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Abstract

This document provides in an insight into the context of the requirement capture and analysis I did to design the prototypes for NUnite.

UI & UX Design NUNITE

Requirements Capture

# NUnite Application UI & UX

## Context

I have created a multitude of prototypes using Adobe XD for the NUnite application and the administrators panel for this project. These were completed so that the front-end developer and administrator for the NUnite application could use as a reference to implement for their parts of the project. In addition, the back-end developer and database admin used this design as reference for their parts of the project too. The whole point of this sub-system was to act as the center point of the project to built off and be used by all members as reference to understand what they need to specifically do to complete their sub-systems too. As a group, we would discuss the design requirements but individually, I would implement these requirements through my own research and knowledge of UI/UX design.

I managed to create multiple versions of each prototype using Adobe XD, starting from an initial version and developing throughout, ending in a final design that meets the requirements of the project. These files should be view from the initial version (NUnite Prototype I) to the end version (NUnite Prototype II) to see how the prototype developed (same for the admin panel). These developments were based off group discussions and design requirements as they developed throughout the project.

The user evaluations (cognitive walkthrough and heuristic evaluation) are based upon the NUnite application only because the administrators panel would only be used by the admin and was designed based on his requirements. The data collected from these user evaluations would be used for future development of the application

## Requirement Capture & Analysis

For the UI (User Interface) of this application, I was wanted to capture what requirements for further development I needed from the users (students). This would allow me understand how effective the design of the application was by gaining feedback from users. With this feedback, I would then be able to improve the design of the interface using the feedback as a guide for reference in the redesigns. By doing this, I am ensuring that I’m designing the interface based on the users’ needs a requirement, incorporating a UCD (User Centered Design) process. A UCD is a process where the user is involved throughout all phases of the project. Using this process ensures that the interface design is satisfactory to the users’ requirements and accustomed to them rather than being a generic interface design.

One of the user-evaluation techniques I used was the McCarthy and Wright’s cognitive walkthrough framework. This frame allowed me to explore and understand the threads that affect a user’s experience when interacting with an interface. These are the sensual, emotional and compositional threads. With these threads, I was able to consider how the user felt throughout their journey with the interface, their emotions and their behaviour. This was to understand the overall cognition of the user when running through the interface.

The cognitive walkthrough defined the goals the user wished to achieve such as signing into the application or using the messaging system. With these goals, a set of steps were created in order for the user to achieve these goals. From these steps, the user would then provide qualitative data on the three threads which would allow me to analyse their cognition and experience when running through the task.

### Cognitive Walkthrough

For the walkthrough, users will rate statements on a scale of one to 6 (one meaning they strongly disagree and six meaning they strongly agree) on whether they agree or disagree with a statement.

### Heuristic Evaluation

The additional user-evaluation technique I used was a heuristic evaluation which examines the interface and decides whether the interface design has followed recognised usability principles (heuristics) or not. This involved collecting and analysing qualitative data on the users’ opinions and comments on the good and bad points of the interface. By using Jakob Nielsons ten general principles for interaction design, I would be able to distinguish whether the design of the interface has followed well established practises that are effective or not. This provides a deeper understanding of the users’ thoughts through their voiced opinions and comments whereas a cognitive walkthrough is limited to the score it has been given. By using these methods together, I can gain a further insight into any existing problems with the interfaces design and be sure to rectify them using the data as reference.

#### Cognitive Analysis – Participant 1

Overall, whilst performing the task, the user had a good experience with the application as they displayed positive reactions and were able to complete the task and achieve their goal as set out to (seen in the Appendix under ‘Cognitive Walkthrough – ‘Participant 1’). However, there were a few things that were mentioned which revolve around style, colour and layout. The style and colour of the application seemed to appear to be too similar to the NU application that already exists. I designed it similar to this application because of the familiarity and authenticity to the university it brought which the user would recognise. Due to this, I may have “overused” some features from the NU app that have caused these slight issues with the design of the application such as the colour. Perhaps by implementing a new colour scheme and use a different style of layout, the application would appear to be more original and overcome this issue as a future development.

In addition, the layout of the options was apparently grouped together too much, displaying too much information at once (specifically once the user opened a post and saw the information underneath). To rectify this, I could implement drop-down features where users would tap on a word like “price” which would then show that information once it has been tapped. This would reduce the amount of default information shown at once as well as enable the user to have more control of how much information they can see at once. By making these changes, the users’ cognition could be improved thus, improving the overall UI and UX factor of the interfaces design for NUnite.

#### Heuristic Analysis – Participant 1

From the comments and opinions set out by the user (seen in the Appendix under ‘Heuristic Evaluations’ – ‘Participant 1’) , it seems that overall, the application seems to follow heuristic practises that have been set out by organisations. It also follows the general principles of UI design thus being an effective design. Even so, there were a few comments the user made that could be considered for the future when redesigning the application. These revolve around small design adjustments such as implementing a colour once tapped on the navigational bar when the user is on a specific page is required. Furthermore, reducing the amount of the information presented at once was another issue that arose which could be mitigated through the use of drop-down features as mentioned previously. In addition, shortcuts to posts could be added which is a feature I would consider to add because the user shouldn’t have to go through a strenuous process to reach the same goal, if there is a shorter way to do it, it becomes more efficient and improves the overall user experience and UI design. Also adding help documents into the design should be a consideration because it is one of the principles of design I did not consider and if a user needed additional help, they should be able to access documentation that helps them rather than going straight to the administrator for help. The admin would be overwhelmed with the amount of enquires if this was the case and by implementing help documents, one could prevent this from occurring.

