Concept

Bored of the same dull family walks lockdown has forced you on? Add some adventure to them with middle earth journeys.

Middle Earth Journeys allows you to follow in the footsteps of J. R. R. Tolkien's middle earth hero's, providing a fun and engaging way to get fit.

A diehard Tolkien fan, a novice to the series or a fitness fanatic looking for a new challenge? With in-depth information about hundreds of middle earth landmarks, a range of distance difficulties and fully integrated GPS tracking, this app provides something for you. Running, Cycling or simply strolling around town, turn your phone into a gateway to Middle Earth with Middle Earth Journeys.

Adventure Selection

Choose from a wide range of middle earth quests and difficulties which will motivate you to get fit and teach you more about the world of Arda. quests include….

- The Quest Of The Ring - Join the Fellowship Of The Ring in their quest across Middle Earth to save the Age Of Men.
- The Quest Of Erebor - Travel with Thorin Oakenshield and his band of merry dwarves to help reclaim the lonely mountain from the vicious dragon Smaug.

Dynamic Tracking

Track your quest progress through both the real world and the land of Middle Earth with our two engaging map modes

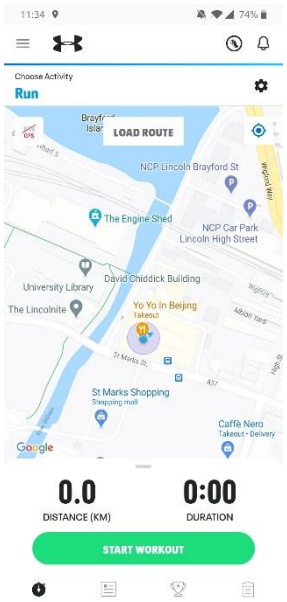
- Virtual Map – Track your quests progress through middle earth, see which landmarks you have discovered and preview your journey ahead into this fantasy world.
- Real Map – GPS Tracking monitors your distance and location to highlight your route and provide you with up-to-date performance metrics to help you smash your goals.

Quest Partitioning

Allows you to tackle each quest at your own pace, cycle 5 miles at the weekend or walk 100m to the shop after work - with Quest Partitioning you pause and resume a quest any time allowing you to complete them your way.

Competitors

MapMyRun



MapMyRun is a running and fitness app which allows you to track your performance whilst undertaking a vast array of exercises. It provides a map to help visualise your route and a large array of performance metrics such as time elapsed, distance covered and your pace. In terms of general functionality there are many advantages to the app, it is simple and quick to get started with and key information is presented to the user directly on the home page in large, bold text. As well as this the route tracker feature provides an excellent way of mapping your route and the log section allows you to quickly compare times and statistics across previous workouts.
However, all of this comes with the price of it looking extremely professional and formal. It is an app that is built by runners, for runners. This is great if you are a motivated runner or someone who has been running for a long time, however new users may find the app hard to engage with. There are few exciting features that may help to motivate less inclined runners. This is something that is a key part of my app, Middle Earth Journeys. By presenting exercise in a more fun and interesting way with 'Quests', it helps to engage with users who may not be motivated to run. Seasoned runners who want to run a quest but also track their performance are catered for as well as they can use the apps real-world map feature.
The user interface of MapMyRun is simple and clean, it is easy to see what is where with the hidden burger menu and bottom bar navigation. However, this simplicity does have another side to it, blandness. With a very minimalistic colour palette, and few images, the app feels uninviting and dull. With pictures, graphics and a more varied colour scheme, Middle Earth Journeys will immerse the user in the Tolkien's world.
Overall, there is a few key things that MapMyRun has shown me which help with the development of my application. The combination of a burger menu and a bottom bar menu for 'hotlinks' is a great combination for app navigation. The start button needs to be big, bold, and easy to find. I also now have a better understanding of which performance metrics to measure in my app. However, I am going to make sure my application is not as bland as MapMyRun - Simplicity is nice for an app that is purely about running, but to motivate non-runners I need something more exciting and interesting.

