology in its own right (see Appendix 11). This was followed up in an email to AUT University Learning Support Services, in which the 100types.com glossary was specified as a resource – specifically searchable online and translatable by students with poor English (see Appendix 14).

External confirmation of this possibility came later from a Spanish-language website in South America (Intellecta Design at www.intellectadesign.com/Fonte_Figgins-Brute.html), which had cited and reproduced my commentary (in the original English) on the typeface listed at 35. Figgins Antique, in addition to the site itself being referenced elsewhere on the web for non-English audiences. Further anecdotal evidence suggests that the site is finding favour with Spanish and Portuguese-speaking audiences for whom the English content appears quite readily translatable.

In that www.100types.com will remain online for as long as I am able to support it financially, it allows for transitional and episodic learning at multiple levels. The site incorporates pedagogic flexibility in terms of both delivery and uptake by a student profile that is acknowledged to be changing. Some educators will be content to list it as a teaching resource, others may choose to structure research exercises around it – some students will only glance at the indices and register the site at a macro level, while other students will drill down to specific detail and use the site as a single link in their interconnected chain of learning.

The above observations notwithstanding, the 100 types website is understandably Web 1.0 in its conception and outlook; the site does not engage with the newly established techniques of community membership, blogging, online collaboration, or features of Web 2.0 design such as extensive animation, multiple pop-up menus, or virtual three-dimensional space.

Indeed, consideration of re-engineering the site to conform with Web 2.0 website conventions entails direct contemplation of employing Flash animation to generate drop-down menus as a primary navigation and display function, and third-party code such as webpress or blogger to enable a chatroom – and this gives rise to some direct criticisms of the German FontShop site at www.100besteschriften.de;

1. The use of a drop-down menu to contain 100 typeface names – content that the designer knows in advance will require the user to scroll down beyond the visible bottom of the web page – is counterproductive, or at least counter to user-friendly design, because it obliges the audience to make extra effort for the benefit of nothing more than the site's aesthetic appearance. On the pages of 100types.com by comparison, there is a justified rationale for those pages that require a small amount of sideways scrolling, but on a single page site as at www.100besteschriften.de., endless drop-down menus do not always have a rationale of superior functionality.

2. The incorporation of a blog, or online discussion forum, represents an enormous investment of man-hours to maintain and police for indeterminate results. Peter Bilak at www.typotheque.com discarded his site's discussion forum at the end of 2006, saying it had become too labour-intensive and too irrelevant to the site's core purpose for a sole operator to support any longer. What should be the core purpose of a digital museum? From a pedagogical perspective, at undergraduate level, discussion situated within the classroom is both easier to initiate and manage, and likely to generate identifiable outcomes; this

was also a finding of the earlier attempt to provide online learning resource for the DipGC in 2005.

      3. The absence of authority within the context of the website blog is offset by the inclusion of 'experts' opinions in the downloadable .pdf file at the site and the role of the FontShop staff online as forum moderators. The catch here is that any blog or wiki is effectively nothing more than a proposal to a potential, possibly unrealised audience. Although in Germany there is an active and voluble typographic audience which informed the tacit knowledge behind www.100besteschriften.de, the lack of wider involvement at the French-based www.type-expertise.com has meant that that initiative has largely foundered before it began. There is no guarantee that the Pacific Rim currently has enough of an established regional typographic audience to justify this approach.

      4. The collaborative use of wikis – in which all participants have administrator/editor status in terms of the content displayed – is open to abuse and sabotage. The typographic teaching wiki run at www.letterror.com by the Dutch type designers and lecturers, Just van Rossum and Erik van Blokland, was defaced with links to online porn sites in just this way; when I alerted them to the problem, van Blokland's response stated that within their wiki structure there was no way to prevent this happening (Erik van Blokland, personal communication, 11 March 2007). Public links to this wiki from the Letterror general site have since been deactivated.

      Is www.100types.com *better* than either *Digit* magazines best one hundred typefaces article (sponsored by Monotype), or FontShop's www.100besteschriften.de.? While both of these resources aim to provide a stylistic and historical overview, both are constrained by manufacturer bias for showcasing their own product, and indulge in a 'design for design's sake' presentation. In the case of *Digit* magazine the critique extends beyond the non-dynamic nature of its presentation to the size of the types reproduced and the reversed (white-out-of-black) printing (Figure 57). The pages for www.100types.com were tested and optimised for student printing on demand as part of the website design prior to launch, so they already are the 'printer-friendly' version of the material, and this is an improvement on both the *Digit* magazine article and the downloadable accompanying .pdf file (actually a different design for a different medium) from the 100besteschriften site.

Figure 57: best one hundred typefaces spread from Digit magazine, June 2006

4.5 Limitations of the Scope of the Project

The project was conducted without any grant funding, external sponsorship or subcontracting of the practical work, and therefore without separate project management, instructional design, web development, or subject-matter expertise roles. Accordingly the project is limited by my respective abilities in these different areas; while this positions me as a subject lecturer who demonstrates, evaluates and designs with his own material, it also means that some aspects of the project are demonstrably stronger than others. Similarly, further consideration of how online digital museum content might compare with actual library books in terms of achieving desired teaching and learning outcomes is also not within the scope of this project.

As it stands, the project can only indicate some of the factors and concerns around a shift in classroom practice towards provision of blended online resource, as described within this exegesis. Further longitudinal testing and evaluation would be required to generate meaningful results for how the website performs in a strictly pedagogic context.

Given the limitations of the project resource, in terms of the research ability, the website-making and data collection techniques, the scope of the project is understandably restricted. Although variables such as delivery methods for knowledge acquisition, individual learning styles and/or classroom contexts may all impact on the way students access this kind of knowledge, it is not within the scope of this project to arrive at any hard and fast conclusions about the efficacies of any one educational delivery method over another,

Nor does the project concern itself with a 'best of' discussion about typefaces; it simply took a reputable sample and deployed it. One of the pedagogic imperatives of the site is a quote direct from Paul Shaw appearing on the Intro page; *'Enjoy. Don't forget to make your own list sometime!'* In this lies the acknowledgement that any list of 'best 100 whatever' is bound to be both relative and subjective, but nonetheless might claim to engage with the target audience's curatorial instinct.

4.6 Contribution to Wider Research

Does the www.100types.com website contribute to the creation of new knowledge or does it merely reinforce a particular kind of old knowledge? The central claim of this project is the curation of a digital museum to house, extend and reformulate the material contained in the original TDC *Top 100 types of all time?* list, as an upgraded teaching resource. As that list had never been expanded beyond a straight text list, so the publication of www.100types.com can be compared to the production of an illustrated book, showcasing and offering commentaries on the 100 typefaces. Unlike a book, the use of multiple indexing methods on the website offers the reader at-a-glance (hyperlinked) comparisons of the sample at macro level. The 'current equivalent' links to external (manufacturers and resellers) sites, which was always an integral concept of the project, highlights the essentially non-partisan nature of the list itself, and provides subject exploration in a way that many of the commercial and educational websites reviewed at 1.7 do not provide.

Despite this appellation of digital museum, and its inherent presentation of a static body of knowledge, the project contributes to wider practice in that it is not located within any one university; it consciously avoids knowledge banking as a preserve of education, and aims instead to promote knowledge distribution by effecting pathways for learning – tapping into larger and geographically distant knowledge networks. As a recent article on worldwide initiatives in online educational resourcing states;

> Most universities have still not perceived that the arrival of new information technologies totally changes the role of the institution and the educational process, and those that cannot adapt to the changes due to institutional inertia will

see their function turn obsolete, their financial basis destroyed, their technologies substituted and their role in scientific and intellectual research reduced (Litto, The Guardian Educational Supplement, 27.07. 2007, p.3).

The article goes on to detail the growth of the Open Courseware Consortium (OCC), a group of 120 universities worldwide, mutually committed to sharing teaching, learning and research resource inexpensively via the web. This 'giveaway' concept of educational collaboration has been joined in the UK by the Open University, registering more than 100,000 visitors and 7,000 registered users. Although I was unaware of the OCC at the start of the project, it could provide a highly appropriate future direction for further development and publication of the project.

4.7 Recommendations for Further Development

Sideways development; there is a potential to template the site and rollout the concept into other related discipline areas; i.e. 100colours.com, 100designers.com, 100illustration_styles.com, 100design_projects.com, and so forth. This could be seen as an extension of my work dealing with the broader areas of graphic design history and theory, as a senior lecturer for the undergraduate programmes at AUT University, and a guest lecturer at other institutions. Presentation materials generated for this purpose (Figure 58) illustrate given historical design styles set within a matrix framework, and would be readily portable to a series of websites.

Figure 58: a matrix of historical graphic styles – teaching diagram, 2006

Upwards development; also apparent is the potential to upscale the 100types site as a collaborative Web 2.0 venture and increase the site's appeal by making the content more dynamic. This might allow viewers/readers/contributors to:
- Upload their own typeface Profile pages to the site.
- Add to the coverage of various styles both historic and contemporary.
- Contribute knowledge and opinion(s) via a discussion forum.
- Share resources and network informally via the site.

In turn, this would entail renaming the site because it would showcase an inde-

terminate number of typefaces (thus no longer 100types.com), and divorce the site from any inherent authority the TDC sample might convey. The desirability of using wiki-based models for online collaboration would also need to be considered. Arguments against this are primarily the concerns cited previously in the critique of the FontShop and Letterror websites:

- Absenting of authority/devolution of responsibility for the final result.
- Undersubscription/lack of input to achieve planned outcomes.
- Potential for hacking/sabotage.
- Increased workload involved in updating the multiple indices to the site.

My own preference would therefore be with the sideways development, and to investigate possibilities of using this method to build other topic-related graphic design courseware in series. However, the 100types concept is in this sense only a model for potential development; specific to the prototype version there are a number of definable improvements that could be made with further iterations of the project design (including securing funding to code the site to a professional level) and incorporating the use of:

- Downloadable .pdf files.
- Self-testing quiz pages.
- A directory of type designers.
- A timeline of typeface reproduction methods.
- A general enquiry form page.
- Illustration for visual explanation of terms on the Glossary page.
- Animation to illustrate particular typefounding and typesetting processes.

4.8 Concluding Remarks

The project was initiated to develop an online reference for self-directed research of typographic history on the internet, as a complement to face-to-face interaction in the classroom. The research questions driving the project were:

1. Is it possible to translate an existing body of library-based knowledge about typographic history to an online study aid that addresses the specified (student-centred and self-directed) research outcomes of the DipGC Gutenberg assignment?
2. How can such a study aid be improved by user feedback and an iterative design strategy?

