

Human Computer Interaction

Coursework 2 Report

Group 35

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<http://toaster.cc/inf4-hci-2>

TODO: Ye Olde M-x ispell

1 Concept

The affinity diagrams produced by the tutorial groups suggest that the questions asked could easily be mapped chronologically in the lead up to, and immediately after, starting at the University of Edinburgh. Following from that, we propose an interface centred on a timeline, with information arranged in cards sequentially placed along a vertically descending line. Iconography down the timeline allows quick scanning and recognition, with the icon roundel being clickable, to mark the accompanying content card as *done*¹

2 Design Justification

Upon loading the page, users are greeted by an illustrated *hero image* of the University's Old College. The hero serves as a call to action above the fold, and grounds content below – stating what the page it is, who it is for and what it contains. The content card within the hero sits offset from center, which introduces the zigzag of the timeline below and gives a more balanced composition than if it were centred. Beneath the fold begins the timeline that has *cards*² spread out in a zigzag, centring the user's focus on one item at a time whilst creating a vertical progression that logically follows from the content's temporal nature. Each card is signposted by an *icon* which alludes to its content and topic.

Within the content cards, *Buttons* were opted for over plain hyperlinks, following the belief that buttons afford clickability more than a traditional blue hyperlink. Further to this buttons hold more visual weight and from a usability perspective present a larger touch target on smaller, touchscreen devices.

The timeline's zigzagging left and right cards perhaps make less effective use of space than a more conventional tiled grid of cards, or continuous prose though many studies³ have shown that

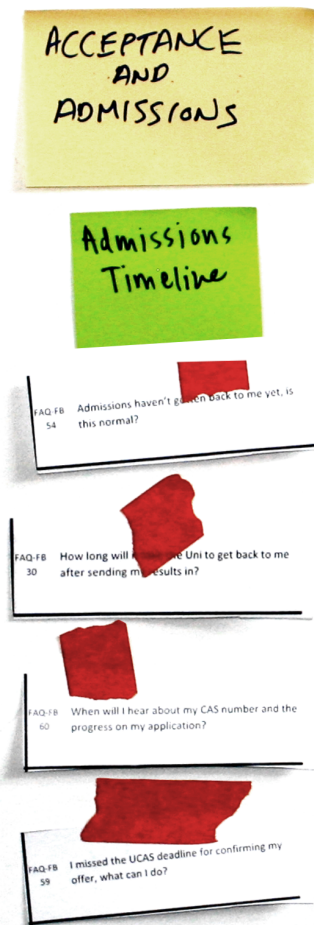


Figure 1: A section of an Affinity Diagram, where all the questions about admissions relate to the timing of admissions. Other questions in the 'Acceptance and Admissions' group pertained to meeting conditions and the post-decision process.

¹ In this case *done*, is rather abstract; meaning completed or no longer requiring the user's attention

² Inspired by the *Material Design* paradigm, a drop shadow drawn from below the card mimics that of physical paper's interaction with light.

³ **Unfolding the fold (insights into webpage scroll)**

91% of the page-views had a scroll-bar, of which 76% were scrolled to some extent. 22% of the scrollable pages were scrolled all the way to the bottom. <https://www.clicktale.com/academy/blog/unfolding-the-fold-insights-into-webpage-scroll/>

making users scroll on the web is unlikely to have detrimental effect on usability nor on the user's sentiment towards the website.

Our colour scheme consists of three primary colours: pink, consistent with the University's branding for Fresher's week; blue, a colour used heavily by the University's welcome literature; and green, which is a commonly used colour indicative of positive progress or success.

Continuing to adhere to the University's design guidelines, our design makes use of the *Crimson Text* and *Source Sans Pro* fonts, which feature on the newer generation of `www.ed.ac.uk` websites as the two primary font faces.

As just over 50% of web usage, and in particular searches originates from a mobile device, we see it as a requirement for the interface to responsively adapt depending on the viewport of the user. Our interface is fully responsive with breakpoints from small mobile (360px) up to large desktops (1200px).

3 Interaction Design

Our team chose to implement the *instructing and manipulating* interactions on our webpage. Notably, the *timeline's* state is mutable, with the aforementioned clickable roundels affecting the state of their associated content cards. The *Take a Tour* modal presents a common method of instructing a user; this is perhaps particularly important as it allows us to introduce all the features of a somewhat unfamiliar interface.

TODO: Maybe more? Over half is about a feature we removed

Early versions of the webpage held an attempt at *conversing* with the user by prompting them on arrival with an *instant messaging* form, with the hope of gauging what type of student they are. It had been hoped that this would allow for the page to be tailored in accordance with that particular student's needs. For example, hiding information regarding visas to students who already reside in the UK or Éire, yet displaying it those who live elsewhere. This feature was ultimately scrapped as it proved to be complex to implement within our given time frame, and given its dependance on persistent state, out of scope.

