

Assignment 1.

by Derek Wayne Carvell

FILE	24974_DEREK_WAYNE_CARVELL_ASSIGNMENT_1._342856_1294540691.DO CX (5.74M)		
TIME SUBMITTED	24-MAR-2021 09:21AM (UTC+0000)	WORD COUNT	4309
SUBMISSION ID	147765519	CHARACTER COUNT	23723

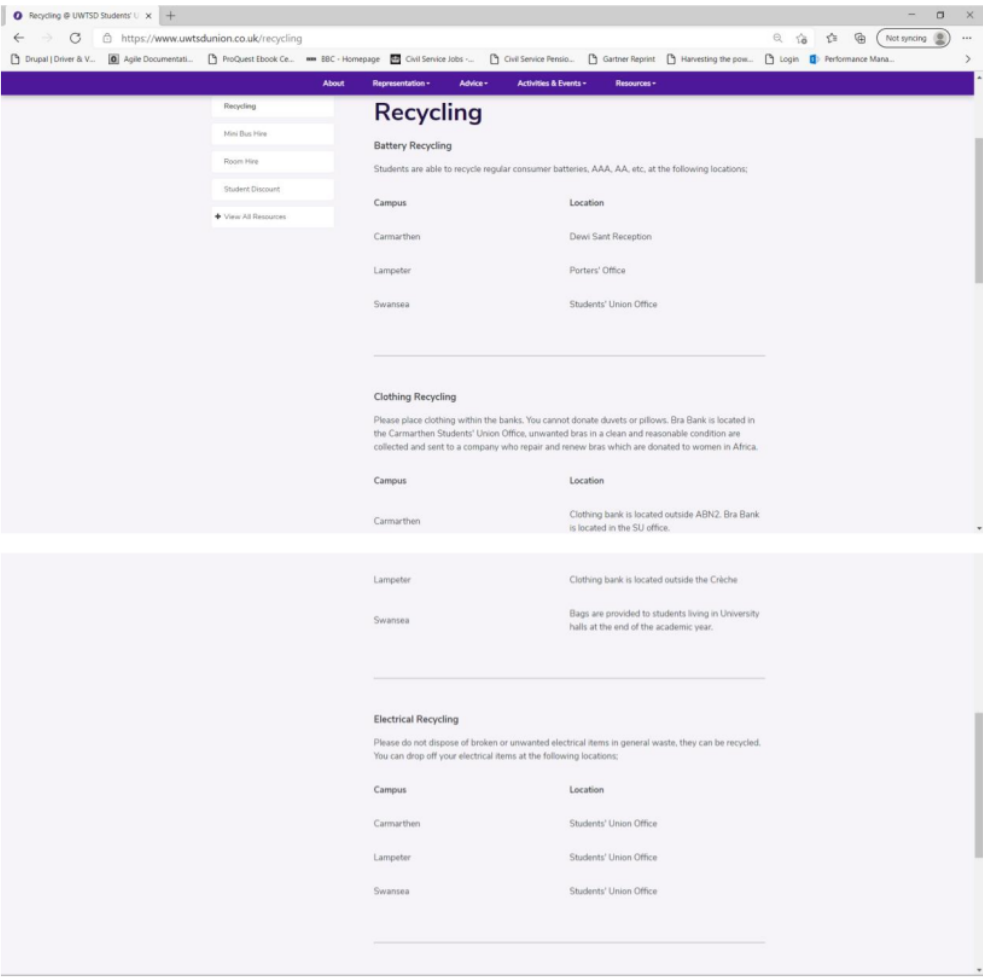
Name:	Derek Carvell
Student Number:	2012800
Module Title:	Usability Engineering (ACCA6017)
Assignment Title:	University Online Resource Prototyping
Lecturer Name:	Sue Maw

1. To provide an introduction to your chosen task and present any existing online facility used by staff and students. Appropriate references are important here and please include academic sources.

Introduction

Analysis of the Student Union Recycling [1] web page available through their web site.

Images of the page are reproduced below:



Upon viewing this page, it was apparent to me as a first-year student, that I do not know the location of the places listed.

Information that I can recycle batteries at the SU office, Swansea is useful provided I have knowledge of its location. I do not, the same may be said for many students and lecturers. To locate it I would need to search elsewhere, navigating away from the recycling page.

Review

My chosen task is to recycle items, e.g. batteries, paper, cardboard and/or plastic. It is assumed that you are new to the University/student residential area. You have located the recycling page from the SU web site and are presented with screens reproduced above.

Visual Representation

As Idler, CX Insights, states "A website without any images is boring and even with a nice design, most of us would probably prefer one with a lot of images." [2]. Idler further states "Images draw attention & trigger emotion" [3].

Images are extremely important for drawing attention to, and visually providing the purpose of, a web page. Furthermore, using images can convey information more quickly than text.

The recycling page has no images, and they could easily be provided enhancing page look and conveying primary purpose - recycling information.

Interface Metaphors

As suggested by Rosendahl-Kreitman, "Metaphors, if they are appropriate, are very quickly understood" [4].

There is no use of metaphors on this page, an opportunity missed.

Memory

As only text is used, little needs stating regarding memory (sensory, short and long term) for this page. It is basically blank and, essentially, non-memorable.

Affordance

Norman states "... the term affordance refers to the perceived and actual properties of the thing, primarily those fundamental properties that determine just how the thing could possibly be used." [5]

The Recycling page has no demonstrable affordance.

System Supporting User Task.

The page does provide limited information to complete the task, however, it leaves a significant group of people struggling to complete it, easily, with their needing to take additional actions to obtain 'missing' location information.

First year students are highly likely to have recycling requirements, on first moving into student residence. The SU page limits recycling to 3 items: Batteries, Clothing, Electrical. Opportunity exists to broaden this to plastics, paper/card, glass, etc., items used extensively within University. There is no mention of recycling for these.

My design addresses these issues, providing ability to add further recycling items and directions to facilities off site.

2. *To investigate your target user group's requirement via an appropriate method such as Task Analysis. Evidence of input from real user(s) should be provided.*

Evidence from Real Users

Evidence obtained from two real users, see Appendix A.

Task Analysis

Who is going to use system?

Students/lecturers who need to identify items suitable for recycling and where recycling can take place.

What tasks do they now perform?

Waste may be disposed of generally. It is desirable that it is sorted, and items recycled in appropriate facilities to improve sustainability and reduce environmental damage.

What tasks are desired?

Ability to locate clear information, from a single source, on what items can be recycled and where (location) this task can be performed.

How are the tasks learned?

By providing pictorial and written representation of items that can be recycled. Providing clear instruction on recycling location.

Where are the tasks performed?

Internet connected devices able to access the required information.

What's the relationship between user & data?

User's campus location to allow direction to localised recycling facility.

What other tools does the user have?

Paper, verbal (word of mouth) communication, browser search, social media.

How do users communicate with each other?

Social media or word of mouth, of the recycling information and/or location.

How often are the tasks performed?

At least, a weekly basis. Likely to be more frequent.

What are the time constraints on the tasks?

None.

What happens when things go wrong?

Waste accumulates, may not be recycled, and may be disposed through fly tipping.

To mitigate this - details of recycling may be provided by printing informational sheets with QR codes placed in prominent areas.

A **working** example notice is provided below of an imaginary recycling facility located in the university visitor car park:

Recycle Glass Items at UWTSD Swansea Visitor Car Park

Scan the QR code for directions via Google [Maps](#)

(To scan a QR code - open a browser, tap in the address bar, click the QR icon presented and point your camera at the code below.)