The exegesis has examined the the 100types.com website, the thinking around its generation, and reworking-in-progress subsequent to the student evaluation. In that the project's original conception was for dual purposing of the website (that it could be used in a self-directed manner *and* as a teaching aid in class) it aligns with the current call for increased online resource at AUT University while offering itself for adoption in a wider context. The most recent anecdotal evidence from inside AUT University suggests that nearly a third of the students now reference the site in their research bibliographies for the DipGC Gutenberg assignment.

However there is now a wide-ranging discourse around AUT University's self-declared position as a University of *Technology,* and the role of online research as an enabling technology which happens also to mitigate against traditional ideas of individual enterprise and self-sufficiency in student knowledge acquisition. As suggested in F.M. Litto's citation on p.64, this involves the most fundamental aspects of tertiary education, and includes the following issues (as identified in my closing slides from the Art & Design Postgraduate Conference, August 2007):

- Issues of academic rigour and transparency.
- Assessment models for collaborative and online coursework.
- Passivity of online research.
- Changing student profile.
- Undesirability of 'spoon-feeding' from a knowledge bank.
- Teaching of research method as a baseline competence.
- Unreliability/temporality of online source material.

These points have been reiterated both in academe and in the New Zealand national press whenever there is comment about the IT skillsets possessed by today's graduates;

> The Information and Communications Technology (ICT) perspectives that come out in student assignments at tertiary level can be quite bizarre. There is a need to check sources and know the difference between authoritative journals and online peer journals, blogs, and communal encyclopedia entries. Employers can't afford people who come to work and are asked to research a topic and then believe everything they read online. (Dr. Gerry Falloon, University of Waikato, cited by Bland, NZ Herald, 21.2.2007, p.E22)

Recent discussion within the Learning and Teaching Forum of the School of Art & Design at AUT University has centred on the relevance of 'building everything ourselves', as against what is appropriate to 'buy off the shelf'. My own position is that it is inauthentic and undermining *not* to have built one's own courseware (and this was also a perceptible failing of the 2005 DipGC online learning pilot study already cited), because students know when they are being sold course content or delivery that has originated from elsewhere, and this provides no model for them to ensure the originality of their own work (least of all where the internet is concerned).

Reflection on the project in its wider context has led me to consider a pendulum-swing effect whereby newly-available technologies interact with educational theory as they are adopted and deployed. However for as long as the pendulum is in motion, that interaction and its effects appear indistinct. Over the course of the project's duration (three years is a long time in tertiary education and cyberspace), my own opinion has shifted from an enthusiasm about web-based learning provision *per se,* to a more conservative attitude. It is difficult to second-guess the eventualities of student expectation, and also challenging to plan and design for a standalone resource that might be deployed in widely varying circumstances, even within a tightly reasoned, subject-based frame of reference. Although I can claim that this design project has helped me individually, I cannot be so sure that the same claim applies to the audience I made the work for.

Pedagogically the project may have failed its ultimate rationale, because providing nearly all the Gutenberg assignment answers on a single website inevitably allows some of the weaker students to underperform. Here I need to reiterate the point about provoking *curiosity* as a mainspring for the project's rationale. However curiosity begets questions; questions require answers that necessarily devolve from some form of authority, whether that authority is found online or in the classroom. I now see that the multiple roles technology plays in repositioning (or redistributing) such authority as the biggest single problem, both in the wider academic discourse around online provision, and within my classes.

Of the successful examples of new media-based typographic education cited at 1.8, it's worth noting that two of these leading examples are both presented as accompaniments to textbooks on the subject, devised by acknowledged educationalists and authorities in their own right; James Craig and Ellen Lupton (see pages 14 and 16). Other of the examples are

also the results of individual initiative (Jonathan Hoefler and Mike Kohnke, see pages 14 and 15). In this there is an inherent point of view that suggests neither a website nor a text-book (however good) can do the job alone. The situation calls for both enquiring (*curious*) students and inspired teachers.

There was a confirmation during the research phase of this project that building a digital museum involves the curation of links and collation of primary reference material, which necessarily entails a permissions-based culture of collaboration. My own curiosity about the subject led me to approach those external subject-matter experts and authorities who generously contributed their permissions to the overall outcome – many of them are acknowledged both on the site and within this exegesis.

For myself, I found that this situation then reversed when putting the practical work in front of the students for evaluation; they became the authority within the evalua-tion context, and this both empowered them and closed the gap between my thinking and my practice. It concretised the feedback experience in ways generally unaddressed by the standard review and appraisal tools for teaching practice on these courses, and is possibly the single greatest gain of the project.

Whether or not future developments in education on this subject rely on existing chalk & talk, or leveraged interest via contribution to online forums, or a likely combination of both of these approaches as blended educational experience, the main criterion will still be the raw drive of student enquiry, regardless of the level of study.

To cater to a student-centred point of enquiry, the design of the 100types.com website allows for a multiplicity of learning styles and orientations, in addition to episodic, transitional and multiple-level learning outside of scheduled class time. Because it was never my intention to produce something that operated only along the lines that I lecture upon, but that could be used or delivered by a number of people in varying contexts, issues of neutrality, portability and legacy were addressed within the design phase. My hope is that different lecturers will augment the 100types.com website with their own material, and use it to differing purpose. Within my own practice, and to achieve the Gutenberg project outcomes, I buttress the background/preparatory aspect of the website with classroom demonstrations, paper handouts and other digital reference material held on a local server (as previously stated at 2.8). The research and skills acquisition I engaged with during the project have certainly strengthened my own practice, and now enable me to teach the sub-ject from a much broader knowledge base.

As it stands, the www.100types.com website was intended to complement both existing and changing provision online and established classroom practice, so it would be likely to perform best (as intended) in context of structured exercises at different levels, sup-porting face-to-face classroom tuition and subject lectures (see Appendix 15).

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Appendices

Appendix 1. The Gutenberg assignment (Paper 114637, Design and Digital Imaging 1A)

Auckland University of Technology **School of Art and Design**	**Academic Year** Briefing Sheet **Summative Assessment**
Diploma of Graphic Communication	

Year One
Lecturers:

Project: 114637 Design and Digital Imaging 1A (Gutenberg)

Introduction	The understanding of the history of type and its development, is an integral part of understanding good design and developing typographical design skills. The intention of this research project is to encourage the student of Typography to explore the development of type from the time of Johann Gutenberg to the present day, cumulating with an analysis of the work of two present-day designers, while demonstrating necessary design and typographical skills.
The Task	Research and write a synopsis, *in your own words*, of not more than 1500 words (this does not include references). You must cover all the topics listed in the subject range. Record and include your references. • Design to the job specifications. • Include a content page, folios, running footlines and an imprint. • Typeset your research using a word processor (e.g., Word, Apple Works). • Proofread your word processor file(s). • Import the word processor file(s) into the designated page layout program. • Design a cover. • Impose the pages. • Present a final printed proof. • Scan and import at least one image.

Subject range	**TYPE & TYPE FACES** *complete all of the following*
	• Johann Gutenberg and his place in the history of the printed word.
	• A time-line of type styles and overview of typeface design from the time of Gutenberg to the present day.
	• A description and time-line of type face reproduction formats from Gutenberg to the present day — range: metal, film, digital (type 1 etc).
	• Explain the term: "Postscript" and its origins relative to printing devices.
	• Describe the characteristics of the following typeface classifications: Roman, Sans Serif, Slab Serif, Script, Black Letter and Decorative.
	  • Include an example of a typeface that falls into each of these classifications.
	• Explain the terms: font (fount) and typeface.
	• Explain the terms: uppercase and lowercase and their origins.
	
	DESIGNERS
	• Select **two** of the following designers: Neville Brody, April Greiman, Paul Renner, Erik Spiekermann, Jan Tschichold, David Carson, Rudy Vanderlans, and Wolfgang Weingart.
	• Make detailed comments on each of the two selected designers under these headings:
	  • Philosophy of, and their approach to typography.
	  • Development of their style.
	  • Publications they have influenced, and how.
	  • How their approach to typography has influenced others.
	• Dedicate a page to each of the selected designers, these pages are to reflect the designers design style. All other pages are to follow a consistent design style.

Job Specifications	**Number of Colours:** Two (spot): plus tints of the selected spot colours. (PMS colours may be used; or CMYK may be mixed to create a spot colour). *The job must remain two-colour.* **Printing sheet size:** A3 (297x420). Allow for grip 10mm, plus 10mm allround for trims, fold and registration marks, colour bars, etc.; e.g., 20mm on grip edge, 10mm on other edges of the sheet.

Number of Pages: 8-page section plus a 4-page cover.
Substrait: 8-page section, 80 to 100gsm. 4-page cover 200gsm.
Imposition: 8-page sheetwork section and 4-page selfbacking cover imposed for Saddle stitch.
Finished trim page size: Calculate from printing sheet size after allowances, allow a total of 10mm head trim.
Page margins: Ratio of: back 1, head 1.5, fore-edge 2, tail 2.5; e.g., back 10mm, head 15mm, fore-edge 20mm, tail 25mm.
Orientation: Portriat or Landscape.
Screen ruling: 150 lpi.

Pre-press

Your final files, e.g. tiff and eps must be assembled in QuarkXPress (note body text must be set and displayed in QuarkXpress using appropriate typographical skills as taught.
You will be required to:
- demonstrate correct typographical skills — fonts, leading, alignment, hyphenation, paragraph spacing and indents (paragraph and hanging indents, tabs, as required);
- demonstrate the use of a scanner by scanning and importing at least one image;
- proofreading — produce a proof of your word processor file (before correcting), proofread this proof using recognised proofreading marks and submit for marking;
- produce a QuarkXpress file of the job;
- produce a separated proof (before imposing);
- produce a QuarkXpress file of the imposed job;
- produce separated PDF of the imposed job;
- produce a CD with all relevant files (Quark, eps, tiff, pdf);
- produce printed separations of the imposed job;
- produce a final folded, and stapled, laser print copy.

Presentation

In a folder present the following: ☑
- ☐ evidence of process (workbook etc);
- ☐ a rationale which explains why you chose your particular design, and your research references;
- ◼ CD containing: QuarkXpress, eps, tif and pdf files.
    - ☐ 4-page cover (page layout), ☐ 8-page section (page layout);
    - ☐ eps ☐ tiff;
    - ☐ imposed 4-page cover, ☐ imposed 8-page section;
    - ☐ pdf: 4-page cover (imposed/separated)
    - ☐ pdf: 8-page section (imposed/separated);
- ☐ your first proof (word processor file) proofread and sign;
- ☐ composite proofs (page layout), proofread and sign;
- ☐ separation proofs (imposed), proofread, checked and sign;
- ☐ a folded, trimmed, and stapled proof for client presentation.

