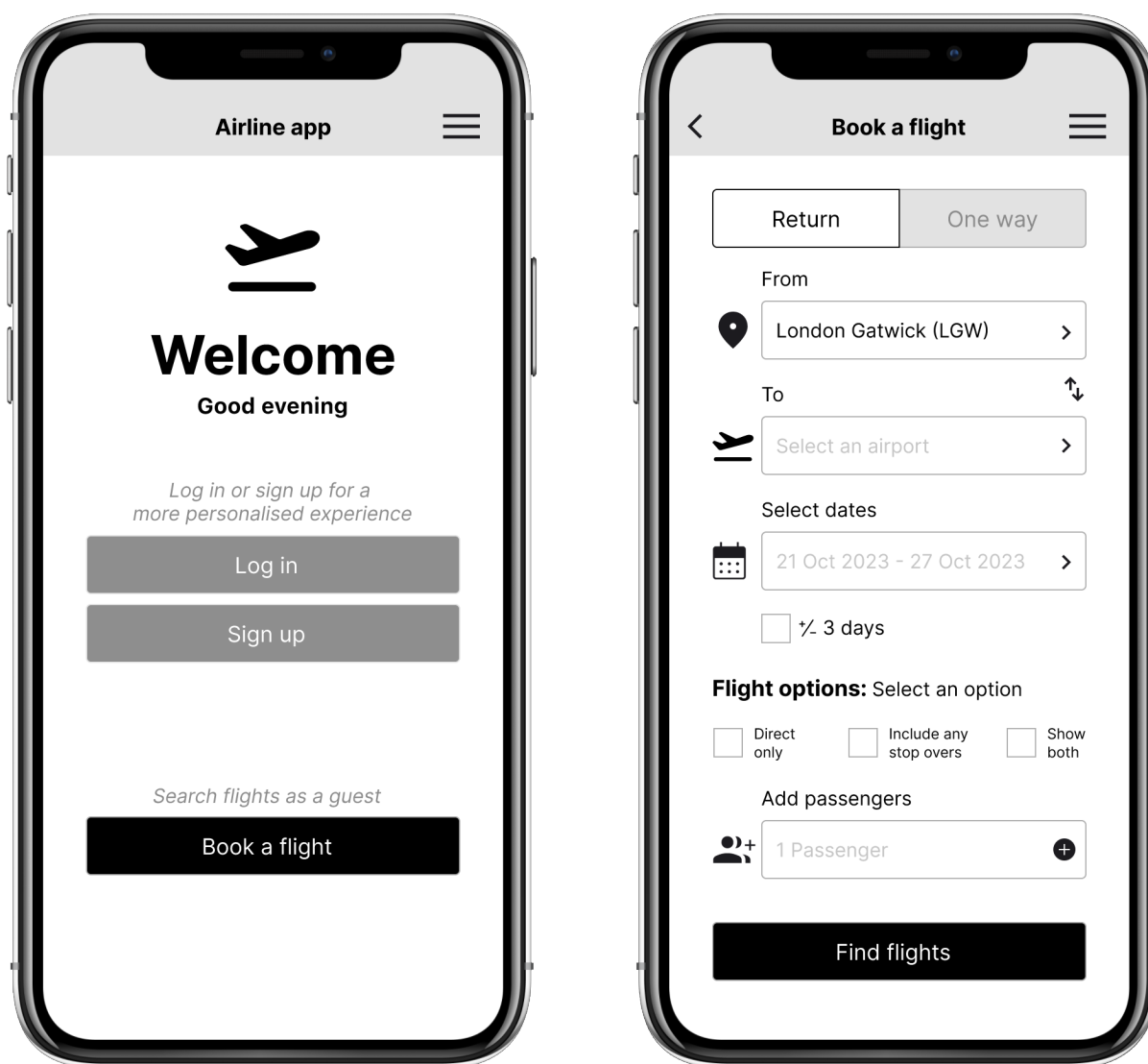




Airline Start-Up: Mobile Native App



Prototype for mobile examples

Project overview

Context

As part of my Professional Diploma in UX Design studies I was tasked with a project of a start-up airline looking to create an online experience that would be fast, easy, and intuitive based upon a deep understanding of their target users.