Journeys In Middle Earth

Journeys In Middle Earth is the companion app for the adventure board game of the same name. The board game allows users to embark in a co-operative adventure across middle earth, battling enemies and exploring the dynamic landscapes of Arda. There are multiple adventures and difficulties to choose from with dedicated colourful, dynamic maps and the overall world map which tracks your location in middle earth is a brilliant addition. Where the app is lacking is in its ability to teach and inform the user about Middle Earth. The app creates a rich and varied story, however, locations in Middle Earth are introduced with little to no background. This also makes it hard for new fans of Tolkien, who do not know as much about the world, to get fully invested. My app's 'landmark' feature adds this extra learning element that informs and enlightens users.
The app has a thematic interface with the appropriate colours, images, and graphics for an exciting adventure game. The music fits well with the setting and the menus all work seamlessly. However, I would say that some of the descriptive text and buttons are far too small, meaning the app is almost unusable for those with poor eyesight. This is something I will look to avoid with my app, I want to

make sure it is accessible to as many people as possible with large text and clear buttons.
The main thing I learnt from this app is the correct type of colours, fonts and graphics that are needed to make a Middle Earth game feel realistic and authentic. Images need to be used to help guide the user as much as text does. My application will use a similar aesthetic but will scale it up to make it more readable and will separate large blocks of text into chunks to make information more inviting.

Requirements

Persona

Alex is a 20-year-old computer science student, who lives in university halls with five other flat mates. He is a huge movie fan, and his favourite films are the lord of the rings trilogy with him owning all of the collector's editions. He has not read any of the books and only knows what happens in the main trilogy, however he has a large thirst for knowledge and really wants to learn about the history behind Tolkien's world. Alex has been going on weekly runs to keep fit since lockdown started and uses his phone to track his progress. He quite often finds it hard to get motivated for a run as he finds it very boring and thinks he could be spending his time doing more interesting things.

Scenario

After waking up in the morning Alex likes to have breakfast whilst watching lord of the rings videos about various locations in Middle Earth to help expand his knowledge. After breakfast Alex gets ready for his run, grabs his phone, and heads out the door. He tracks his progress on his phone to see how far he has run and what speed he is going, this lets him know when he needs to turn back and if he is going to beat his personal best. When he gets a new personal best, Alex uses his exercise app to see where he has run so he can screenshot it and send it to his flatmates, letting them know about his achievement.

When Alex runs, he likes to use a map of middle earth to imagine he is questing across the fictional realm as one of Tolkien's legendary heroes. He finds this more interesting than focussing 100% on running. Some days he is Aragon running across the plains of Gondor to save Merry and Pippin and other days he cycles to university imagining himself as Gandalf riding Shadowfax, lord of all horses.

Alex sometimes uses his exercise app just to track his daily movement even if he is not specifically going for a run. Today he turned it on at the start of a day and then after going to university, doing some shopping, and catching up with some friends he turned it off and checked his distance travelled. By doing this Alex feels better about not running everyday as he can see that even on normal days, he is still very active.

User Stories

Core Features/Requirements

- As a University student living on my own who finds exercise boring, I want an interactive activity that makes exercise fun so I can get fit whilst I am on my own
- As an avid lord of the rings fan stuck at home during lockdown, I want to be able to explore places in Middle Earth so I can expand my knowledge further whilst lockdown is ongoing.
- As the leader of a Live Action Roleplaying Society looking for ideas for our next monthly activity, I want to be able to act out one of Tolkien's quests' as one of his many heroes so I can encourage other Middle Earth fans to join us.

Enhancement Features/Requirements

- As a fitness fanatic, when running outside I want a big goal to work towards so I can feel a huge sense of accomplishment whilst I'm running