Outcomes

This assignment will ask you to demonstrate your ability to:
- understand and interpret a brief;
- gather and organise data through extensive research;
- develop concepts through a considered process and to make decisions;
- follow professional processes in all stages of your work;
- apply time and information management skills;
- present to a consistently high professional standard;
- construct a file suitable for print production.

Assessment

The assessment will be based on the following:
- research and design concepts   50%;
- pre-press and technical   50%.

Your work must be handed in by 4pm on Due date.
A penalty of 10% per day will be made after the deadline.

Grading range				
	A+ = 90-100%	**B+** = 75-79%	**C+** = 60-64%	**D** = 49-0%: Fail
	A = 85-89%	**B** = 70-74%	**C** = 55-59%	
	A- = 80-84%	**B-** = 65-69%	**C-** = 50-54%	

Appendix 2. Dr. Hasmeeta Shukla's D&CT Faculty report (excerpt)

in the context of a recent survey and report (February 2007) on distance and flexible learning within the AUT Faculty of Design and Creative Technologies which concluded that 'the reported use of multimedia is very low and the range of use is confined to CDs, DVDs, powerpoint presentations and videos. There is very little reported use of interactive multimedia technologies.' The report goes on to recommend increased use of multimedia in teaching throughout the faculty.

AUT LIBRARY news+views

AUT UNIVERSITY LIBRARY NEWSLETTER

VOLUME 5 ISSUE NO. 3 NOVEMBER 06

Web 2.0: What will it mean for us?

Web 2.0 is described as a new digital lifestyle. No longer will people log on, search a few pages and log off to carry on with their work. They will always be online for work, study and entertainment. Mobile and non-mobile devices such as laptops and PCs, cell phones, MP3s, TVs and cameras will be connected to each other and the Web.

The web will be like an operating platform, but differing from the current monolithic, proprietary operating systems. Future models are based on an open, programmable environment. Some sites that meet the Web 2.0 criteria of interactivity, user participation, collective intelligence, self service and remixed content are Flikr, MySpace and Facebook. This will be an era of social software such as blogs, wikis and podcasting which allows interactivity, and the ability to edit and remix content.

What does this mean for Libraries?

In NextSpace, 2, 2006 commentaries where made on library possibilities of Web 2.0. (http://www.oclc.org/nextspace/002/1.htm)

Rick Anderson from the University of Nevada feels that libraries work hard to keep abreast with technological changes and provide a good service. However they need 'to let go' in three major areas:
• Just in case' collection: primarily applied to print collections which anticipated users' needs ahead of time.
• User education: libraries do not have the staffing resources to teach all users. Services need to be modified to require minimum training and allow for higher level information literacy teaching.
• 'Come to us' model of library service: libraries must ensure services are placed in the user's preferred environment (the Web) and are integrated into their daily patterns of work, study and leisure.

Wendy Schultz from Infinite Futures talked about the library experience of the future in Web2.0 and beyond. She suggested that the progression from commodity, to product, then service and experience provided a helpful framework to plan for the future.

What does this mean for Librarians?

Michael Stephens, librarian and blogger, said that the Librarian 2.0 will need the following characteristics:
• Planner – ensuring that users are involved in the planning so that barriers are removed and access is available in the library, at home, work, university or commuting
• Embracer – recognising how

services may be developed or enhanced by Web 2.0 tools such as weblogs, wikis.
• Evaluator – keeping up-to-date with changing technologies and redesigning services for ease of use
• Trend spotter – seeking out new trends in the library world and beyond
• Gatherer – guided by how users access, consume and create content.

What is AUT University Library doing?

At AUT Library we have used the OCLC analysis reported in Nextspace to optimally align the Library Teams. A matrix of library activities based around commodities/products and services/experience has shown new linkages. The two new units in the realignment will be Digital Information Services (Digital Services Team and Information and Education Services Team) and Collection services (Bibliographic Services Team and Lending and Document Supply Services Team). The new Library units will focus on Voyager ILMS services (Collection Services) and Digital resources and collections

(Digital Information Services).

The realignment also links with the objectives that the four university members of LCoNZ agreed to in the collaboration for an IRAMS (Information and Resource Access Management System) consisting of:
• the Integrated Library Management System (Voyager ILMS)
• the full suite of software required to access and manage
• licensed electronic resources, provide federated searching and deep linking at the digital content level
• the storage, management and access to locally created digital objects.

From: Benjamin Archer <benjamin.archer@aut.ac.nz>
Date: 3 November 2004 6:33:19 PM
To: John Piper <jpiper@aut.ac.nz>
Cc: Brian Farley <bfarley@aut.ac.nz>
Subject: Fwd: survey results from Element K

Hi John

The 7 survey results that Matt has received from the students are attached FYI. He has done them up into an Exel spreadsheet for us.

As I said to you today, on Monday afternoon Brian got the 'Sam' group all logged onto the Element K site to do the Photoshop CS Web Production course. I went round the class quizzing the individual students about their completion rates [I got around about half the class] - in your words of the last email, I was trying to go hard on this.

The results were interesting because they suggest that while the completion rate is a bit better than we thought, the reporting back that we are getting from Element K is inadequate.

For example, Amy Chim, Vivian Lo and Jing Jing Li are all listed as 'no data' on Matts' report of last week. I took this to mean they hadn't done the courses at all. According to them, however, they had all completed the Basic Imaging course, the Print & Colour course, the Advanced Masking course and the Web Production course - all the required modules. It's just that the site did not record their scores or completions.

Rui Bai, who is listed in last week's data as having spent 4 minutes on the Element K site, also showed me the completion certificates on her login for the Basic Imaging course, the Print & Colour course, the Advanced Masking course and the Web Production course. In addition to this she had completed the first HTML course.

This represents a serious flaw in the Element K site and I had a significant number of other students [6 out of the 18 I spoke to] saying the same thing.

Three of the four above submitted the course survey questionaire, but their comments are not in the survey results that Matt has given us this week. The 'submit' button he put on the end of the survey didn't work, so he didn't collect the total number of responses we were looking for.

In all, 13 students [out of 18] told me they had done the survey and tried to submit it; that they weren't sure if it had gone through, and that they were suprised I was asking them about it.

Another 6 students [out of the 18] said they had done the courses despite being stymied by Element Ks bad site design, slow loading speeds and incompatibility with other [Netscape/Firefox] browsers. They were aware that the site had problems recording their logins and assessments consistently, and many of them had to do a number of the modules twice over in order to complete. One student said that there wasn't any follow through from Matt in response to problems reported to him earlier.

Jenny Mann, who I think of as a potential A student, said that in spite of achieving completion of 55 modules over 6 hours of study, she didn't enjoy the online learning as it is too passive when compared to the usual classroom assignments. She is another person who submitted the survey questionaire with no recorded result at Matt's end.

I was aware when we spoke on Monday morning that this issue would take priority in the afternoon class and so I simply shelved my lesson plan for the afternoon; it will be done next week instead, and I hope it will be just as useful.

However, while it is one thing to employ Element K as an 'out of hours' adjunct to our scheduled classroom teaching, what happened this week was altogether wasteful of resources on both sides; we spent that class time chasing results that the Element K site had failed to record or report.

Taking the new figures into account we now have a completion rate [for 40 modules] that is nearer 30%, but as I didn't get to check the entire class on Monday, this figure might actually be lower than the final one. The point is, we can't go by the data Matt is sending us, and if we do, we will continue to waste our time and the students' efforts.

cheers, Ben

————

Ben Archer
Graphics Lecturer AUT
benjamin.archer@aut.ac.nz
917 9999 x: 8011

From: ben_archer@paradise.net.nz
Subject: re: copyright permission
Date: 12 September 2006 5:09:18 PM
To: info@itcfonts.com

Hello ITC

I hope this finds you all very well.

I'm writing to ask ITC permission to include hyperlinks to the ITC website and some ITC copyright material on a proposed website I'm creating as part of my MA project in Art & Design.

The focus of my current research is about presenting a history of type design to undergraduate students. I am attempting to make a model of historical type relationships to present on a website for ongoing student reference. This website will be launched at the end of 2006 and will be called www.typehistory.com.

I intend to use as a sample group for the website, a list (compiled by Paul Shaw for the Type Directors Club in 1999) that shows 100 historically important typefaces at http://www.tdc.org/reviews/typelist.html, and (as you probably already know) the list includes the following ITC fonts

ITC Stone
ITC Garamond
ITC Avant-Garde Gothic
ITC Novarese
ITC Flora

These were all included as major examples of technical and/or artistic innovation in type design from the last five hundred years.

I would like to be able to display the character set of the typeface - lowercase, uppercase, and numerals - and also the typeface name. To illustrate the typefaces application, it would be great to include material from your printed and/or online samples for these faces. If you grant me permission I will source the imagery from the printed material or whatever you choose to send me; there is no question of using any of the fonts embedded in the website.

The project has no commercial outcome, and is for my academic development only, and hopefully for the benefit of typography students everywhere. I intend to credit and acknowledge all copyright holders - the type designers and foundries - by including links to their websites direct from www.typehistory.com.

I am writing to ask for your permission for this purpose; please email me back at the address below for any further information or enquiry.

kind regards, Ben

————————

Ben Archer
ben.archer@aut.ac.nz
+64 9 921 9999 x 8011

School of Art & Design
Faculty of Creative Technologies
AUT Auckland University of Technology
Private Bag 92006
Auckland, New Zealand

From: info@linotype.com
Subject: [Ticket#: 2006031110544093] attn. Otmar Hoefer, Linotype Library
Date: 24 March 2006 6:10:10 AM
To: ben_archer@paradise.net.nz

Dear Mr. Archer,
I had a look into your request and seen that the Tetterode typeface is very close to
the Kuenstler Script bold, but the hairlines are thinner in the hotmetal version.
I also found that Bauer had the same typeface named as Lithografia.
So it seems that this design was exchanged by several foundries.

Best regards
Yours
Otmar Hoefer

Linotype GmbH
Du-Pont-Strasse 1
61352 Bad Homburg
Germany
Phone +49 6172 484 418
Fax   +49 6172 484 429
mailto:info@linotype.com
http://www.linotype.com

Ben Archer <ben_archer@paradise.net.nz> schrieb:

Dear Herr Hoefer

My apologies for writing to you in English - meine Deutsche ist nicht
sehr gut! I am a mature student working on a Masters Degree here in New
Zealand. I am researching a number of typefaces including the
Linotype Library face called Kuenstler Script Two Bold - I am in
correspondence with Paul Shaw in New York who suggests I write to you;
Ask Otmar Hoefer or Bruno Steinert at Linotype Library if they know
anything of its history.
I know that the Künstlerschreibschrift originated with Stempel in
Germany, but I am trying to find out what the relationship is between
this Kuenstler Script Two Bold and a metal foundry type from the
Lettergieterij 'Amsterdam' named Excelsior Script.
Are they the same typeface?

