



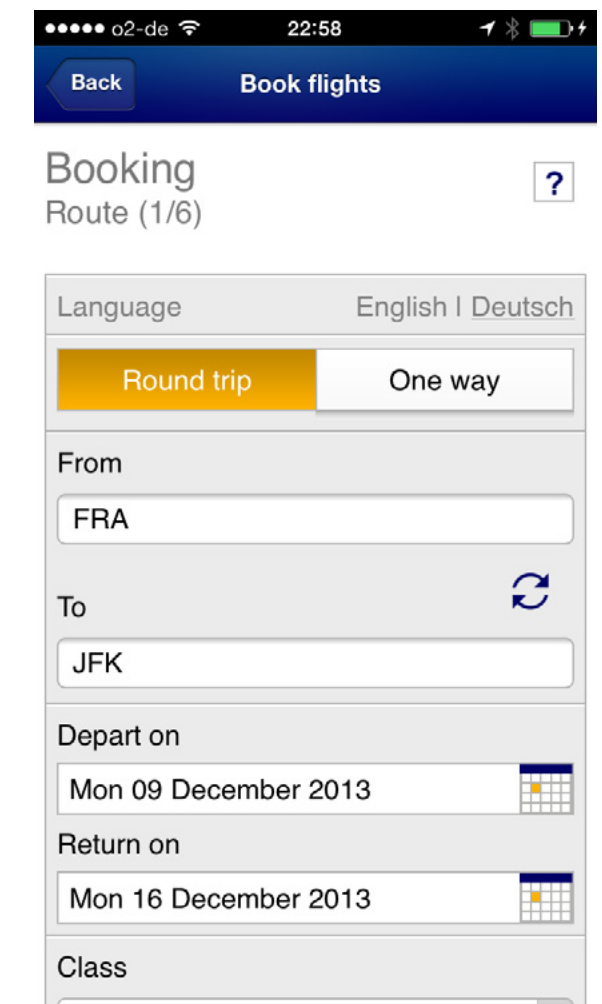
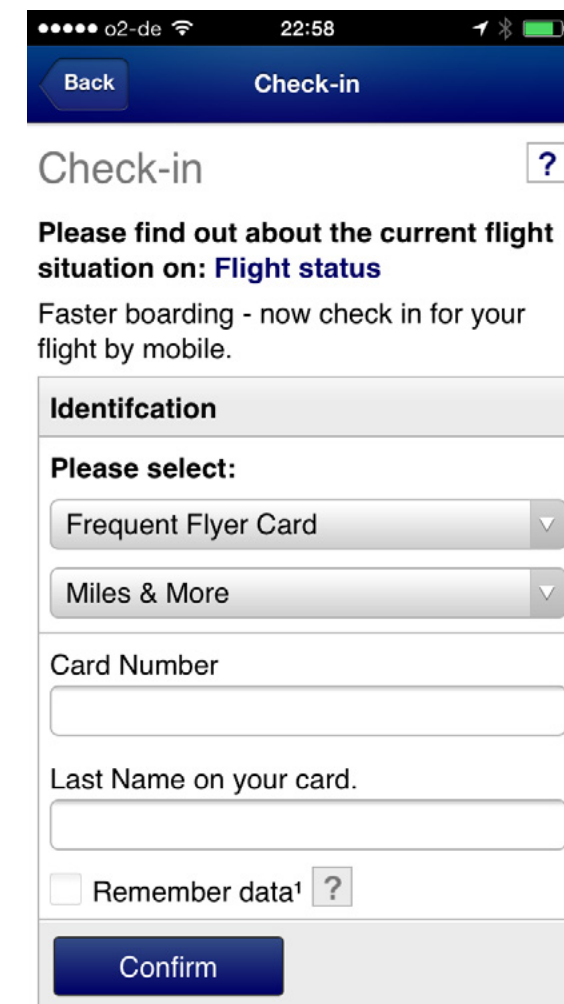
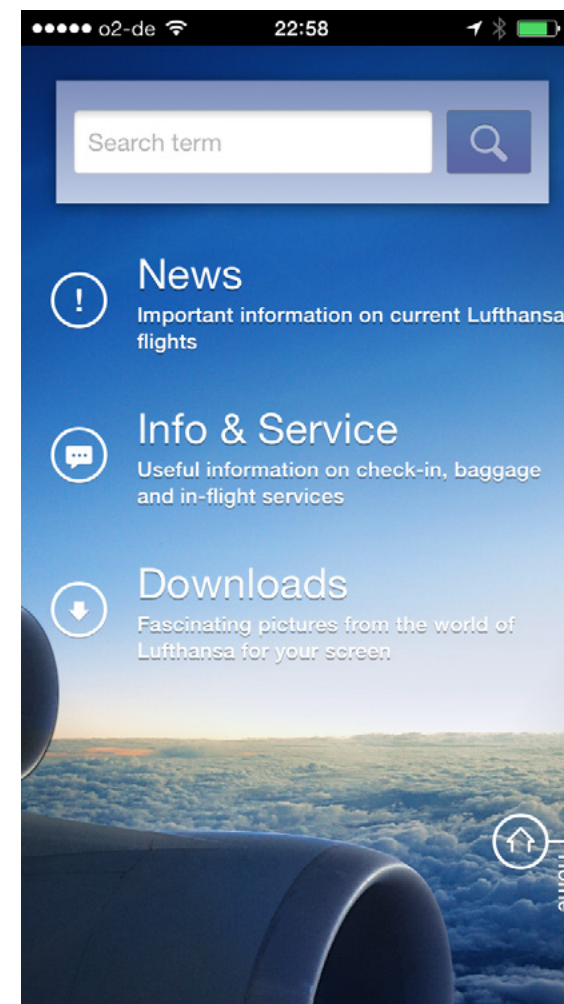
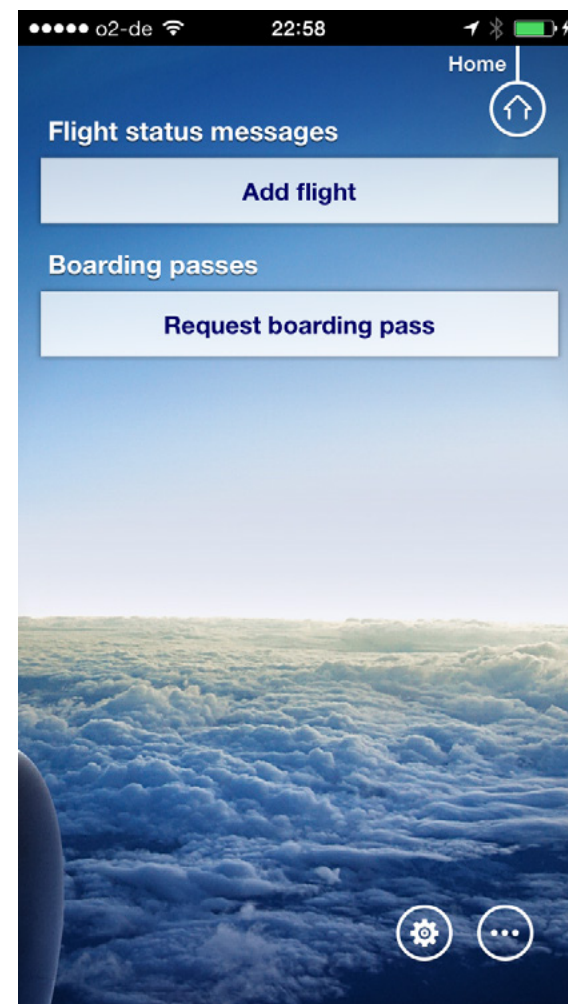
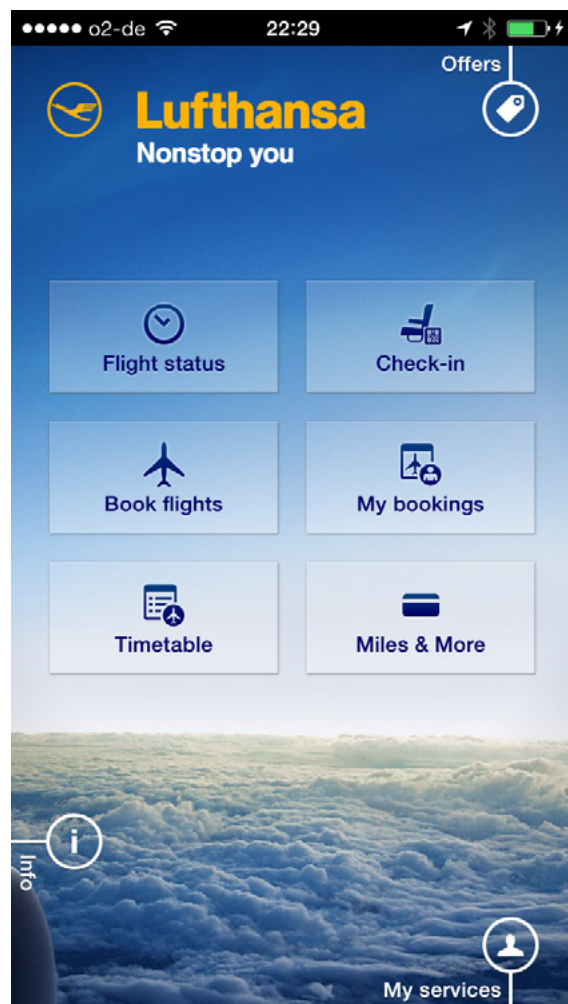
Lufthansa App / Flightmanager

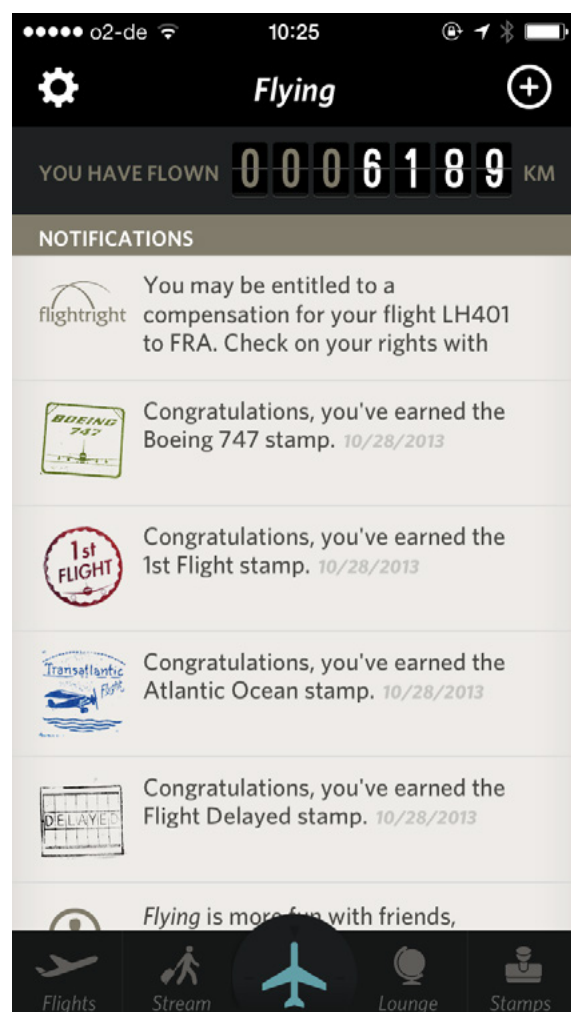
Application Design

Hochschule für Gestaltung
Schwäbisch Gmünd
Interaktionsgestaltung III
Dozent: Jürgen Gräf

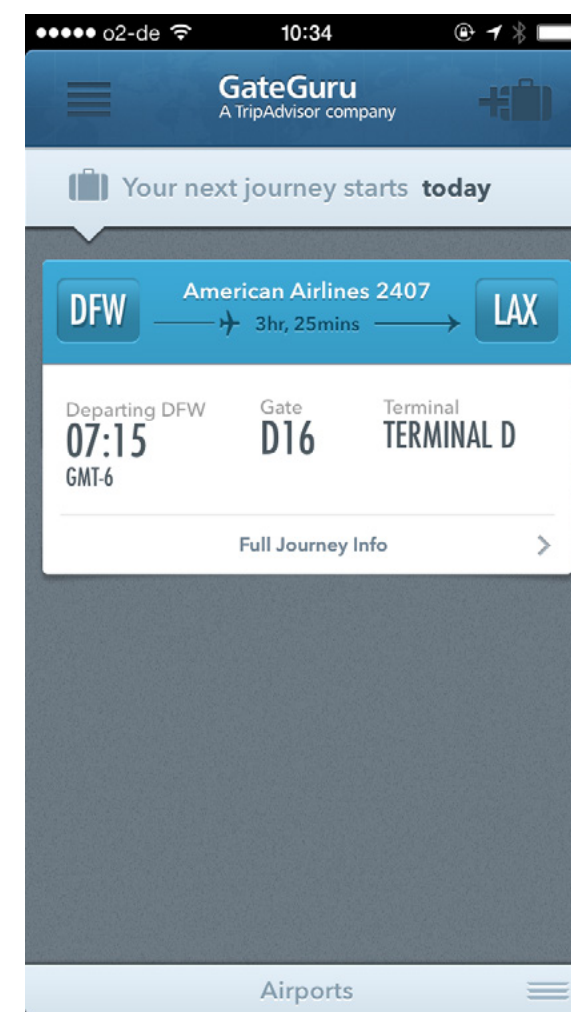
Meredith Bruner
Louis Fishediek
Philipp Schmitt

Our team chose the Lufthansa app for a redesign. The App offers surprisingly many features. You can check your Flight, check-in, book Flights and get information about the journey.

