**Final reflection after second sprint & refined design**

**Market research – honeycomb model and flow diagram**

To begin the refined design phase of the project, the group did market research by creating flow diagrams for the ‘add task’ feature on an existing application. Jakob’s law is a UX design theory that users spend most of their time on other sites. This means that users prefer a site which works the same way as others they have already learned to use. I wanted to look at an existing site to understand how Jakob’s law could be used to improve our design, by discovering what features users might be familiar with already, or any areas that might cause frustration for the user. I discovered in the Habitica app, the interface used familiar navigation features, with the menu on the left side and buttons along the bottom of the screen to switch to different functions. This felt very intuitive to use and made navigation easy. However, when I wanted to add tags for a task that I was adding so that it could easily be found later, I discovered that I must create the tag before going to the ‘create task’ screen. This was a frustrating user experience, as I did not know this before creating my first task, and the ‘create tags’ feature is hidden within the ‘filter tasks’ screen. Our personas created in the initial design were studying university courses where multiple modules would be running concurrently, and it is likely that they would want to categorise study sessions to differentiate sessions for each module. I tried to address this pain point in the final designs by implementing the ‘category’ input in the create task page. I will continue to use market research and Jakob’s law as invaluable resources in understanding the users needs, pinpointing areas of familiar, intuitive design that provide the user with confidence when first learning the app and areas that I feel would need to be improved for my own design.

**Designs**

In the design phase of the project, I incorporated UX design theory into the design to try to create the best user experience. In the initial design sprint, questionnaire results indicated that users would prefer a weekly calendar view. This was a challenge, as when coming up with designs for a weekly calendar the interface was cluttered and overwhelming. Hick’s law suggests that the time it takes to make a decision increases with the number and complexity of choices. I wanted to provide the user with the option of reducing the number and complexity of choices, to reduce their cognitive load and improve the flow of using the app. I tried to find a balance in my designs by creating the weekly view as the initial landing page, so the user could see the week ahead immediately, but also adding the option for the user to expand and view their schedule in a daily view, where they can focus on one day in more detail. I believe that by finding this balance between the two options, it is less overwhelming for the user and improves their experience using the app.  
During market research we identified that it was a pain point for some users that they were required to set the time and date of a study session while they were setting up the notes and checklist, which is also something that one of our users indicated in the initial sprint. Cognitive load theory suggests that designers should minimize cognitive load by breaking tasks into smaller steps, avoiding unnecessary information, and offering helpful cues, so we attempted to solve this problem by adding the option to create ‘unassigned’ tasks and checklists, which could then be assigned to a specific time and date after the initial creation of the task. The results of the user questionnaire showed that users were happy to have both options, even if they were likely to use one more frequently than the other. I will continue to use this theory when designing future projects, as in this case it prompted a small change in the design that could have a big impact for certain users, especially those who are stressed, who may have decision fatigue, or are using the app on the go. When designing the placement of icons buttons in the app, I considered Fitt’s law. Fitts's law states that the time to move to a target depends on how big it is and on how far away it is. I wanted this time to be as short as possible, to provide a smooth experience for the user. In my designs I created one view on the app with only one option to show the menu and create a task, and another which offered the users larger button options to view the menu and add a new task at both the top and bottom of the screen, so that they could be close to each of these options wherever their eyes were on the screen. Initially, I was concerned that the duplicate options might take up too much of the screen. The response to this design element was proved in our user questionnaire, in which users greatly preferred the option of the calendar view that contained two options to navigate through the app, i.e. the hamburger menu and the icon menu at the bottom of the screen, and the option to create a new task at the top right and the bottom middle of the screen. One of the users also provided feedback that we should increase the size of one of the icons. When designing the app I was very focused on symmetry, making things look neat and organised, as I believed this would have a positive impact on user response to the visuals. However, making an icon larger could be used draw more attention for a key element. I will continue to consider the effects of Fitt’s law, as our results and feedback confirmed that our users believed it would provide a better user experience. In future projects, or to build on this project, I would like to perform usability tests with a usable prototype of the app which would measure users’ reaction times and ability to complete the full set of tasks without prompts, to understand if the users intuition on a static app design and implementation of features according to Fitt’s law remains true when using a functioning design. I spent time researching accessibility and the importance of colours for app design. I discovered that it is difficult to find a balance between wanting to create a visually pleasing app and one that is accessible for all users. Initially it seemed like a simple solution to use different colours to accent certain things that are important. For example, based on market research for apps in the initial design phase, users wanted to be able to colour code their study sessions, or the apps would use colours to draw the user’s eye to key functions, but some users might not be able to rely on this. I used a colour blindness simulator and a contrast checker to look at the detailed wireframe designs and the final coloured designs and see how they would look to users with different types of colour blindness. I subsequently adapted my proposed colour scheme to ensure it met Web Content Accessibility Guidelines. In future projects, I will continue to implement and research further on other accessibility features that can be added to design, particularly using tools that enable me to visualise how other users might see the app. Being able to visualise the designs clearly from a different point of view was extremely helpful here as it allowed me to see immediately how frustrating it would be to come across these problems while using an app. This made me more empathetic to these users and enabled me to confirm that my changes were beneficial.

