



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

Examination Answer Books

12 Pages

Instructions to Candidates

1. Please give the information requested in the boxes below.
2. Enter your name in the space provided to the right, fold over and seal down (using the label provided) to hide your name.
3. The answers must be legibly written. The Examiners can either ignore illegible script or have it typed and the expense of typing charged to the candidate.
4. Write your answers in ink.
5. Begin each answer on a fresh page. Do all rough work in the answer book and cross it through.
6. No part of this book is to be torn out; it must be handed in complete.
7. If more books than one are used, fasten them together using the tags available from the invigilator(s).
8. Every book must be handed in. In no circumstances may answer books, used or unused, be taken out of the examination venue.

Complete, fold and seal
(see note 2 below)

SURNAME: Buller

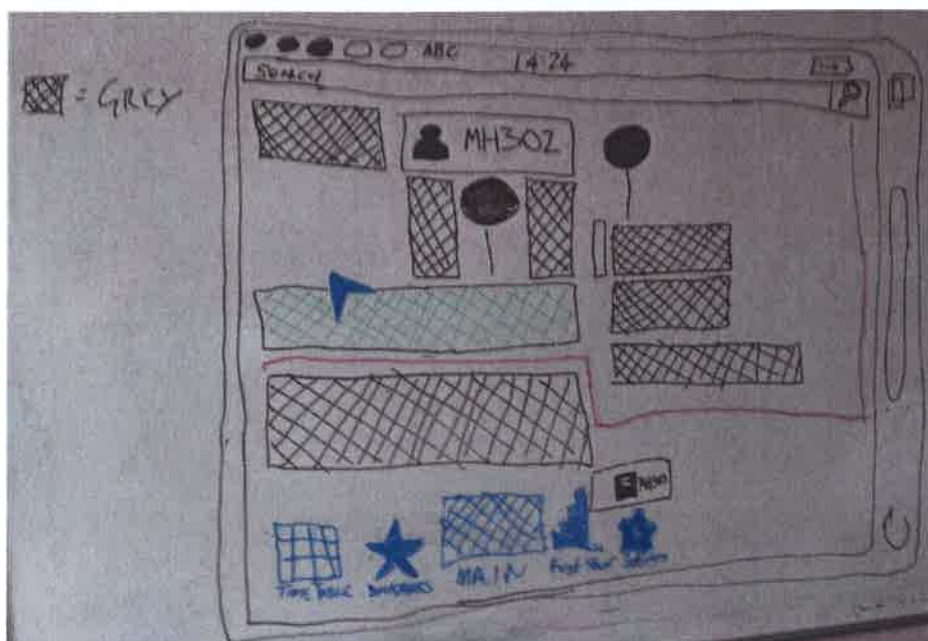
FORENAME(S): Nathan Lee

1	Student Number	P132632
2	Title of Examination Paper	Usability Engineering
3	Module Code	mbx01110
4	Date and Time of Examination	18-5-18 12pm
5	Examination Venue	MH305
6	Seat Number	—
7	Number of Answer Books handed in	