Prototyping

Five Planes of User Experience

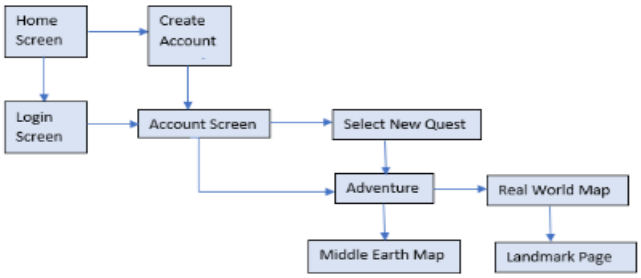
Strategy

App which allows users to virtually explore parts of middle earth by running or walking in the real world. Users can select one of the famous middle earth quests, plus a difficulty level, and travel that distance in the real world, learning more about middle earth as they get fit. For example, when the user walks over 10 miles in 'The quest for the ring' they will 'find' the landmark Weathertop and be shown all the info about it. Users will be assigned one of a large array of legendary heroes when they start the app for the first time. While a quest is active, the app tracks where the user has been in the real world whilst also recording their performance metrics.

Scope

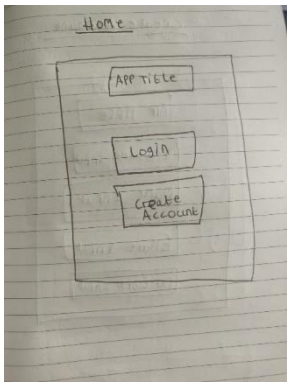
- Create Account
  - Randomly Selected A Hero
- Select Quest
  - Select Difficulty
    - Hobbit – 1 real world mile equals 20 middle earth miles
    - Man – 1 real world mile equals 10 middle earth miles
    - Balrog – 1 real world mile equals 1 middle earth miles
- Begin Adventure
- Track progress in virtual world
  - Show users location on middle earth map
  - Show information regarding key landmarks when they reach them in the virtual world - Information will be in the form of text, videos, and images
    - Send Notification when user reaches landmark/milestone
- Pause Adventure
- Track progress in real world
  - Show where the user has been during this section on a real-world map
  - See performance metrics of the section and entire adventure so far
    - Miles/Km's covered
    - Pace for last Km/Mile
    - Average pace for Km/Mile's covered
- Complete Adventure
  - Show adventure statistics

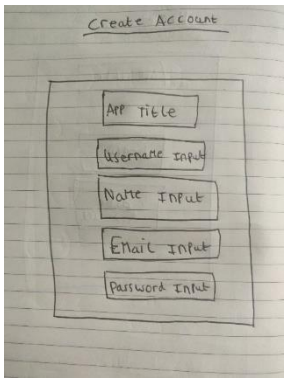
Structure

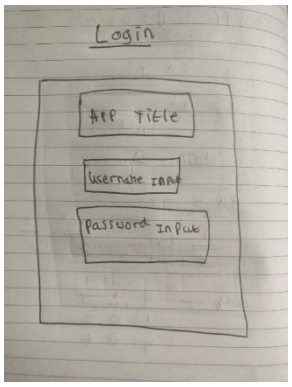


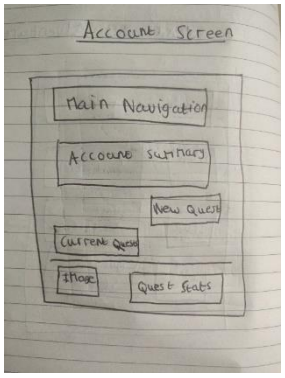
The home screen is the landing page that users first get directed to when opening the app. They can either sign up or login. Once signed in they are directed to their account screen which acts as a gateway to all other pages. The two map versions are viewable from the current adventure page as they tie directly into that quest. The landmark page then appears when the user discovers a new landmark on the real-world map. This is so users know where in the real world they found a landmark.