I enclose a visual here for reference

kind regards, Ben

————
Ben Archer
ben.archer@aut.ac.nz
+64 9 921 9999 x 8011

```
<html><head><title>100types.com.intro</title><meta http-
equiv="Content-Type" content="text/html; charset=iso-8859-1">
<!--This site was designed and built by Ben Archer as part of a
masters (design research) degree at Auckland University of Tech-
nology 2007. Feel free to email me if you have any enquiry about
the content of this site./-->

<meta name="description" content="Research website for 100 his-
torically significant typeface designs from Gutenberg to 2000,
lists typefaces by name, chronology, category, geography, us-
age and ubiquity as part of a typographic history research
project.">
<meta name="keywords" content="top 100 types of all time?,
100types/100typefaces, typeface design history, history of
printing, typographic history research project, research, his-
tory, typography, type history, top 100, Ben Archer">
<meta name="Author" content="Ben Archer">
<style type="text/css">
```

(ben_archer) "…thank you so much for posting this; I was unaware FontShop.de had done this and I must admit it is very much more elegant than >my attempt< at a very similar thing. FWIW, my version is in English; however only some of the information overlaps because

a) it's based on the "The Top 100 Types of All Time?" list at the TDC site, rather than best seller lists compiled by the FontShop from their sales/search data.

b) I did all the research for my site by myself (with a lot of help, admittedly) but I don't have the resources for either research or website production that the FontShop does."

Hello Peter Matthias Noordzij

Happy 2007.

In October last year you granted me permission to provide links to TEFF from a website based on my research. Well the site is now up and running at

http://www.100types.com

The page that relates to PMN Caecilia can be found at

http://www.100types.com/100types.com.81pmncaecilia.html

I am aware that I didn't source a picture for this page and I feel bad about this because of course, Caecilia is a very good typeface. If you have any sample pictures of your typeface in use, that you would like to be seen on this page, please contact me.

And the page that relates to Trinité can be found at

http://www.100types.com/100types.com.55trinite.html

I very much hope that you find both of these acceptable in the overall context of the site, and that (if for any reason) I have made any factual error in the descriptions that you would be happy to correct me on it.

Please feel free to have a look around; if you find it is likely to be of any use - please list or share the url in any way you like...

cheers, Ben

––––––––––

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Mail Code C-41
School of Art & Design
Faculty of Design & Creative Technologies
AUT Auckland University of Technology
Private Bag 92006
Auckland, New Zealand

Appendix 10: Example of informal feedback from peers and colleagues
From: "Eden Potter" <eden.potter@aut.ac.nz>
Date: 18 April 2007 11:46:41 PM
To: <info@100types.com>, "Ben Archer" <barcher@aut.ac.nz>
Subject: Comments on 100types.com

Hi Ben,

Okay, here's formative feedback (uh huh, evidently am far too involved in this teaching caper!).

It's fairly thorough, will try to be brief(ish). I used Firefox on a MacG4 to view this (broadband connection), though must upgrade Firefox to version 2 sometime.

Starting from the menu top:

• intro page – the bottom pointer fist... is this supposed to be a link? The top one reliably takes you back to 'intro' after one click, but the bottom one doesn't work for me.

• method – very useful and clear generally. This page on my Mac has the link words in blue jamming into the non-link words that precede them eg 'thefamily tree pages' - no wordspace is evident.

• chart – pie chart shadings are not distinct enough on my laptop monitor, especially 2%/8% and 8%/19% (pie 1) and 23% / 17% (pie 2)

• trees – I'm loving how this works. When I select a category and click into the link, the descriptor type displays is a sort of default sans serif that doesn't look like that used on other pages... with eeeeevil letterspacing!

• usage – again, very useful. No worries here.

• a-z – especially good for students' reference

• map – speaking of students, I doubt most students will be able to easily locate the six countries in the UK/Europe shaded area, so they may be mouse-clicking around a bit locating a particular country. Maybe this is what you intended? Also, the names of countries appear the same size as the word 'map' on the menu area. This means that for some countries' references e.g. English, the names must be split and hyphenated. Could you reduce the size and not hyphenate?

• timeline – nice to see this graphically, also I like the way you can click each typeface name to link to its profile. The two paras of text above timeline, plus the red caption text have the last character at the end of the line kind of chopped off.

• list – the jamming up of blue link text with black text is not evident here.

• links – no blue text links jamming up here either. Is it worth putting Typographica, http://www.typographi.com/ on the list? There's a reply to/comment on your Gill Sans article from Stephen Coles (March 11) which you may or may not have seen.

• glossary – great! There appears to lack of spacing following some of the colons, e.g, Angle of serifs: and Angle of stroke: (there are more, I won't list)

Generally... on my laptop, the menu list type looks quite small and a challenge to read at a glance.

Also if there's any way you could redesign to lose the hyphenated heads on the menu, I would be much appeased.

Righto. Time to sign out. This is going to be a fantastic resource, Ben – not just for students! Hope the comments help. See you around the traps.

Cheers, Eden

A

Ampersand: symbol for 'and'; &.

Angle of serifs: serifs that join the terminal stroke at right angles are likely to be slab, modern or hairline; serifs that swell and angle in to the stroke are likely to be venetian, old style or transitional.

Angle of stroke: often key to distinguishing one typeface from another, and italics from their associated romans, angle of stroke is typically vertical in many sans serif and blackletter typefaces, but tilted anywhere up to 15 degrees from vertical in either direction for the majority of serif and script typefaces.

Antique/antiqua: northern European name for roman (see above) or latin typefaces.

Arts and Crafts: European design movement of the late 19th century founded by William Morris and others as a reaction to widespread industrialization; preaching values of guild-based crafts and individual artistry, it was a forerunner of the modernist movement.

Art Deco: another truly international design movement rising to popularity in the 1930s that paired streamlined, geometric and rectilinear styles with sophisticated urban colour schemes.

Art Nouveau: early modernist design movement, originating in European capitals at the end of the 19th century and known by a number of alternate names worldwide, recognisable for its organic flowing lines and naturalistic colour palettes.

Ascender/descender height: height by which strokes in the lowercase characters project either from the x-height (ascenders) as in 'b' or descend from the baseline (descenders) as in 'y' .

ASCII character set: numerical character encoding for English alphabets as originated with the American Standard Code for Information Interchange in 1963 and updated since, although most current computer encodings can support many more characters than ASCII's 128, many of them are based upon ASCII.

ATypI: the Association Typographique Internationale, professional association of typographers worldwide.

B

Baroque: exaggerated and elaborate style of music, architecture and arts originating in early 17th century Italy and sponsored by heavy patronage of the Roman Catholic church.

Bauhaus: Weimar-era German art school among the first to be run along progressive lines, embracing multi-disciplinary ideas and curricula; prototype of design and art education of the late 20th century.

Bitmap: pixel-based grid for showing typeface characters onscreen.

Blackletter: style of Gothic lettering, divided into four chronological subcategories; Textura, Fraktur, Schwabacher (Bastarda), Rotunda.

Block letters: name given to early sans serif lettering produced by signwriters and engravers.

Blunt serifs: both a design trend in the 1980s and a feature used in design for reduced computer memory; blunt serifs contain abrupt lines and angles and minimize subtle curves.

Bold: version of a typeface one weight heavier than the roman.

Bold Italic: cursive, sloping version of a typeface one weight heavier than the roman.

Bracketed serifs: a feature of transitional serifs where the edge of the serif curves to join the stroke, generally more graceful than old style serifs.

C
Calligraphic lettering: letters written with a quill, dip-pen or brush.

Carolingian: the era of Charlemagne, Emperor of the Franks who, with Alcuin of York, introduced the Carolingian miniscule to reform the written communication of Europe c. 800 – 1200 AD.

Capitals: the uppercase A-Z.

Casting type: making metal printing typefaces, either character-by-character (foundry or handset type), or line-by-line (machine composition such as a Linotype machine).

Chancery: ornate form of humanistic penmanship, originating in religious offices (chanceries) and often used as the basis for italic typefaces.

Clarendon: early slab serif typefaces of the 19th century, produced for the Clarendon press, lighter in appearance than Egyptian.

Classicism/neoclassicism: mid to late 18th century stylistic idealisation of roman and greek classic cultures in art, architecture and the decorative arts.

Compositor: one who sets type.

Condensed: the narrow form of the roman, not necessarily italicized in the large type families because the italic design was always traditionally narrower than the roman.

Contrast (thick/thin): the relationship between thick and thin parts of the stroke.

Counters: the 'holes' in letterforms such as the eye of 'e' and interior of 'o'.

Counterpunch(es): hardened steel negative forms used to punch counters (negative forms) into the face of a punch.

Cursive: the flowing script that is the basis of italic lettering generally.

Cupped serifs: a feature of venetian and early old style serifs where the terminal itself bows inwards in the middle of the serif.

Cut: the design of a typeface as fashioned by the original engraving of the punches.

D

Deconstruction: term borrowed from French philosopher Jacques Derrida meaning to investigate notions of complexity arising from the act of reading an image or text in the light of unannounced assumptions about the reader's construction of meaning.

Default font: the font used by software applications in the absence of any specific choice by the user.

Design for optimizing computer memory: computers use less memory to draw objects consisting of straight lines than curves – therefore a typeface like Oakland is less memory-intensive than a typeface like Snell Roundhand.

Digital CRT setting: later photosetting systems such as the Compugraphic used a cathode ray tube to create a sharper image on the photo paper and a wide, continuous range of type sizes available in 1/2 point increments, by dispensing with the lenses and film negative masters of the previous systems. CRT also allowed for some manipulation of the typesetting, such as backslanting, which had previously been impossible. The masters for the fonts were digital files held on floppy disks and loaded into the machines memory.

Display sizes: sizes 14pt and larger.

E

Economy: a desirable quality in a text typeface; achieved by carefully optimizing character widths, width of spacing units, kerning pairs and letter fit between adjacent characters.

Egyptian: a subsection of the slab serif designation in the Vox/DIN/British Standards classification of type styles, an early 19th century precursor to the Clarendon style.

Empire style: sometimes called the second phase of neoclassicism, originating in Napoleonic France (the first French empire), and called Adam style in England or Louis XVI in France; applied to art, architecture and the decorative arts.

Extended: the inverse of condensed, an extra-wide design of the roman.

F

Family of type styles: a related series or family will include several of the weights above with accompanying italics and possibly condensed and extended versions, making it more usable for a variety of typographic purposes. Cheltenham and Univers are good examples.

Fat face: early typeface style for posters of the early 19th century, maximizing stroke contrast and appearing very bold.

Font: the term used to mean the entire character set of a typeface in a single size; since the advent of digital typography it has come to mean the entire character set of a typeface regardless of size.