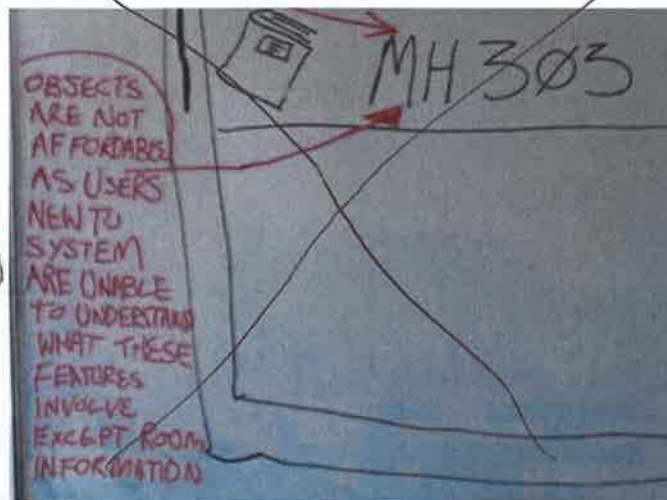
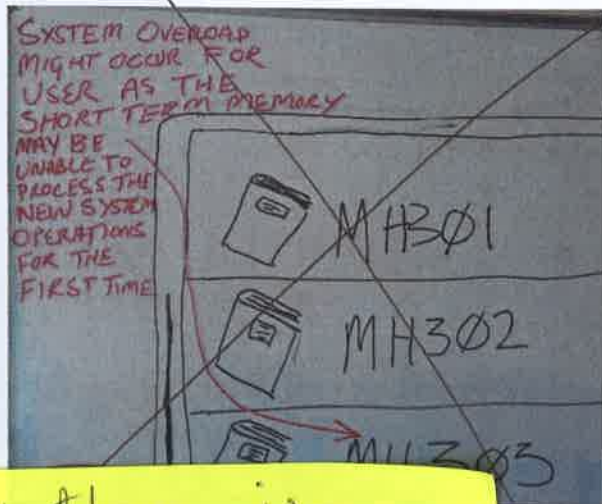
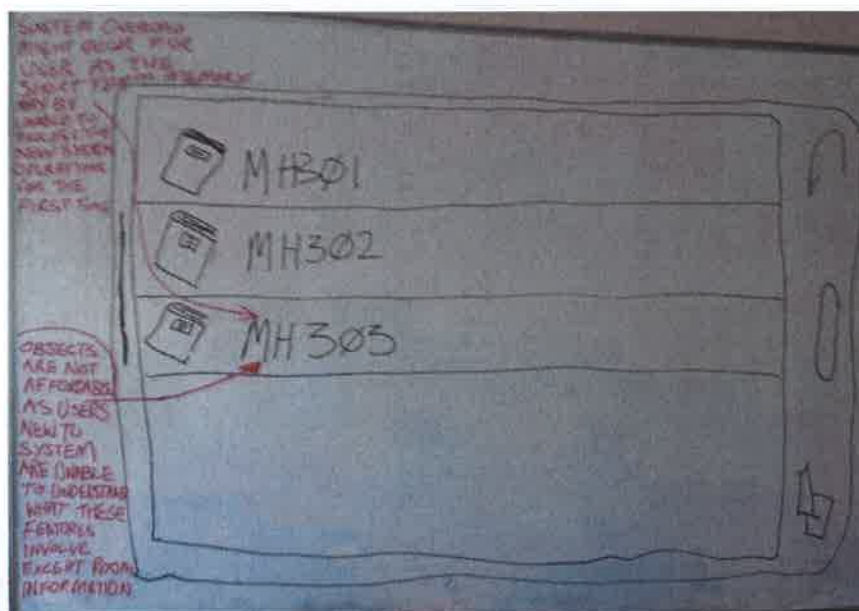
List the numbers of the questions you have attempted	Office Use
Q3a	6
Q3b	5 11
Q2a	12
Q2b	1 13
Q1a	9
Q1b	5
Q1c	3 17
Total	41/75