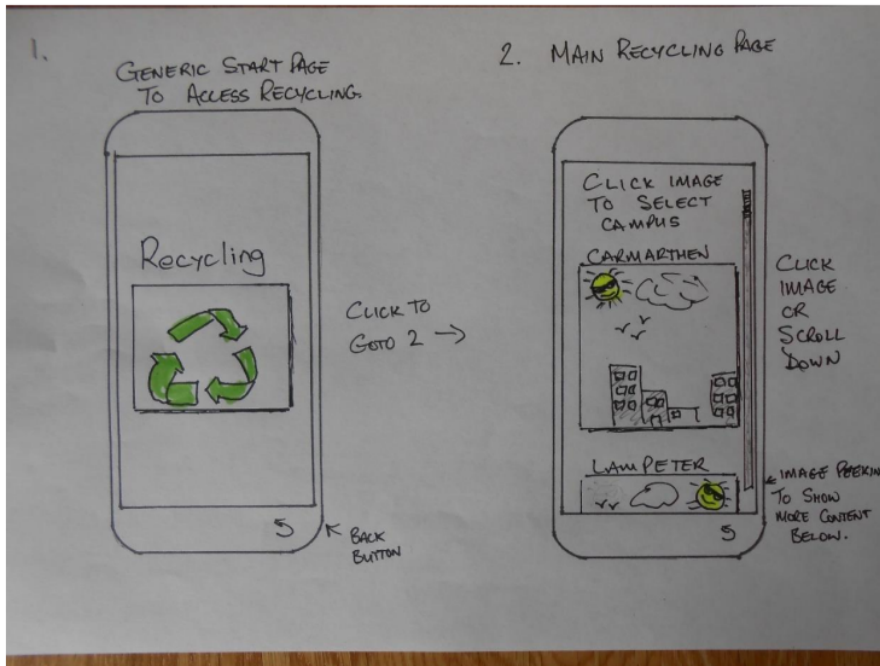
Figure 1: Bottles source [6]

Figure 2: QR Code source [7]

3. To present a paper prototype design using the outcomes of the design. This should be a hand drawn walkthrough of a transaction for the chosen application.

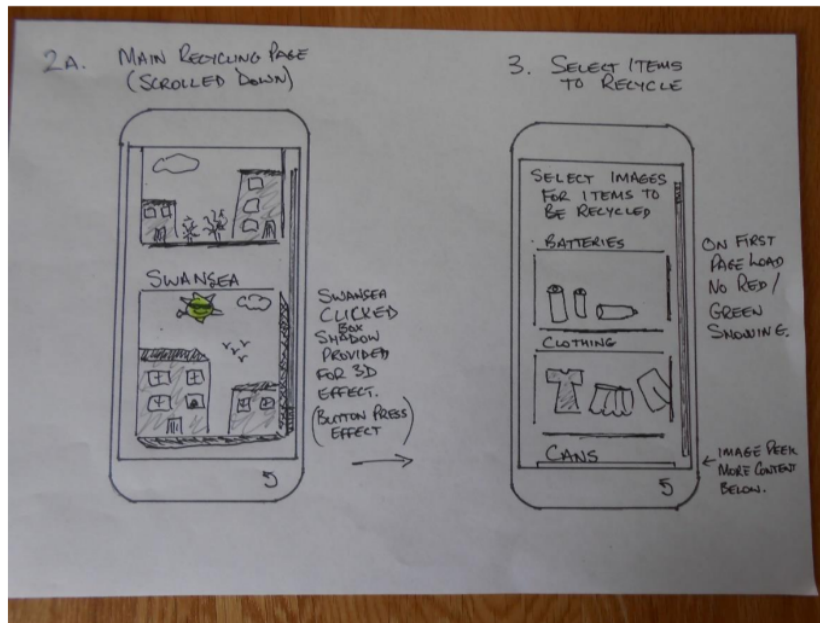
Paper Prototype

1. Starting from any page, using the link, user lands on the recycling page.
2. Requested to select an image relating to their campus location.

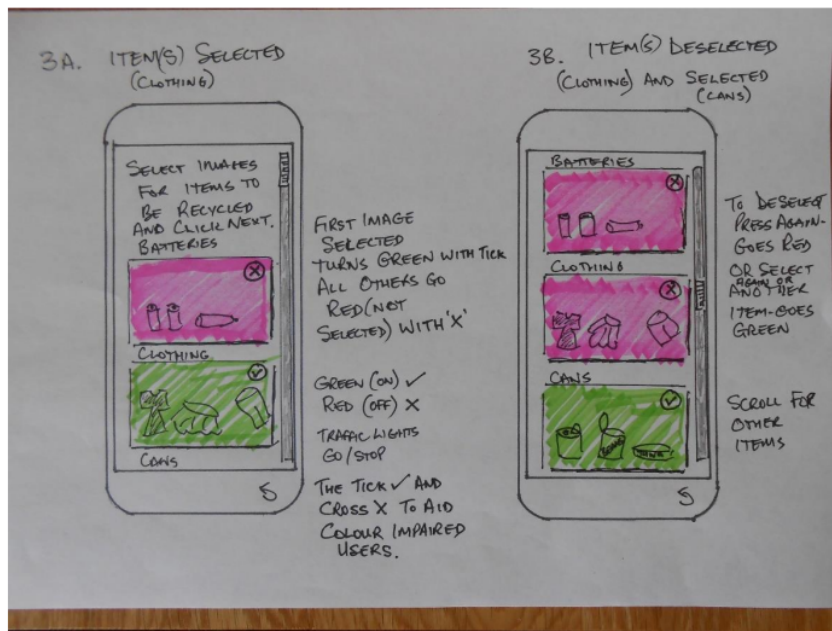


2A. After selecting a location, user is taken to a page of images of items that can be recycled.

3. The images are not coloured, at this time.

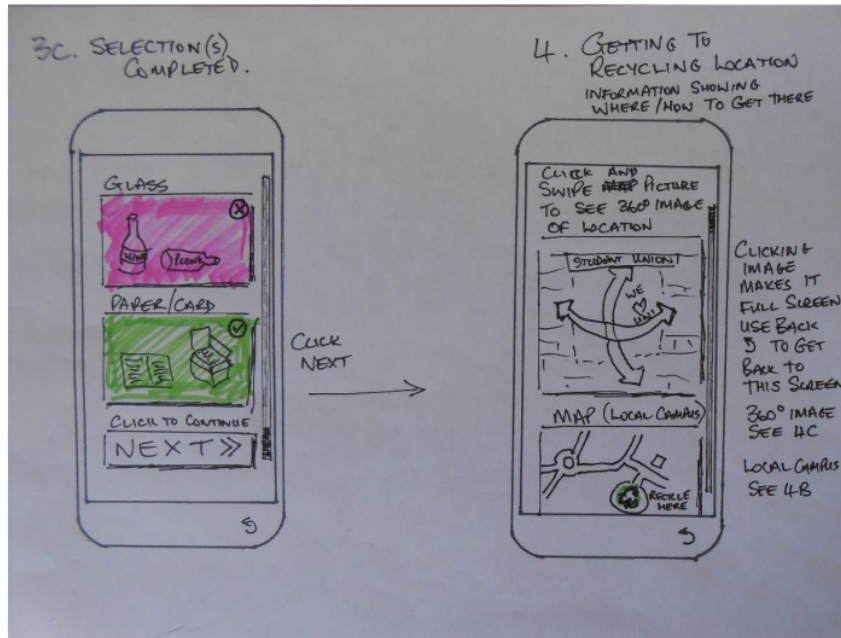


3A, B. First image selected turns green with tick. All other images go red with cross. Items can be selected or de-selected.