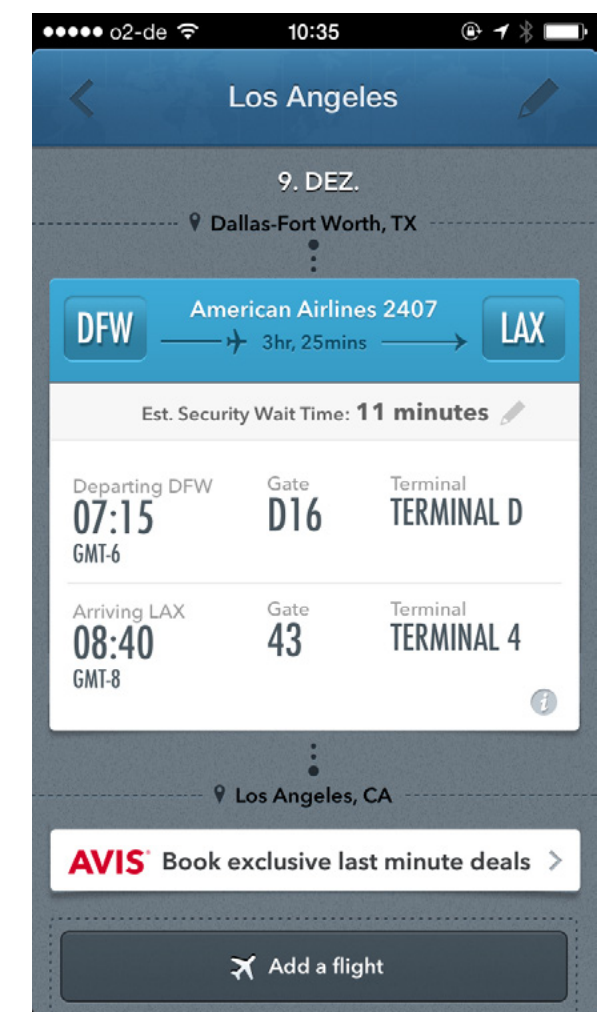




Flying App (iOS)



Gate Guru (iOS)





Using a SWOT analysis we examined the strengths, weaknesses, opportunities, and threats for the existing Lufthansa application. What we discovered that the application is currently helpful for reducing the time it takes to check in at the airport, however it has a variety of unnecessary features that detract from its overall effective-

ness such as advertisements, in app booking, and "Exciting" Lufthansa phone wallpapers. We saw an opportunity to focus more on the overall flying experience instead by adding airport navigation, and integrated guides through the different steps to navigating the airport.

We created three personas to help guide the development of our app. The two we focused on were Marc and Emma. Marc is a frequent traveler. Emma, a mom, travels once a year. We choose to focus on them because they would be the most

likely to use the app, and appreciate the help navigating an airport. We kept our other persona, Opa Paul in mind. However, his use of the application would be infrequent and minimal, limited only to picking up his grandkid from the airport.



Grandpa Paul



Sales Manager Mark

- 28 Years old
- Lives in New York
- Works in a larger tech company
- Travels for work around the world
- Wants to arrive on time for meetings
- Comfortable Travel
- Technophile
- Seasoned traveler
- Knows basics of airport navigation
- The airport does not stress him
- Does not his book flights (secretary)

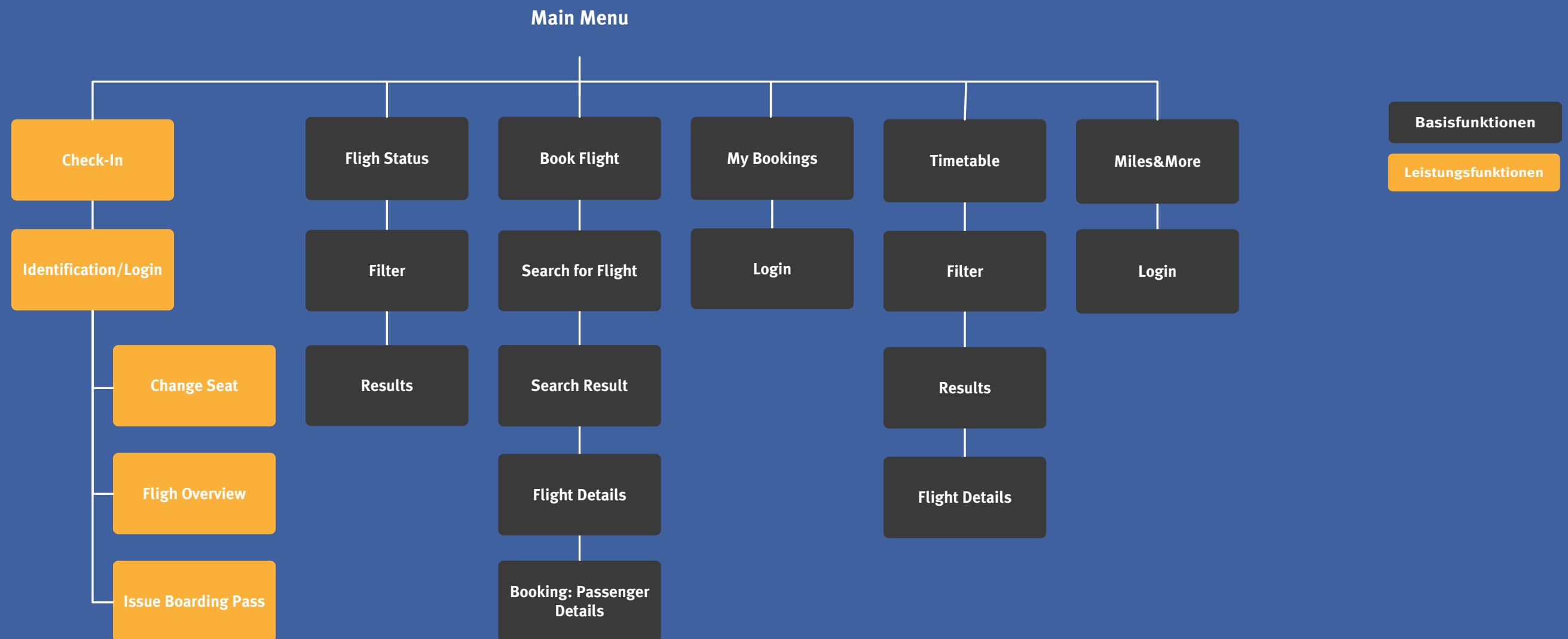


Leisure traveler Emma

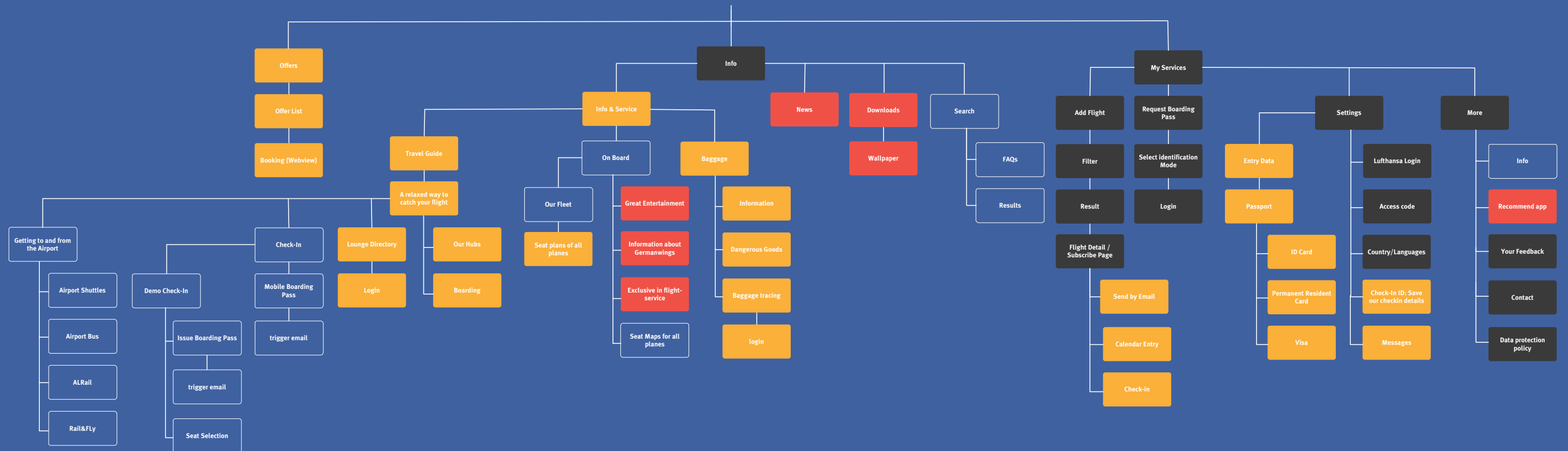
- 42 Years
- Lives in Schwäbisch Gmünd
- Mother
- Fly with her family on vacation
- Not particularly technologically adept
- So far, hardly traveled by plane
- Airport is Unfamiliar
- Looking forward to the holidays

Using a SWOT analysis we examined the strengths, weaknesses, opportunities, and threats for the existing Lufthansa application. What we discovered that the application is currently helpful for reducing the time it takes to check in at the airport, however it has a variety of unnecessary features that detract from its overall effective-

ness such as advertisements, in app booking, and "Exciting" Lufthansa phone wallpapers. We saw an opportunity to focus more on the overall flying experience instead by adding airport navigation, and integrated guides through the different steps to navigating the airport.



Secondary Menu



Basisfunktionen
Leistungsfunktionen
Unerhebliche Funktionen

Use Case 1:
Check Flight Status

Summary

If the user has booked a flight, he wants to retrieve the flight status before traveling. Here, for example, he sees if his flight is delayed or at which gate the plane takes off.

Requirements

- A booked Flight
- Internet connection

Process

1. Open the application
2. Tap on 'Check Flight Status'
3. Choose a Flight
 - Filter
 - Saved Flights
 - Booked flights
4. See the flightinformation

Userstories

"As a businessman, I want a quick and easy access to all relevant information about my flights"

"As a mother, I want to be informed in advance of changing flight information in order to avoid unnecessary stress at the airport."

Postconditions

Maybe a direct access to the Check In

We created three use cases for our application, and explored the advantages of each of the features. We considered new features for the application and used the personas to determine how valuable they were. It was essential to go through each step of the process and think about how the different personas would react to the functions in the application. This helped us to discover the strengths of each of the features, and in turn which features were the most valuable. Through breaking down the whole process, we realized how extensive the application had become. We found that overall there were far too many features, and we began to eliminate the features that we felt were less necessary.

Use Case 2:
Flying/day of flight

Summary

The user wants to access data important to every aspect of flying. The user is guided through the experience of flying from check-in to arrival for a stress free, and successful trip.

Requirements

- A booked Flight
- Internet connection
- Passport/Identification

Process

1. Check-in online

"I travel with only one carry-on bag, so I don't need to check any bags. Time is important to me, so checking in online saves me time. Having the board ing pass on my phone eliminates extra clutter in my bag." –Marc, Professional

- Reduces amount of time users spend outside security
- Users don't have to wait in line to check in
- Allows users to keep boarding pass on their Smartphone

2. Alert of impending flight/Arriving at airport

"It's always important for me to be reminded of the exact time my flight is leaving because I fly so often." –Marc, Professional

"I like reminders of when flights are arriving so I know when I should get to the airport to pick up my grandkids." –Opa Paul

- Reminds users of exact time for travel
- Gives a warning of when the users should arrive at the airport

3. Navigate airport

"I don't fly very often, and I usually have my children with me when I do. I am always so lost in airports, so it is important for me to have a guide for where everything is and what I am supposed to do"-Emma, Mother

1. Locate parking

"I never know where to park, so its good to compare price with location." -Emma, Mother

- 1.1. User can see which lots are open
- 1.2. User can see the various price differences between different lots
- 1.3 Navigation is provided to the lots and from the lots to the terminals

2. Identify correct terminal

"I change airlines so frequently, it's nice to have a reminder of which terminal is where in every airport" -Marc, Professional

- 2.1. User can see which terminal their airline is flying out of

3. Check-in(if haven't done so online)/Drop off luggage

"We always travel with so much luggage, and it's always a mess trying to find the check-in counter. It's important to know where to go and what the luggage requirements are." -Emma, Mother

- 3.1. User can find the correct check-in desk for their airline
- 3.2. User is reminded of necessary items for check in
- 3.3. User is reminded of luggage requirements

4. Go through security

"Its nice to know how long security will take, so I can plan my airport arrival accordingly." -Marc, Professional

- 4.1. User is shown the various security check-points
- 4.2. User is directed to the correct check-point
- 4.3. Real-time data shows how long it is taking for people to get through security
- 4.4. User is reminded of security rules and procedures

5. Explore airport services (Optional)

"The kids are always hungry, so it's nice to be able to find places to eat that are close to our gate." -Emma, Mother

- 5.1. User can see all airport services, and search for specifics
- 5.2. User is directed to the correct check-point
- 5.3. Is guided to desired location

Use Case 3:
Einen Flug buchen

Zusammenfassung

Bei einer gezielten Flug-Buchung sind Variablen wie Start- und Zielflughafen sowie ein Zeitfenster bekannt. Der Benutzer will anhand seiner Bedürfnisse den am besten passenden Flug finden und unkompliziert buchen.