4 Usability Testing

4.1 A/B Testing

TODO: Results figure should be full width

To conduct an A/B test, two different versions of the webpage were created – A's design with the aforementioned timeline format; the *challenger B* design instead presenting a more conventional tiled card formation. These variants are shown in Figures 4 and 5.

Analysis of the test was carried out with *Google Analytics' A/B Testing facility*. Respondents were randomly served with either

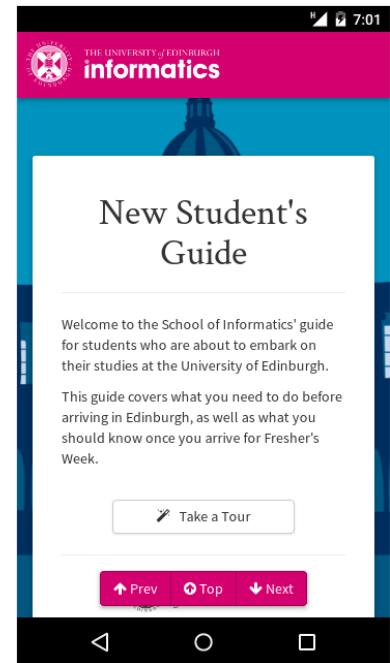


Figure 2: Screen capture of the interface on an Android mobile device, demonstrating responsive design.

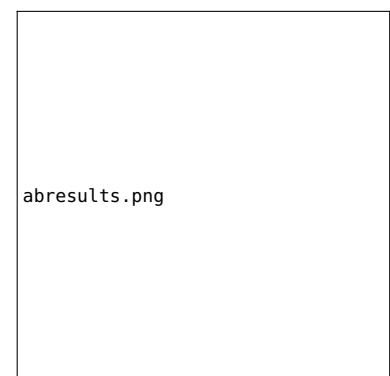


Figure 3: Results of the A/B Testing showed that while both variants were easy to navigate, respondents thought of the A Variant as being more efficient with its usage of space and more aesthetically pleasing.



the *A* or *B* variant; subsequently their time spent on the page was recorded and a link to a usability evaluation survey was placed in the footer (respondents were asked prior to beginning to complete the survey)

TODO: Why did we use a survey (statistical significance (small sample), Google analytics metrics not particularly relevant/necessarily indicative of better, gain better insight)

TODO: Cannot make this claim unless it's statistically significant or at least close to it The results from the survey, consisting of the more than 24 responses, showed a preference towards the *A* version of the website. Specifically, respondents generally found that the linear chronological form was easier to navigate and proved to be more effective at clearly displaying the information. However, respondents tended to prefer the density of the *challenger B* over the timeline.

TODO: Substantiate claims

TODO: Quotes

TODO: Suggested improvements based on A/B not being massively pro timeline (e.g. overlap cards...)

4.2 Informal Interview

Tutorials to informally interview tutors to get feedback on the interface and concept throughout different stages of development.

TODO: Rewrite previous sentence, doesn't read well. Broad questions were prepared before the evaluations and hand written notes were taken of the feedback given back. Several design changes were made following the feedback which helped lead to an improved product.

5 Reflection

TODO: Angus doesn't like this whole paragraph... (Not really reflection, meh, not saying much about actual design... don't really have space for meta like this) Upon completion the of interface development we realised that a huge aid to us as a group had been the robustness and relatively small learning curve of *Bootstrap*. *Bootstrap* allowed for us to refine and expand upon previously existing templates, producing a webpage boasting a responsive design. Undertaking the implementation phase in this manner allowed for the team to spend more time developing our test phase and the subsequent write up.

Mostly as a result of time-constraints and the nature of the task the interaction design & UI lack polish, with some interactions (most notably the Next & Previous buttons) behaving in a simpler or less intuitive way than hoped. Yet, in the face of the already positive feedback it was decided to develop the webpage no further.

One request raised within feedback was for the webpage to re-

member stateful information. Our team had hoped to implement this, as it would have been exceedingly beneficial to new students looking to continuously monitor their progress before and immediately after starting University, however we deem developing a backend out of scope. If this were to be developed, it would tie in to the core element that is the timeline and embolden the page's theme of chronological progression.

6 *Tools and Templates*

Jekyll

Static site generator written in Ruby. Supports Markdown for content markup and the SASS CSS pre-processor. Hosting provided by GitHub pages.
<http://jekyllrb.com/>

BootStrap

Web UI framework (CSS, JavaScript) freely available, created by Twitter.
<http://getbootstrap.com/>

FontAwesome

Web Icon set, freely available.
<http://fontawesome.io/>

JQuery

JavaScript frontend library
<https://jquery.com/>

University of Edinburgh Style Guide

Fonts – Serif:- *Crimson Text*, Sans-Serif: *Source Sans Pro* both available as Google Web Fonts.
 Colours are taken from *Brand Guidelines* and associated pages.

Group Mark Allocation

We wish for allocated marks to be identical for each member of our team.