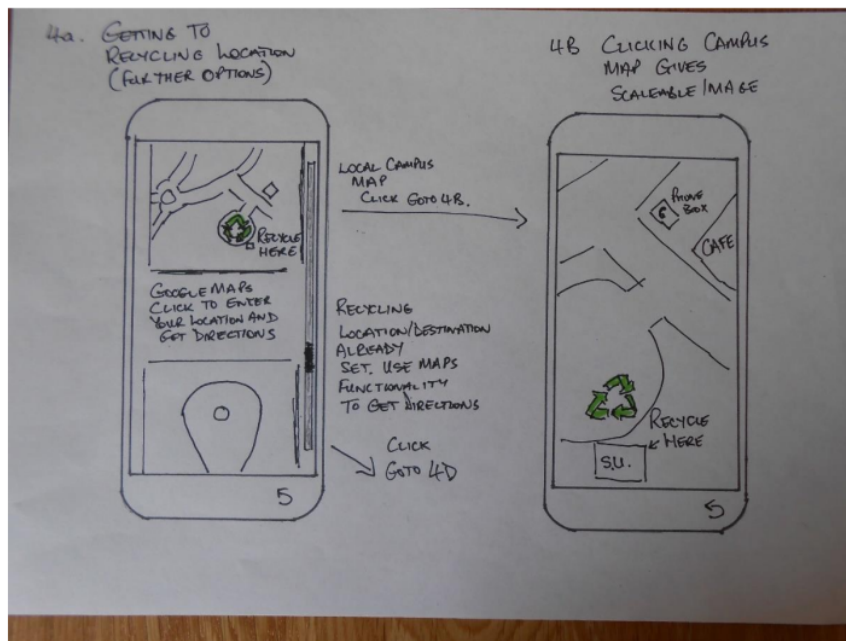
3C. Selections completed, "Next" button at bottom.

4. Information to the recycling facility is shown. User can view a 360-degree image, a map diagram, or Google Maps page.



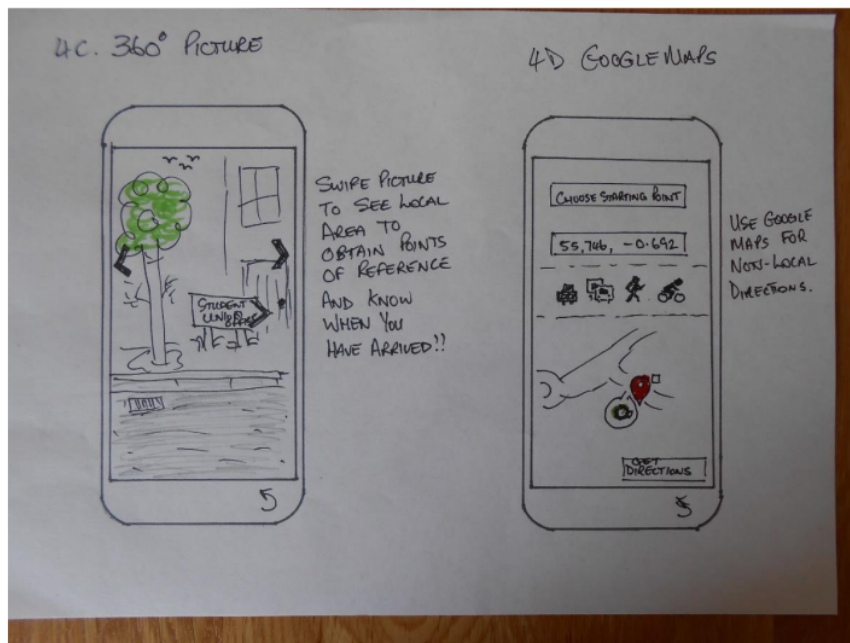
4A. Scrolling down, basic map selected.

4B. Basic map displays full screen.



4C. 360-degree image selected. Rotatable full screen image displays.

4D. Google Maps, longitude and latitude for the facility are pre-set.



4. *To analyse the application of Human Factors theory in your paper prototype designs. This should include an explanation of your application of theory of visual perception, human memory and human reasoning, interface metaphors and affordance. This is another section where referencing is important and as well as a brief explanation it is important to specify how Human Factors have been applied to specific elements of your design.*

Visual Perception

I have used many of the concepts listed in Blackwell's Visual Representation [8]. These are outlined below:

Text and Layout

The font used throughout the system will be easy to read and will be of the generic font families – Serif and Sans-serif.

A single column layout is used for easy navigation and use. This layout is immediately mobile/small screen device friendly.

Images

As W3C web standards advise [9] all images will include meaningful ALT attribute text, to assist screen reading devices.

Only images relevant to page purpose will be used. Images of recycling items will be simple and instantly recognisable to user. Internationally recognised recycling symbol will be used.

Image use is deliberate in my design, as processing of images is far faster than other forms of communication - "Human beings far outpace computers in their ability to recognize faces and other objects, handling with ease variations in size, color, orientation, lighting conditions and other factors." [10]

Visual and Interface Metaphors

Use of visual metaphors in design to assist user:

1. Map images serving as maps.
2. Traffic lights red (stop/off) and green (go/on) item selection.
3. Cross (off) and tick (on) denotes item selection.

Human Memory

"Recognition rather than recall" [11] Jakob Nielsen's 6th general principle, indicates that "Humans have limited short-term memories. Interfaces that promote recognition reduce the amount of cognitive effort required from users".

Intentionally, leveraging that capability I have introduced campus images for location and a rotational 360-degree full screen image of the locality of the recycling facility to provide visual:

- reference points (landmarks) aiding navigation.
- confirmation that you have reached the facility.
- aid to recognition/recall of location for subsequent visits.

The last point may prompt user memory, and further navigational assistance may not be required.

Nielsen highlights limitations of human short-term memory in his article "Short-Term Memory and Web Usability" [12]. To ensure this is not problematic I have deliberately made images relevant, and kept their number low and relevant, for each stage of the process.

Human Reasoning

By understanding the user through the "Task Analysis", my developed design makes use of deductive reasoning. By providing specific images, e.g., glass bottle, tin can, the user arrives at the correct logical conclusion of what items **can** be recycled.

Additionally, use of images cuts across language barriers – "A picture can in effect ground the meaning to an object or concept in the real world and act as a convenient bridge over language barriers." [13]

Affordance

Gibson describes Affordance [14] as "an action possibility available in the environment to an individual, independent of the individual's ability to perceive this possibility".

To maximise affordance my system design has the following features:

1. Images "peeking", indicating to user that more content is available.
2. Scroll bar/sliders to indicate page scrolling.
3. Images (buttons) with shadow 3D effect indicating they can be pressed.

Whilst not direct affordance, the images of items that can be recycled provides a clear view of what is expected, to the user.

Visual and Physical Impairment

As colour impairment, particularly for red and green [15], is common I have incorporated use of cross/tick icons to provide user assistance and confirmation feedback.

Button images are deliberately large (Fitts' Law [16] refers), aiding those with limited hand function/coordination.