Form of stroke: dependent on the many writing implements that might characterize a design (pen, chisel, quill, paintbrush) and often discernable from the shape of the stroke terminals.

G

Geometric: rectilinear and machine-like qualities found in typefaces from the 20th century

either informed by design associations like art deco or by imaging processes like onscreen display.

Glyphic serifs: often wedge shaped, these serifs show similarities with marks made by inscriptional tools such as chisels.

Golfball typewriter: a typewriter (strike-on composition system), which allowed the user to select different fonts via a system of interchangeable spherical heads that contained the character sets for the font selected.

Gothic: Italian term for blackletter scripts and typefaces. Also the orthography from the saxon countries (Northern Europe): Germany, Northern France, the Low Countries and England.

Gothic: American term for a sans serif typeface.

Graffiti: the writing on the wall; takes its form from any number of implements used to mark public space in a counter-authoritarian way, so always reflecting the vernacular use of spraycans, broadtip markers, paintbrushes etc.

Grotesque: a section in the Vox/DIN/British Standards classification of type styles, denoting those typefaces produced in the pattern of the sans serifs of the 19th century.

Grunge: scrawly, handmade, ugly/beautiful and frequently deconstructed aesthetic that flatly rejected modernism in America, often associated with the indie music scene of the 1990s.

H
Hairline serifs: serifs that appear as a fine line drawn at right angles to the stroke and without any bracketing; serif endings may be squared off or rounded.

High-resolution: output typical of film imagesetters and ctp platemakers; devices that typically print at 2400 dots per square inch (dpi).

House face/house style: the chosen typeface and/or composition rules of a given publisher or press (for example, the famous set of composition rules made for Penguin by Jan Tschichold in the late 1940s ensured consistency across a wide range of titles and imprints).

Humanist: curvilinear and scribal qualities usually found in typefaces of the 14th and 15th centuries where the design is clearly imitating lettering as formed by a pen, this term is used interchangeably with Venetian.

Hybrid type styles: in the last thirty years a number of large families have been designed that combine characteristics of both serif and sans serif styles; Lucida, Rotis, Stone and Thesis are all exemplars of this approach.

I
Icunabula: early period of book production in Europe; 14th and 15th centuries.

Impression: physical act of printing, relative to the amount of pressure applied to the press, it may be a 'kiss impression' (low pressure as found in offset lithography) or a 'heavy impression' (high pressure as found in early letterpress).

Ink traps: minute notches cut into the junctions of typefaces designed for printing on absorbent surfaces to mitigate against ink build-up and clogging - the design of Bell Gothic is the best known example of this.

Inscriptional lettering: letters carved into stone or wood with a chisel or gouge.

Instant lettering: pre-printed sheets of reverse letters held in place by pressure sensitive adhesive film, invented by the founding partners of Letraset Ltd. A low-cost artworking alternative to letterpress or photo-typeset galley proofs that proved highly successful in the 1960s and 1970s.

International Style: otherwise called Swiss International Style, late European modernism often characterized by grid-based typography and a minimal approach to colour and form.

Ionic: early slab serif typefaces of the 19th century, like the Clarendons, lighter in appearance than Egyptian.

Italic: letters sloping to the right; truly a separate design from the roman of any serif typeface, introduced for economy in early book printing but generally denoting stress or emphasis in an English language text.

J
Joining or non joining: whether or not the letters join up or touch one another; determining factor in identifying script faces, otherwise called flowing/broken scripts.

Junctions: the meeting points of the main strokes in a letterform.

K
Kerning: the adjustment of letter fit between certain pairs of adjacent characters; in metal typefaces this was a considerable problem that involved adding or trimming material from the body of the type, but in digital typesetting it is easily achieved.

L
Latin: Northern European term for Southern European scripts and typefaces. Also the orthography of the romance language countries (southern Europe): Italy, France and Spain.

Legibility style: typefaces based on the pattern of the Clarendon and Ionic types, clinically demonstrated to work effectively at a range of small sizes for applications like newspapers and dictionaries.

Letterform(s): the shapes of the alphabetic characters in a typeface design, capable of great latitude from one typeface to another.

Letterspacing: the inverse of kerning, the addition of extra space between letters, usually to adjust for optimum appearance, particularly in lines of capitals.

Ligatures: joining forms of commonly occurring pairs of letters, in English often fi, fl, ffi, ffl, and sometimes ct, st etc. these vary according to the language being typeset.

Lowercase: traditionally this was a compositors' typecase in the lower position of the desk that held all of the lowercase letters for the font; now taken to mean the small letters.

Low-resolution: output typical of early model laserprinters and inkjet printers; devices that typically print at less than 600 dots per square inch (dpi).

M

Majuscules: early form of capital letters, upper case A-Z.

Matrix (matrices): the brass reverse shapes in which white metal type is cast.

Metal (foundry): letterpress printing, which dominated the printing trade for approximately five centuries; cast metal type (typefounding) was assembled by hand, letter by letter, as a raised and reversed version of the printed piece, locked into place on the bed of a press and subsequently inked and printed.

Metal (machine): an automated form of letterpress in which a keyboard-driven machine composed cast lines of type (slugs), or individual characters, ready for assembly into a page forme. Monotype and Linotype were the two main systems for this, but were mutually incompatible and led to intense commercial rivalry in the early 20th century. Both systems had advantages and disadvantages; some letterpress machines are still in existence today.

Minuscules: early form of small letters, lower case a-z.

Modelling: variation of stroke width, often very subtle and used to counter optical illusions inherent in letterform designs.

Modern serifs: a confusing term – ' modern' generally refers to typefaces made in the late 18th and early 19th centuries, as defined in the Vox/DIN/British Standards classification of type styles. But modern can also mean 'contemporary' design for serifs and typefaces in which case the meaning is different and might refer to designs optimized for reducing computer memory.

Modern: a section in the Vox/DIN/British Standards classification of type styles, denoting those typefaces produced in the pattern of the French and Italian printing houses of Didot and Bodoni, otherwise called Didone.

Modernism: The pervading style of the 20th century in European design; positivist and revolutionary, much of its apparent style was simply a reinterpretation of 'truth to materials'.

Monoline: consisting of a single stroke width, having little or no contrast of stroke.

Monospace: a typeface in which all the characters occupy a uniform width, thus 'm' is as wide as 'i': a common feature of typewriter typefaces like Courier.

Multiple Master format: an extension of the Postscript Type 1 format that contained user-definable axes (morphing) for particular design criteria in the font, allowing the font to transform smoothly between narrow and extended, or light weight to extra bold. Superseded largely by the wider foreign language support of Opentype, MM fonts now only have continuing use as a 'fallback' font for displaying missing fonts in Adobe.pdf documents; Adobe Serif MM and Adobe Sans MM.

Multimedia font: a typeface that retains legibility both in onscreen and print applications.

N

Narrowness: degree of condensation or compression used to achieve a typeface which will allow more characters per linear inch or cm.

Neo Grotesque: a subsection of the sans serif classification referring to large families of typefaces produced in the 1950s and 1960s – Univers, Helvetica and Antique Olive are all exemplars of neo grotesque style.

Novelty style: typefaces designed for outlandish or attention-seeking appearance rather than legibility, often referred to as display types – the other end of the typographic spectrum from the legibility group.

Numerals: the numbers in a typeface; 0-9
  • Lining figures (LF): numbers that range from the baseline to the height of the capitals.
  • Old style figures (OSF): numbers that range with the x-height of the lower case characters, having descenders and ascenders also.

O

OCR: optical character recognition – the reading of typeset characters by a computer-controlled scanner; OCR scanning results in editable text files rather than images of letters.

'Old English': alternative (American) name for blackletter.

Old Style: a section in the Vox/DIN/British Standards classification of type styles, denoting those typefaces produced in the pattern of the Parisian printing houses at the time of Claude Garamond, otherwise called Garalde.

Opentype: the new standard font format jointly developed by Microsoft and Adobe Systems, successor to both Truetype and Type 1, and incorporating elements of both of them. Using Unicode as its encoding scheme means that Opentype fonts can support any script across a number of different operating systems, with a wider range of characters (glyphs) and greater ability for complex typographic arrangements than previously possible.

Operating systems: the basic instruction set that allows a computer to startup and execute the user's commands – nowadays typically Microsoft Windows or Apple OS – but with early phototypesetting systems there were a number of competing and mutually exclusive operating systems.

Ornaments: decorative material in a typeface having no function as alphabetic character, numeral, punctuation or symbol.

P

Photosetting/film setting: used mainly for display and headline typesetting, in which a continuous roll of photographic paper was exposed to a beam of light shone through a master negative of the individual character; lenses between the negative master and the photo paper determined the size of the type image, and the roll was wound on a specific distance before the next letter was exposed. A chemical processing unit would then develop the photo paper to produce the final image of the typesetting, usually for paste-up and camera-ready artwork.

Pi fonts/pictogram fonts: typefaces containing symbols or pictures, devised for almost every conceivable use from chess symbols to horoscope symbols to wash care label symbols, otherwise called dingbats.

Point sizes: the Anglo-American point is 1/72nd of an inch or 0.3528mm, which gives 12pt as being 1/6th of an inch or 4.23335mm; on the original Apple Macintosh screen, 1 point conveniently equalled 1 pixel onscreen.

Postmodernism: a rejection of the central tenets of modernism and the promises of rationalism, positivism and the enlightenment in general; underpinned by the idea that the pursuit of progress has become obsolete.

Postscript: the page description language (pdl) published in 1984 by Adobe Systems, which (along with the Apple Macintosh laser printer), instigated the desktop publishing revolution. Postscript broke new ground by combining features then only available in plotters and dot matrix printers – the code-based description of both fonts and graphics by cubic Bezier curves that allowed for device independency, meaning the same file could be printed to a low-resolution laserprinter or a high-resolution imagesetter.

Printer font: the postscript code component of a postscript font, referenced by the screen font for the controlling application and sent to a RIP as a consequence of issuing the 'print' command.

Printers flowers: another name for ornaments and flourishes found in typesetting – not illustration material.

Private Press faces: typefaces created for a particular printing company for their own output; not released to the general trade and therefore 'private property'.

Proportion: can refer to the ratio of width to height for an overall letterform or the ratio of stroke contrast – both are usually consistent within a typeface.

Proportional width: common feature of 'proper' typefaces like Times Roman, whereby different characters occupy different widths, opposite to monospace.

Proprietary faces: typefaces created for a particular institution, client or company as part of their branding; not released to the general trade and therefore 'private property'.

Punch(es): steel positive forms to be struck into (softer) brass matrices to produce the master reverse forms from which the (white metal) type is cast.

Punch cutter: one who engraves steel punches (and counterpunches) for striking matrices and thereby producing the masters for the type.