#### Cognitive Analysis – Participant 2

Participant two seemed to have an overall enjoyable experienced (seen in the Appendix under ‘Cognitive Walkthroughs – ‘Participant 2’). They appreciated the design of the interface was very minimalistic and simple to follow. The data collected shows that the designed was effective due to using UCD process. If I didn’t use this method, the design of the application could have been unappealing and not meeting design requirements by the user. However, because the design revolved around the user, collecting information from what the user wants from the application, what their familiar with etc., I was able to process this data into an effective design that made it possible for the user to achieve their goal. This can be seen in the Appendix under Cognitive Walkthrough. This can be seen in the Appendix under Cognitive Walkthrough.

In contrast, the participant made a few points that were worth considering such as boring style and too much information on the post page. This was also mentioned by participant one where the information on the posts was too much and should be less because they lose interest when there is too much to read. I could perhaps overcome this problem by implementing the drop-down feature as mentioned previously. This would limit the amount of information shown to the user at once. In addition, the style of the interface was boring similarly to how participant one felt too. This is because of the consistency of the layout, colour and overall theme of the application. Perhaps to overcome this, one could suggest implementing a new colour theme that uses brighter colours as well as changing layout so its not similar to other applications.

#### Heuristic Analysis – Participant 2

As you can see (in the Appendix under ‘Heuristic Evaluations’ – ‘Participant 2’), the majority of heuristic principles were followed and were proven to be effective based on participant two’s data. They supported the design of the application overall apart on a few accounts which involved style of design, help/documentation and user control/freedom. Aesthetically, the colours did not appeal to the user just like participant one which is definitely an area of improvement along with the style of design. Perhaps by implementing a more dynamic alternative to colour choice and layout would implement a unique and authentic look to the application as suggested from participants one’s data to help overcome this. In addition, help documentation is mandatory in the future design of the application considering it is one of the main design principles to consider. By implementing help documentation, one can access help when needed without needing to contact the administrator and relying on one source of help. Lastly, an emergency option to exit should be available somewhere on the application, even if the design sis highly effective at preventing errors, there may still be a chance a user needs to emergency exit that page. With these improvements, it would ensure that all ten principles were followed correctly and appropriately to support to overall experience of the user.

#### Cognitive Analysis – Participant 3

Participant three seemed to be the participant that had the most negative experience out of all three participants as their cognitive load was much higher than the others in the Appendix under ‘Cognitive Walkthroughs – ‘Participant 3’). From the data collected, this was due to a multitude of problems consisting of colour scheme and feedback available. Clearly there is a need to change the colour scheme in future development of the design for the application. In addition, feedback is required so that the user knows what they’re doing within the design I.E., prompts if they get stuck. This would ensure that the user is able to rectify any situation they fall into as well as being more and involved with the interface. This can be seen in the Appendix under Cognitive Walkthrough.

#### Heuristic Analysis – Participant 3

As you can see from participant three’s evaluation (as seen in the Appendix under ‘Heuristic Evaluations’ – ‘Participant 3’) the holistic view was overall positive. Similarly, to the other participants, there were areas for improvement such as adding shortcuts etc. However, overall, the participant was positive with their response and found the design o be very usable.

## Think Aloud Protocol

The think aloud protocol is a technique design that can be used to help understand the thought process the user undergoes when performing a set of tasks. This protocol is aimed more towards the UI factor rather the UX like how the cognitive walkthrough and heuristic evaluation are. A user is given a set of tasks to follow and they follow them but throughout the tasks, the users verbalise their thoughts on the UI. This enables designers to pinpoint the exact pressure-points that the UI has so that for future development, they can fix them based on the feedback collected. This can be seen in the Appendix under Think Aloud Protocol.

The tasks set out for the think aloud protocol was the same the tasks the participants had to undergo for the cognitive walkthrough and heuristic evaluation. This was so that all the data collected was for the same set of tasks and not for different ones otherwise the data wouldn’t relate and be for different parts of the application. There were two tasks in total:

* Task 1: Log into the application
* Task 2: View a generic post

The reason why I chose these to be the tasks was because the goal of these tasks is to view a post which is one of the main functions of NUnite. Each task will have a set of steps that are required to be performed in order to complete the task. All users will use the home page and have to log into the application which is what these tasks require a participant to do. By showing the thought process of performing these tasks from a user perspective, one can analyse the users thought process when performing the tasks and whether the design of the application has a positive impact on their behaviour or not and why. With this data, I will then combine it with the data collected from the SUS, cognitive walkthrough and heuristic evaluation to formulate a conclusion on how well the design has been implemented in terms of usability and whether there will be room for further improvements.

The think aloud protocol will measure how long it takes for a user to complete each task, how many errors occurred and their thoughts. These units of data will be measured as the following:

* Time to complete task : mm:ss (Minutes:Seconds)
* Error : unable to complete the task/step deviations
* Error Rate : how many time and error occurred
* Thoughts: qualitative comments

From the data collected (as seen in the Appendix under ‘Think Aloud Protocols’), the thoughts were mostly positive. They were able to narrow down some points UI that need improvements such as colour, feedback and cognition. The times taken to complete the tasks were overall quite quick and the participants described it as a “smooth” interaction with the design. They were all able to complete their tasks well and achieve the goal of logging in and viewing a post. Out of the three participants, only one had an error where they weren’t able to see text on the background because the contrast in colours were not strong enough. Therefore, as a future development, I would ensure the colour contrasts are a lot stronger by making text bolder or perhaps lowering the colour of the background to a grey colour which it would make text more visible. Overall, based on the times and the error rates collected, the design could be seen as successful considering there was only one error however, this is a clear need for improvement for the future designs.

## SUS

System Usability Scale is a way to measure the usability of an interface. It consists of a table that contains 10 statements in which the user will rate the statement out of 1-5. 1 meaning that the participant strongly disagrees with the statement and 5 meaning they strongly agree with it. This score will then be processed to produce an overall SUS score to show whether the UI is usable or not. This can be seen in the Appendix under SUS.