Requirements

- Bekannt: Zeitfenster der Reise, Start und Zielort
- Internetverbindung
- Reisepass / Personalausweis
- Bezahlungsmöglichkeit

Prozess

1. Einen Flug finden (Siehe Usecase 1)

“Als Geschäftsmann möchte ich kurzfristig einen Flug finden, der mich rechtzeitig ans Ziel bringt” –Marc, Professional

“Als Urlaubsreisende möchte ich frühzeitig einen möglichst günstigen Flug finden, damit die Familienkasse nicht mehr als nötig belastet wird.” –Emma, Mother

1. möglicherweise interessante Flüge können gespeichert werden
2. gespeicherte Flüge können anhand unterschiedlicher Kriterien (z.B. Preis) sortiert und verglichen werden.
3. Hat sich der Benutzer für einen Flug entschieden, wählt er die Option zur Buchung aus

2. Einen Flug auswählen

“Als Geschäftsmann möchte ich kurzfristig einen Flug finden, der mich rechtzeitig ans Ziel bringt” –Marc, Professional

“Als Urlaubsreisende möchte ich frühzeitig einen möglichst günstigen Flug finden, damit die Familienkasse nicht mehr als nötig belastet wird.” –Emma, Mother

1. möglicherweise interessante Flüge können gespeichert werden
2. gespeicherte Flüge können anhand unterschiedlicher Kriterien sortiert und verglichen werden
3. Hat sich der Benutzer für einen Flug entschieden, wählt er die Option zur Buchung aus

3. Buchungsformular

“Ich buche regelmäßig Flüge über mein Smartphone. Es würde mir Zeit sparen, wenn ich nicht jedes Mal alle meine Informationen eingeben müsste” –Marc, Professional

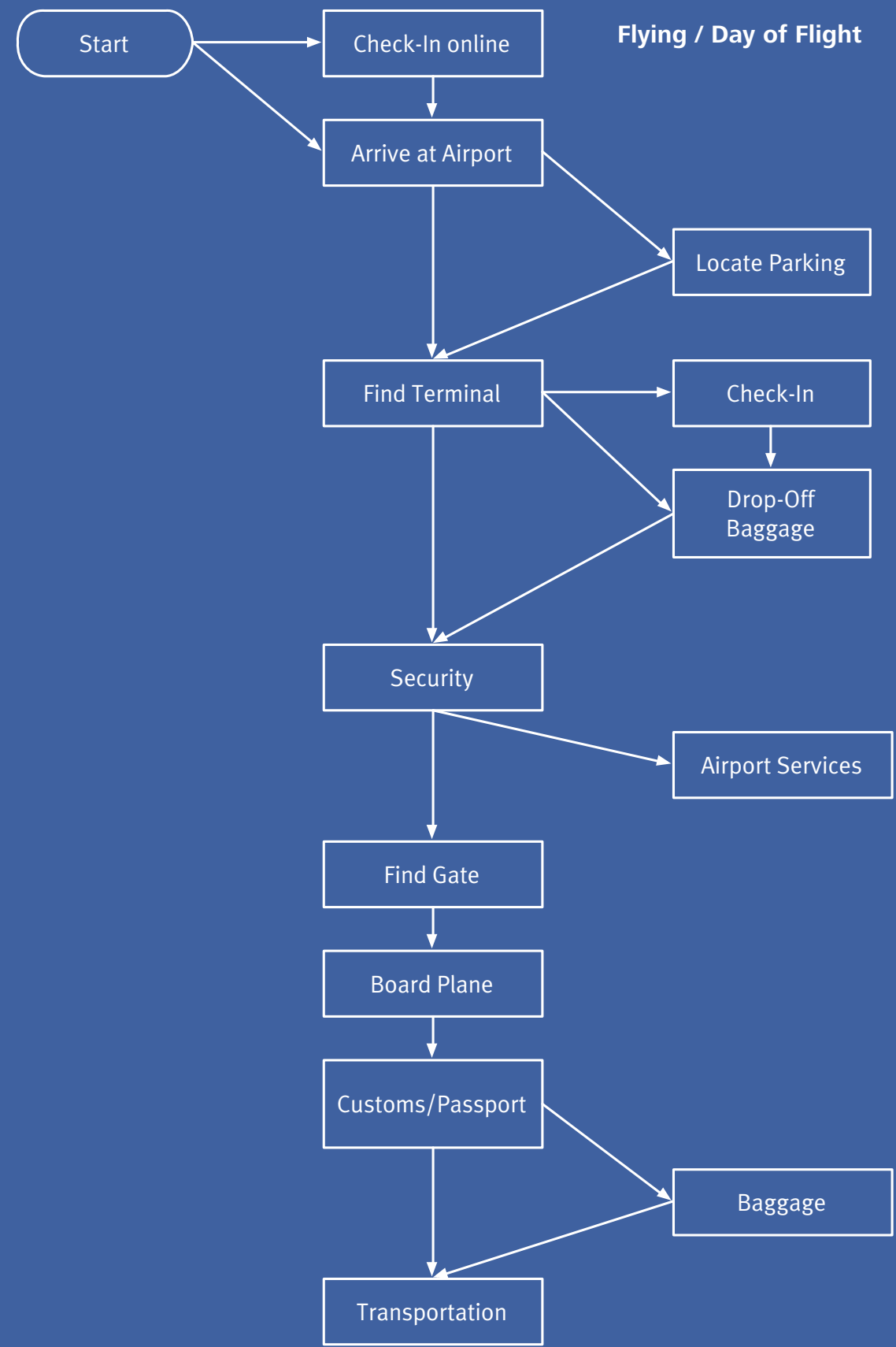
Ein Formular leitet den Benutzer durch den Buchungsprozess:

1. Eingabe der persönlichen Daten
2. Bezahlart wählen und ggf. Daten eingeben
3. Auswahl: Online Check-In nutzen?

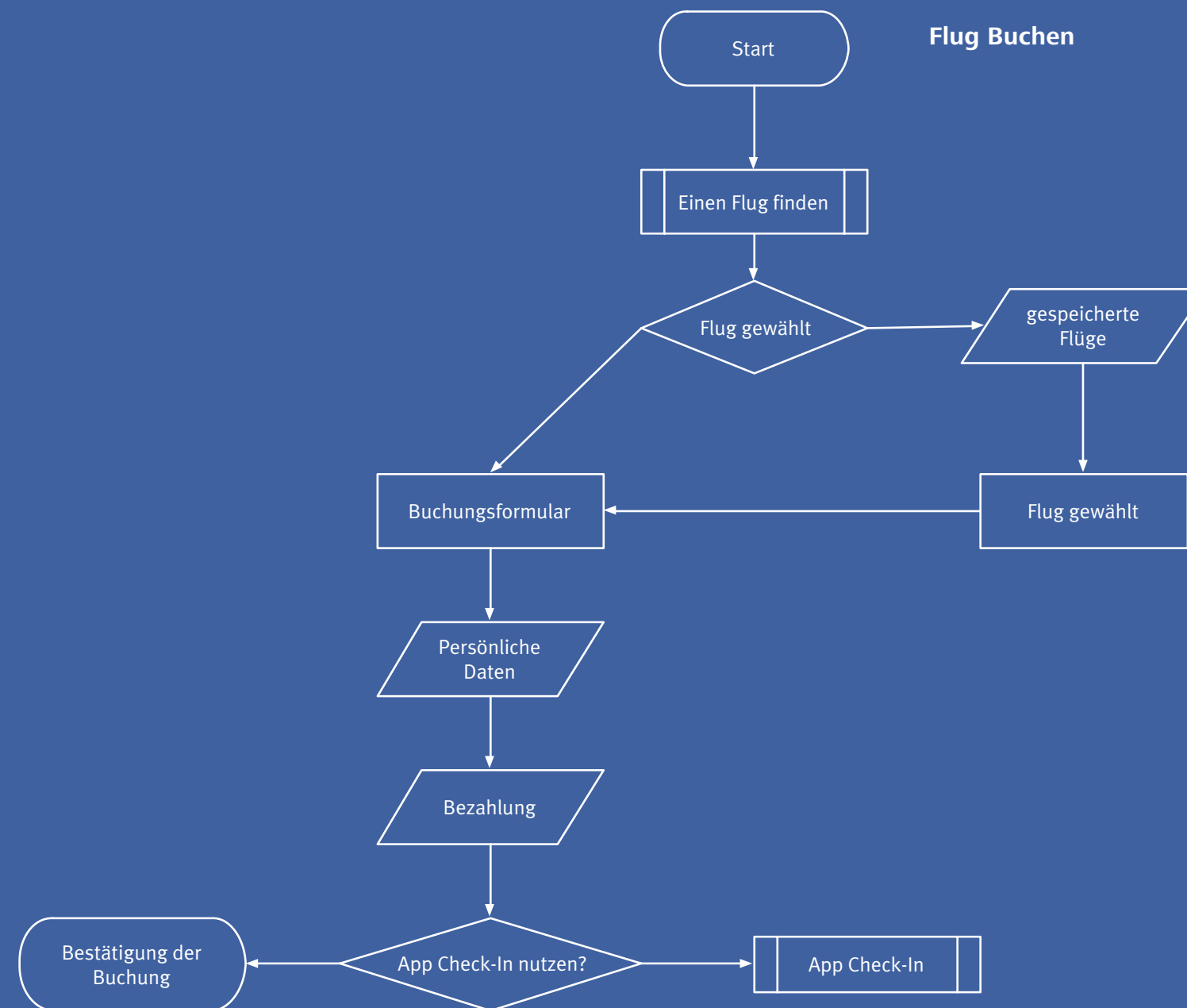
4. Bestätigung

“Als gelegentlich Reisende möchte ich mir keine Sorgen machen, ob bei meiner Buchung etwas schief gelaufen ist.” –Emma, Mother

Als gelegentlich Reisende möchte ich mir keine Sorgen machen, ob bei meiner Buchung etwas schief gelaufen ist.”1. Eingabe der persönlichen Daten



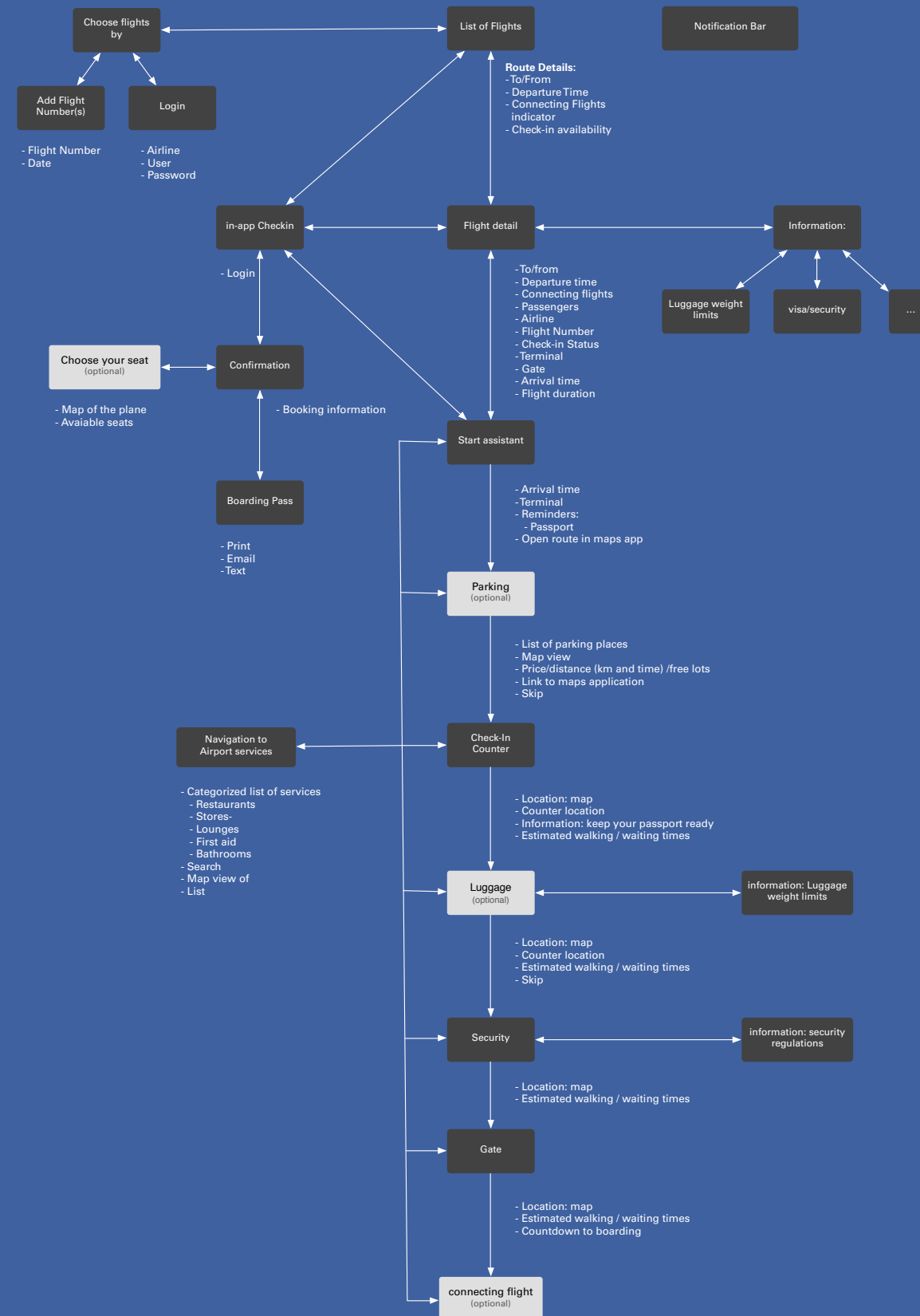
From the use cases, we created flowcharts as a visual representation of the process of using our application. This gave us a better idea of how the application will actually function, and again how many features we were hoping to include. We discovered that navigating through such a feature rich application would be difficult, and therefore inadequate as an aid to reduce stress while flying.



We used card sorting to continue narrowing down the number of features in our application, and ordered them to define the process. We decided to eliminate many of the unnecessary features, and create an application to serve as a guide through the flying experience. We settled on features that would guide the user through parking, check in, luggage drop off, security,

and to their gate. We also included information on airport services, and flight information. These are the core steps of navigating through an airport, and possibly confusing for first time visitors of a given airport. By providing guidance through the application, we can alleviate many of the stresses associated with flying.