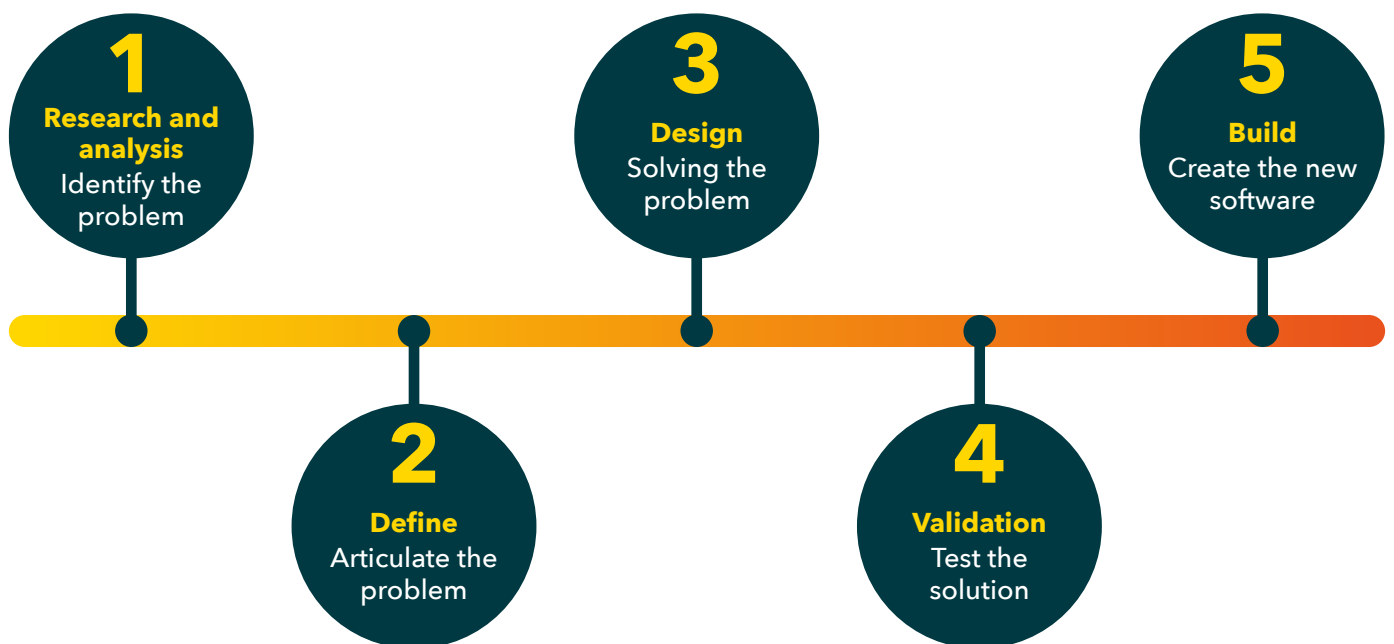
Task

My task was to focus on the flight booking process and how users search for and select flights on a mobile app.

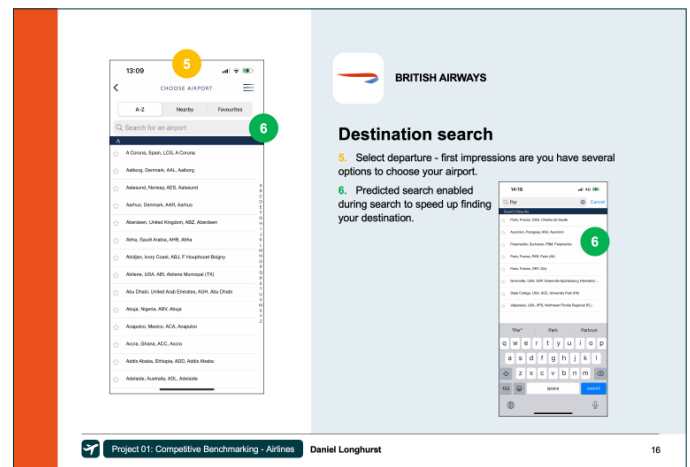
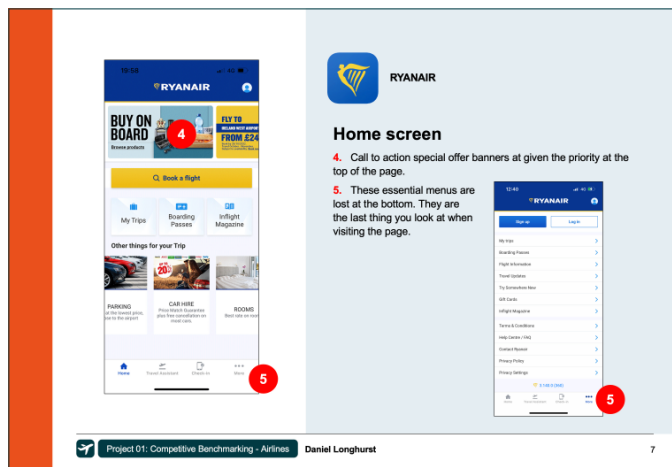
Goals

Look at what other airlines are doing, learn from their mistakes and take inspiration from the things they do right. Use that information to focus on your research and ultimately improve your designs.