An average SUS score is sixty-eight so any SUS that has scored this value or above is considered to be above average. To work out the SUS score, for every even number given by the user, take that away from five. For every odd number, minus one from that score and once all of these numbers (for the statements) have been added up, multiply them by two-point-five. By doing this, one is left with the standard SUS score.

From the scores gathered (seen in the Appendix under ‘SUS Score’), they clearly show that on all accounts, the design was suitable to use by producing above scores. This meant that the design I implemented has worked and shows that it is a usable interface. This important to understand because it means that university students are finding it easy to use the interface because of the well implemented design. If these scores were less than sixty-eight on any account, it would show the interface is not very usable. However, there are scores for statements where improvement can be made to increase the overall SUS scores from each of the participants. Therefore, as future improvements, these are the areas where I would look into to understand what needs to be improved or not.

## Conclusion

Overall, based on the data collected from the heuristic evaluation and cognitive walkthrough, the design of the application was acceptable and appeared to be appeasing to the user. It proved to have used heuristic principles to improve the overall cognitive experience for the user when using the application. There were improvements to be made based on the data collected but were all very small changes and were nothing significant. Therefore, in the future as development, I would amend the design by implementing these corrections as provided by the user through these user evaluations tin order to produce a more effective design for NUnite.

The think aloud protocols and SUS scores collectively show that the design of the application was a success. The results from the SUS on all account were above average which showed that usability clearly wasn’t an issue from the participants point of view. In addition, the time it took for them to complete the tasks was very fast in the think aloud protocol from each member. This means that due to the usability of the applications design, users were able to achieve their goals in a timely fashion which is what a UI should do. Furthermore, the think aloud protocols only showed one error out of all participants, relating to aesthetics which can be amended in future designs very easily. Lastly, the comments made by the participants in the think aloud protocol were very positive overall and only had a few small things that effected their experience. Even though the overall experience was good for participants, the small errors, comments and points of the design where users said negative things, are all points of improvement for the future which is something I would do for the next iteration of design. However, overall, the current design of the interface deemed to be a success due to the use of effective UI and UX principles, ultimately being a good design.

# Appendix

## Cognitive Walkthroughs

### Participant 1

#### Sensual

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **What does the design and texture make us feel?** |  |  |  |  |  |  |
| **Scale** | 1 | 2 | 3 | 4 | 5 | 6 |
| Initial reactions :**look, feel** and **first impression**. |  |  |  |  | X |  |
| How **positive** do you feel about the design meeting the goals set out? |  |  |  |  | X |  |
| **Attentional** issues affecting your experience, i.e. cluttered interface, too many options? |  |  |  | X |  |  |
| Does the **physical feel** of the device in the space provide you with confidence? |  |  |  |  |  | X |
| Is it easy to work out what is going on within the **physical space** where interactions take place? |  |  |  |  |  | X |
| **Qualitative comments (i.e. observation notes):**  **Task 1: Login into the application**  **Steps: A:** Tap login  **B:** Type in existing details  **C:** Tap Login  **Task 2: View generic post**  **Steps: A:** Once on home page tap and hold to drag the screen down to generic post  **B:** Tap generic post picture  **C:** Tap and hold screen to drag down and view post information  **First Impression/ Look / Feel:**  From first impressions, the applications design seems to be really familiar which makes me feel confident when using it. The look is quite professional considering its like other major applications I have used in the past. At first looks, you can easily tell what each element is through the clever use of icons and layout and this is kept consistent throughout the interface. The only reason I didn’t rate this a six was because I feel that there is too much content to go through. I appreciate that there is a lot of information to get through but even so, it needs to be cut down because after a while, it gets overwhelming.  **Design Meeting Goals:**  The main goal I wanted to achieve was to login into the application and view a post. This was successfully achieved with ease. I was able to sign up and navigate to a post and view it without having to ask how I would do it. Furthermore, the design was so easy to follow because its simplistic look allowed me to focus on my goal more rather than having to go through option after option. This made me feel really good about the applications layout and consideration into the design principles it clearly followed. The only reason I didn’t rate this a six was because after a while the colours get boring after a while which made the experience less positive when doing this several times. I would recommend blending colours or using more colours.  **Attentional Issues Affecting Experience:**  The main attentional issue I faced was the colours of the application. I understand that this is relevant to the universities colour theme however, it becomes boring after a while. By using different and new colours, I think one could see the application as a new, authentic application for the university and not a copy of the NU app they already have.  The other issue I had was how everything was grouped together. It would have been more appealing If things were hidden within each other like an embedded list. This is so that, everything related to a specific topic is not all just thrown out there to show the user what is there as options. For example, the home pages post content was all there when you click on the post, why not put the information about each main point under drop-down menus so that it seems tidier?  **Physical Feel of Device:**  The feel of the mobile device when using the interface was comfortable and easy to use. I didn’t have to adjust my hands when holding the phone too much when running through the tasks which made me feel confident and relaxed. For example, I didn’t have to stretch my hands out to reach an option or struggle to reach anything that I needed through the design. I typically use a two-handed grip when using applications and this was perfect for that grip type therefore was a success.  **Physical Space:**  The physical space around me when using the application does not have much effect on my experience when using the application because of its easy use design. Usually, I would use this within a university setting where it can be noisy and loud with a lot of people around. However, due to the comfortable and minimalistic layout, I feel that the application is well suited for these types of contexts. I’m easily able to navigate around the digital space quickly which is something that I may need in this type of context. I may also need to access information on something like a tenancy post which is also a clear and simple task to achieve because of the UI’s navigable design. The only thing I would say is if were any shortcuts to something like viewing a tenancy post, that would be very useful because it would reduce the interaction time and improve efficiency rather than having to go through several options to do it. | | | | | | |
|  | | | | | | |