**Questionnaire**

For the questionnaire I had created detailed wireframe designs for similar screens but with slightly different design choices. For example, we had designs with serif or sans serif font, dual or single menu options, or square or rounded edge input text boxes, and asked which options they preferred. This system was very helpful to understand what areas of the design we had gotten right, and what areas might need more work. I had created a coloured version of the design to visualise how the accessibility research I had undertaken on use of colour and the colour scheme that I had adapted would look for the real app. On seeing the two versions, most of the group wanted to use the coloured designs for the questionnaire. This is possibly due to the Aesthetic-Usability Effect, which states that users often perceive aesthetically pleasing designs as more usable. We used the full coloured designs for the questionnaire, but I believe that this choice was a mistake. Most of the open comment feedback that we received in the questionnaire responses was about the colour scheme. This was useful and constructive feedback, as we were able to determine that it might be beneficial to provide either a range of preset colour scheme options or full colour customisation, as colour preferences can be very personal. However, at this stage of the design, it would have been more beneficial to understand user thoughts without the distraction of a specific colour scheme, to ensure that the wireframe design alone was a strong foundation for a good user experience, without the aid of specific colours to highlight features, for example the add task button, or the day headers. As a user for other groups, I noticed that in their questionnaires, choosing between two wireframe designs without the distraction of colour and focusing on one small element at a time, e.g. different styles for an icon, enabled me to give better feedback on the design itself. In future projects, I would prefer to use this technique, as I believe it would provide clearer results. I would initially provide only wireframe designs and perhaps include questions on colour preferences at the end of the questionnaire. In this way, I would be able to process feedback on design features, and user colour preferences individually, and eliminate the risk of using colour as a crutch for understanding design features, as well as the risk of colour preference distracting the user from giving true results.   
The questionnaire was very useful for finding out immediately whether something in the design is working for users or not. In future professional projects, clear feedback from users after each sprint would reduce risk of wasting resources by continuing with something that might not be quite right, so it would be even more crucial to receive frequent feedback on design decisions.

**Experience as a user**

During the initial sprint I was reluctant to fill out open comment inputs as I wasn’t confident that my opinions would be useful for the other groups. However, after adding open comment inputs in our group questionnaire we found that this type of feedback from our users was very useful. For example, one user explained that they don’t like to plan their study sessions in depth for a specific time, so they would like a ‘drag and drop’ feature implemented to slot in their planned session closer to the time, or to reschedule if they needed to. We implemented this feature in our refined app design as we felt it was a good solution to a common problem. I was grateful for this feedback from this user, and it gave me more confidence to fill out the open comment boxes for this sprint. For example, I was able to explain to one group that although their strikethrough design was a clearer way of representing a completed task, it was more important to me to be able to read the completed task after marking it off, than having it marked off clearly. I believe that this reflection on our own group results has led to me being a better user, as I have had time to process what I valued in our user responses. I realised that taking time to put my thoughts into words also led to deeper thought about my preferences as a user, and on some occasions, I changed my original answers after something new occurred to me. Going forward, when filling out questionnaires for others, I hope to continue to have confidence in my own opinions and remember that this type of feedback can provide crucial insights that might not have occurred to the designers.   
The open comment inputs that we had in the initial design questionnaire provided excellent feedback from those who replied, but only a small percentage of people used this feature for feedback in the refined design questionnaire. As a user for one group, they worded the questions in a way that would allow them to understand why the user was choosing a certain option, for example providing the prompt ‘the feature for adding a diner to the list is easily discoverable’ where the user must select which option was their preference. In future work, I believe that it would be better to prompt the users in this way, with answers which indicate why they answered the way they did. It would take the load off the user, as it removes the need for having to think about how to word their comment and any worry that they may have about being too negative, and would enable me as the designer to understand my users better, and so design a product to better fit their needs.

**Experience as a member of a group project:**  Due to pressure from other modules, group members had less time and energy to work on the refined design. It was difficult during the refined design period to schedule meetings and make decisions. This highlighted to me the importance of properly resourcing a project in the future, planning specific deadlines at the beginning of a project, and assigning tasks well in advance. I also learned the importance of having time to think about designs and process steps correctly. We created our questionnaire immediately after looking at app designs and it was difficult to decide on what we wanted to find out from our users without processing it properly first. I also believe it would have been more productive to have short meetings over several days rather than trying to achieve many different things in one long meeting. We had a four and a half hour meeting with no breaks and high tensions, which could have been avoided if we had reflected on the designs individually in advance of the meeting. If I am managing a project in the future, I will try to take proper planning into account, to benefit the wellbeing of members of the team and the quality of work overall, which will in turn create a better experience for our users.

**Reflection**

I’ve found it very useful to write these reflective pieces at the end of each sprint during this project. It would be easy to move on to the next project, without considering what went well and what could have been improved. The act of writing the reflective piece has encouraged deeper thought about how the process went and the decisions I made along the way. I believe that this practice of regular reflection could become an indispensable tool for tracking my personal growth over time. By documenting what I have learned at regular intervals, this will also reduce the likelihood of repeating mistakes and enable me to have confidence in decision making.