5. *To complete and document a walkthrough of your paper prototype with a member of the class as user. You should review aspects of the interface that worked and did not work and provide a copy of their written feedback.*

Reviews Received

Feedback available from –

1. Lowrie Proctor (see Appendix B).
2. Ewan Richards (see Appendix C).

Overall, both reviews were positive. All design interface aspects worked, and design proved to be user intuitive.

I agree Lowrie's comments regarding use of colour and image. I amended design to restrict colours to the tick or cross only.

Enhancements were discussed, including determining location (if location services activated), removing need to choose campus.

6. *To participate as user for a class member's design and to write up your evaluation of their design. You will need to provide a copy of their design to help your explanation.*

Student Reviews.

1. Lowrie Proctor (see below, paper prototype at Appendix D).
2. Ewan Richards (see Appendix E).

Feedback for Lowrie Proctor (1802187) on 16 March 2021

Positive Feedback

The prototype was of Google Classroom with suggestions to improve system usability and system-to-user feedback.

The use of progress bars coupled with colouring to display the user's subject progress was good. I recognised the use of the "traffic light" metaphor, that provides the user strong visual feedback on current progress.

Shadow has been provided to buttons to provide affordance for a button click.

The use of the "hand up" was clear as to its purpose for the user wanting to attract attention/ask a question.

The provision of tabs to separate work items is useful and prevents visual clutter becoming a problem to the user.

Extremely useful user feedback, via the tabs, of the work moving from "work" to "marked". Providing the user, a sense of accomplishment.

Constructive Feedback

The use of "traffic lights" is good for progress feedback, but this may not be effective for colour impaired users. I'd suggest the use of icons 😞 😐 😊 as well as the colours.

The "Select documents to submit" text seems a little orphaned on the page, bringing it under the title would help.

Also, for the "Submit Work" page it's not clear what the checkbox is intended for? A small description would help.

There also doesn't appear to be a list of those documents already added via the "Add another document (browse)" feature. A listing of documents with scrolling may be missing?

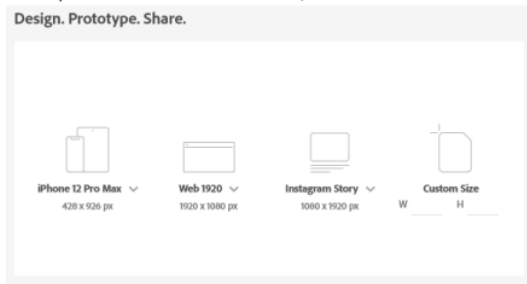
7. To produce a software prototype of your web or mobile design using the appropriate software tool of your choice (eg. Dreamweaver, Visual Studio, Photoshop XD, PowerPoint) and to give a written analysis of this prototype and the features included. This should be explained using screen prints and narrative and an evaluation of the software tool selected for rapid prototyping.

Analysis of Prototype and Features Included

Working prototype developed using Adobe XD, <https://xd.adobe.com/view/d4d5ad04-d316-49a8-ab53-a7dcd9866042-8186/> reproduced below.

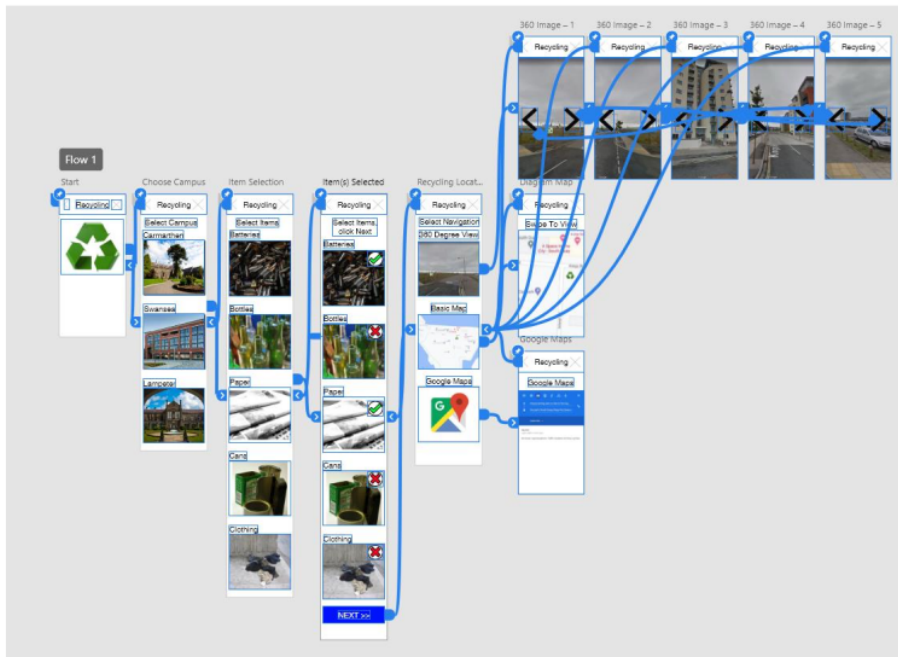
References for images used [17].

Multiple screen sizes available, I went mobile first.



Wiring of screen navigation shown with blue lines outlining page flow that occurs when object is clicked, swiped.

Common web interface functionality - screen swiping, scrolling, fading, button click functions.



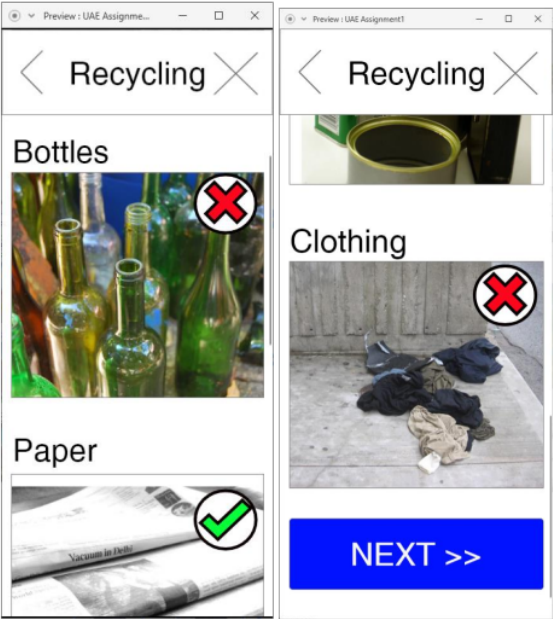
Images have shadow 3D effect. Slider and peeking images used.

Large < (Back) and X (Close) buttons provided, aiding those with limited hand function/coordination.