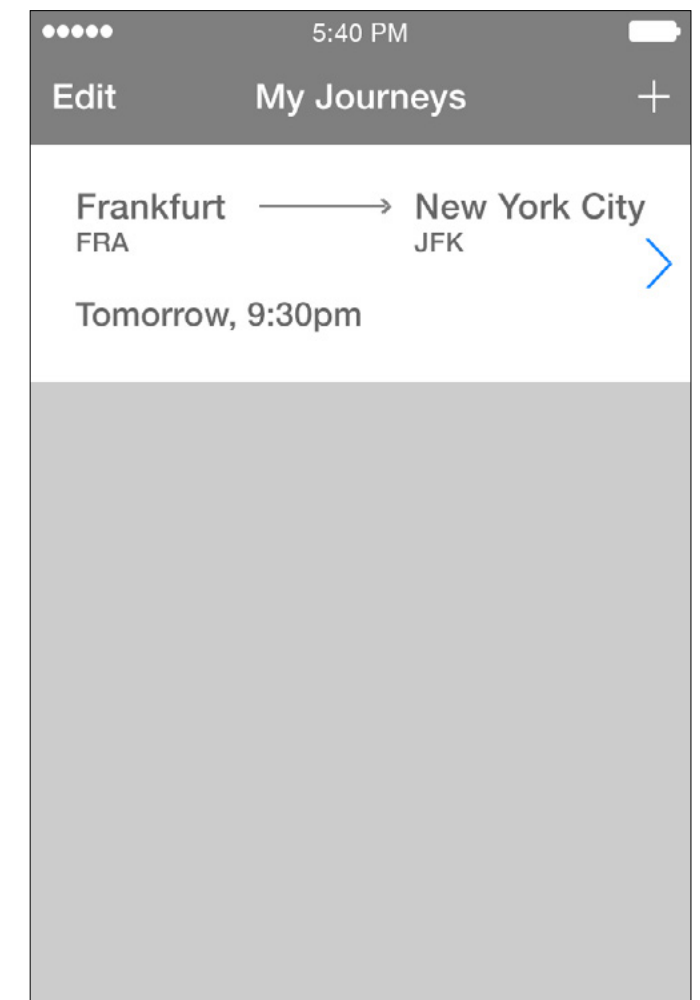
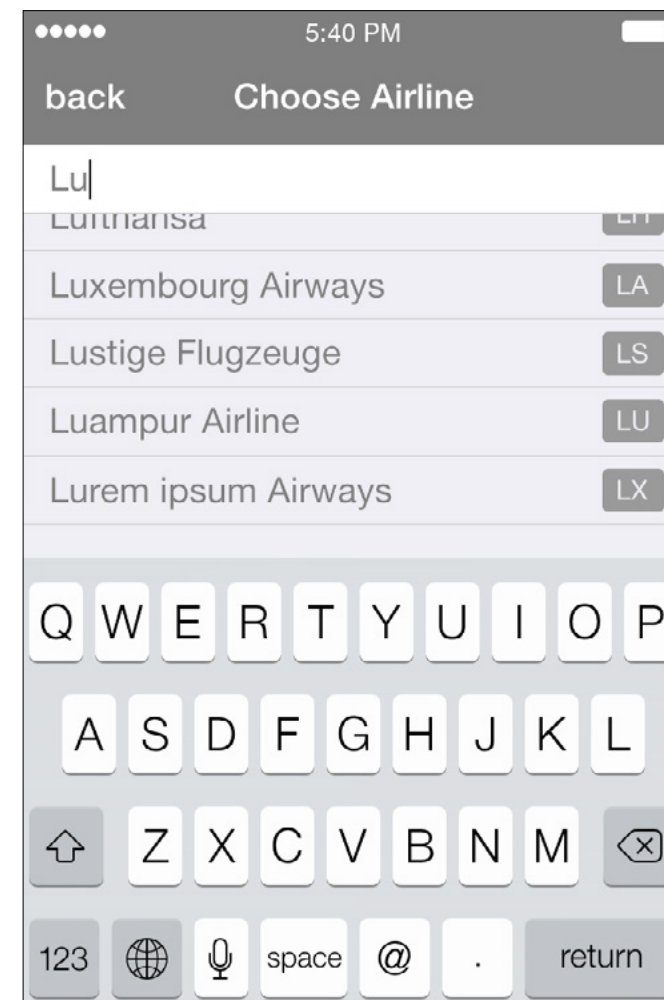
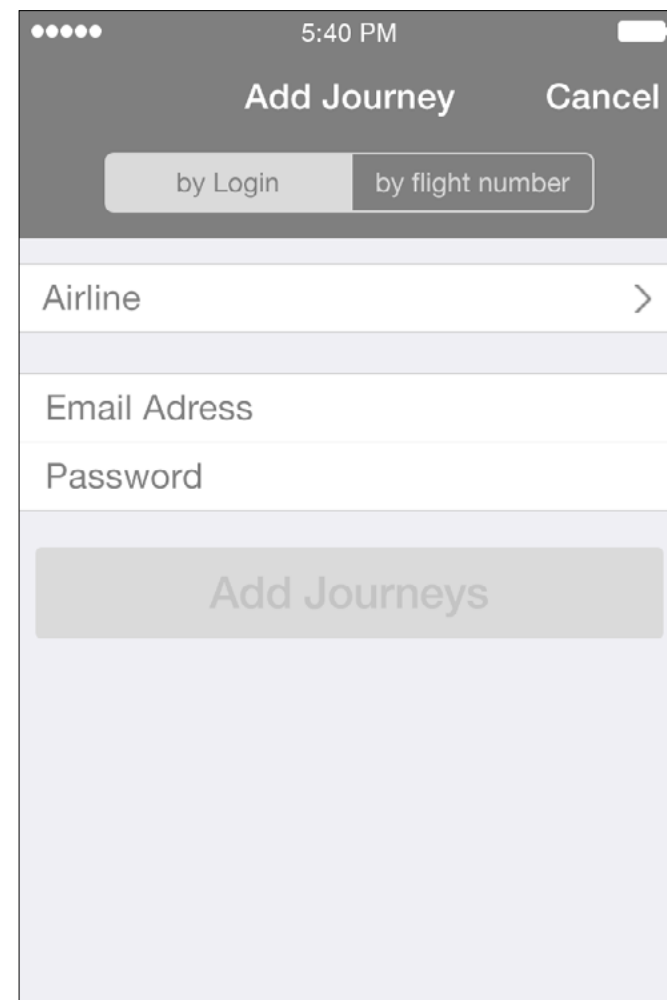
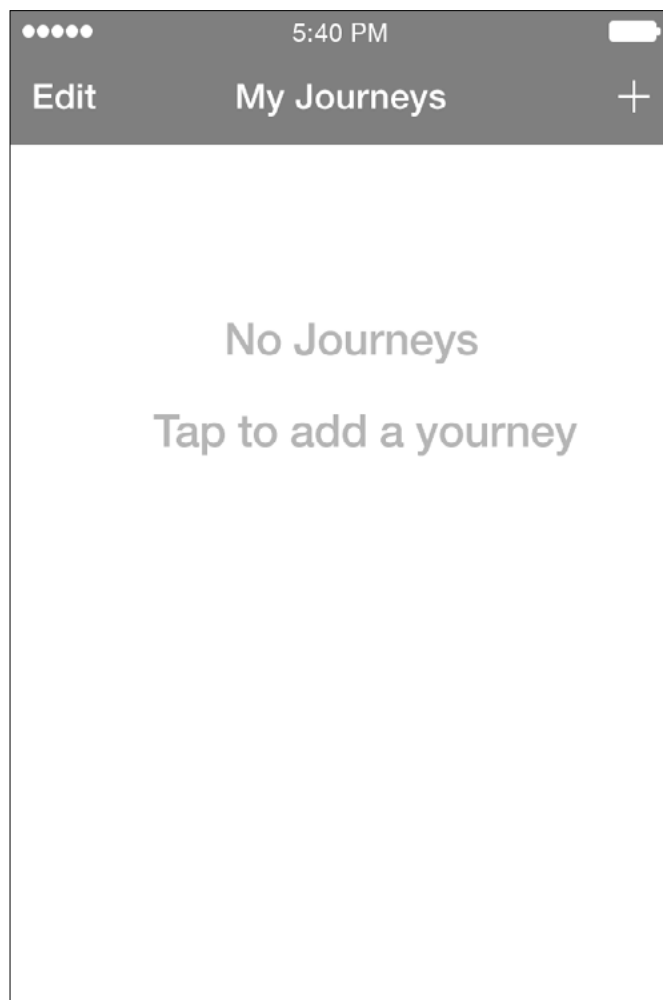