#### Emotional

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **What emotion impact and influence the experience for us?** |  |  |  |  |  |  |
| **Scale** | 1 | 2 | 3 | 4 | 5 | 6 |
| Using the device (in this physical space) **influence positive feelings** as you interact i.e. needs and desires, anger, happy, fun etc. |  |  |  |  |  | X |
| Application provides you with an **enjoyable** user experience? |  |  |  |  | X |  |
| Relaxed with the design experience |  |  |  |  |  | X |
| **Qualitative comments (i.e. observation notes):**  **Task 1: Login into the application**  **Steps: A:** Tap login  **B:** Type in existing details  **C:** Tap Login  **Task 2: View generic post**  **Steps: A:** Once on home page tap and hold to drag the screen down to generic post  **B:** Tap generic post picture  **C:** Tap and hold screen to drag down and view post information  **Physical Space:**  The physical being within a university setting, it provides me with a satisfactory experience because I’m not guessing where I need to go on the interface, I know the exact process to take and know what I need to achieve my goal. This is all because of the simplistic and “easy-to-follow” design it incorporates. This me to have a positive reaction with the interface and my experience because I don’t have these unnecessary issues that I would find in other applications. It makes me feel happy and confident when using the application as a whole because of this.  **User Experience:**  My experience was very enjoyable because as I said the layout is easy to follow, the icons make sense to follow, the functionality does what its supposed to do and the design is appropriate to the university. I would only say to make those changes to the colour and perhaps the style because its perhaps too similar to the NU app that already exists which can be boring to use after a while.  **Relaxed:**  Throughout the design, I am relaxed because I do not need to worry about the things I have mentioned like bad navigation and contextual design which I normally have to with other applications. It’s simple, sweet and easy to use which is all I need to use the application in a relaxed state. | | | | | | |

#### Compositional

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Behavioural narrative part of human experience** |  |  |  |  |  |  |
| **Scale** | 1 | 2 | 3 | 4 | 5 | 6 |
| Navigational experience |  |  |  |  |  | X |
| The systems behaviour leads to frustrating experiences | X |  |  |  |  |  |
| Easy to learn from a physical perspective. |  |  |  |  |  | X |
| Feedback level |  |  |  |  |  | X |
| Are you relaxed with the design experience |  |  |  |  |  | X |
| Are all options laid out to people, are they coherent and understandable? |  |  |  |  | X |  |
| **Qualitative comments (i.e. observation notes):**  **Task 1: Login into the application**  **Steps: A:** Tap login  **B:** Type in existing details  **C:** Tap Login  **Task 2: View generic post**  **Steps: A:** Once on home page tap and hold to drag the screen down to generic post  **B:** Tap generic post picture  **C:** Tap and hold screen to drag down and view post information  **The Navigation:**  The navigation is easy to follow and understand without needing any help to understand. The use of icons, layout and information all provide the contextual information I need to visually understand how to navigate throughout the interface.  **Frustrating Experiences:**  The system does exactly what I expect it to do but like I said, it is similar to the NU app so this could be improved by bringing more originality to it such as changing the signing up process as an example. But overall, I had an enjoyable experience and no frustrating experiences.  **Usability:**  I found it very easy to learn how to use the application because all I did was follow the instructions the application provided me with. Even within a university setting, I was able to signup very quickly and easily and view a post which did not have any negative effect on my physical space. By using intuition and logic, I was able to complete my goal, meaning the application was very usable no matter what experience you have with using it.  **Feedback:**  There are parts of the application that I know provide feedback such as email confirmation however the task I performed did not need any. If I was to say something about the feedback, rather than having a separate page for the feedback to tell the user something, I would simply have a pop-up message that provides the feedback because I feel the additional page for feedback is unnecessary. Otherwise, the feedback such as haptic and contextual information being provided was very useful.  **Relaxed Experience:**  I was overall relaxed when performing the task set out to achieve my goal.  **Options:**  All of the options made sense and were easy to understand because the effective use of labelling and functionality they provided. However, as I said, the options could use embedding so that not everything is on display because overcrowds things such as having drop-down menus for things. | | | | | | |

### Participant 2

#### Sensual

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **What the design and texture make us feel?** |  |  |  |  |  |  |
| **Scale** | 1 | 2 | 3 | 4 | 5 | 6 |
| Initial reactions :**look, feel** and **first impression**. |  |  |  |  |  | X |
| How **positive** do you feel about the design meeting the goals set out? |  |  |  |  |  | X |
| **Attentional** issues affecting your experience, i.e. cluttered interface, too many options? |  |  |  |  |  | X |
| Does the **physical feel** of the device in the space provide you with confidence? |  |  |  |  |  | X |
| Is it easy to work out what is going on within the **physical space** where interactions take place? |  |  |  |  |  | X |
| **Qualitative comments (i.e. observation notes):**  **Task 1: Login into the application**  **Steps: A:** Tap login  **B:** Type in existing details  **C:** Tap Login  **Task 2: View generic post**  **Steps: A:** Once on home page tap and hold to drag the screen down to generic post  **B:** Tap generic post picture  **C:** Tap and hold screen to drag down and view post information  **First Impression/ Look / Feel:**  First impressions are that its really professional and simple to use which makes me fell happy and excited to use the system. The combination of layout and options show me that its simple and familiar to other applications that I have used in the past.  **Design Meeting Goals:**  I needed to login and view a post for my goal which I was able to do with ease. I needed no help, the design spoke for itself so I wasn’t getting confused with anything and the steps were very logical to take to achieve my goal.  **Attentional Issues Affecting Experience:**  I had no issues with the experience or the design of the application. I thought it was well balanced and suitable for the job it is intended for.  **Physical Feel of Device:**  Using my mobile was perfect for the interface and I could even imagine it working well on desktop if that became a thing. It was like as if the interface was made perfectly for the phone, I didn’t struggle at all using it.  **Physical Space:**  Because im in university most of the time, I need an interface which is quick and efficient because this is space where im either on my feet or in a lesson so interactions are limited. The design of the app is so well that it limited these reactions and because of the easy layout, I was able to perform tasks very fast which suited my physical space. | | | | | | |