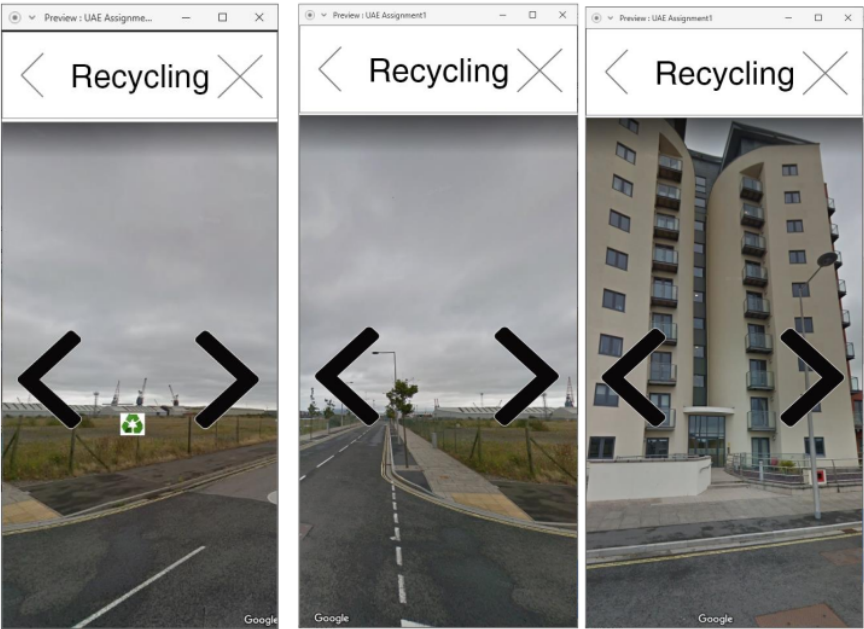
Title area remains static (sticky) when screen scrolled.



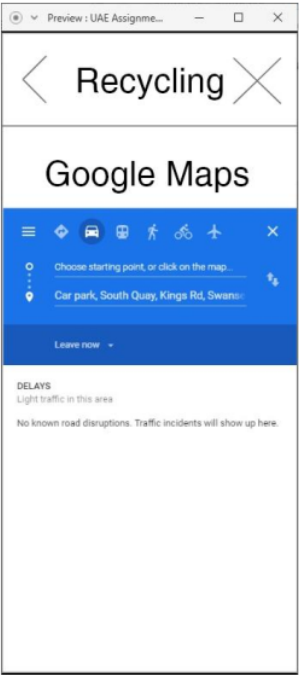
Large custom green tick and red cross clearly indicate user selection.



Able to fade screens in/out and “swipe” image, moving viewpoint, for 360-degree view.
Custom arrows indicate screen can be swiped left or right.



Destination of facility is pre-set.



Evaluation of Adobe XD

Adobe XD provides several useful features to enable prototypes to “come to life”.

The ability to wire screen-flow, and mimic screen swipe and button pressing was impressive, enabling a developer to create a functioning product for customer assessment and operation.

Developer can share prototype for collaboration and review for faster, iterative development. Pre-made objects, such as on-screen keyboard, available.

Fairly simple to use but not intuitive needing tutorials to get you going. Also buggy with some functionality intermittently not working.

Useful for demonstrating useability engineering concepts - Human Factors, Affordance, etc.

Overall, a good piece of software, significantly aiding development effort.

8. Give an evaluation of the usability engineering techniques used in producing your UWTSD Web interface prototype and their effectiveness. Did applying a usability technique such as Task Analysis, applying Human Factors and the walkthrough of a paper prototype result in a better design? Give some specific example of changes you made to your design as a result.

Techniques Evaluation

Task Analysis

Proved useful for identifying essential requirements for a system. Specific subject titles maintained subject matter focus.

In retrospect, I would have used different titles more specific to the task I was undertaking, as some titles were not wholly relevant.

Paper Prototype

Essential tool for low cost/fidelity means of assessing layout for human factors (images, memory, etc.). Useful to easily assess useability and process flow to non-technical people.

Using this method, I became more deliberate in checking object affordance and using metaphors, enhancing system design/use. Examples, using shadows to “raise” images portraying it can be pressed.

Using simple, recognisable imagery through drawings assisting short-term memory and item recognition, then taking that simpleness through to the prototype.

Paper prototyping is sometimes perceived as an unnecessary step for development, however, it allowed me to alternate parts of the process assessing effectiveness of one process order, over another.

Moving paper around - technical development does not get easier or cheaper than that!

Walkthrough

Several walkthroughs undertaken with students/family. One covered colour impairment and this proved an issue for my design's item selection. Feedback used to enhance design by introducing ticks/crosses for clearer user feedback.

Word count 2149

9. To use and reference appropriate resources throughout. References should be provided for Task Analysis, Human Factors, usability in Web design and any other topic as required.

References:

- [1] Student Union UWTSD. (no publication date apparent). Recycling. [Online]. Available: <https://www.uwtsdunion.co.uk/recycling>
- [2] Idler, S. CX Insights, (2012, Sep. 6). 10 Things to Know About Images in Web Design. Section 1. [Online]. Available: <https://usabilla.com/blog/10-things-to-know-about-images-in-web-design/>
- [3] Idler, S. CX Insights, (2012, Sep. 6). 10 Things to Know About Images in Web Design. Section 2. [Online]. Available: <https://usabilla.com/blog/10-things-to-know-about-images-in-web-design/>
- [4] Rosendahl-Kreitman, K. (1990). The challenge of interface design: creating a quality experience for the user. In Multimedia [user] interface design (p 1.7). Santa Clara, CA: Multimedia Computing Corporation.
- [5] Norman, D. (1988, Jun. 13). The Psychology of Everyday Things. Page 9. Basic Books. New York USA.
- [6] Bottles image, (2021, Mar. 2). [Online] Available: <https://www.shutterstock.com/editor/image/glass-bottles-realistic-3d-set-isolated-374135695>
- [7] QR Code. (2021, Mar. 2). Created by Derek Carvell using Chrome Browser.
- [8] Blackwell, A. (2011). Visual Representation. [Online] Available: <https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/visual-representation>
- [9] World Wide Web Consortium (W3C). (No date). Accessibility. [Online]. Available: <https://www.w3.org/standards/webdesign/accessibility>
- [10] Children's Hospital Boston, (2009, May 4). Human Brain Can Recognize Objects Much Faster Than Some Have Thought. ScienceDaily. [Online] Available: www.sciencedaily.com/releases/2009/04/090429132231.htm
- [11] Nielsen, J. (1994b). Heuristic evaluation. In Nielsen, J., and Mack, R.L. (Eds.), Usability Inspection Methods, John Wiley & Sons, New York, NY.
- [12] Nielsen, J. (2009, Dec. 6). Short-Term Memory and Web Usability. [Online] Available: <https://www.nngroup.com/articles/short-term-memory-and-web-usability/>
- [13] Finch, Song, Tanaka-Ishii, Sumita (2013). Speaking Louder Than Words with Pictures Across Languages. Association for the Advancement of Artificial Intelligence. [Online] Available: <https://www.aaai.org/ojs/index.php/aimagazine/article/download/2471/2365>
- [14] Gibson, J.J. (1986) The ecological approach to visual perception. USA: Erlbaum.
- [15] NHS. (2019. Apr. 1). Colour vision deficiency (colour blindness), Types and symptoms of colour vision deficiency. [Online]. Available: <https://www.nhs.uk/conditions/colour-vision-deficiency/>
- [16] Berkun, S. (2000). Fitts's UI Law Applied to the Web. Microsoft. [Online] Available: [https://docs.microsoft.com/en-us/previous-versions/ms993291\(v=msdn.10\)](https://docs.microsoft.com/en-us/previous-versions/ms993291(v=msdn.10))

[17] 3D Recycle Logo by ccPixs.com is licensed with CC BY 2.0.

Campus Images. UWTSd. [Online]. Available: <https://remotepc.uwtsd.ac.uk/Campuses>

Wine Bottles by Bayhaus is licensed with CC BY 2.0.

Newspapers B&W (1) by NS Newsflash is licensed with CC BY 2.0.

Discarded clothing by Garret Fick is licensed with CC BY-SA 2.0.