My design process



1. Research and analysis - identify the problem



Competitive benchmarking:

I examined three airline apps and one travel aggregator app to see what design frictions I should avoid, what conventions I should follow and what opportunities I could emulate.



Outcome and learnings

After comparing four or five similar screens throughout a customer's journey on each app I noticed various conventions I should follow: Give users the option to log in or continue as a guest from the homescreen, smart default of preselecting a customer local airport based on their GPS or GEO position if possible, a breakdown of costs as users progress through the booking, clearly defined headers for each screen and the use of predicted text for searching for an airport name.

Some bad practice I noticed was software was trying to force users to create an account or to sign up before processing with a flight search as a guest, hierarchy was often given to these buttons.

1. Research and analysis - identify the problem

The image shows two side-by-side screenshots of a Google Forms survey titled "Airline booking survey".

Left Screenshot (Survey Form):

- Title:** Airline booking survey
- Subtitle:** Thank you for taking part in the survey as part of my UX Design course research.
- Question 1:** When was the last time you visited an airline website or app? *
 - ☒ Within the last 4 weeks
 - ☐ More than 4 weeks ago
- Question 2:** Which airline website or app did you visit? (If more than one, please list them) *
Your answer: _____
- Question 3:** Why did you visit the airline website or app that day? What were you trying to do? *
Your answer: _____
- Question 4:** Were you able to complete your task that day? *
 - ☐ Yes
 - ☒ No
- Question 5:** If not, tell us why not
Your answer: _____
- Question 6:** What would you change about that website or app? What improvements would you make? *
Your answer: _____
- Buttons:** Submit, Clear form
- Footer:** Never submit passwords through Google Forms. This content is neither created nor endorsed by Google. Report Abuse · Terms of Service · Privacy Policy

Right Screenshot (Survey Results):

- Summary:** 10 responses
- Question 1:** When was the last time you visited an airline website or app? *
 - 40% Within the last 4 weeks
 - 60% More than 4 weeks ago
- Question 2:** Which airline website or app did you visit? (If more than one, please list them) *
 - 10 responses
 - British Airways
 - British Airways
 - EasyJet, British Airways, Tui
 - British Airways
 - Low cost holidays
 - Jet2
 - British Airways, easyJet
 - EasyJet, Jet2 & Tui
 - BA
- Question 3:** Why did you visit the airline website or app that day? What were you trying to do? *
 - 10 responses
 - Look at flight prices
 - Book a flight for work
 - Book a holiday
 - Book a holiday
 - Book an all inclusive holiday
 - Look for holiday
 - Review and compare flight prices
 - Research holiday costs
 - Look for flights
- Question 4:** Were you able to complete your task that day? *
 - 10 responses
 - 80% Yes
 - 20% No
- Question 5:** If not, tell us why not
2 responses
 - I decided to book a trip via a trip booking website
 - Still unsure as to where to go
- Question 6:** What would you change about that website or app? What improvements would you make? *
 - 10 responses
 - Nothing I can think of, it came down to price differences
 - Make the seat purchase appear on the main booking
 - Would be good to save different searches
 - Can't remember now
 - None
 - Easier filter options
 - For BA - Confirmed flight bookings do not always show up in full on the website/app, searching for airports takes too long to load data, often check in is confusing with too many different steps
 - No suggestions
 - Change the layout, I found it difficult
 - The BA app launches a web browser within the app, it makes things confusing and even crashes the app, it would be much better if all actions could be completed within the app.

Online survey:

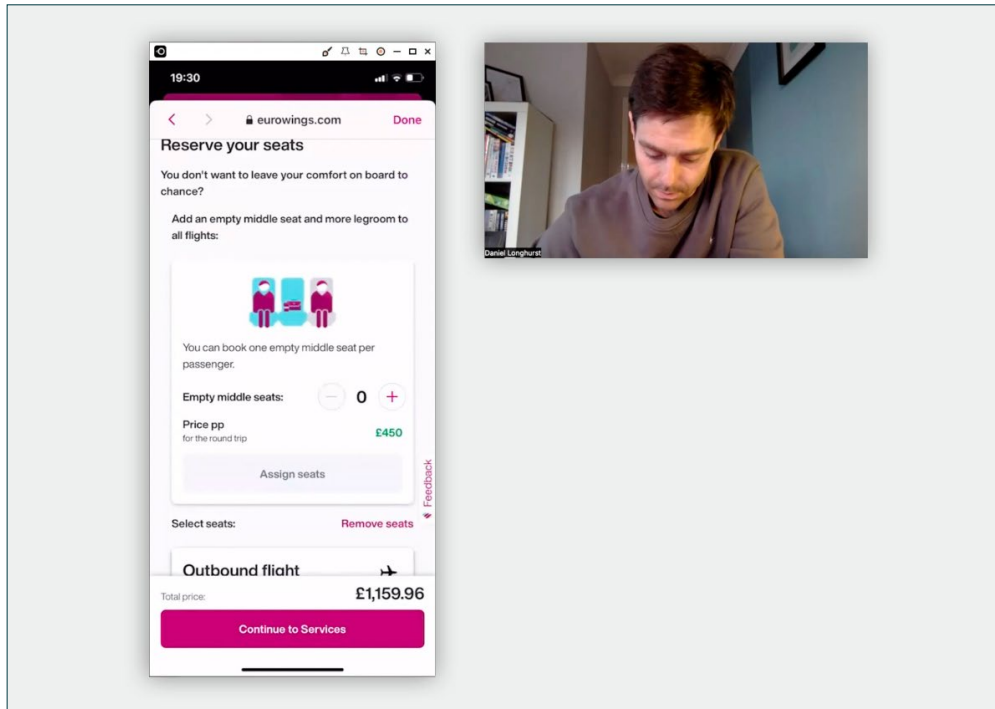
I created an online survey with five questions to learn more about the goals of people who use airline apps, what they are trying to do and whether anything is preventing them from doing it. In the survey I asked a mixture of quantitative and qualitative questions which included three golden questions: Why did you visit the airline app? Were you able to complete your task? What improvements would you make?

Outcome and learnings

I received back 10 responses with key information as to why users visited the airline software, what they were trying to do and a few suggested changes. These changes included: saving searches, easier filter options, too many steps, changing the layout.

If I produced another online survey I would send it out to a larger audience. It would be useful to see if the suggested changes I received became a regular pattern and if their reasons for using the travel software remained consistent.

1. Research and analysis - identify the problem



Conducting my usability test

Usability test:

Witnessing users using airline software first hand proved to be a vital part of my research. This research was broken down into two parts:

Outcome and learnings

First was watching two recordings of different users undergoing a usability test performed by a UX moderator. The users used two different airlines and showed how they would go through the booking process for each one. I observed the video recordings, wrote key notes on any goals, context, behaviours, positives, or pain points I witnessed. Once I had watched both video recordings, I analysed my findings and produced a conclusion of insights for future reference.

The second part was conducting a usability test and background interview myself. For this I recruited a user who had previous experience of booking with an airline within the last 12 months. I preprepared the background interview questions and usability test script before the user arrived and practiced the questions to make sure it flowed how I wanted it to. Making sure the recording software and screen mirroring software was working beforehand was essential.

When the user arrived, I started the recording and performed a background interview to find out their experience and knowledge of using airline apps or similar aggregator ones. This then flowed into the two separate comparative usability tests on two different airline apps. Throughout each test I used my test script as a guide and often diverted off script when I noticed the user hesitating or becoming frustrated with a task.

2. Define - Articulate the problem



Affinity diagram:

To get to the root of my research I carried out an Affinity diagram with one other person.

Outcome and learnings

All the research was shared and in silence we each reviewed the research data and wrote a list of Post-it note observations that were relevant to describing the current user experience: goals, behaviours, pain points, mental models, and contextual information. We each stuck these onto a white board. Once all of our findings had been put onto the board we collaborated and moved them into groups and subgroups.

Analysis revealed some major pain points. One of these was users not realising flight stop overs until the flight summary screen and then becoming frustrated with the software.

This was a great collaborative team effort that taught me the power of analysing qualitative research data in a team and finding a way to showcase it.