#### Emotional

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **What emotion impact and influence the experience for us?** |  |  |  |  |  |  |
| **Scale** | 1 | 2 | 3 | 4 | 5 | 6 |
| Using the device (in this physical space) **influence positive feelings** as you interact i.e. needs and desires, anger, happy, fun etc. |  |  |  |  | X |  |
| Application provides you with an **enjoyable** user experience? |  |  |  |  | X |  |
| Relaxed with the design experience |  |  |  |  |  | X |
| **Qualitative comments (i.e. observation notes):**  **Task 1: Login into the application**  **Steps: A:** Tap login  **B:** Type in existing details  **C:** Tap Login  **Task 2: View generic post**  **Steps: A:** Once on home page tap and hold to drag the screen down to generic post  **B:** Tap generic post picture  **C:** Tap and hold screen to drag down and view post information  **Physical Space:**  In this physical space, I found that the design of the interface was perfectly suited to handle quick and little interactions. However, there were some parts of the journey where there was a lot of information presented at once which I though could have been minimised by having less information. Otherwise, Ill be spending too much time on that part, reading through everything which is something I don’t want to be doing in this physical space making me feel slightly annoyed.  **User Experience:**  The app is enjoyable to use to an extent, I feel like it’s very bland throughout and could use different styles and colours in the future so that it varies and becomes it more enjoyable to use.  **Relaxed:**  The design is very relaxing because I know what im doing, its easy to use and does what its supposed to so im happy. | | | | | | |

#### Compositional

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Behavioural narrative part of human experience** |  |  |  |  |  |  |
| **Scale** | 1 | 2 | 3 | 4 | 5 | 6 |
| Navigational experience |  |  |  |  |  | X |
| The systems behaviour leads to frustrating experiences |  | X |  |  |  |  |
| Easy to learn from a physical perspective. |  |  |  |  | X |  |
| Feedback level |  |  |  |  |  | X |
| Are you relaxed with the design experience |  |  |  |  |  | X |
| Are all options laid out to people, are they coherent and understandable? |  |  |  |  |  | X |
| **Qualitative comments (i.e. observation notes):**  **Task 1: Login into the application**  **Steps: A:** Tap login  **B:** Type in existing details  **C:** Tap Login  **Task 2: View generic post**  **Steps: A:** Once on home page tap and hold to drag the screen down to generic post  **B:** Tap generic post picture  **C:** Tap and hold screen to drag down and view post information  **The Navigation:**  The navigation is really well implemented, its very hard to get lost because its so logical and simple. I know if I’ve gone to a wrong area, how to get back and continue with the right thing because of the back buttons and layout is very similar to other applications that I’ve used before.  **Frustrating Experiences:**  The only frustrating parts were that the design never changes much throughout which could be a good thing but gets a bit boring after a while and the amount of information on some of the posts. There should be less information show to users at once because it deters them from using that part of the section when information in overwhelming. Otherwise, overall experience was very good.  **Usability:**  The app was designed to suit new users and existing users very well. It was very usable because of the simplistic and logical design it followed as well as being familiar to other applications.  **Feedback:**  There wasn’t that much feedback in terms of contextual but that’s because it didn’t need it as its easy to understand. However, I would recommend some features like a tutorial section or help sections where the user can go to, to get help on things they might not understand because there will be those that don’t understand.  **Relaxed Experience:**  The design of the interface was very relaxing because I wasn’t stressed at all throughout the journey. It ran smoothly and logically.  **Options:**  All of the options were really easy to understand like the icons on the navigations bar and the text used to describe options made sense. I wouldn’t change anything there. | | | | | | |

### Participant 3

### Sensual

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **What the design and texture make us feel?** |  |  |  |  |  |  |
| **Scale** | 1 | 2 | 3 | 4 | 5 | 6 |
| Initial reactions :**look, feel** and **first impression**. |  |  |  |  | X |  |
| How **positive** do you feel about the design meeting the goals set out? |  |  |  |  |  | X |
| **Attentional** issues affecting your experience, i.e. cluttered interface, too many options? |  |  |  |  |  | X |
| Does the **physical feel** of the device in the space provide you with confidence? |  |  |  |  |  | X |
| Is it easy to work out what is going on within the **physical space** where interactions take place? |  |  |  |  |  | X |
| **Qualitative comments (i.e., observation notes):**  **Task 1: Login into the application**  **Steps: A:** Tap login  **B:** Type in existing details  **C:** Tap Login  **Task 2: View generic post**  **Steps: A:** Once on home page tap and hold to drag the screen down to generic post  **B:** Tap generic post picture  **C:** Tap and hold screen to drag down and view post information  **First Impression/ Look / Feel:**  At first, the app looked really nice and professional however it was a bit dark. Although the theme is a part of the university, its too dark and lacks contrast that makes it hard to see some text. This made me feel agitated that the contrast was lacking. Other than that, the layout and overall design was very good and effective.  **Design Meeting Goals:**  I was able to complete my goals well because the design was carefully considered, allowing the usability to be positive.  **Attentional Issues Affecting Experience:**  The only issues were the colour contrasts that affected my experience when using NUnite. Like I said, there needs to be more of a contrast. However, functionality was fine and everything did what it was supposed to do.  **Physical Feel of Device:**  My mobile device worked well with the interface and I didn’t struggle when using the device to operate on the interface.  **Physical Space:**  This design suited the university theme well so it felt like it was an application made for university students which is something I really liked. Even in noisy environments, the design accommodated by being simple and easy to use, making interactions faster and limiting errors. | | | | | | |