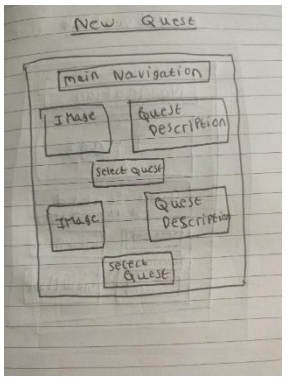
Skeleton

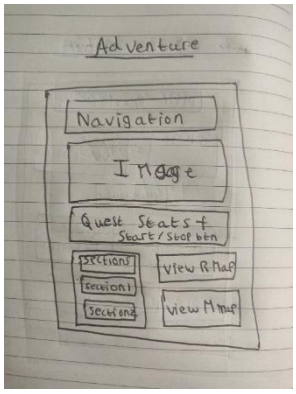


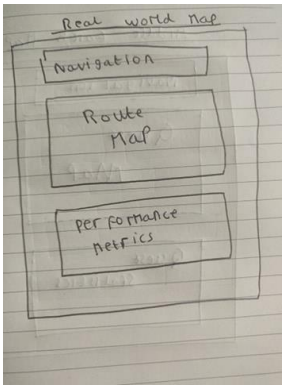


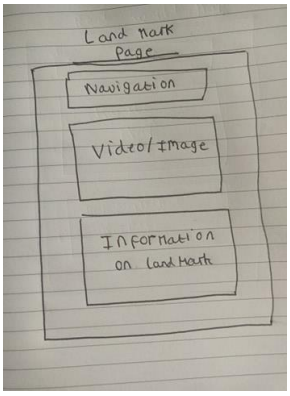






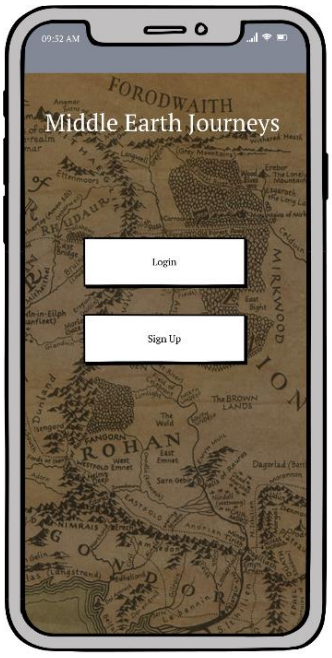




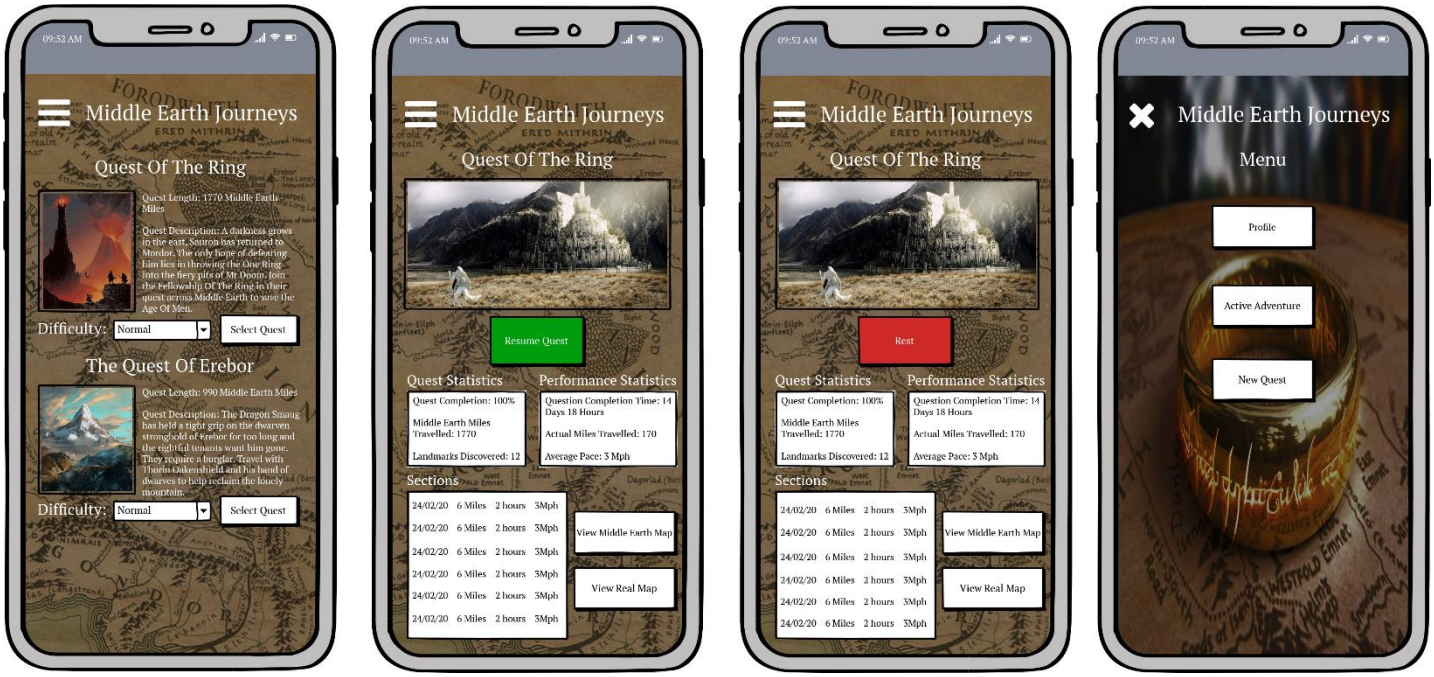


Surface

Using the five planes strategy I was able to plan the features described in the requirements section and visualise them using wireframing. Each key feature has its own dedicated page. I chose to sketch the skeleton as it allowed me to create the design quickly and easily make any required changes. The final surface prototype, seen below, was then be built on top of this skeleton using Balsamiq wireframe tools. 11 pages were created in total with a full login and account system to correctly show individual user's statistics and quests. Due to my research into other apps, I settled for a burger menu for navigation due to its standardisation among users and its simplistic design.



The ‘adventure’ page has two wireframes (as seen in the middle of the below image), one for when the quest is started and one for when it is paused. The only difference between the wireframes is the colour of the button resume/rest button. This help to quickly show the user if they are currently on a quest or not. The adventure page itself acts a summary of all the information regarding that quest. Further breakdown of performance metrics and landmarks etc can be found in the respective maps. This helps to break up information making it more understandable and manageable to read.