Fruit containers and baskets, #1 PET plastic (2012. Jun.) Department of Environmental Protection Recycling is licensed under CC BY 2.0

Metal Tins & Tin Cans by CraftyGoat is licensed with CC BY-NC 2.0.

Battery Recycling by Moria is licensed with CC BY 2.0.

Google Maps and Street View images. Google. [Online]. Available: <https://www.google.co.uk/maps/>

Appendix A

User 1

A work colleague, a former student in halls, was asked to use the fictional scenario of wanting to recycle cardboard boxes following his arrival at student residence. Link to SU Recycling page was provided.

Real feedback received from work colleague on 24 February 2021:

"So, using an example, I'm a new student and want to know where to recycle stuff. I'm also new to your webpage which is my resource to find out where to go.

When I first look at the page there's little information on where to go. I can read it is student union office and other places but how do I get there? Also, there's a lot of white screen and spaced out information, what might that look like on a mobile phone, lots of scrolling?

Could the content on the page be condensed? Could a list of topics be featured at the top of the page, click the topic and it navigates you to the detail. Could the location be a link that will pop up something in google maps?"

User 2

Real feedback received from UWTSD Day Release work colleague 5 on March 2021:

"For me I know I can recycle cardboard in the green recycling bags but its a student union page, do younger students know? Perhaps a small breakdown of everyday items, such as cardboard, paper etc that can be recycled in the bags the student union offers?"

"I can't see anything about where the SU's are"

"Lets face it as an adult who tries to recycle every week, i'm still not 100% sure what items can be recycled or not, so images could help"

The information provided above has been used to draft a Task Analysis that has been shared with the users for the confirmation of my findings.

Appendix B

Paper Prototype Review Feedback from Lowrie Proctor

Designer of prototype - Derek Wayne Carvell (2012800)

Feedback was provided in relation to the usability features of an improved recycling information page paper prototype, viewed on a mobile device.

Both positive and constructive criticism is observed and recorded below.

Positive qualities

The recycling logo instantly provides a recognisable image, making it clear to users what the content is regarding.

Reflecting on affordance I consider the application includes positive affordance features, evidence of this includes the 3D affect shadowing when a campus is selected and the use of buttons to continue to next stages. These features provide strong cues to the user and I consider the user would know what to do just by looking.

The use of the scroll bar to show a user where they are on the page is effective in navigation and orientation, also providing the user with an indication of the amount of content on the page. A user will recognise the need to scroll down for further options. Similarly, this is supported by including a small preview of the next image to reaffirm to the user there are more items to view.

In addition to effective perceived affordance clear written instructions are provided to the user. Whilst many users will utilise their inductive reasoning, due to many of the functions and commands being those that users will be familiar with through other programmes i.e., click and swipe, some new users may not be familiar and therefore these written instructions are useful and will assist in avoiding errors and confusion.

Considerations

Whilst the use of the 'traffic light' green and red colours in choosing the items to be recycled is valuable and an effective use of this metaphor, I question if it is necessary to show the user in colour both the options they choose and don't choose. I fear through showing all options in different colours it may overburden the user and should the list become extensive could impact their short-term memory and orientation. Consideration to how this would appear to vision/colour impaired users is also a deliberation; it is however noted the author has included an accompanying 'Tick' and 'Cross'. As an alternative only showing in green those items selected may be an option to consider.

It is noted that the right-hand lower button on the device will utilise the back function, It may be a consideration to also include the Recycling Logo as a home page icon/reference that would be visible on all screens should the user wish to start again/return home without having the need to go back through all stages.

Appendix C

Paper Prototype Review Feedback from Ewan Richards

Feedback Below

Below is the feedback for student 2012800 for their paper prototype.

Positive Comments

The visuals stand out on the prototype, such as the images of the different campuses, the items that can be recycled such as clothing and electrical and the 360-degree image of location which will enable to give the relevant points of reference.

The traffic light system is of good use as it gives an indication of what page has been selected. A green colour would be shown for the chosen section and all the other sections would be in red as these parts have not been chosen.

It had been recognised that people who have colour impairments may not be able to see the red and green colours, so ticks / crosses have been implemented onto the design to aid users who have those disabilities. A tick would represent that the section had been selected with crosses on all the other parts which have not been chosen.

The back button on the phone had been clearly labelled, making navigating easier as the user would not be required to locate the back button on the browser.

Google Maps is a good idea, making scalable images of what the location looks like and it gives the directions to the campus specified.

Constructive Comments

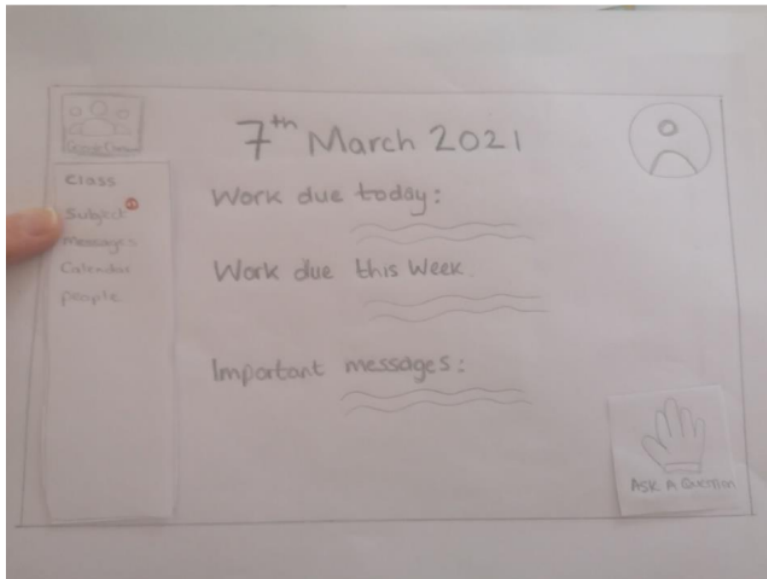
The constructive comments for this prototype would be that possibly have a list of directions or landmarks on the website for those who either do not have access to Google Maps or do not feel comfortable having their location services on to give them directions to the specified campus. Also, a search bar or list of items of what can or cannot be recycled could be implemented so that students would know what they can take to the campus recycling points.