55%
55%

1



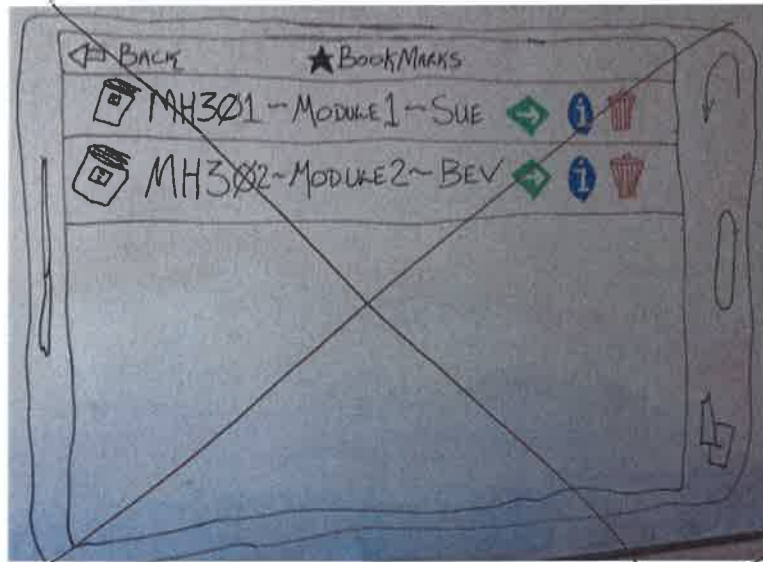
2



Nathaniel is quadruplegic so these were done with a note taker on whiteboard

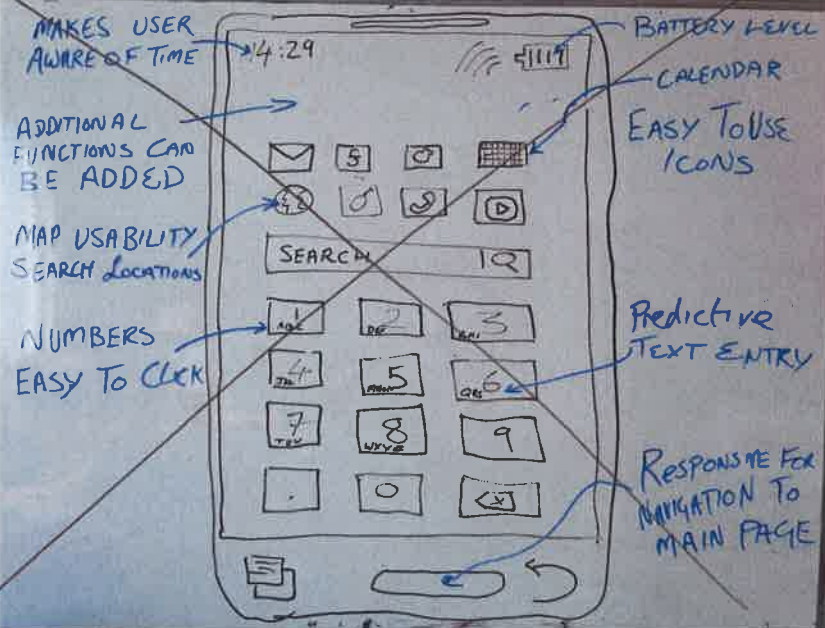
Not used

Not Used

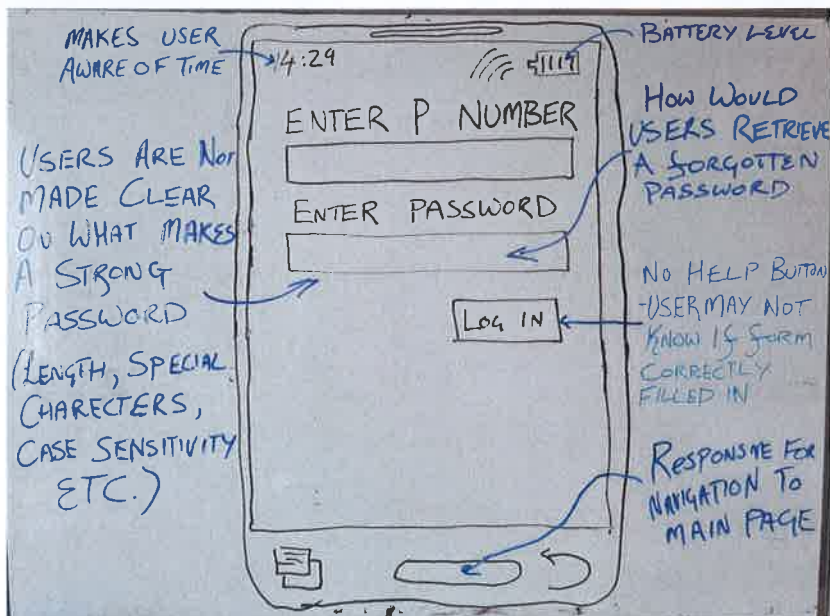


Not Used

3



4



Question Three

Q3a) ~~There are many~~

There are many different types of usability guidelines people can approach when designing a mobile interface. The first approach a user can go by ~~the~~ is using Ben Shneiderman's tactics. The way he approaches mobile accessibility is by using eight rules of interface design which involves consistency use of buttons and screens in the same position. He also suggests having shortcuts that allow the user to quickly carry out the tasks of the mobile application. (Ben Shneiderman PP, 2)

Other accessibility guidelines that can be applied are map usability, this works by having a interpretation of a geographical location, so that users can clearly identify how they can travel from one location to another without the need of struggling to find an area. This helps for the university students because they can easily plan how to navigate to their lectures by planning the specific route they wish to take that is quieter to travel, plus it helps the student to make their lectures on time.

The sketches that apply the guidelines are the home page of the mobile app, as it has familiarity of objects on the screen. Also, the bookmarks contains menus in the same area as the homepage to make it easier for the users to work the app.

Some good points
- interface features
discussed, could be more
specific.

Q3b). To make a successful mobile application java script can be used to allow content that will be ~~an~~ easily controlled when operating usability features. This java script action relates to Tim Berners-Lee's guideline on web accessibility which means that all users including those with ~~a~~ a disability can control applications with ease, so that objects are more responsive to whoever uses the app.

W3 Schools also suggests that, Cascading style sheets is ~~important~~ ^{important}, ~~as the style~~ because users with colour blindness issues might have difficulty with seeing certain colours on different backgrounds. (W3 schools, AP, 4)

This is because of how the retina cones detect colour in certain backgrounds and lighting conditions, and it results to people being more detective to darker than lighter colours. (W3 schools, AP, 4)

Good, brief answer, refers to suitable resources, (transcription should say WBC!) and hand read as such

Question two

Q2 a) Many options can be taken into considerations when evaluating a mobile application. To start, users ^{tend to} go through ~~tend to~~ ~~receive~~ a requirement specification, which works by, the application designers wanting to know what exactly the users would want the mobile app to offer.