2. Define - Articulate the problem



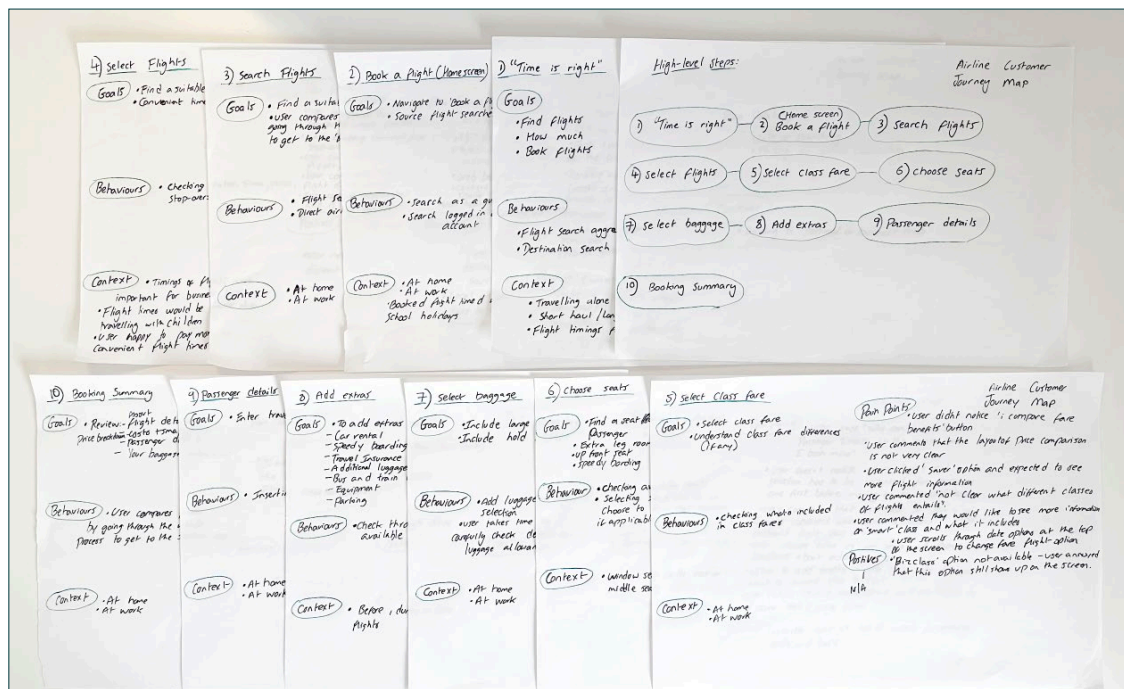
Customer journey map:

Structuring the findings from the Affinity diagram into high-level steps.