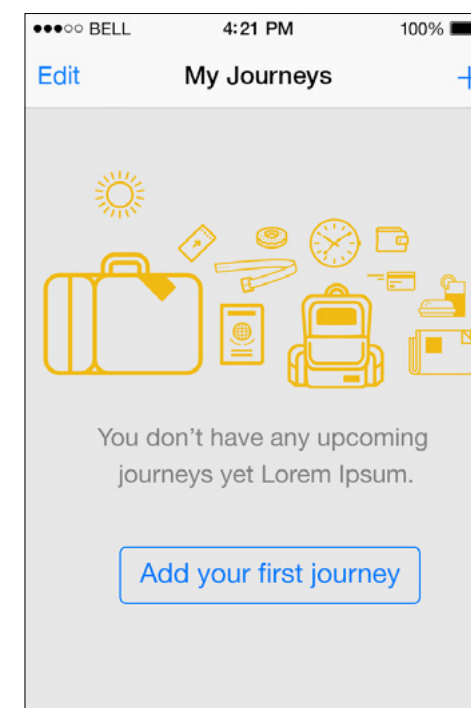
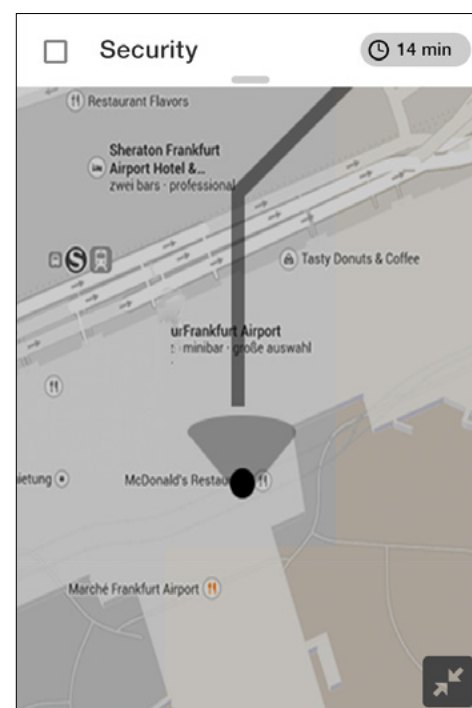
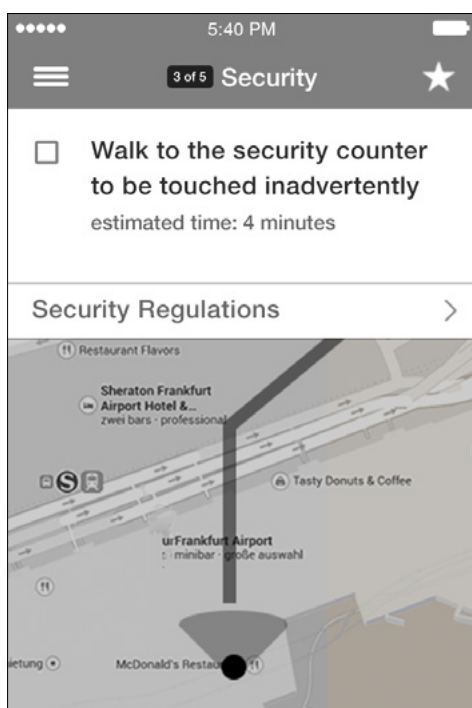
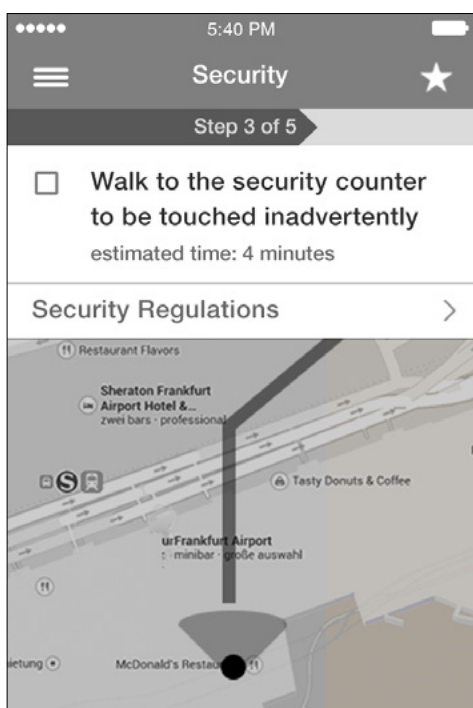
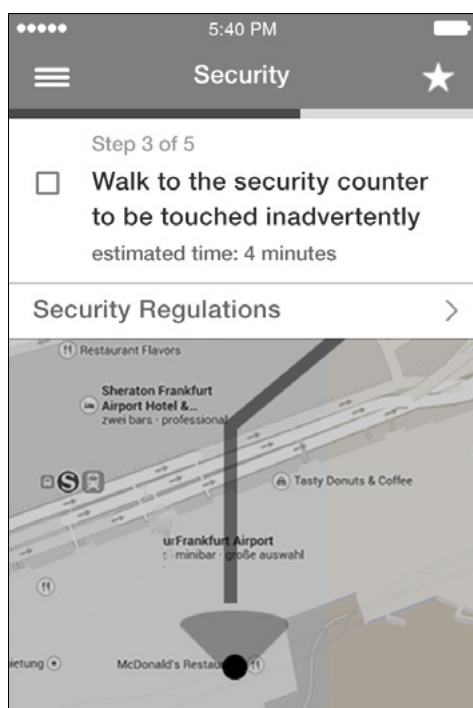
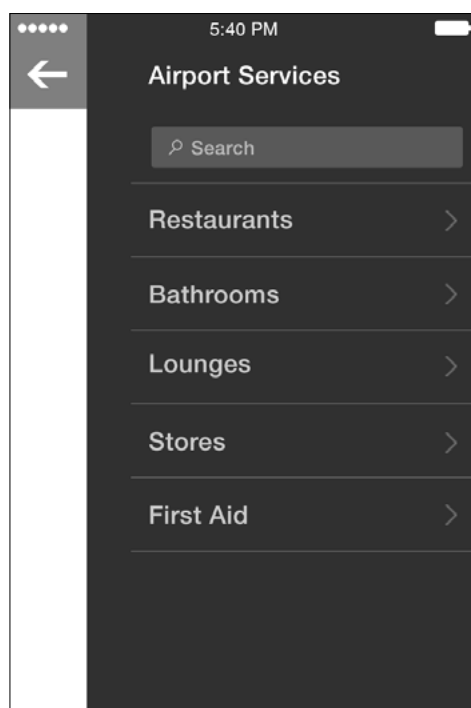
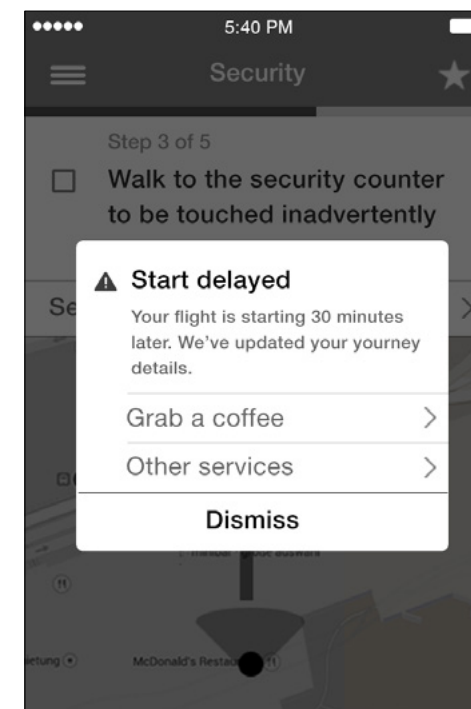
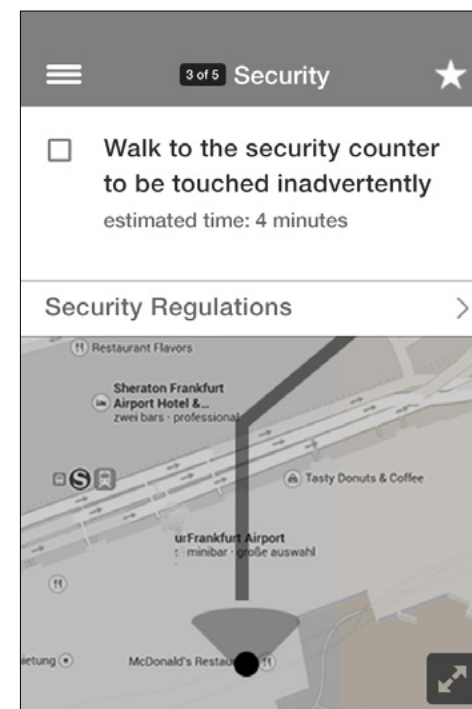
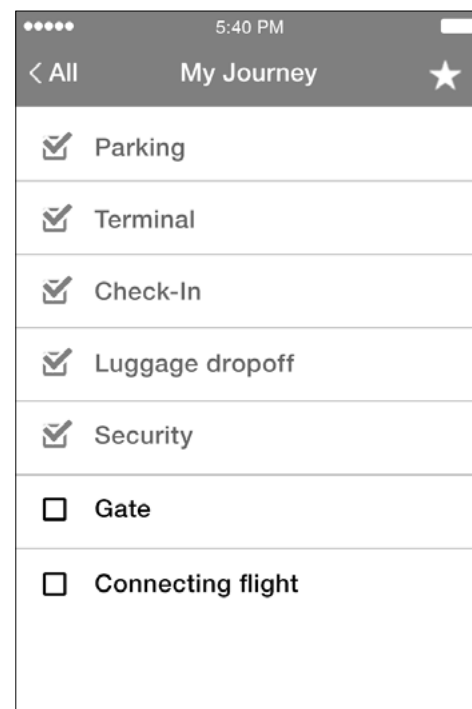
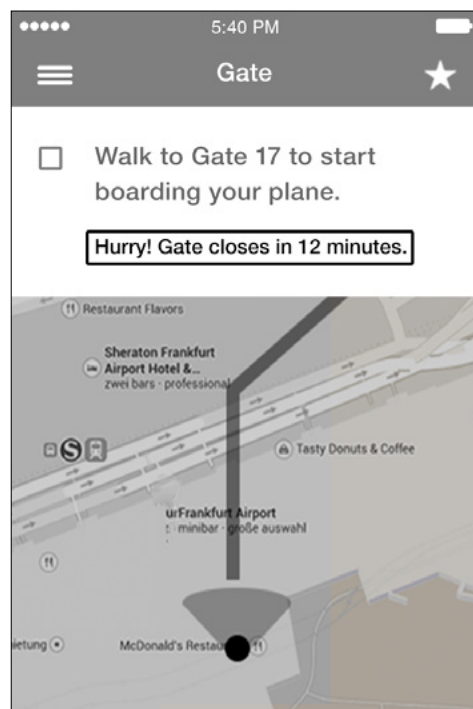
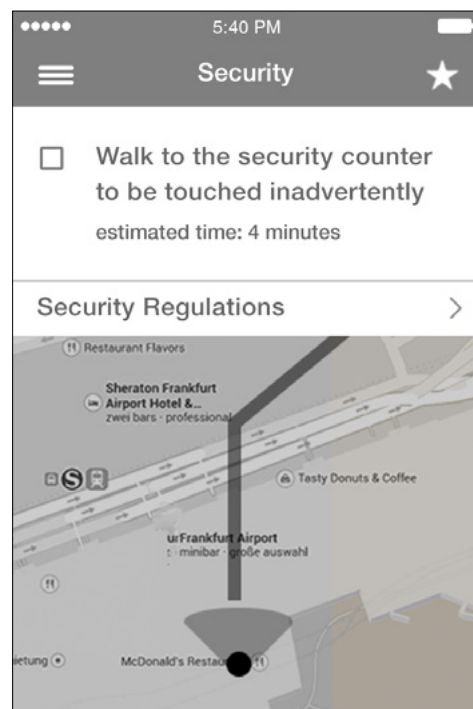
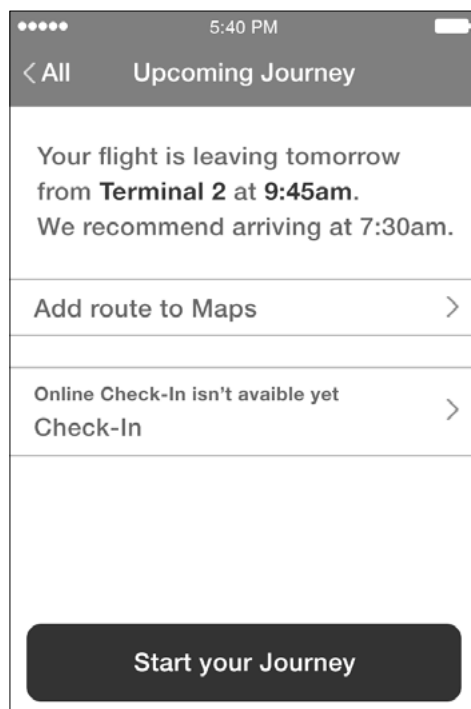


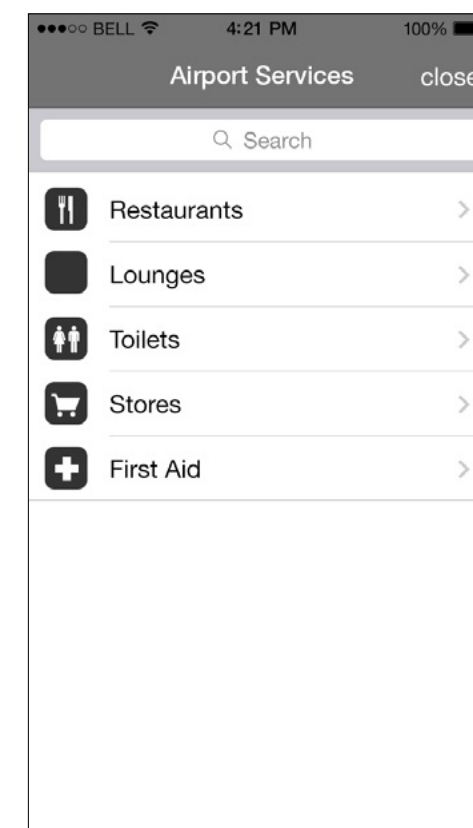
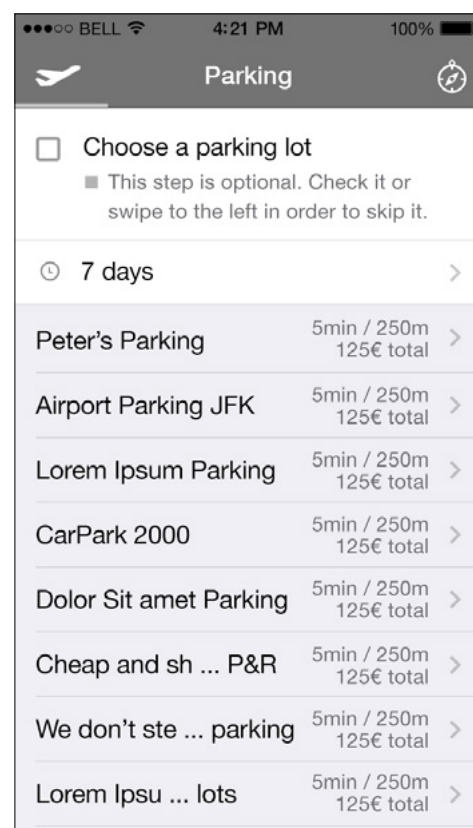
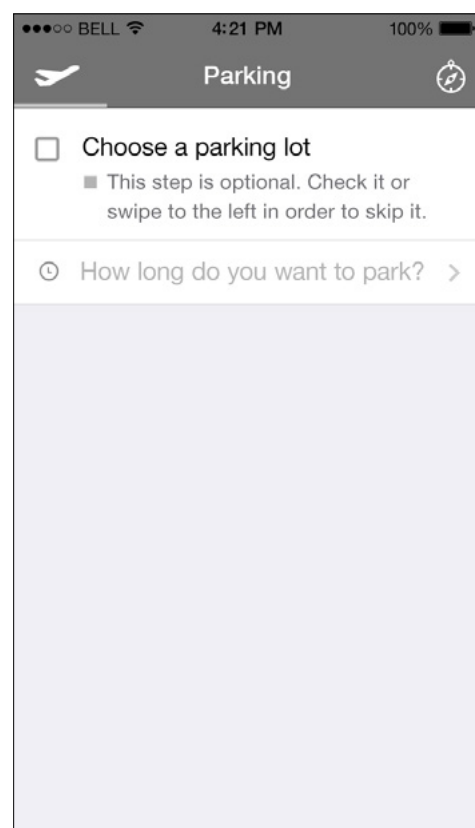
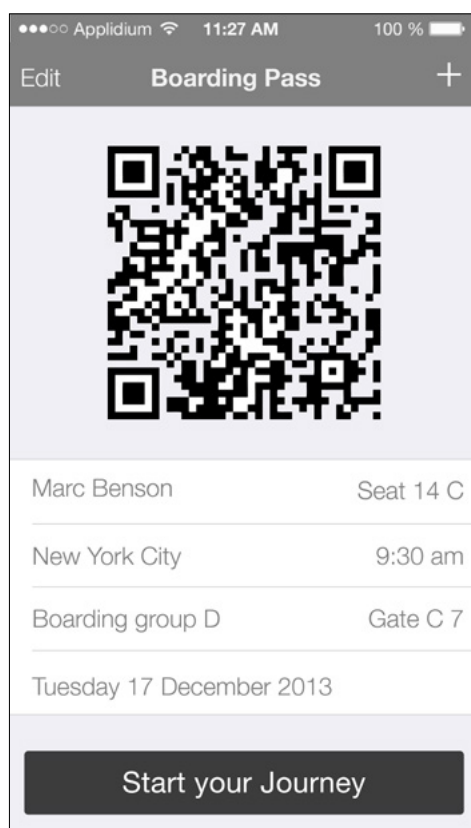
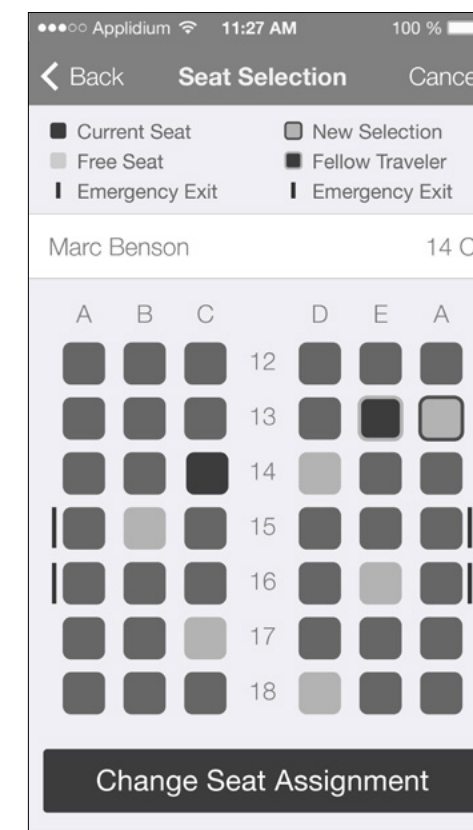
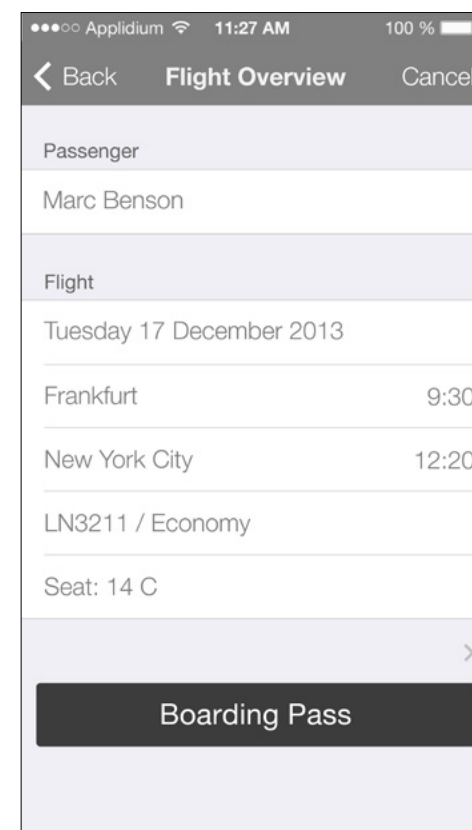
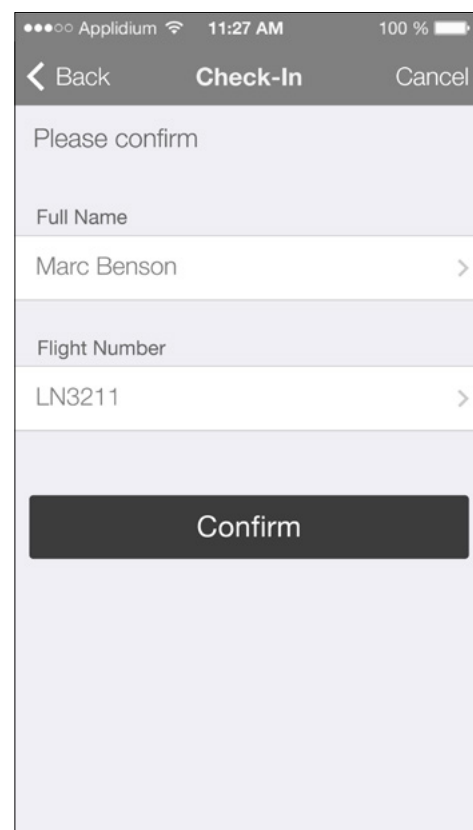
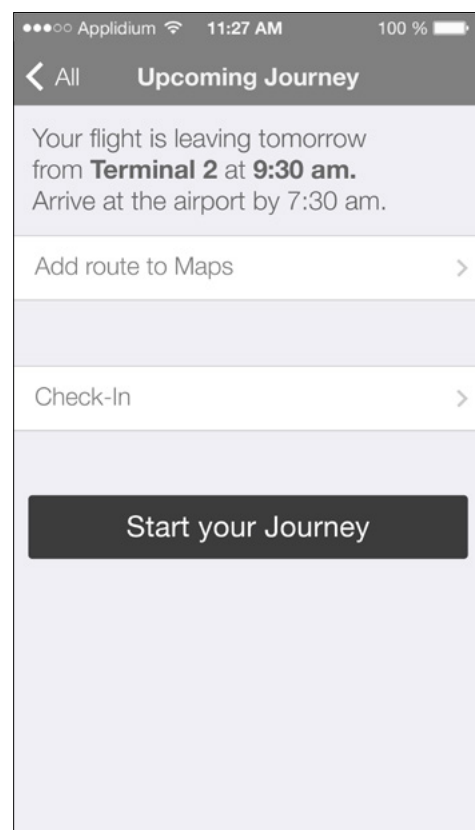
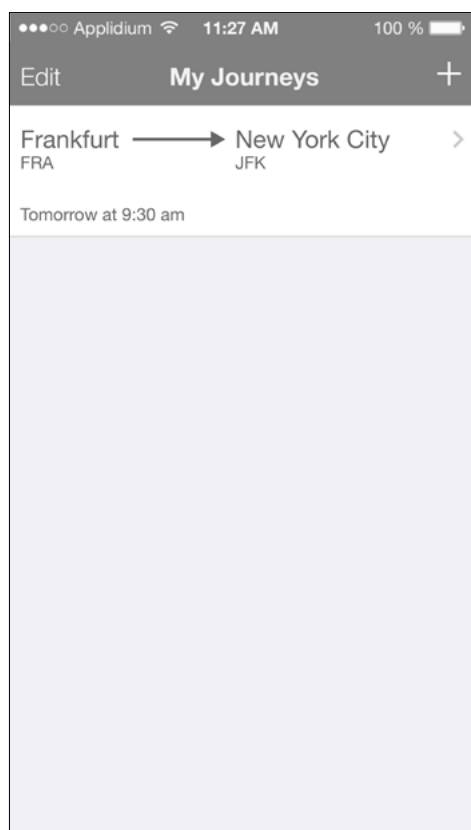
From the card sorting, we created the new information architecture for our application. We defined all of the details of the process. We decided to have our application flow from one feature to the next as it guides the user through their flying experience, instead of having a main menu where users can select tasks or features. This flow follows the process of navigating the airport, and makes it clear what users should be doing and where they should be going. It is vital for the navigation of the app to be easy, because the whole goal is to simplify flying. Navigating the airport is a step-by-step process, not a series of unrelated tasks and we felt this must be conveyed in the application.