Appendix D

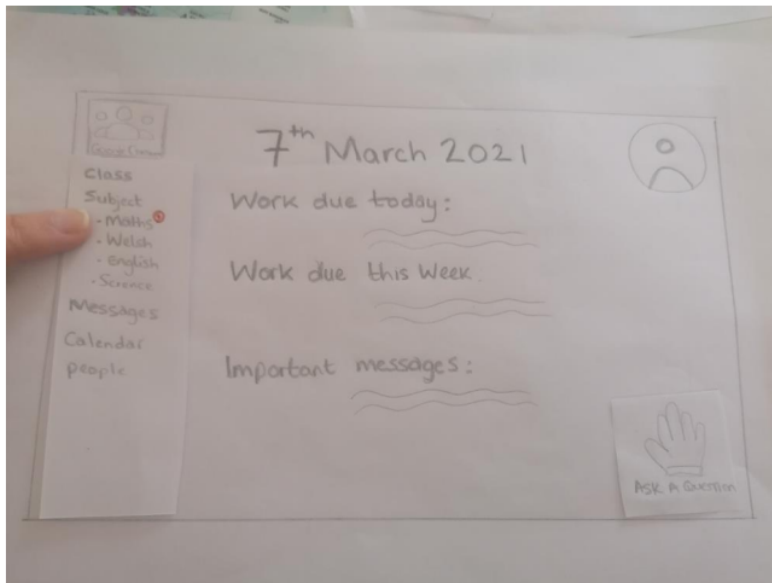
Lowrie Proctor's Paper Prototype

Google Classroom Paper Prototype

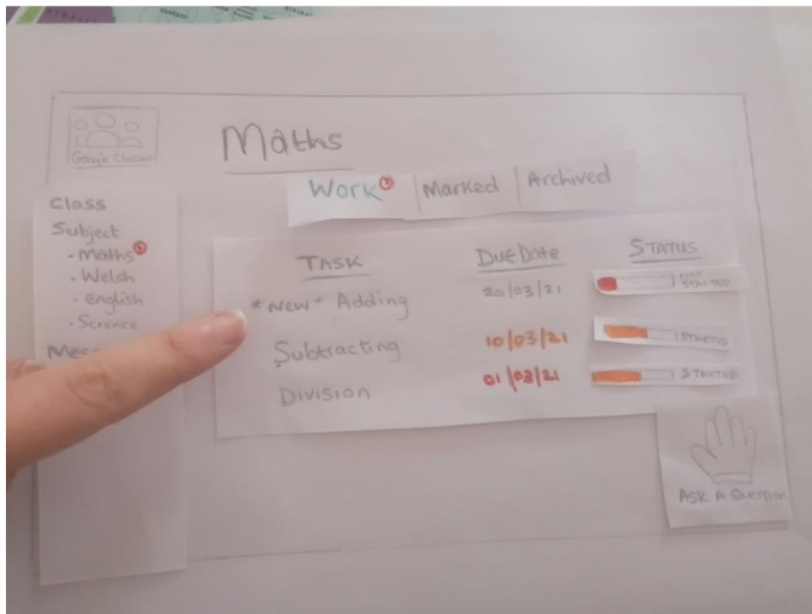
Landing/Home page



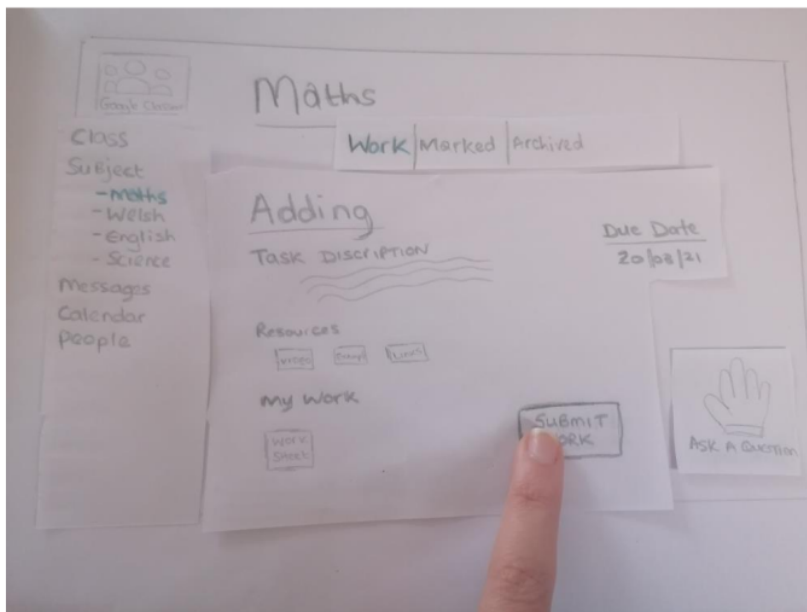
Opening the 'Subject' option from the left menu to identify location of notification.



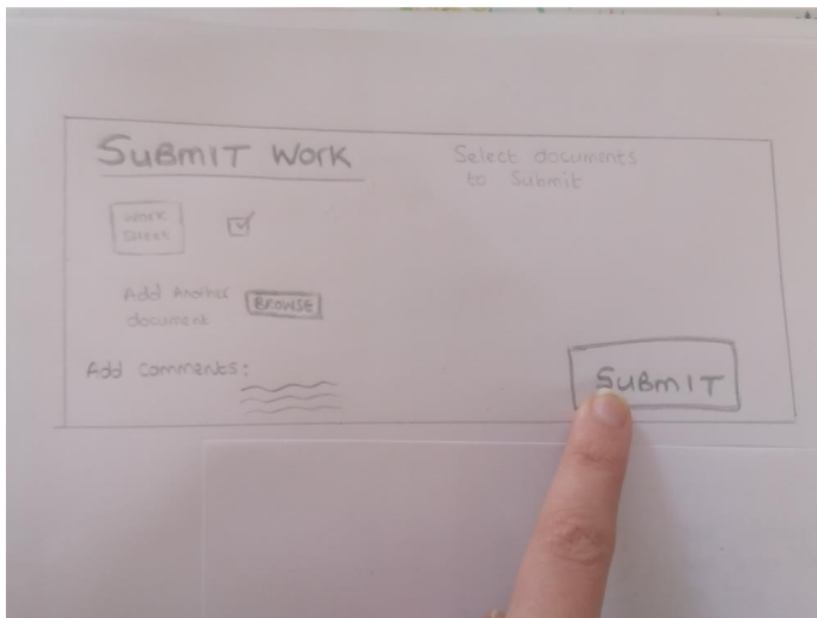
After selecting the 'Maths' subject – navigates to the 'Maths' dashboard.



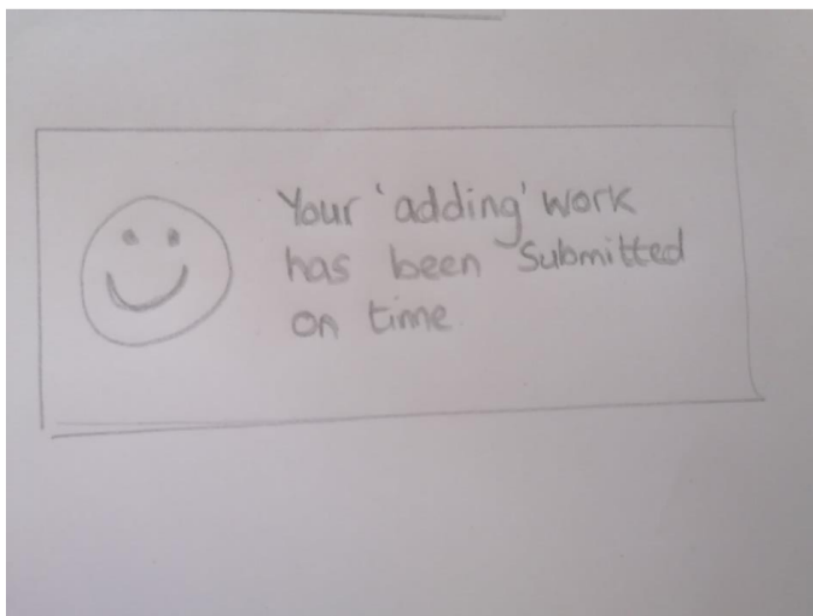
Selecting the new 'Adding' work to see further information and navigate to the work page.