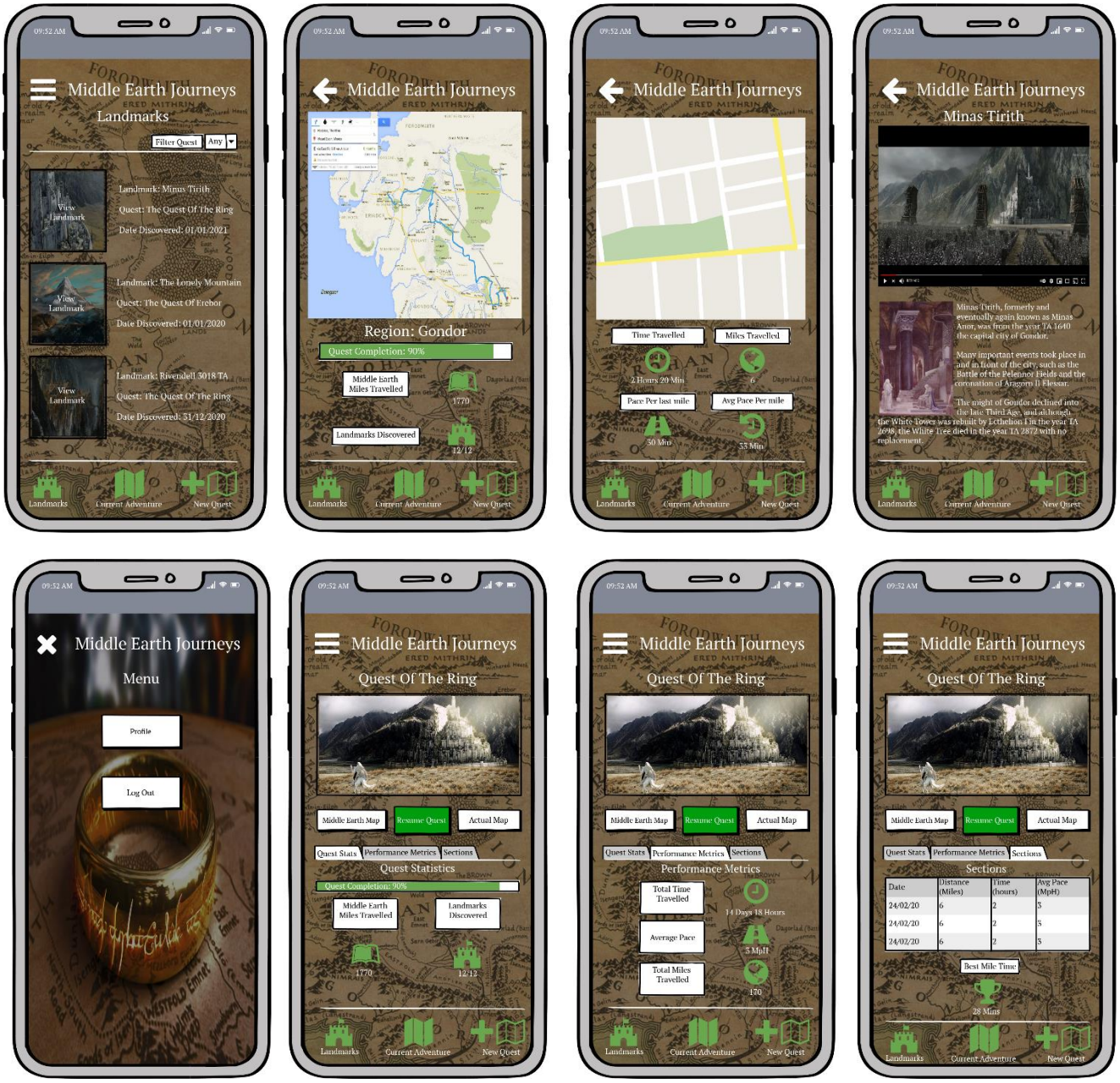


Iteration 2

After creating the first prototype I employed user testing to evaluate the design. I employed a mixture of thinking aloud, interview methods and SUS surveys to gather information on what worked well with the app and what did not. A thinking aloud test involves asking users to use a system whilst continuously thinking out loud (Neilson Norman Group, 2012). After a user had completed using the app, I then conducted interviewing which is a great way to learn what a user is trying to do and understand what does not work for them (Patrick Thornton, 2019). Finally, the user completed a System Usability Survey (SUS) which helps to provide a numerical value out of 100 that signifies how usable an application is.

I conducted prototype evaluations using two users, both users liked the functionality and the middle earth map background of the app. One user gave the app a 5/10 and another gave it a 7/10. The main reasoning for the scores was that there was far too much information on each page, the user was being overloaded with text. As well as this, users could not actually access any landmarks, a key requirement of the application was not working as intended. One of the users testing the application made a good suggestion to allow the user to pick one of a selection of hero's rather than being automatically assigned one. Therefore, when the user now signs up for an account, they can select one of six heroes. The final main change I needed to implement was making it clearer which elements were buttons. For example, one user did not find it obvious that the images in the 'Quests' section on the profile page could be clicked to go to that quest.

The results from the SUS score were 65 and 97.5 which averages out at 81.25. This is very good as over 80.3 is classed as an A grade, meaning people love the application and would recommend it to their friends (Nathan Thomas, undated). The new wireframes can be seen below.