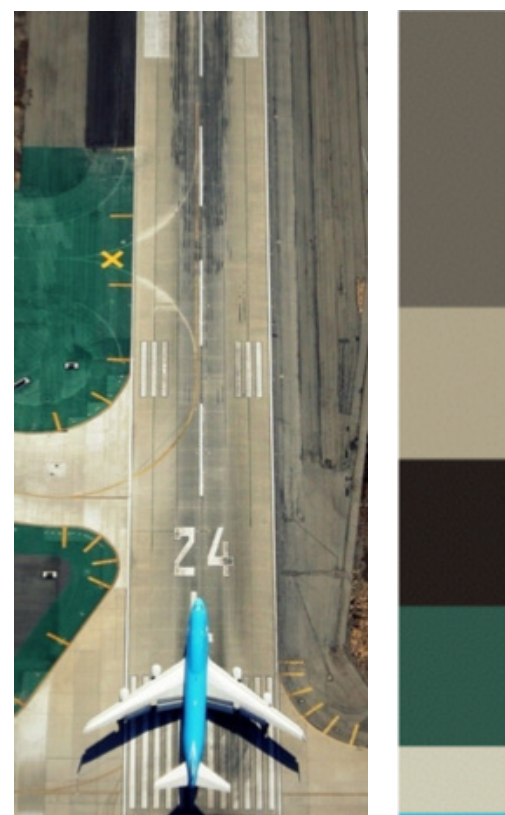
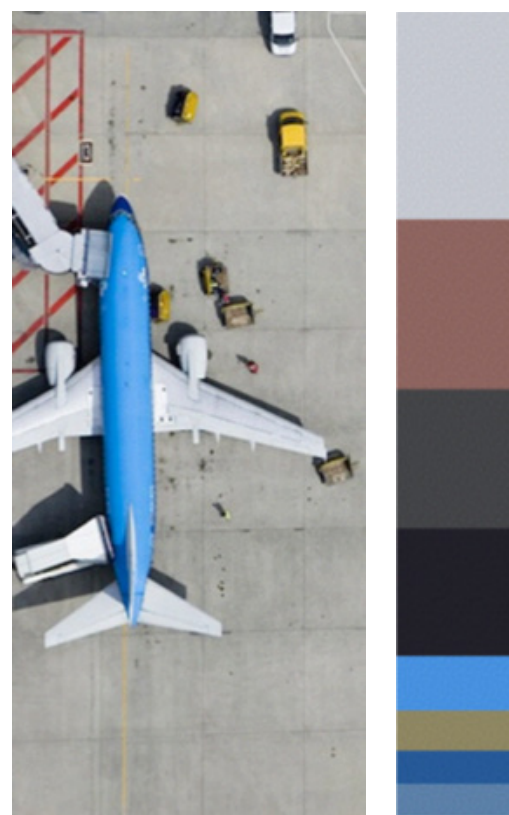
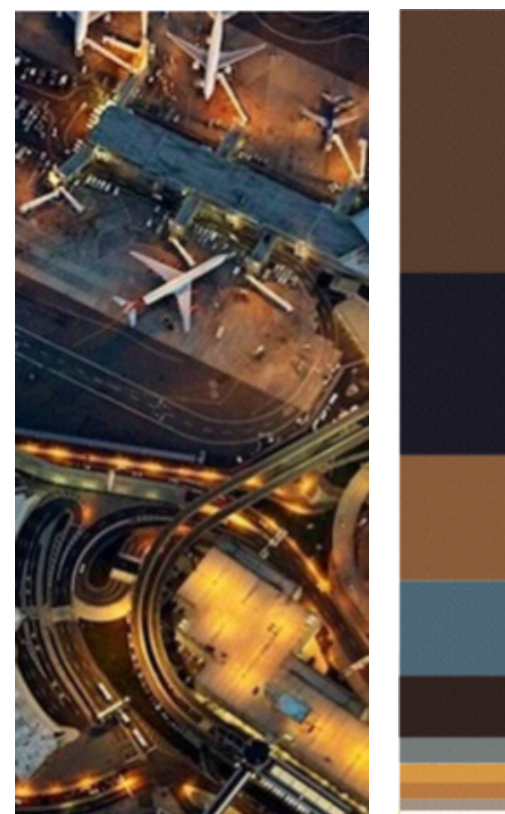
Using this new information architecture we began to explore the layout and screen navigation through wireframes. It was important for us to convey that our application followed a process that mimicked the process of navigating an airport. After exploring several concepts of how to display this process,

we settled on using a checklist to guide users through the flow of the application. The checklist is an easy way for users to see what steps of the process they have completed, and what they still must accomplish. It also provides an easy way for more experienced users to skip to the next step. It was important to us to include access to services