R

Random font: a very rare kind of postscript font that changes its outline description by implementing a subroutine called 'freakto' on the print command.

Recut: a remake (often by a rival foundry) of an existing design, attempting a facsimile copy but frequently introducing distortions to the design.

Related type styles: components of a type family are related by overall design criteria such as stroke style, serif formation, letterform angle etc; even in those cases where these are kept to a minimum, there is likely to be an underlying relationship.

Renaissance: the period following the middle ages and preceding the reformation in Europe, spanning the 14th, 15th and 16th centuries, notable for the revival of learning based on classical sources, the rise of courtly and papal patronage, the development of perspective in painting, and the advancements of science.

Replica: a facsimile, an exact copy.

Revival: a remake of an existing design (which may incorporate new features, distinct from the original).

Rococco: stylistic interlude between the baroque and neoclassical styles in European art and architecture, originating in early 18th century France and characterized by a lighter, more opulent theme than the baroque style preceding it.

Roman: the upright letter in a normal weight of both upper and lower cases.

Roundhand/Copperplate: flourished, joining script style produced by highly formal penmanship of the 18th century and later.

Rubricator: traditional name for person highlighting pre-printed pages with red ink.

S
Sans Serif: without serifs, otherwise called lineale in the Vox/DIN/British Standards classification of type styles.

Screen font: the onscreen component of a postscript font, composed of bitmaps of the entire character set at fixed sizes (usually 10, 12,14, 18, 24 point sizes).

Script: a typeface that imitates written letterforms, regardless of the instrument used to create the lettering.

Secretary Hand: the polite term for the 'bastard hand' – a quick flowing script employed for business throughout the 16th and 17th centuries.

Serif: the short near-horizontal strokes at the terminals of a serif typeface; differences between them are often key to distinguishing one serif typeface from another.

Set width: some typefaces 'set wide', some 'set narrow': according to the qualities of their design (proportion) and criteria for economy (above).

Slab serifs: block serifs usually joining the stroke at right angles and of a similar thickness to the stroke itself.

Sloped roman or oblique: an angled letter obtained by tilting the roman version to produce a faux italic (false italic) either photographically or digitally, but sometimes occurring as the designated italic of a sans serif typeface.

Small capitals: capitals carefully redrawn and sized to fit with the lower case a-z.

'Snap-on' serifs: the ability for a user to add or subtract serifs from a typeface has only recently become possible with digital typography and the contextual glyph substitution feature of some Opentype typefaces; Walker is the examplar of this.

Specimen sheet: promotional material from a typefoundry or typeface vendor; display of different sizes, weights and settings of a newly -released typeface design.

Stroke: the main construction lines of a letterform - A has three, O has one and M has four.

Superellipse: a squared oval shape favoured in the type designs of Hermann Zapf, which is less memory-intensive and easier to image than regular oval constructions.

Swashes: decorative curlicues and extensions from the letterforms of the capitals (usually) to give display possibilities to an otherwise ordinary-looking typeface.

T
Terminals: the ends of the main strokes in a letterform, the end of the line.

Text sizes: sizes up to and including 12pt.

Titling face: a typeface consisting of the uppercase only, usually designed for large-scale work (posters, signage).

Trade: commercially oriented typesetting and printing companies, generally distinct from state institutions (government printers), academic establishments or private enterprises.

Transitional: a section in the Vox/DIN/British Standards classification of type styles, denoting those typefaces produced in the pattern of the Romain du Roi.

Transitional serifs: generally thinner and more graceful than earlier serif forms, bracketed towards the stroke.

Truetype: Apple Computer's rival format to the Adobe Type 1 standard, produced as a response to Adobe's high licensing fees and obliging Adobe to publish the Type 1 standard in 1991 during the 'font wars' between Apple and Adobe. Truetype used an alternative Bezier description scheme called quadratic curves, but never achieved the market share of its rival, despite a distribution and licensing agreement between Apple and Microsoft.

Tuscan: heavily decorated 'carnival' style of Victorian lettering, often with bifurcated or ornamented serifs and stems.

Type 1: the first font format devised by Adobe uses a simplification of the Postscript language to describe character glyphs by use of mathematically defined outlines including cubic Bezier curves. An established industry standard for digital typesetting, the Postscript Type 1 font comes in three parts – the outline (printer) font file, the bitmap (screen) font file, and the Adobe font metrics (afm) file.

Type designer: one who designs letterforms and typefaces.

Type founder: one who casts type, the principal of a type foundry.

Type foundries: companies responsible for converting type designs into fonts of printable type and subsequently issuing printing typefaces to the general trade.

Type sizes: known by a variety of names until the standardisations of Fournier and Didot in the 18th century, metal type is still measured in point sizes of the body on which it is cast,

and this tradition continues (anachronistically) with digital type.

U

Uncials: a monastic script composed of majuscules used between the 3rd and 13th centuries and surviving as a lettering style to the present day, distinguished by broad, rounded and flowing shapes.

Unicase: typeface composed of one set of characters that are identical in the upper and lower case.

Unserifed: sans serif, but in the sense of never having had serifs to begin with; some inscriptional typefaces from classical Greece and Rome are better called unserifed.

Uppercase: traditionally this was a compositors' typecase in the upper position of the desk that held all of the uppercase letters for the font; now taken to mean the capital letters.

V

Venetian: a section in the Vox/DIN/British Standards classification of type styles, denoting those typefaces produced in the pattern of the Venetian printing houses prior to Aldus Manutius, otherwise called Humanist.

Versals: illuminated capitals found in religious and devotional works, often highly decorated.

W

Wedge serifs: angled in a straight line back towards the stroke.

Weight: thickness of the stroke of a letterform (heavier or bolder weights creating a denser, darker appearance when typeset), in ascending order: Light, Book, Medium, Semibold, Bold, Heavy, Black. Note that other terms may apply – such as regular, normal or roman for medium.

Wood: the earliest method of printing letters was an accompaniment to woodblock illustration printing; as recently as the 20th century some typefaces (notably Johnston's Railway Sans) were still made out of wood, kept as individual masters for all reproductions of the typeface. The printing face of the wooden type was usually mechanically engraved out of a boxwood veneer which was then mounted on a cheaper or softer wooden body or block.

Woodblock: an early relief printing method, still employed for crafts and textile printing.

XYZ

x-height: the mean height of the lowercase alphabet from the baseline; height of letters without ascenders.

AUT
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TE WĀNANGA ARONUI O TAMAKI MAKAU RAU

Project Title
Making a Computer-Mediated Model to Teach a History of Type Design (114637 Design and Digital Imaging 1A)

An Invitation
My name is Ben Archer and I am conducting a research project about teaching a history of type design. As part of my research I wish to conduct a 45 minute user feedback survey. The project is for my masters degree here at AUT. The focus of the project concerns the Gutenberg assignment for the DipGC (Paper 114637, Design and Digital Imaging 1A). You are invited to participate in the research to generate feedback so the project can be improved and I can write up the results, whether they are good or bad. This research project has no commercial aspect and is not for any financial gain; it is for my own educational purposes in pursuing a masters' degree, and hopefully for the benefit of all students on the DipGC programme, now and in the future. Your participation is voluntary and you may withdraw at any time without any adverse consequences.

What is the purpose of this research?
The feedback you offer will be collected, analysed and incorporated into the results section of the written thesis accompanying my project work. The results are likely to be used for academic purposes (publication, presentation) in the future.

How was I chosen for this invitation?
You have been invited because you are a student on the DipGC who has completed the paper 114637 Design and Digital Imaging 1A (the 'Gutenberg' assignment).

What will happen in this research?
This part of the project involves evaluating a website for navigation, information and usability. It means
a) being observed in class while you are using the website to perform timed research tasks
b) filling out a questionnaire in class to record your impressions of the website
c) taking part in a recorded discussion in class about how you found specific information on the website.

What are the discomforts and risks?
Possibly the usual risks associated with using a computer in the classroom, depending on the ergonomic set-up of the computer/bench/chair you normally use. There is also a possibility that the time taken to do this will impact marginally on your normally available class time.

How will these discomforts and risks be alleviated?
Instructions for avoiding RSI/OOS will be offered before the evaluation begins. You are entitled to take breaks while using the computer for this purpose. The research has been purposefully scheduled for a point in your course when there are no imminent or pending assignment deadlines.

What are the benefits?
The feedback that you generate (whether good or bad), will count towards improving the website for the benefit of all students on the DipGC programme. It will also provide results, findings or conclusions that can be identified and written into the thesis on the basis of what you say.

How will my privacy be protected?
The thesis write-up will ensure the protection of your privacy by being fully confidential (i.e. "Student A said that..."). You can choose to decline without any adverse consequences. Data collected from the feedback will be kept in a locked cabinet in a staff office at AUT. Paper consent forms will be destroyed at the end of 2007.

What are the costs of participating in this research?
There are no material costs involved; internet log-in time will be organised by the researcher, so your account will not be debited. All that is required is will be forty fve minutes of class time and your willing input, between 1.30 – 2.15 pm on Wednesday 30th May 2007 (week 13).

What opportunity do I have to consider this invitation?
You have one weeks time to consider whether or not you would like to be a part of this research.

How do I agree to participate in this research?
• If you agree to take part in this research, please either phone or email Ben Archer at the address below, or tell him
   in class on the day (Wednesday 30th May 2007) that you'd like to participate.
• If you do not agree to participate in this research then no further action is required from you, and you can continue
   to study under your own direction or with the part time lecturer in the class time as usual.
There is no obligation to participate, although I would be grateful for as much feedback as possible.

Will I receive feedback on the results of this research?
Yes. Verbal, informal feedback about the findings of the group feedback will be offered to you three weeks after the
website evaluation research has been done (i.e. week 16, end of the semester). You will be able to access the thesis
in the AUT library after the end of the 2007 academic year.

What do I do if I have concerns about this research?
Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor;
John Eyles, Senior Lecturer, Postgraduate Studies/Online Co-ordinator, School of Art & Design, AUT.
john.eyles@aut.ac.nz, 921 9999 ext 8043.

Concerns regarding the conduct of the research should be notified to the Executive Secretary, AUTEC;
Madeline Banda, madeline.banda@aut.ac.nz , 921 9999 ext 8044.

Whom do I contact for further information about this research?
Researcher Contact Details:
Ben Archer, Senior Lecturer, School of Art & Design, AUT. ben.archer@aut.ac.nz, 921 9999 ext 8011.
Project Supervisor Contact Details:
John Eyles, Senior Lecturer, Postgraduate Studies/Online Co-ordinator, School of Art & Design, AUT.
john.eyles@aut.ac.nz, 921 9999 ext 8043.

Approved by the Auckland University of Technology Ethics Committee on ....

AUTEC Reference number ....