#### Emotional

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **What emotion impact and influence the experience for us?** |  |  |  |  |  |  |
| **Scale** | 1 | 2 | 3 | 4 | 5 | 6 |
| Using the device (in this physical space) **influence positive feelings** as you interact i.e. needs and desires, anger, happy, fun etc. |  |  |  |  |  | X |
| Application provides you with an **enjoyable** user experience? |  |  |  |  |  | X |
| Relaxed with the design experience |  |  |  |  | X |  |
| **Qualitative comments (i.e. observation notes):**  **Task 1: Login into the application**  **Steps: A:** Tap login  **B:** Type in existing details  **C:** Tap Login  **Task 2: View generic post**  **Steps: A:** Once on home page tap and hold to drag the screen down to generic post  **B:** Tap generic post picture  **C:** Tap and hold screen to drag down and view post information  **Physical Space/User Experience:**  Using this device in a university setting made me feel happy and enjoy and the experience of using the application because it felt like it was made for university and made me feel apart of a university community. This was especially, unique and really enjoyable to the experience of the journey because it was clever to keep in theme with the university and producing a communal feeling.  **Relaxed:**  The design was very good however, the colour issue affected how relaxed I was when using the UI. The functionality was really smooth which countered this but in future, the colour needs to be changed. | | | | | | |

#### Compositional

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Behavioural narrative part of human experience** |  |  |  |  |  |  |
| **Scale** | 1 | 2 | 3 | 4 | 5 | 6 |
| Navigational experience |  |  |  |  |  | X |
| The systems behaviour leads to frustrating experiences | X |  |  |  |  |  |
| Easy to learn from a physical perspective. |  |  |  |  | X |  |
| Feedback level |  |  |  | X |  |  |
| Are you relaxed with the design experience |  |  |  | X |  |  |
| Are all options laid out to people, are they coherent and understandable? |  |  |  |  |  | X |
| **Qualitative comments (i.e. observation notes):**  **Task 1: Login into the application**  **Steps: A:** Tap login  **B:** Type in existing details  **C:** Tap Login  **Task 2: View generic post**  **Steps: A:** Once on home page tap and hold to drag the screen down to generic post  **B:** Tap generic post picture  **C:** Tap and hold screen to drag down and view post information  **The Navigation:**  The navigation was well thought out because I was able to move around the interface very well without help and understood all of the elements.  **Frustrating Experiences:**  The system didn’t lead me to any frustrating experiences because it was very smooth how the design was set out and logically allowed me to follow a step-by-step process.  **Usability/Feedback:**  It is a usable application but lacks feedback such as prompts and text that tells me what I need to do if I get stuck on something. This isn’t a major issue because technically I didn’t need it with my experience but others may face problems where feedback is needed to use the application.  **Options:**  Options were relevant to the experience and were understandable. I was able the understand what I needed to do, where I needed to go and what I needed to interact with to achieve my goal using the options available. | | | | | | |

## Heuristic Evaluations

## Participant 1

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| **Visibility of system status:** Systems should inform user what is going on at all times, ensuring everything is clear at all times. |
| The overall system informed me of what was going at all times by using titles and information to tell me what is going on at all times. I think this is really good otherwise I wouldn’t know how to do things or understand what is going on throughout the system, possibly preventing me from not completing my task. I think the prompts such as the password prompts were very useful in informing me of things I may have missed, allowing me to understand the problem and knowing how to overcome it. Through the use of the titles on the pages, I know where I am throughout the system but I would add something highlights this on the navigation bar. Such as putting grey on the background on the icon when its selected or when I’m on that page so it’s easier to understand where I am within the system. |
| **Match between system and the real world: Should be on the users level, using the users language, words, phrases, concepts, use real-world conventions, follow logical orders naturally.** |
| The language used on the interface was easy to follow and understandable because its basic and simple. It doesn’t use complicated words or phrases to describe something, ensuring that I am able to use the system well. The logical order of each page makes sense such as signing up or logging in, it allows you to logging in first as an existing user and sign up as a new user. |
| **User control and freedom: Having ways out of situations like emergency exits if mistakes happen and undoing/redoing things, feedback helping the user if they have made a mistake.** |
| It is very hard to make a mistake on the application therefore I don’t think it actually needs anything like undo buttons etc. However, back buttons and the navigation bar can be used to go back when a mistake occurs which I think is very obvious and logical to do when/if a mistake ever did occur. |
| **Consistency and standards: Users should not be guessing anywhere on interface.** |
| I didn’t have to guess anything on the interface because it all made perfect sense to me. The language was basic and easy to understand and layout was simple and well organised too. |
| **Error prevention: Careful design should not allow errors to occur in the first place, being very hard to get any errors at all.** |
| The system made it very hard to do anything wrong and I was able to make any errors throughout my task. Its very error preventative and clever how the design has been used and I think its very clever and effective. |
| **Recognition rather than recall: Minimising the users need to remember things unnecessarily, overloading on memory.** |
| The design of the interface is so minimalistic and therefore does not have any cognitive overload on me what so ever. I don’t have to remember things apart from my password and username which is all I should need to remember. However, the amount of information on the posts can be a bit overwhelming so I would suggest using something where the information only appears if you clicked something. |
| **Flexibility and efficiency of use: Shortcuts that speed up interaction, tailor frequent actions and overall being efficient.** |
| The main thing I would add is a shortcut to posts which I guess you could use the search bar for but instead using like a button so that I wouldn’t need to search for the post. If I was an experienced user that just wanted to go straight to a certain category of post, surely there should be a button to allow me to do that. Otherwise, I would have to keep searching or scrolling through the interface to find the post I want. This would improve the overall efficiency of doing something like this. |
| **Aesthetic and minimalist design: Irrelevant information, unnecessary information, not too much contrasts.** |
| The design is already minimalistic and therefore and I find it aesthetically pleasing to use because of the little amount I have to read or interact with to achieve something. |
| **Help users recognize, diagnose, and recover from errors: Error messages should be used and being understandable by the user. If no errors occurred, there should be a way for users to undo things easily if they need to.** |
| There is not much need for error messages within this interface because there are not many errors a user could trigger. |
| **Help and documentation: It may be necessary to explain to the user about anything in further depth through documentation id needed.** |
| There is no need for help documents throughout the interface but even so, there is the admin that can be contacted to solve any problems that occur. A link could be put somewhere in the app incase this does happen so I users know what they can do if problems do occur. |