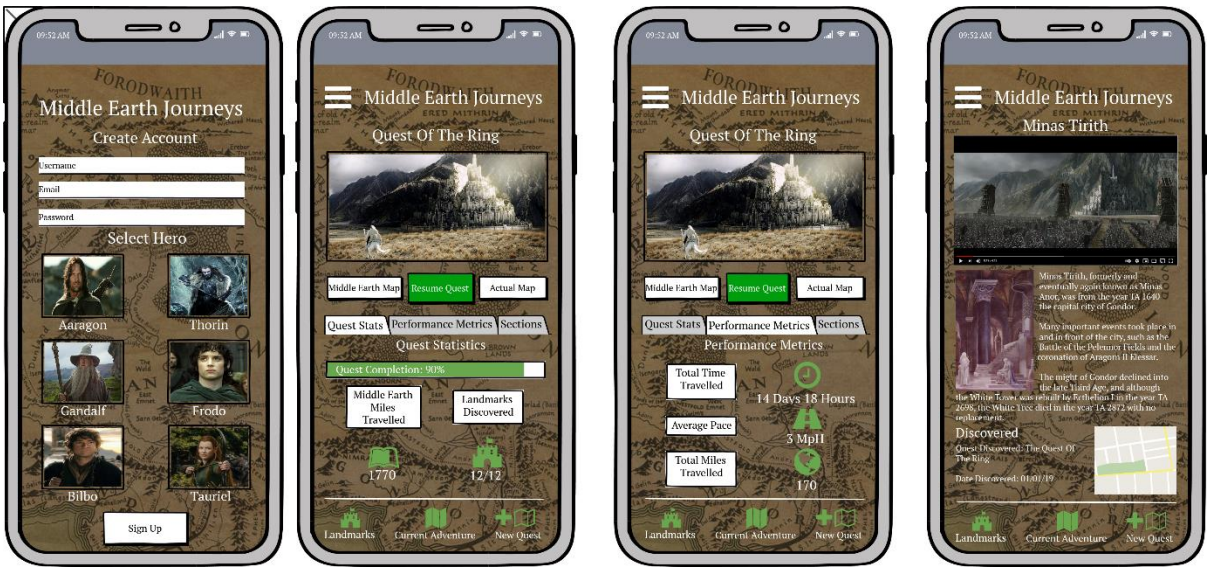


Utilising the user feedback, I created a bottom navigation bar to go alongside the burger menu. I have chosen to create this bar to provide an easier and quicker way for the user to get to where they need to. Most importantly it contains the link to the new landmarks page which lists every landmark the user has discovered and what quest it was found on. The user can then click on one of these landmarks and they will be taken to the corresponding landmark page. The core landmark requirement is now being met successfully. As is also clear from the new wireframes I have broken up the large volumes of text on both the adventure and landmark pages with more icons and images. This helps to create a less overwhelming user interface and the icons add extra colour & style to the application. The adventure page also now uses tabs so the user can pick exactly what they wish to see at any given time, making the page far more inviting. Finally, to make it clearer which elements were buttons I added overlays to certain clickable images that provide a call to action for users to click them.

Iteration 3

I evaluated the second iteration and received more useful feedback that helped in the creation of the next iteration. Both users really liked the new layout of the adventure page, stating that it was far easier to read and use. The users gave the app 6 and 8 out of 10, an improvement from the previous scores. The biggest issue both users had with the application was the small font-size making it very hard to read information and icon headings. One user also mentioned that all the heroes that could be selected were male and that female users may find this annoying as they are not included. This user also suggested another feature that could be added, a marker on a map on the landmark page which shows where in the real world that landmark was found.

The sus scores from the second iteration averaged out at 81.25 again, which is still very good and shows the application has great usability. With the feedback from the users, I went about creating the third and final iteration seen below. To save space in this report I have only included the wireframes of the pages that have changed the most.



Once again, this iteration was evaluated using the same two users as before. The users further improved their overall score of the app giving it 9 and 7 out of 10. The more critical user was not a fan of the colour scheme, however, the other user, and me, like the scheme and it is therefore staying. Bar the colour's, both users really liked this iteration of the app and had little constructive criticism to provide me. This, combined with an improved average SUS score of 85, helped me to decide that this was the final prototype of the application.

References

Nathan Thomas (undated) *How To Use The System Usability Scale (SUS) To Evaluate The Usability Of Your Website.* Usability Geek. Available from https://usabilitygeek.com/how-to-use-the-system-usability-scale-sus-to-evaluate-the-usability-of-your-website/ [accessed 20 March 2021]

Neilson Norman Group (2012) *Thinking Aloud: The #1 Usability Tool.* Jakob Neilson. Available from https://www.nngroup.com/articles/thinking-aloud-the-1-usability-tool/ [accessed 19 March 2021]

Patrick Thornton (2019) *How To Conduct User Interviews.* UX Collective. Available from https://uxdesign.cc/how-to-conduct-user-interviews-fe4b8c34b0b7 [accessed 20 March 2021]