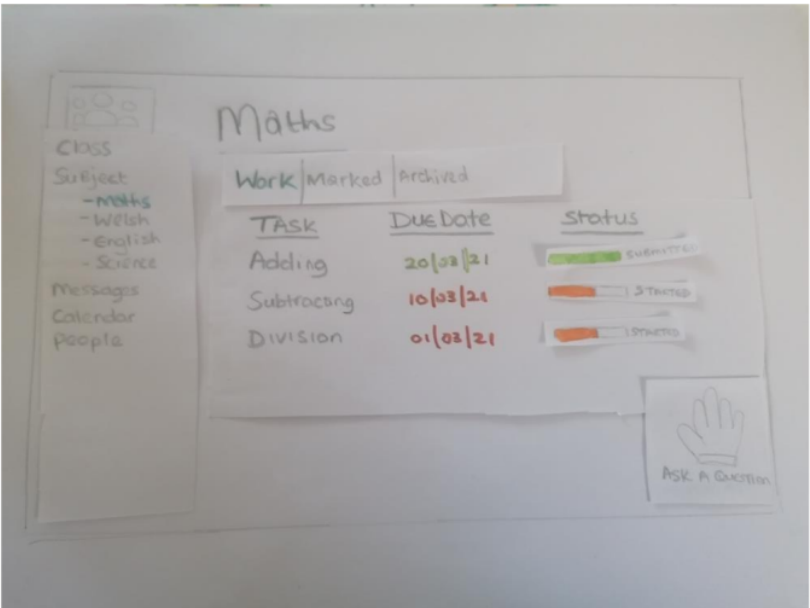
Selecting the Submit button will open new 'Submit Work' section



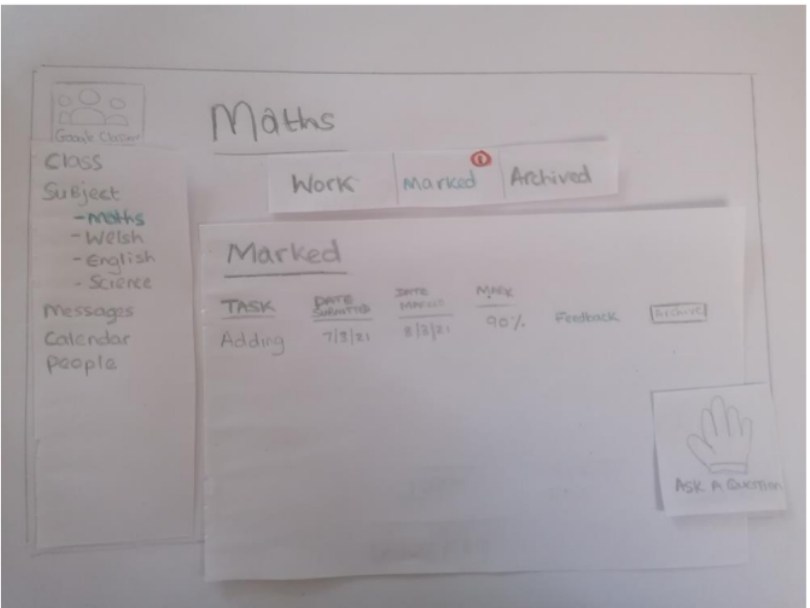
Confirmation received once submitted successfully.



Returns to 'Maths' dashboard once submitted, and status has changed.



Once work has been marked a new notification can be seen, below illustrates the 'Marked' page.



Appendix E

Feedback for Ewan Richards

My review was of Ewan James Richards (1802187) paper prototype and took place on 11 March 2021.

Positive Feedback

The prototype outlined several ideas to re-organise and declutter content on the Moodle landing and TurnItIn pages. This included categorising lecture content, providing enlarged “Return To Modules” (back) buttons, aligning content to a more vertical outline facilitating better screen layout and improved scrolling. These suggestions are all valid and would improve system navigation and usability.

The removal of non-essential text, changes to text emphasis and colours to assist users with colour impairment. These would prove helpful to the visual representation of the system to the user.

Introduction of “are you sure?” logout screen before killing user session. This would be a “nice to have” to prevent user inadvertently logging out.

Constructive Feedback

The paper prototype was difficult to follow. A walkthrough was required to understand what the paper prototype purpose was. Ewan agreed with this point and acknowledged that the prototype could have been drawn better to improve communication.

Further emphasis could be given to the prototype’s affordance through use of scroll bars, and button shadows to indicate they can be pressed.

One final thought that occurred to me, in terms of Human Memory, Moodle does tend to move/mix up the modules each time the landing page opens (I find this quite frustrating). Ensuring that these remain statically placed, for every page load, would improve navigation and memory of their location.

Paper prototype below.

Ewan Richards' Paper Prototype

Page Prototype (p) Home Page

The image shows six hand-drawn sketches of a mobile application interface, likely for a course management system. The sketches are arranged in a grid-like fashion, with each sketch representing a different screen or feature.

- Top Left Sketch (Login Page):** Features a header with "Username" and "Password" labels. Below these are input fields. A "Login" button is centered at the bottom.
- Top Right Sketch (Mobile Page):** Features a header with "Home", "Return to Module", and "Account" labels. Below these is a table with two columns: "Course Module Name" and "Description".
- Middle Left Sketch (Turnitin Page):** Features a header with "Home", "Return to Module", and "Account" labels. Below these is a table with two columns: "Assignment Submission" and "Submission Received".
- Middle Right Sketch (File Submission Page):** Features a header with "Home", "Return to Module", and "Account" labels. Below these is a form with fields for "File to Submit" and "Submit".
- Bottom Left Sketch (File Upload Page):** Features a header with "Home", "Return to Module", and "Account" labels. Below these is a form with fields for "File to Upload" and "Submit".
- Bottom Right Sketch (Logout Page):** Features a header with "Home", "Return to Module", and "Account" labels. Below these is a form with fields for "Logout" and "Logout".

Students will have the option to log in. If there is a choice of different pages to go to, it will be the same as the other pages. If the student wants to view their modules, this is the interface. They could also use the creator window as an alternative. Successful module creation. There would be a 'Submit' button for submissions. This final screen and the submission button should appear.

Students click on file chooser & a box opens to insert and submit it. A file explorer window will then appear. Once they choose a document, they give it a name - it can be submitted and a message must be received by the submission. They can see the receipt (it should be as long as the document submitted). If they decide to (long and message appears and student must click 'Close').

Assignment 1.

GRADEMARK REPORT

FINAL GRADE

76/100

GENERAL COMMENTS

Instructor

Introduction:

A good choice of an example to improve with screenshots presented and a good range of areas of Usability theory applied, with references. A point on academic English: try to avoid using I and me and instead use the passive voice: "the resource was evaluated".

Task Analysis:

Thoughtful application of Task Analysis questions. One question where more detail could have been provided is the first one where users' characteristics - age, tech experience, knowledge of recycling' and so on could have been considered. Also our Estates staff who collect waste and recycling could be seen as users.

Paper Prototype:

An excellent paper prototype, with good analysis of the user tasks is presented. This brings your proposed solution to life well.

Human Factors:

Very good research, discussion and use of examples is demonstrated here. Metaphors are correctly identified, how could you ensure they are used effectively?

Review of another paper prototype:

Good application of theory to give helpful comments and constructive feedback here.

Software prototype: Excellent use of Adobe XD to create a realistic prototype. The use of photos makes this attractive and easy to use. An effective evaluation of Adobe XD.

Evaluation: (fine to use I here)

A thoughtful evaluation of techniques used with examples given. An evaluation of the prototypes created could have been included.

Overall effective application and analysis of usability techniques with the tow prototypes especially good. Well done!

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