## Participant 2

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| **Visibility of system status: Systems should inform user what is going on at all times, ensuring everything is clear at all times.** |
| The system shows me at all stages of the journey where I was and what I needed to do throughout the experience. The titles on each page as well as clear layout, use of terminology and overall design told me what I needed to do without needing to ask which shows it was successful. |
| **Match between system and the real world: Should be on the users level, using the users language, words, phrases, concepts, use real-world conventions, follow logical orders naturally.** |
| The language used made sense because it’s exactly how I would have described the options as a user. Its logical and simple which is what every app should follow because it improves experience and handling within the system. |
| User control and freedom: Having ways out of situations like emergency exits if mistakes happen and undoing/redoing things, feedback helping the user if they have made a mistake. |
| There are not really any emergency exits apart from the navigation bar which can be used to just take you back to the main sections but it works. I would have an emergency exit option because apps just don’t really do that. Going backwards is easy because the arrows on the pages allow me to do that. So, if I make a mistake, I know to use the arrows to go back. |
| **Consistency and standards: Users should not be guessing anywhere on interface.** |
| The only thing I can to guess was how to get out of a specific situation by pressing the navigation bar if there was no back arrow so I would ensure there was a back arrow on all pages that require it. |
| **Error prevention: Careful design should not allow errors to occur in the first place, being very hard to get any errors at all.** |
| I made no errors when going through the interface therefore no error prevention was needed. If an error did occur, I could always use the back arrows or navigation bar to get out of it. |
| **Recognition rather than recall: Minimising the users need to remember things unnecessarily, overloading on memory.** |
| There was nothing that I had to remember apart from the amount of information on the posts. I would definitely cut down the amount of information shown to the user. This is to reduce the amount of information I may have to remember about a post and not deter me from viewing the post. |
| **Flexibility and efficiency of use: Shortcuts that speed up interaction, tailor frequent actions and overall being efficient.** |
| There were no shortcuts but I feel the platform doesn’t really need any because you can get to any part of the app pretty quickly through the navigation bar. If I wanted to view posts often, I could use the home option on the navigation bar to this often-which acts like the shortcut and speeds up the interaction. |
| **Aesthetic and minimalist design: Irrelevant information, unnecessary information, not too much contrasts.** |
| The design of the application is nice and simple but is a bit bland. Looking at two colour all the time becomes a bit depressing because they’re dark colours too. Therefore, I think using different colours in the design would create a fresh, new look to the application. All information was relevant and the design itself was consistent, it just needs styling up a bit. |
| **Help users recognize, diagnose, and recover from errors: Error messages should be used and being understandable by the user. If no errors occurred, there should be a way for users to undo things easily if they need to.** |
| No error messages were on which is something I would implement as a future design considering users might make them. But the design is so simple, its very hard to make any errors, if not, at all. |
| **Help and documentation: It may be necessary to explain to the user about anything in further depth through documentation id needed.** |
| There were no help options available but again, I didn’t need any help on the platform. The designer informed me that there is an option to contact the administrator if any help was required however, I think there should be a page dedicated to helping or perhaps implement a live chat feature to help out. |

## Participant 3

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| Visibility of system status: Systems should inform user what is going on at all times, ensuring everything is clear at all times. |
| I was able to distinguish where I was within the system throughout my journey because of the titles of the screens as well as the information presented on each screen. |
| **Match between system and the real world: Should be on the users’ level, using the users language, words, phrases, concepts, use real-world conventions, follow logical orders naturally.** |
| All terminology made sense to me as well as the concepts used to login and view posts. This is because this is what other applications have done so I understand it from familiarity as well as logic. |
| **User control and freedom: Having ways out of situations like emergency exits if mistakes happen and undoing/redoing things, feedback helping the user if they have made a mistake.** |
| There are no emergency exits in the design which is something to consider adding. Although I didn’t need it within my journey, there should be a way for user to exit a certain part of the system or even out of the application all together if something down go wrong because once cannot assume that everything will be fine. |
| **Consistency and standards: Users should not be guessing anywhere on interface.** |
| The only thing I can to guess was how to get out of a specific situation by pressing the navigation bar if there was no back arrow so I would ensure there was a back arrow on all pages that require it. |
| **Error prevention: Careful design should not allow errors to occur in the first place, being very hard to get any errors at all.** |
| I made no errors when going through the interface therefore no error prevention was needed. If an error did occur, I could always use the back arrows or navigation bar to get out of it. |
| **Recognition rather than recall: Minimising the users need to remember things unnecessarily, overloading on memory.** |
| There was nothing that I had to remember apart from the amount of information on the posts. I would definitely cut down the amount of information shown to the user. This is to reduce the amount of information I may have to remember about a post and not deter me from viewing the post. |
| **Flexibility and efficiency of use: Shortcuts that speed up interaction, tailor frequent actions and overall being efficient.** |
| There were no shortcuts but I feel the platform doesn’t really need any because you can get to any part of the app pretty quickly through the navigation bar. If I wanted to view posts often, I could use the home option on the navigation bar to this often-which acts like the shortcut and speeds up the interaction. |
| **Aesthetic and minimalist design: Irrelevant information, unnecessary information, not too much contrasts.** |
| The design of the application is nice and simple but is a bit bland. Looking at two colour all the time becomes a bit depressing because they’re dark colours too. Therefore, I think using different colours in the design would create a fresh, new look to the application. All information was relevant and the design itself was consistent, it just needs styling up a bit. |
| **Help users recognize, diagnose, and recover from errors: Error messages should be used and being understandable by the user. If no errors occurred, there should be a way for users to undo things easily if they need to.** |
| No error messages were on which is something I would implement as a future design considering users might make them. But the design is so simple, it’s very hard to make any errors, if not, at all. |
| **Help and documentation: It may be necessary to explain to the user about anything in further depth through documentation id needed.** |
| There were no help options available but again, I didn’t need any help on the platform. The designer informed me that there is an option to contact the administrator if any help was required however, I think there should be a page dedicated to helping or perhaps implement a live chat feature to help out. |