AUT
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TE WĀNANGA ARONUI O TAMAKI MAKAU RAU

Project Title
Making a Computer-Mediated Model to Teach a History of Type Design (114637 Design and Digital Imaging 1A)

Supervisor
John Eyles, Senior Lecturer, Postgraduate Studies/Online Co-ordinator, School of Art & Design, AUT.
john.eyles@aut.ac.nz, 921 9999 ext 8043.

Researcher
Ben Archer, Senior Lecturer, School of Art & Design, AUT.
ben.archer@aut.ac.nz, 921 9999 ext 8011.

- I have read and understood the information provided about this research project in the Information Sheet dated 13th May 2007.
- I have had an opportunity to ask questions and to have them answered.
- I understand that I may withdraw myself at any time *before* the data collection, without being disadvantaged in any way.
- I understand that if I agree to take part, I will be observed performing time-based tasks in class.
- I understand that if I agree to take part, I will complete a questionnaire and hand it in to the researcher.
- I understand that if I agree to take part, I will be invited to comment during a focus group discussion which will be audio-taped and transcribed.
- I understand that if I withdraw at any time *after* the data collection, I may still do so without being disadvantaged in any way, but the researcher will be unable to separate my (spoken) comments from any others made during the focus group discussion, and therefore will be unable to destroy that particular information, despite my withdrawal.
- I understand that if I withdraw at any time *after* the data collection, I may still do so without being disadvantaged in any way, but the researcher will be unable to separate my (anonymous) written comments from any others made during the questionnaire section, and therefore will be unable to destroy that particular information, despite my withdrawal.
- I agree to take part in this research.
- I wish to receive a copy of the report from the research (please tick one): ☐ Yes ☐ No

Participant's signature: ....
Participant's name: ....
*Are you under 20 years of age? If yes, it is a legal requirement that we obtain your parent's/guardian's signature;

Parent's/Guardian's signature (if appropriate): ....

Participant's Contact Details (if appropriate):
....
....
....
....
If you wish to receive a copy of the report from the research, please include an email address above.

Date: ....

Approved by the Auckland University of Technology Ethics Committee on ....

AUTEC Reference number ....

Note: All participants should retain a copy of this form.

Project Title
Making a Computer-Mediated Model to Teach a History of Type Design (114637 Design and Digital Imaging 1A)

What is the background context here?
These students have been chosen because they have already completed the DipGC 'Gutenberg' assignment in Year 1 of their studies. Because they are familiar with the content of that assignment, they are in a good position to evaluate a website presented as a self-directed learning resource for the 'Gutenberg' assignment.

What is the task?
This is a primary data collection formed from three constituent parts.
1. Distribution of Part A task lists to the students. Observation of students performing five website 'treasure hunt' tasks of about three minutes each (15 minute total). No intervention or interaction with the students should be necessary at this point, unless it is to explain words on the task list that they don't understand.
2. Distribution of Part B/C/D questionnaires to the students. Supervision and assistance (if required) with the questionnaire completion. Collection of questionnaires from the students (15 minute total).
3. Observation and facilitation of the focus group discussion (15 minute total) following on from the previous two activities. Students need to be reminded that this discussion will be recorded; wherever possible they are not to talk over each other's replies, and to keep their replies short, clearly spoken and to the point. Some responses may have to be repeated to ensure a clear, unambiguous record. Clear (nonverbal) signalling will be required to indicate whose turn it is to speak.

What are the parameters?
The data collection will be conducted in room WE306 on the afternoon of 30th May with approximately 32 students in the Year 2, Semester 1 group of the Diploma of Graphic Communications. The session will run from 1.30pm to 2.15pm. There will be a probable maximum 11:1 ratio of students to observers.

What is being observed?
The hypothesis driving this procedure is "can the target users navigate the website well enough to access the site content?" Therefore the observation is specifically about whether the students can accomplish the tasks set without any intervention and in an engaged, unstressed manner. While the questionnaires will collect students subjective feelings about the tasks, I would like you to record your observations (overleaf) of students' exhibited levels of
• Relaxed engagement
• Focussed concentration
• Stress/frustration
The first and last criteria will be the prime indicators of the validity of the hypothesis above and whether the website is working as expected or not. Any extremes of experience will be very helpful to note, so the observation should record any instances of
• 'Eureka' moments - enjoyment of the activity
• Things not working - difficulties, unwelcome suprises
If you see students struggling to complete any of the tasks under observation, or are asked for help to either navigate the site or explain something on the site, make a note of it and explain that you can't do this for them, and they should move on to the next task; incomplete tasks are valid results of the evaluation!

What data will be collected?
Qualitative data (observed behaviour, subjective opinions, comments, written and verbal responses) rather than quantative data, because the evaluation is concerned with user experience, technical issues around navigation and usability, and finally presentation and uptake of a particular set of research information. Although the questionnaire responses will be statistically analysed and graphed, this sample is too small to be statistically valid. Accurate recording of clear student opinions, to be referenced in the results and discussion sections of the thesis, will be the preferred outcome.

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please mark the line scales below for observed student behaviours during the timed tasks (Part A)

STUDENT 1.
Relaxed engagement   Focussed concentration   Stress/frustration

Notes

STUDENT 2.
Relaxed engagement   Focussed concentration   Stress/frustration

Notes

STUDENT 3.
Relaxed engagement   Focussed concentration   Stress/frustration

Notes

STUDENT 4.
Relaxed engagement   Focussed concentration   Stress/frustration

Notes

STUDENT 5.
Relaxed engagement   Focussed concentration   Stress/frustration

Notes

STUDENT 6.
Relaxed engagement   Focussed concentration   Stress/frustration

Notes

STUDENT 7.
Relaxed engagement   Focussed concentration   Stress/frustration

Notes

STUDENT 8.
Relaxed engagement   Focussed concentration   Stress/frustration

Notes

STUDENT 9.
Relaxed engagement   Focussed concentration   Stress/frustration

Notes

STUDENT 10.
Relaxed engagement   Focussed concentration   Stress/frustration

Notes

STUDENT 11.
Relaxed engagement   Focussed concentration   Stress/frustration

Notes

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Project Title
Making a Computer-Mediated Model to Teach a History of Type Design (114637 Design and Digital Imaging 1A)

Supervisor
John Eyles, Senior Lecturer, Postgraduate Studies/Online Co-ordinator, School of Art & Design, AUT.
john.eyles@aut.ac.nz, 921 9999 ext 8043.

Researcher
Ben Archer, Senior Lecturer, School of Art & Design, AUT.
ben.archer@aut.ac.nz, 921 9999 ext 8011.

• I understand that all notes, recordings, digital files or transcriptions I make in connection with this research are
  confidential and are not to be made available to anyone other than the researcher and supervisor named above,
  either at the time of the primary data collection, or at any time thereafter.
• All notes, recordings, digital files or transcriptions I make in connection with the data collection for this research
  will be provided to the researcher and supervisor named above, as property of AUT School of Art & Design Post-
  graduate Studies, to be held securely on AUT premises until the time of their destruction.
• I will not retain any private or working copies of any personal notes, recordings, digital files or transcriptions I
  make in connection with this research.
• I have read and understood the information provided about this research project in the Information Sheet dated
  13th May 2007.
• I have had an opportunity to ask questions and to have them answered.
• I understand this agreement to be legally binding within the context of AUT research projects and New Zealand law.

Observer's signature:...

Observer's name: ....

Observer's Contact Details (if appropriate):
....
....
....
....
If you wish to receive a copy of the report from the research, please include an email address above.

Date:...

Approved by the Auckland University of Technology Ethics Committee on ....

AUTEC Reference number..

Note: All observers should retain a copy of this form.

(114637 Design and Digital Imaging 1A) • May 2007

A. specific enquiry-based tasks

Please open your web browser (Firefox) after the facilitator has announced the group log-in to be working. Enter the following url in the web browser window; http://www.100types.com

Please use the following questions to *get you started* going around the website; imagine you are needing the information for an assignment like the Gutenberg booklet project – see if you can find the answers within a three-minute timeframe for each: please record the time it takes you to complete each task.

1) find the metal composition for Gutenbergs 42-line bible type, and the name and creator of its modern equivalent?

2) find the names, dates and creators of the two inventions responsible for large scale typeface manufacture listed on the timeline?

3) find the reproduction technology that the typeface Compacta was originally designed for? explain how this was different from previous typesetting technologies?

4) find a definition for the term Postscript? in what way did Postscript break new ground?

5) find and name one example each of roman, sans serif, slab serif, script, black letter and decorative typefaces?

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B. specific questions

please answer the following questions *as you continue to* go around the website; feel free to ask any questions as they occur to you, and answer the written questions in your own time and style. you have 15 minutes to complete the questionnaire

B1. what is the slowest part of the site?

_____

B2. what is the quickest part of the site?

_____

B3. what is the most confusing part of the site?

_____

B4. what is the clearest part of the site?

_____

B5. are you able to find the links to other pages ok?

_____

B6. do you use the back/forward buttons?

_____

B7. are you able to find the links to other websites ok?

_____

B8. do the links to other websites match your expectations?

_____

B9. is it a problem to get back to a previous page or website?

_____

B10. a) are you able to find the index list? b) are you able to use the index list?

_____

B11. a) are you able to find the glossary? b) are you able to use the glossary?

_____

B12. a) are you able to find the search function? b) are you able to use the search function?

_____

B13. do you think you would use this site in preference to the type-related reference section of the AUT library?

_____

B14. do you think you would you use this site in preference to any other type-related reference website?

_____

B15. do you think you should you be able to download .pdf files or higher quality images from this site?

(114637 Design and Digital Imaging 1A) • May 2007

C. baseline indicators
please mark the line scales below for where you think the website performs

C1. for navigation:
easy to get around   ok to get around   very hard to get around

C2. for information:
plenty of good information   enough ok information   too little & poor quality information

C3. for usability:
can use this well   can use this ok   can't use this at all

D. open ended questions
how could the site be improved?

D1. content:

D2. design:

D3. navigation:

thank you for co-operation and input

Researcher: OK – key question for the discussion group that we're conducting here on the 30th May (2007) about the evaluation of the website; can you navigate the website adequately enough to find the content on the site?

Student A: Yes.

Researcher: Over to you... Student B.

Student B: Um, I think it could have been more obvious that like on those pie charts that you could click out of them and go to the fonts...

Researcher: Can you hear what he's saying?

Several: No.

Researcher: Louder.

Student B: I think it could have been more a bit more obvious that you could click on parts of the pie charts that go to those fonts that belong with it...

Researcher: Agreement? Disagreement?

Student B: It doesn't... it doesn't even say that you can click on those parts... and they don't look like links.

Research Assistant A: I suppose that, in general, like when you've got rollover images, you're not entirely sure until the image changes... you can't, you know...