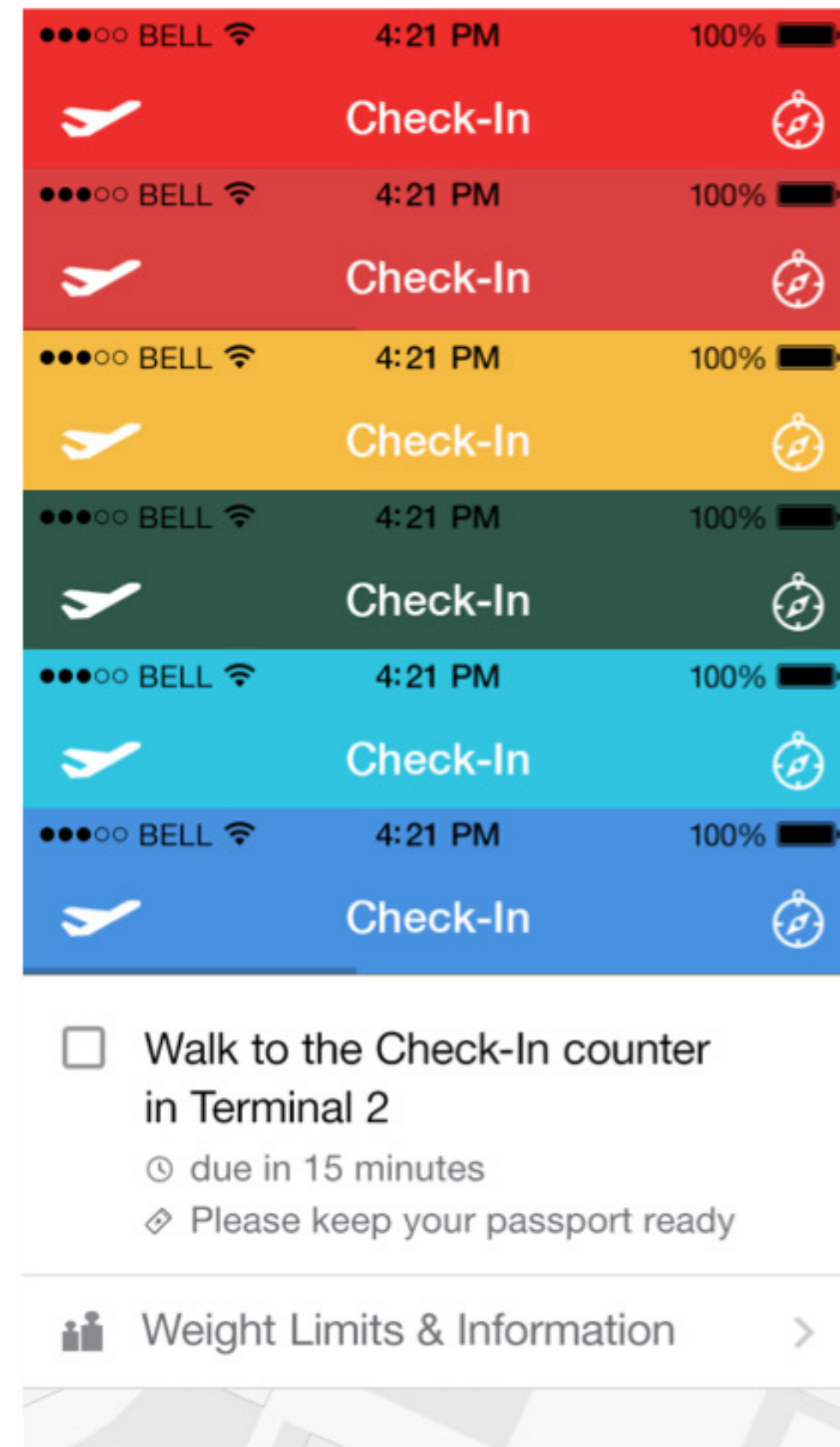
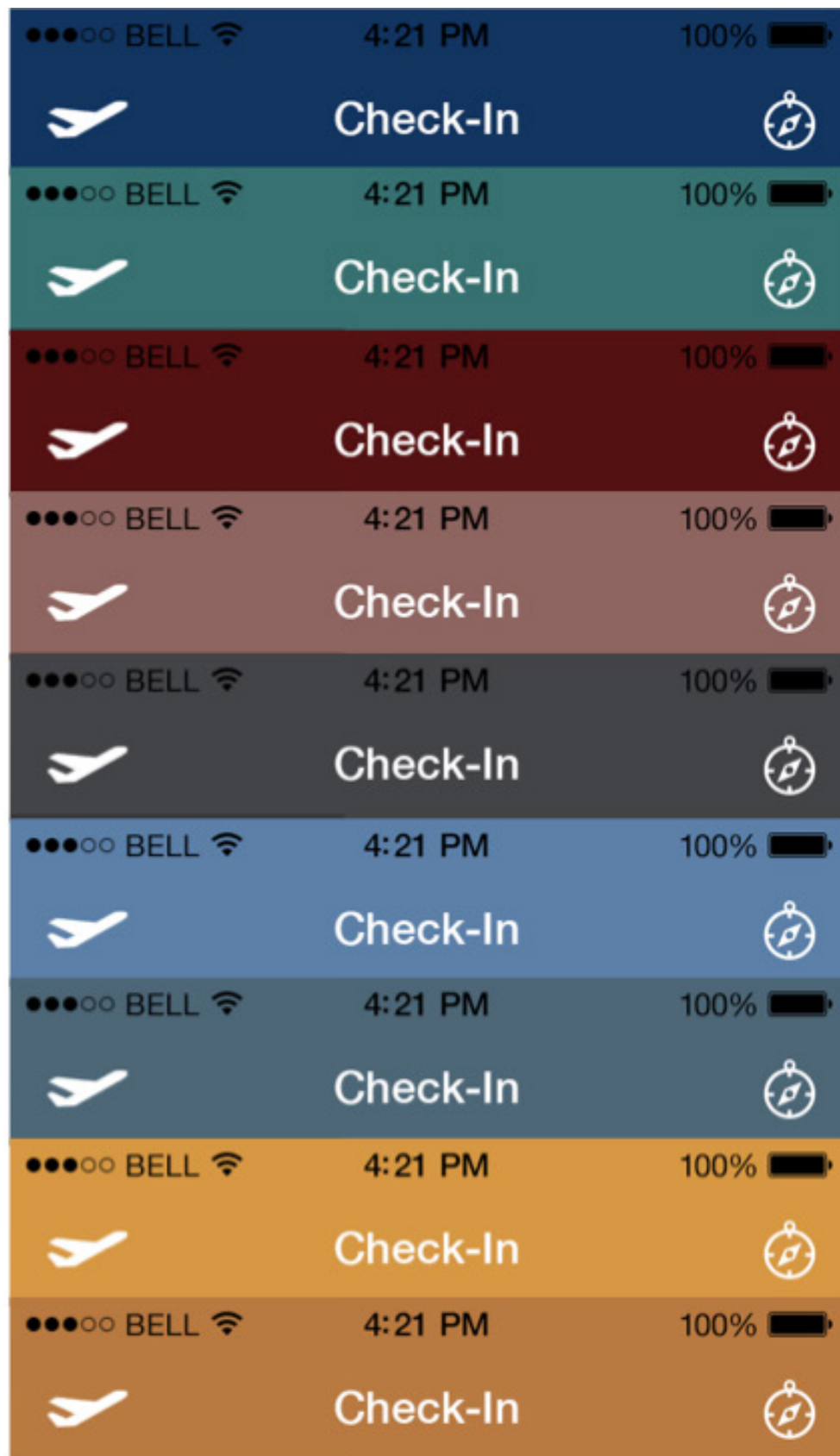
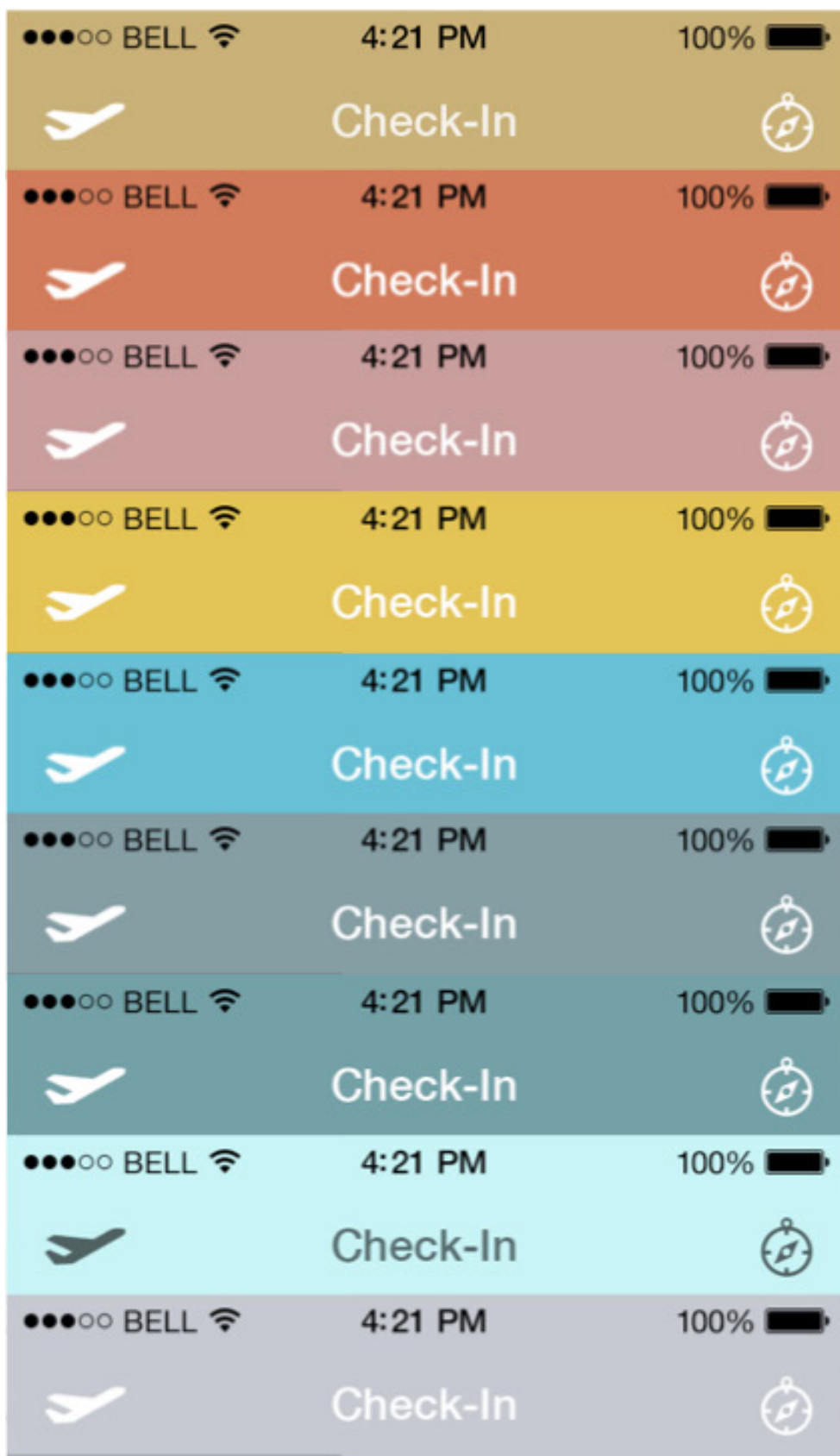




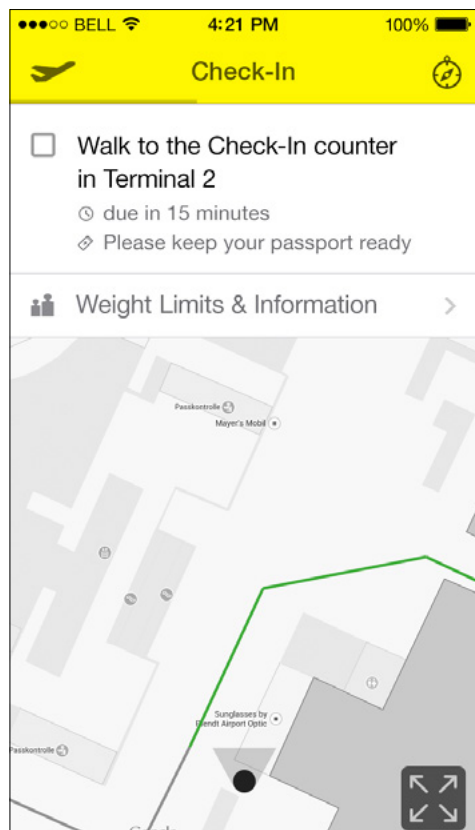




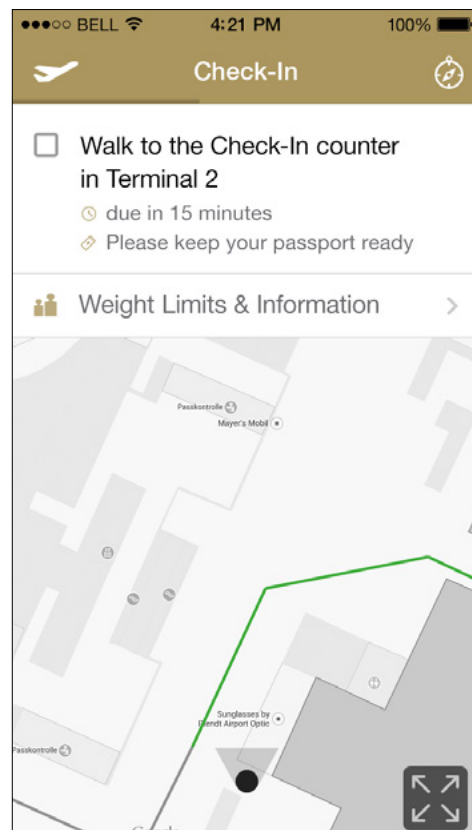
We investigated different color schemes for the application, and tried to find one that was appropriate both for the airport environment and the IOS 7 style. Initially, we considered options with multiple colors, however we decided this was too loud for our application. The goal was to create a very clear application, so we decided to use color sparingly. The top banner is a light blue, highlights are orange, and everything else is white or grey.



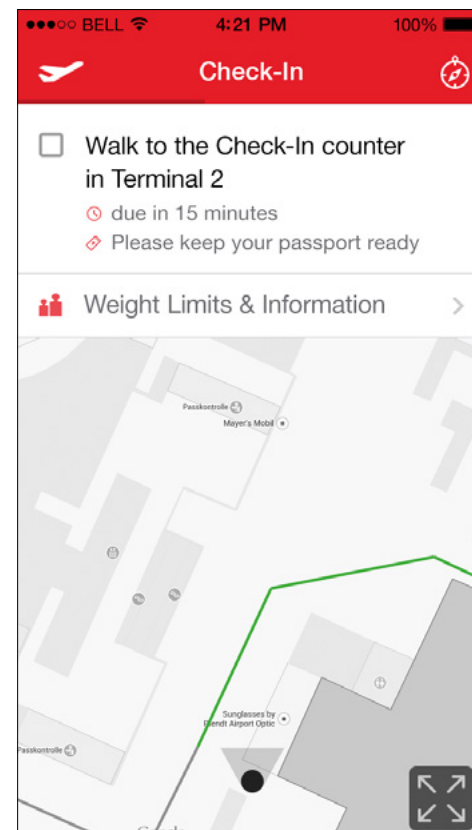
We also considered changing the banner for different airlines; however, we found this might be confusing for the user when switching between different airlines.