## Think Aloud Protocols

### Participant 1

|  |  |
| --- | --- |
| **Participant 1** | |
| Time | Task 1: 01:01  Task 2: 00:22 |
| Errors | N/A |
| Error Rate | N/A |
| Thoughts | “I was able to complete the tasks without much trouble and it was pretty easy to follow.”  “I Thought that the design was really smooth, and logical to follow.”  “The colours put me off a bit because it’s very dark, I think there should have been a light mode use different colour so that its not too dark.” |

### Participant 2

|  |  |
| --- | --- |
| **Participant 2** | |
| Time | Task 1: 01:43  Task 02:21 |
| Errors | Couldn’t see the name of the post to tell which one was a generic post. |
| Error Rate | 1 |
| Thoughts | “I thought that the amount of information on the page was too much, it made feel confused sometimes when looking at the post.”  “I thought the overall experience was really pleasant because it did what it was supposed to and it was a simple process so I could complete it quickly.” |

### Participant 3

|  |  |
| --- | --- |
| **Participant 3** | |
| Time | Task 1: 01:23  Task 02:06 |
| Errors | N/A |
| Error Rate | N/A |
| Thoughts | “The overall experience, was really good because the design was simple, familiar and functional to be able to achieve my goal.”  “The UI doesn’t really communicate that well to me because the feedback is kind of lacking but otherwise it was a really good experience.” |

## SUS Score

### Participation 1

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Participant 1** | | | | | | |
| Statement | 1 | 2 | 3 | 4 | 5 | SUS Score | |
| I think that I would like to use the NUnite Platform frequently. |  |  |  |  | X | 75 | |
| I found the NUnite unnecessarily complex. |  |  | X |  |  |
| I thought the NUnite was easy to use. |  |  |  |  | X |
| I think that I would need the support of an experienced user to be able to use NUnite. |  |  | X |  |  |
| I found various functions in the NUnite were well integrated (I.E. tools working well together) |  |  |  |  | X |
| I thought there was too much inconsistency in the NUnite. |  |  | X |  |  |
| I would imagine that most people would lean to use the NUnite very quickly. |  |  |  | X |  |
| I found the NUnite very awkward to use. |  |  | X |  |  |
| I felt very confident using the NUnite. |  |  |  |  | X |
| I needed to learn a lot of things before I could get going with the NUnite. |  |  | X |  |  |

### Participate 2

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Participant 2** | | | | | | |
| Statement | 1 | 2 | 3 | 4 | 5 | SUS Score | |
| I think that I would like to use the NUnite Platform frequently. |  |  |  |  | X | 70 | |
| I found the NUnite unnecessarily complex. | X |  |  |  |  |
| I thought the NUnite was easy to use. |  |  |  |  | X |
| I think that I would need the support of an experienced user to be able to use NUnite. |  |  | X |  |  |
| I found various functions in the NUnite were well integrated (I.E. tools working well together) |  |  |  |  | X |
| I thought there was too much inconsistency in the NUnite. |  |  | X |  |  |
| I would imagine that most people would lean to use the NUnite very quickly. |  |  |  | X |  |
| I found the NUnite very awkward to use. |  |  | X |  |  |
| I felt very confident using the NUnite. |  |  |  |  | X |
| I needed to learn a lot of things before I could get going with the NUnite. |  |  | X |  |  |

### Participate 3

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Statement Number | Statement | 1 | 2 | 3 | 4 | 5 | SUS Score |
| 1. | I think that I would like to use the NUnite Platform frequently. |  |  |  |  | X | 70 |
| 2. | I found the NUnite unnecessarily complex. |  |  | X |  |  |
| 3. | I thought the NUnite was easy to use. |  |  |  |  | X |
| 4. | I think that I would need the support of an experienced user to be able to use NUnite. |  |  | X |  |  |
| 5. | I found various functions in the NUnite were well integrated (I.E. tools working well together) |  |  |  |  | X |
| 6. | I thought there was too much inconsistency in the NUnite. |  |  | X |  |  |
| 7. | I would imagine that most people would lean to use the NUnite very quickly. |  |  |  | X |  |
| 8. | I found the NUnite very awkward to use. |  |  | X |  |  |
| 9. | I felt very confident using the NUnite. |  |  |  |  | X |
| 10. | I needed to learn a lot of things before I could get going with the NUnite. | X |  |  |  |  |