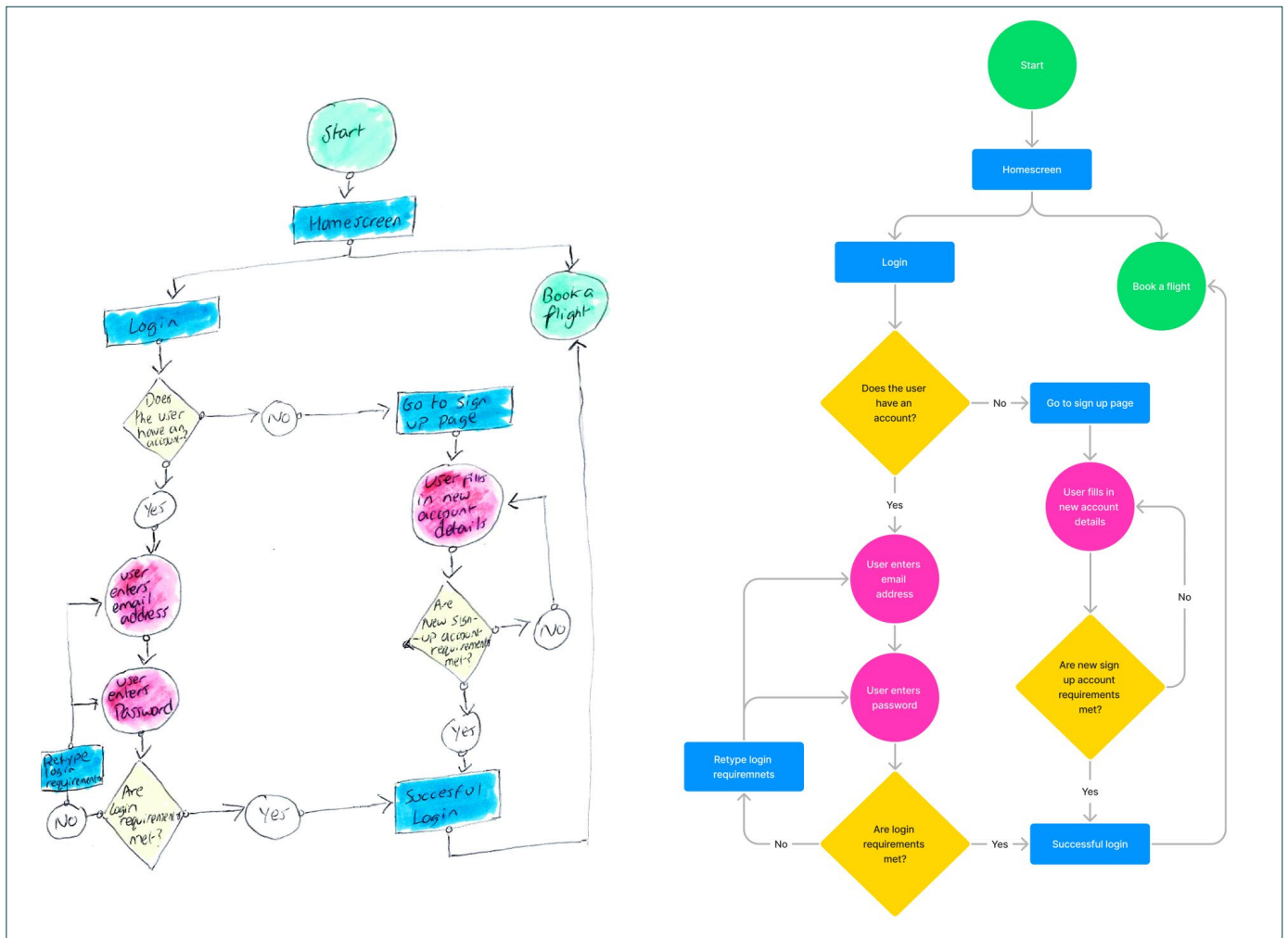
Outcome and learnings

I sketched out the preliminary steps on paper and divided each one into five separate categories: goals, behaviours, context, pain points, and positives. I documented each Affinity diagram observation on to the high-level steps in my new customer journey map that I felt it most belonged to.

Once I was happy with the sketches, I used FigJam to create a customer journey map. For each step I added a smiley face to represent whether that section of the customers' journey had been a positive or negative experience.



3. Design - Solving the problem



Flow diagram:

The next step was to create a high-level booking flow for my new mobile application.