Further on this stage, developers can then design the application in rough by drawing diagrams and sketches to show users if the proposed design is appropriate for

what they are looking for. It goes through these ~~4~~ phases consecutively so that it is easier for the software developers to rectify in the earlier stages rather than later on correcting the application.

After designing the sketches and if users are happy with the design, then developers can move on to the implementation stage. ^{The implementation stage} ~~which~~ usually involves coding the software that is reliable and valid for users to test in the testing stage.

When testing, users can either be checking the software by ~~releasing~~ releasing the software in Beta phase meaning that only a few users will test the mobile application at the time. Alternatively, the mobile app can be released publicly for a trial period to see how satisfied students and lecturers are with using this ~~mobile~~ product around the ~~campus~~ university campus.

If everything is successful in the testing stage, developers can then write a review of the product, this will determine whether the app is suitable to release again in the near future or if further alterations need to be made before the public release.

Task analysis, story-boarding, ^{and flow diagrams} can also be used for evaluating mobile applications. They essentially work by breaking down large problems with your application into

Smaller problems, so that an application can be created more efficiently. For instance, the overall task could be creating a ~~mobile~~ mobile app to allow students to get to lectures on time. In a new campus, the subset problems ~~could~~ ^{might} be create map for showing users different ways to get to the lecture. Also, Flow diagrams could have a decision diamond that asks the user which location should I take, therefore, it gives ~~users~~ ^{students} a choice of the easiest route they can decide for getting to the campus or lecture.

*Good outline of evaluation in the lifecycle
could discuss more evaluation & explanation of lifecycle!*

Q2 b) Maths examples can be used for involving user intervention by ~~using~~ ^{creating} route planners. This particularly helps with planning a journey as student can see the more congested routes and to know how many miles it would take to travel from one lecture to another. Also, students can check overcrowding in rural parts near the lecture to know if there are too many people in a specific area. That will allow students to change their mind if they feel that will not get to the lecture on time.

True justifying usability evaluation, not maths!

Question One

Q1 a) Usability evaluation can be applied to new applications by seeing how affordable, the different user metaphors and human vision within an application. Within the student mobile application the lecture location Finder starts by involving affordance by including objects that enable individuals to access objects involved with the app flexible. This is by there

being a help button that allows the user to know how to fill in ~~a form~~ the P number form. The application also includes a notification on how they can use the lecture room for finding correct modules that need to be travelled to on the day, so that an individual can reach all lessons on time.

The effectiveness of metaphors could possibly be improved by having more text fields for searching instead of clicking map locations, however metaphors are easy to use by the flexibility of the object located in the same position for the entire mobile application.

Human memory has also been contained for the proposed application as the process is similar on each application page except for the format being slightly different. For example on the bookmarks page only part of the page contains the room names but does not have much affordance.

This is because it does not notify the user what ~~exactly~~ exactly the bookmark's page should do apart from knowing what lectures users have previously visited if their a first time user. See ~~diagram~~ sketch one ~~and~~ 1, 2.

(Attached screenshots included) Effective design & application in metaphors & affordance.

Q1b) Developing timelines are essential when applying different stages of development as they give the users a clear indication to the developers how successful a project will be depending on a stage that the application is on. To start the timeline process sketch 4 demonstrates human memory by the ability to enter their P numbers along with password. If on successful completion of entering details, human

Vision is preformed by the users able to visualize this process by being able to repeat the task again even if the prototype had changed ~~layout~~ layout of the prototype in the future. Human memory is also used for if sketches 1st and 2nd change layout because sometimes the environment can change despite the application showing the format of the map being different to the campus environment. Affordance can also link in the later part of the ~~the~~ application ~~stages~~ ~~stages~~ stages because if the bookmark room changes, the application will also need modifying to help students reach the correct lecture room.

Good review of techniques in project

Q1 c) Usability techniques are essential for the company and software developers to create, as the time spent on rectifying code can be more time consuming if code is uncorrectly ~~is created~~ created and the processes may be ~~be~~ more difficult for anyone to use. Usability techniques are also beneficial to the application, as this is due to the amount of people who will choose to use the application might decrease without applying usability techniques. Also, familiarity of using the objects involved with the application will be a ~~an~~ unrecognisable to the developers as well as the students, by being in the unknown of how to test the application in a more effective way. See sketches 1, 2nd and 4 to show how important applying usability techniques are.

Good justification.