Researcher: OK. Can I have a quick show of hands? There are twenty nine people doing this feedback. Quick show of hands. Should the links be more obvious?

Several: Yes.

Researcher starts counting...

Research Assistant B: Hey – there's twenty nine hands showing.

(laughter)

Researcher: Next point: were the links – when you've got them – did the links take you where you expected?

Student C: Yep.

Several others: Yes.

Student D: Yeah. Really welcome.

Researcher: Sorry?

Student D: It was like really good information... that you... you found everything you wanted about that certain font.

Researcher: OK... Did anyone find themselves, you know, on a page that they didn't expect? Did anyone get lost?

Student E: I did.

Several: Yes.

Researcher: What? Who else got lost?

Researcher starts counting again... stops at six.

Student F: There were some dead links as well.

Researcher: Dead links. How many dead links? How many people found dead links?

Student G: I didn't find any.

Student D: Me either.

Several: No.

Researcher: Then that's just you, Student F.

(laughter)

Student E: Excuse me.

Research Assistant B: Did you write them down?

Research Assistant A: For example, um, like when you link, when you've got on one page, you've got um, an area, like for example on the method – when you click on method – underneath it says 'how to'? So that's inconsistent between what method is – is method 'how to' or is it...? you know like that. And when you've got... when you click through that area that says 'alphabetical' or 'geographical', you click on 'geographical' – brings you through to the map? So is it 'map' or is it 'geographical'? So it's...

Researcher: So the labelling's inconsistent?

Research Assistant A: Yep.

Researcher: OK.

Research Assistant A: I think... personally I think 'alphabetical' or 'geographical' would make it more kind of... you understand then how it's being sorted.

Researcher: Yeah. Can I have a quick show of hands on what Research Assistant A's just said? How do you feel about the labelling? It being consistently labelled all the way through?

Student G: Yep.

Student D: Yeah.

Researcher: Quick show of hands, please.

Researcher starts counting again... stops at six.

Researcher: That's pretty unanimous again, isn't it? Ah, I guess this is the last question from me and it's key, um, it really is... if you were doing the Gutenberg assignment – all over again – would this be of any use?

Several: Yes. Sure.

(laughter)

Student G: Yes.

Student D: It would be so much easier... oh god.

Student G: We'd have the project done in three weeks. Or two weeks...

Student H: It would – it's crazy.

Researcher: Alright, because – what did you just say? It took you two or three weeks to find...?

Student G: Nah. It would get us done in probably like two weeks... maybe yeah, two weeks.

(laughter)

Student D: All the information is there on one site.

Student H: I reckon.

Student G: All the content is there... you got the timeline, you got the categories, you got the families...

Student D: Everything.

Student G: Everything is there.

Research Assistant A: How much? Are you saying two weeks yeah?

Student G: Yeah. Probably two weeks to get it done.

Research Assistant A: So the next year...

Researcher: Alright – the key issue of course with the Gutenberg – you've all done it, you all remember it – is that most of the research is supposed to happen in your holidays isn't it?

Student I: Uh huh.

Researcher: How badly do you want your holidays?

Several: Very.

Student D: Don't give us another Gutenberg.

Researcher: Well funny you should say that...

Student near microphone: Oh God...

Student D: I'm not doing it...

(laughter)

Student G: We got the twenty-eight pager – that's coming.

Researcher: Um, that kinda leads us neatly into what we're doing next... Folks, you've been wonderful – thank you so much for your participation – this really makes a big difference to where this project goes to next, and I would like to thank you with a round of applause (Researcher starts clapping).

Appendix 14. email to Beverley Chan, Learning Development Centre/Te Tari Awhina, AUT University, May 2007

"I'd also like to direct you and your colleagues to some specific resources I have put up on the web;

http://www.100types.com/100types.com.glossary.html

http://www.100types.com/100types.com.links.html

both of these pages exist to provide material specifically for the first summative assessment on the DipGC; paper 114637 Design and Digital Imaging. They can be searched by Google for specific terms and can be translated (with varying success!) by the online translation engines."

The following are a series of questions suggesting a further quiz-type mode of structuring exercises around the information held on the www.100types.com website:

1. Find an English typeface from the Victorian period (c.1837 – 1901)?
2. Find a collection of five 20th century sans serif types suitable for corporate work?
3. Find out when Fette Fraktur was made?
4. Find the French typeface(s) that are most like handwriting?
5. Find a link to a website showing 20 best text fonts? Find a link to typographic glossary websites? How many?
6. Find the designer's name for Antique Olive?
7. Find the purpose that Bell Gothic was originally designed for?
8. Find out when the pantographic routing machine was made?
9. Find a Dutch 'rococo' typeface from the 18th century?
10. Find an American typeface from the late 20th century suitable for multimedia?
11. Find a French typeface associated with royalty? when and why was it made?
12. Find the designer's name for the first typeface made for phototypesetting?
13. Find an imperial Roman inscriptional typeface made in late 20th century America?
14. Find out which typefaces have religious associations? What do they have in common?
15. Find the designer's name for the first sans serif?
16. Find the reproduction technology that Compacta was originally designed for?
17. Find the typeface(s) that are based on Garamond or named after it?
18. Find the typeface(s) based on Jenson? when and why were they made?
19. Find out which typefaces have the biggest number of styles in their families? Which are they?
20. Find out which typefaces never became digital computer fonts?
21. Find a typeface suitable for a French art deco project?
22. Find out which typefaces were designed by Matthew Carter?
23. Find out which typefaces were designed by Hermann Zapf?
24. Find out how many typefaces have names starting with 'p'? Which countries do they come from?
25. Find the slab serif typeface(s) that were designed for newspapers and form the legibility group?
26. Find out where the name 'civilité' comes from? What category does Civilité come under?
27. Find out which typefaces are the direct result of experiments with Postscript font-editing software?
28. Find out which typefaces are very rare or used only for one purpose? Which ones are they?

Appendix 16: email detailing DNR registration of website name

From: info@975Register.com
Subject: Re: 100types.com
Date: 10 January 2007 1:19:29 PM
To: ben_archer@paradise.net.nz

Ben, let me see if i can make the nameserver changes for you, hang on...
ok, the changes were successful :) they should update very quickly.
You can contact me again for the next few hours should you need
assistance on anything. Ben, thank you sincerely for using our service,
you are appreciated :)
Tom
975Register.com

Ben Archer wrote:

Hi Tom Neal

Happy 2007 to you.

We had a brief exchange about transferring this site name to another host before
Christmas. Now I'm back from holiday, I thought I'd get on with it, but I can't edit the set-
tings in the control panel without generating error messages.

The host - cleverinternet.co.nz - sent me the following information

NAMESERVER INFORMATION
==
NS1.NETDNS.NET   xxx.xxx.xxx.xx
NS2.NETDNS.NET   xxx.xx.xx.xx
==

Initially I simply copied 'n' pasted these into the blank fields 1 and 2 for the custom
nameserver settings, as per your email from before Christmas (because I wanted the set-
tings to go out to the root file servers). It didn't work, so I tried a number of permutations
- all lowercase, all without spaces, numbers only etc. Every variation generates an error mes-
sage and the result that these new dns settings cannot be registered.

Lastly I tried to retype the password on the control panel general settings (be-
cause I'm not good at passwords and thought I should verify that the account password is
'xxxxxx'), which generated the following

ERROR: Errors modifying Registrar Lock: This Domain is already locked

I'd really appreciate some prompt assistance with this; please reply to the address
above

with kind regards and season's greetings,

Ben Archer

From: support@signetique.com
Subject: Re:Support Ref. #070124070337-[100types.com]
Date: 24 January 2007 2:05:20 PM
To: ben_archer@paradise.net.nz

Dear Ben Archer,

Yes we noticed you have uploaded all your files in correct folder ie htdocs folder, except for one thing ie is uploaded home page as '100types.com.index.html' instead of index.html. When any visit your website as http://100types.com/ the page index.html is loaded as home page and was missing. We have renamed your file '100types.com.index. html' to index.html.

Additionally if you visit your website now you should view your own home page not "Under construction" which we had placed in htdocs folder when we setup account for you. If you are still veiwing the "Under construction" page only then it should be the cache in your PC which causing the problem. As 'uc.jpg' file no more exists in your htdocs folder.

Hope the above information clarifies.
Thank you.
Best regards,
Geetha
Support Team
Signetique IT Pte Ltd

--- ben_archer@paradise.net.nz wrote:

Hi there cleverinternet support

Yesterday I uploaded all the necessary html pages and images to ftp.100types.com.

What do I need to do next in order for the site to go live?

All the documents are in the htdocs directory and I'm able to preview the pages using a Webview feature in the FTP program* I used. The site links all look to be functioning correctly and the site homepage is defined as '100types.com.index.html'

Currently when I type the site url (www.100types.com) into my browser it still displays the 'uc.jpg' that I deleted from the site directory yesterday morning my time.

*I'd like to take the opportunity here to recommend an FTP application called Fetch for your Macintosh-based customers; there is a free trial period download available at http://fetchsoftworks.com. I notice that your literature only talks about WS_FTP which of course only runs under Windows.

Please advise urgently re:next course of action.

faithfully, Ben Archer

Index page

Intro page

Method page

Usage

Trees intro

Chart 1

Chart 2

Typeface profile pages x 100

**Out to current equivalent/external foundry
sites wherever possible**

List

Links

A-Z

Map

Timeline

Glossary/Search

**Out to external
reference sites**

**Out to external
Google results**

Index page

Typeface profile pages x 100

**Out to current equivalent/external foundry
sites wherever possible**

Intro page

How to page

Purpose

Styles intro

Sizes 1

List

Sizes 2

Links — Glossary — Search

**Out to external
reference sites**

**Out to external
Google results**

A-Z

Map

Timeline

Appendix 20: Diagram of complete three-phase hybrid research project design

Empirical methodology

Tacit background knowledge

Making and doing

Intervention:
formulation of
research questions
& methodology

Focus
rigour
scholars

Informal
needs
analysis

Review
of
classifications

Identification
of
research
gap

Physical/animated
models
prototype
creation

Selection
of
website
content

Interim
presentation
(first year exhibition)

Permiss
gatheri
campai

Year one of study

Year two o

Reflection on practice

Empirical methodology

Making and doing

Focus on
software
technique

Focus on
usability
& navigation

Analysis of
evaluation
results

Intervention:
implications for
curriculum
identified

1st iteration
database
creation

2nd iteration
website
creation

3rd iteration
launch &
testing

4th iteration
website
revisions

Exegesis
write up

Tangential publication
& postgraduate
presentations

Informal peer
feedback
(local &
international)

Design of
target audience
evaluation
& feedback

Postgraduate
presentation

of study

Year three of study