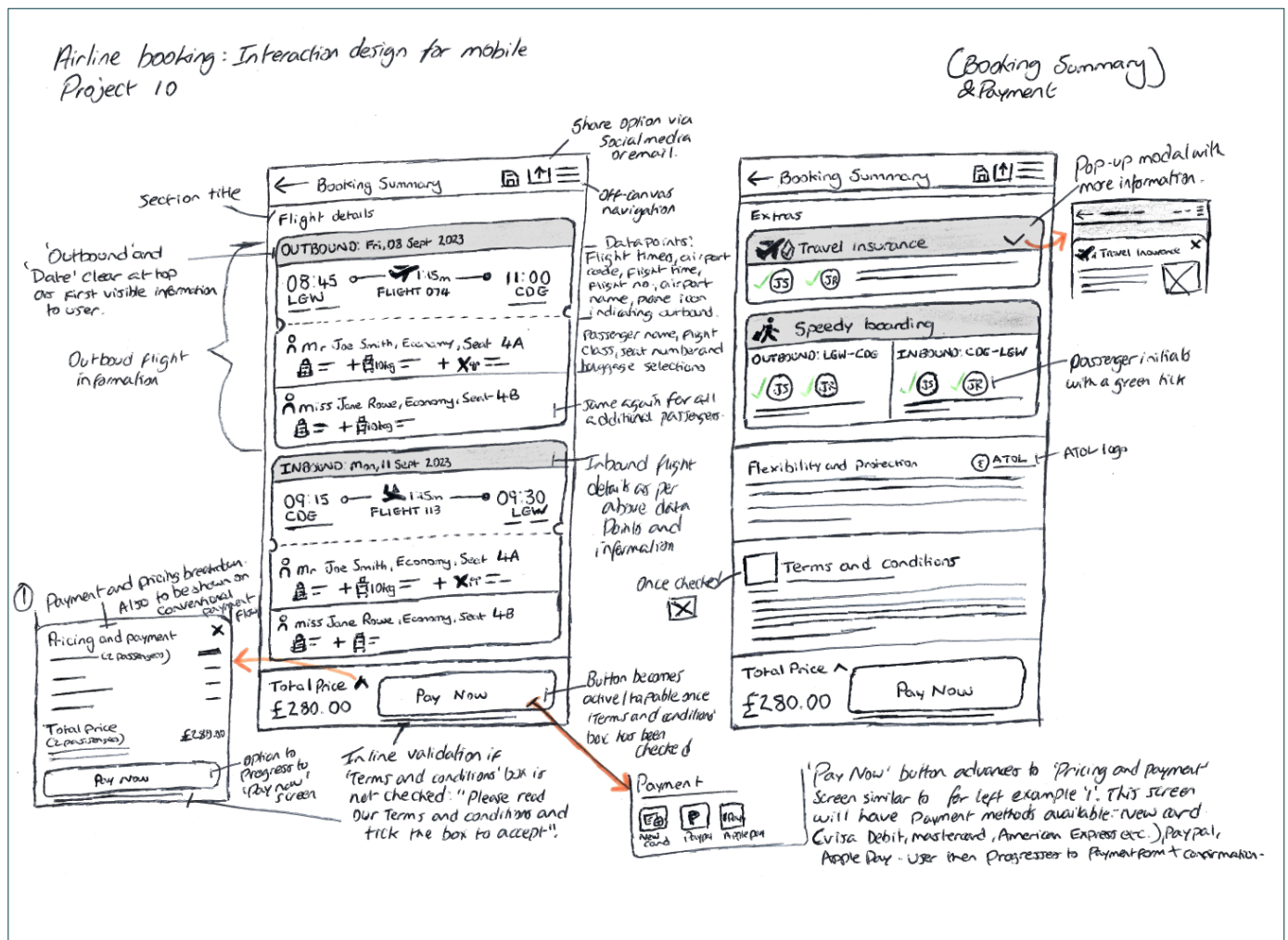
Outcome and learnings

First, I sketched out the user flow on paper showing each screen and the various states that a user will move through. This allowed me to address all the issues I had found during the customer journey map and adjust for these for the new travel application design.

Once I was happy with how the flows looked, I created them in FigJam. As I was creating each one it allowed me to think in the eyes of the end user and to consider the top crucial flows a user would take. I learnt that there are a lot of screen states to consider and essential questions must be asked by the UX Designer for this flow to work smoothly.

When I ended up building the medium-fidelity prototype a few of the screen states changed slightly from these diagrams.

3. Design - Solving the problem



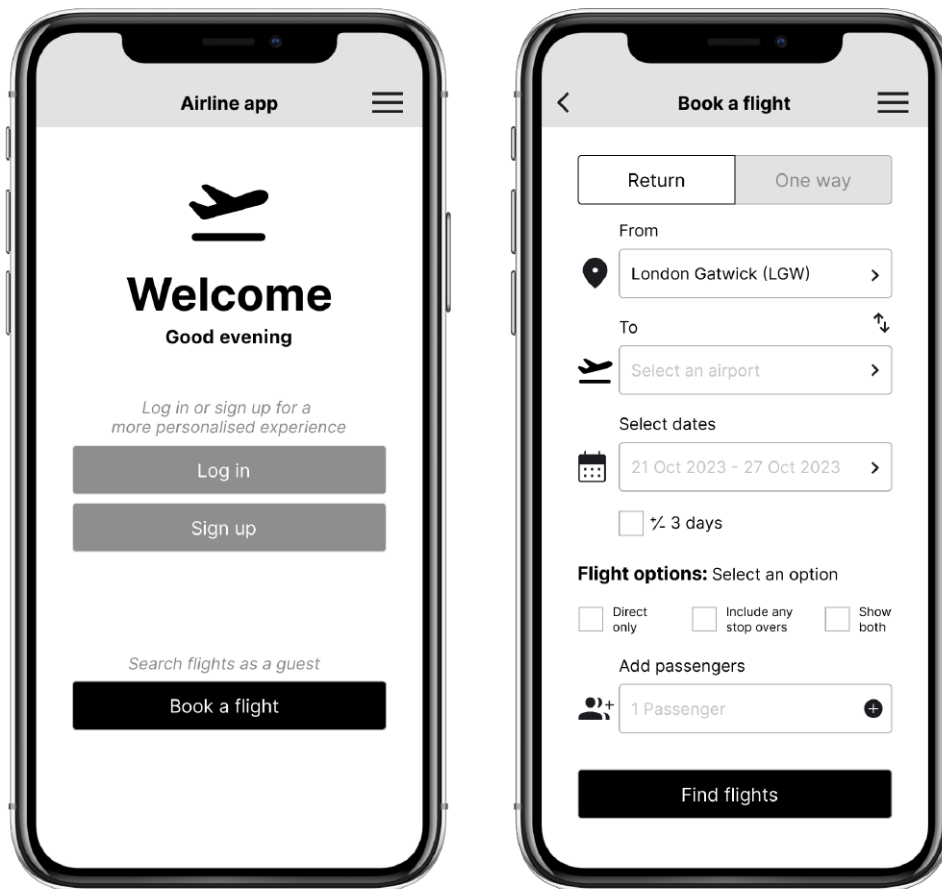
Interaction design for mobile:

Create a medium-fidelity prototype that contains enough detail and interactivity to test the high-level flow, screen layouts, text, and basic interactions.

Outcome and learnings

After many sketches on paper I created a drawing for each screen of the users flow throughout the booking process from homepage to payment. I tried to think about how each screen state differs based on users' actions and what the consequences of this would be for the design, controls, rules and feedback. Whilst a high-level prototype design wasn't necessary at this stage I did try to think about some possible icons and layout options for the prototype during these sketches that I could explore further later on.

4. Validation - Test the solution



[VIEW PROTOTYPE](#)

Prototype for mobile:

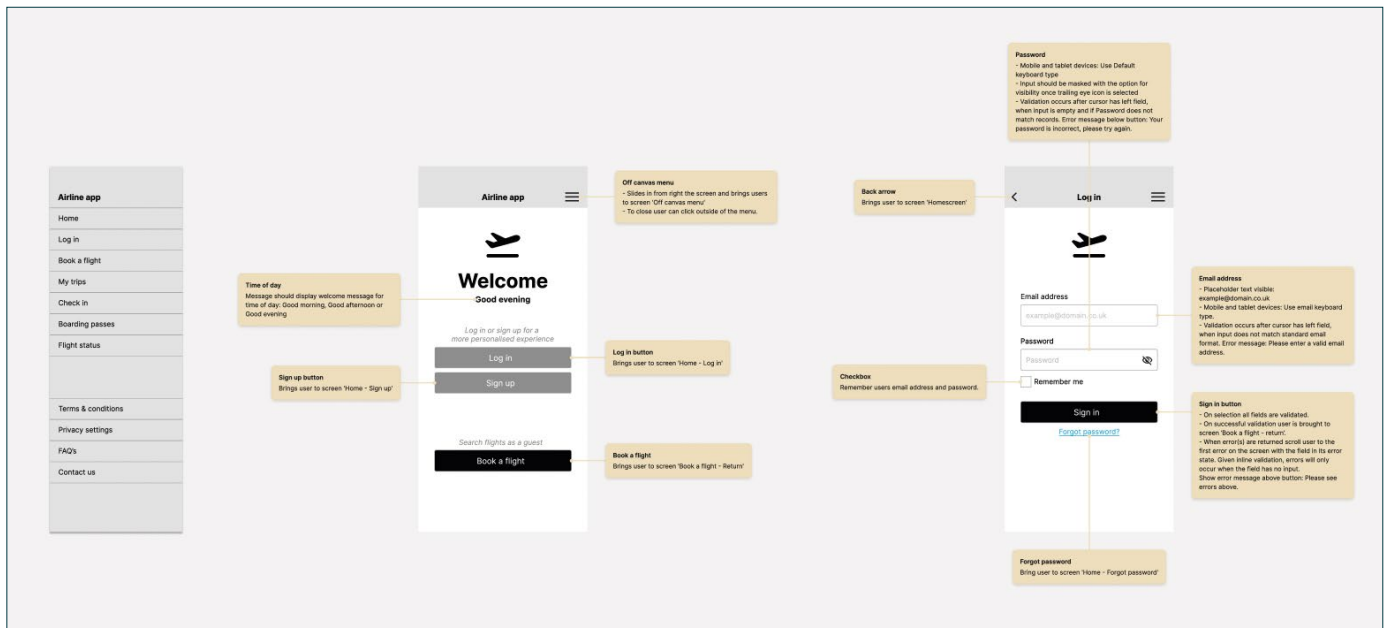
Now it was time to solve the problem and start designing how the actual screens and screen states would look.

Outcome and learnings

Using Figma I created my prototype. Coming from a graphic design background this was where I was able to put in place my skills for layout and attention to detail. After many tutorials and research on best practices for prototyping in Figma I was able to start laying out my new app design. Starting with the homepage I began to work through all the various screens and their states that a user could interact with. I added elements such as off-canvas menus and pop-up modals to give the prototype a real feel. Additional elements such as working buttons, back buttons and a clickable hamburger menu icon on each screen added to the overall prototype user experience. Throughout the designs I used universal icons which I got from plugins 'material symbols' and 'SF symbols browser' with the addition of a few that I created myself in Illustrator and then exported as .svg files to be imported into Figma.

I found creating the prototype an enjoyable experience and one that was suited well to my graphic design background and my new UX design skills.

5. Build - Create the new software



Annotations:

The final stage for my new travel application was to create annotations on the prototype and pass this over to a developer to build.

Outcome and learnings

Creating a duplicate page within Figma of the new medium-fidelity I was able to add all the necessary detail a developer would need to build the application accurately. Using a plug-in called 'annotate design' I included notes on all the elements on each screen and their controls, rules, and any feedback. Anything I thought would be useful to the developer I tried to include. Producing these annotations allowed me to think about how the flow worked for each screen and whether my sketches I had previous produced would work or not. I found I had to adjust a few of these from my sketches to create a smooth flow on the prototype design.

[VIEW ANNOTATIONS](#)