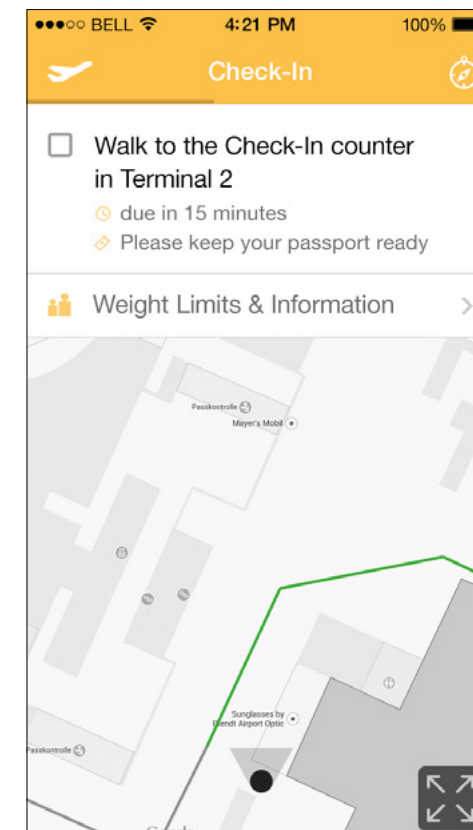
TUI-Fly



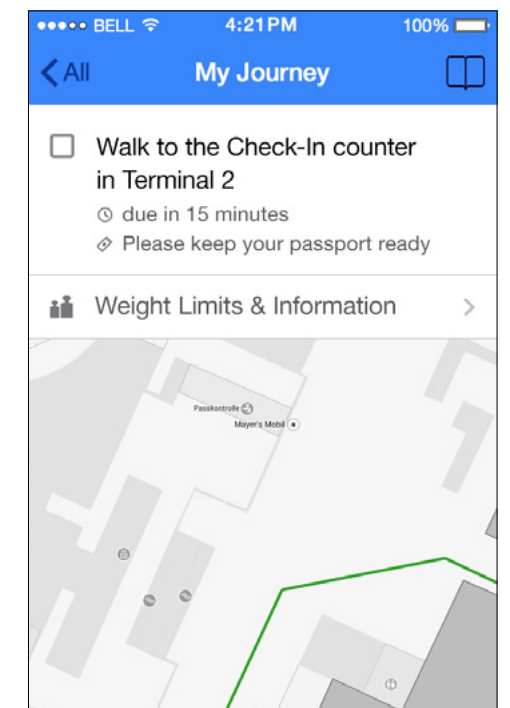
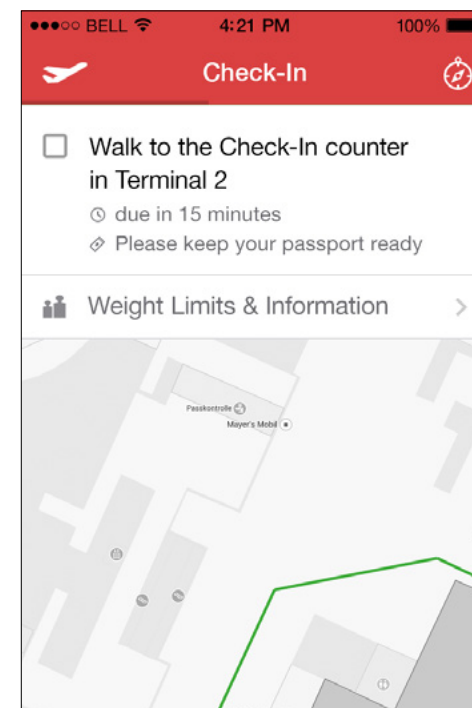
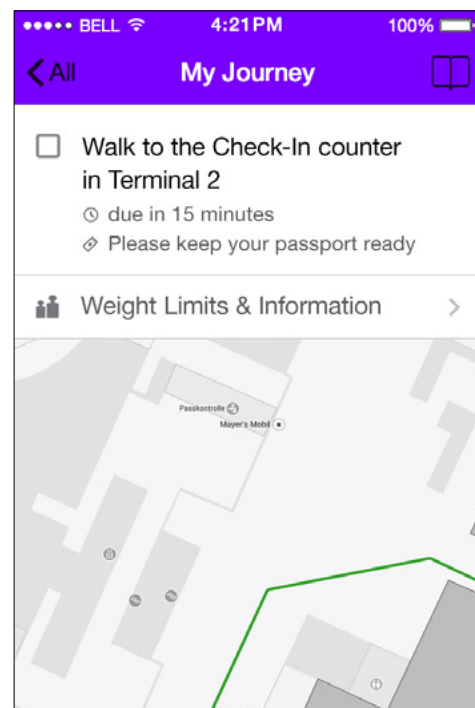
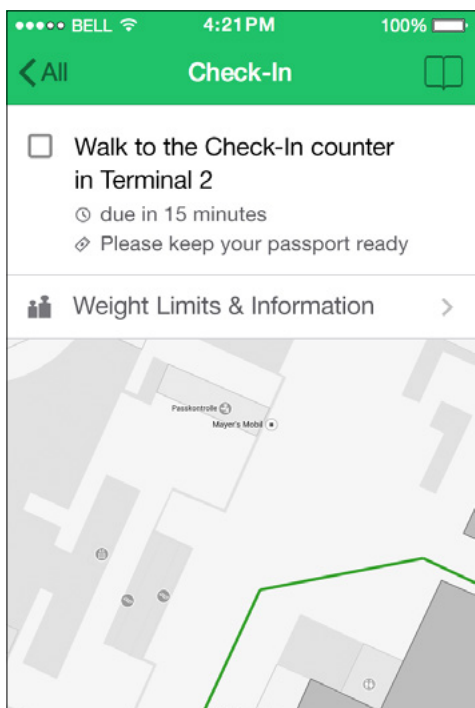
Etihad Airways



American Airlines

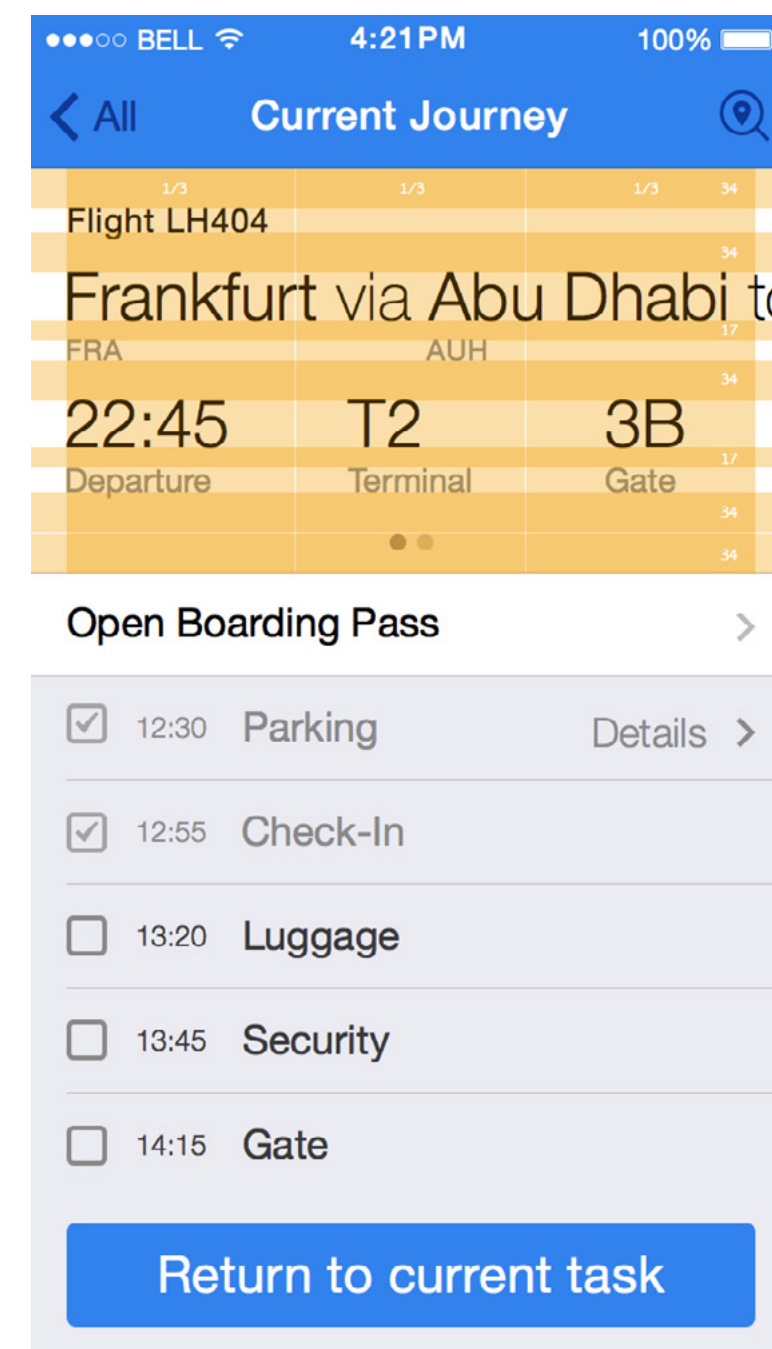
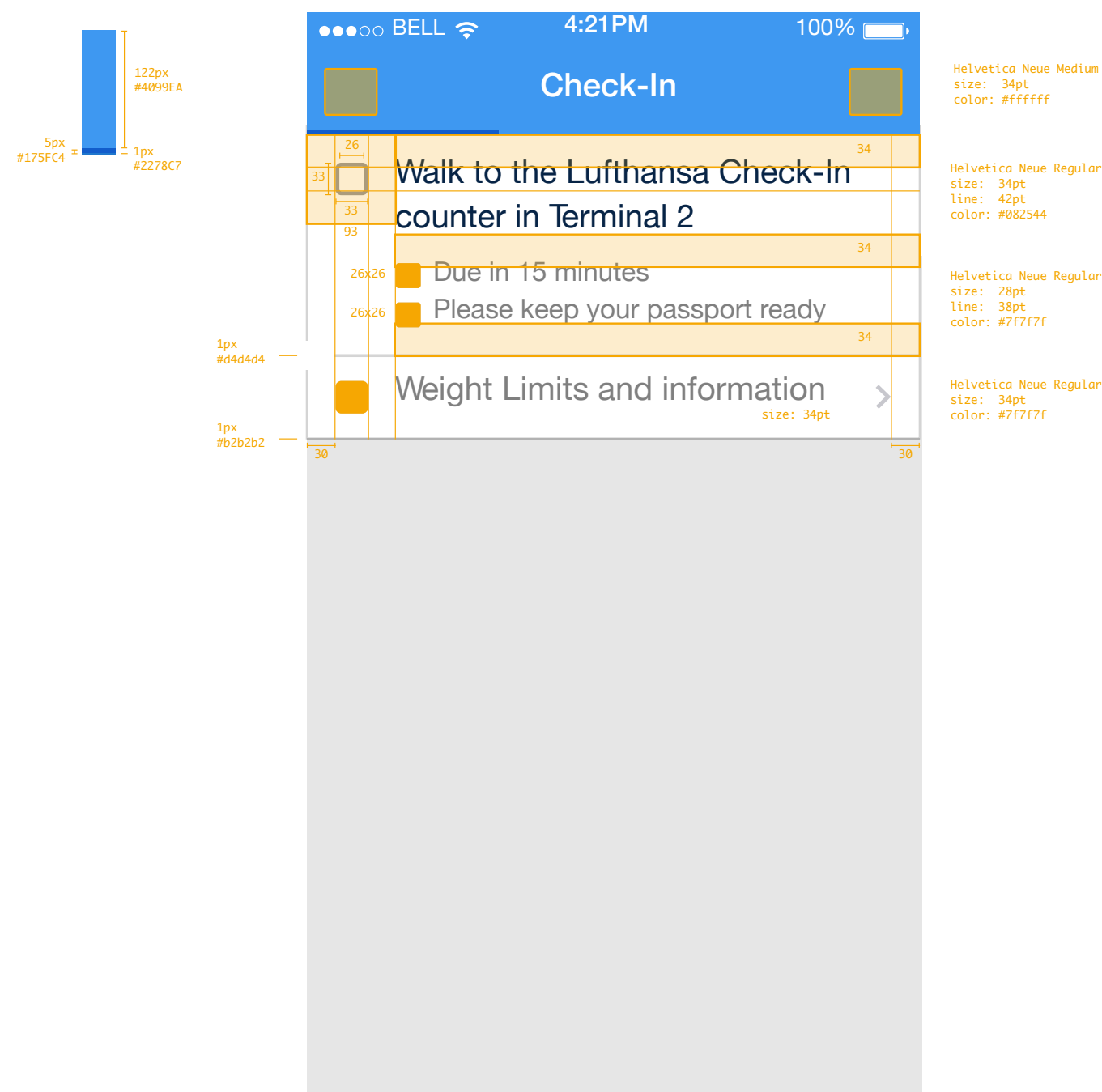


Lufthansa



Final

The IOS 7 guidelines were followed when developing the grid for our application. It was important to have a clear hierarchy of information. On the Journey Page it was important to balance the necessary flight information with the journey list below. Balance was also important on the process screens where we had to display the information about the step with a map.



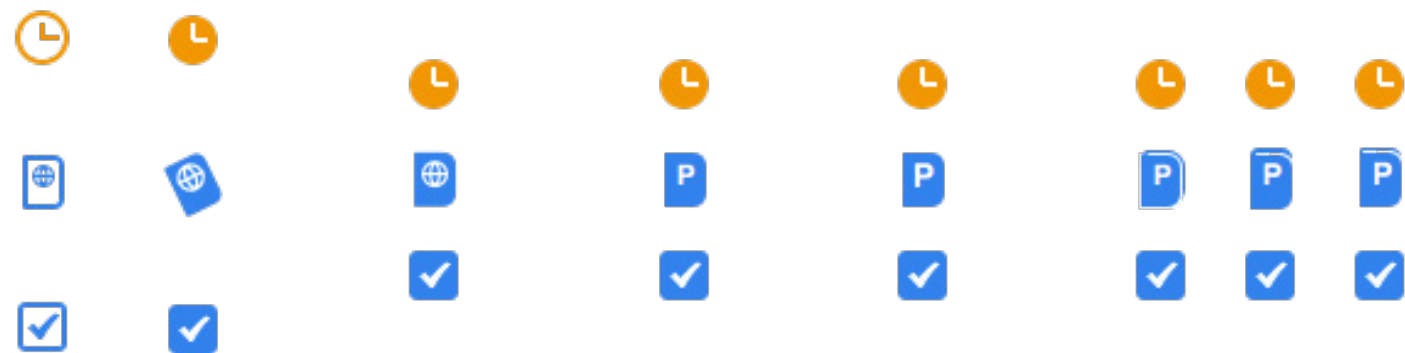


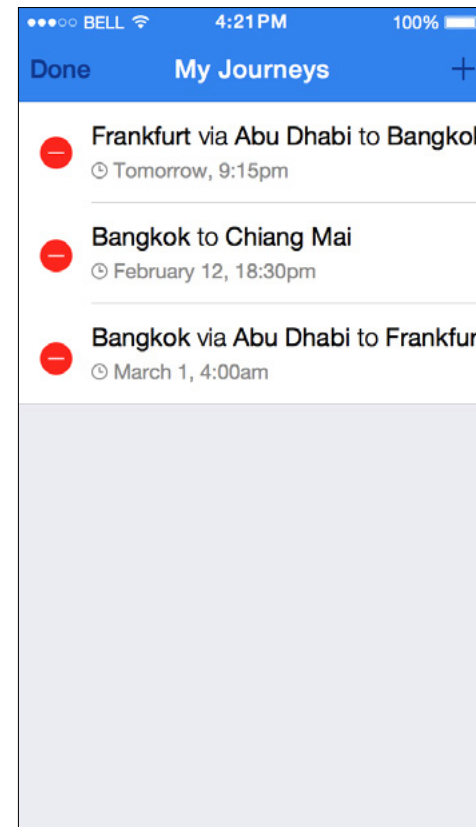
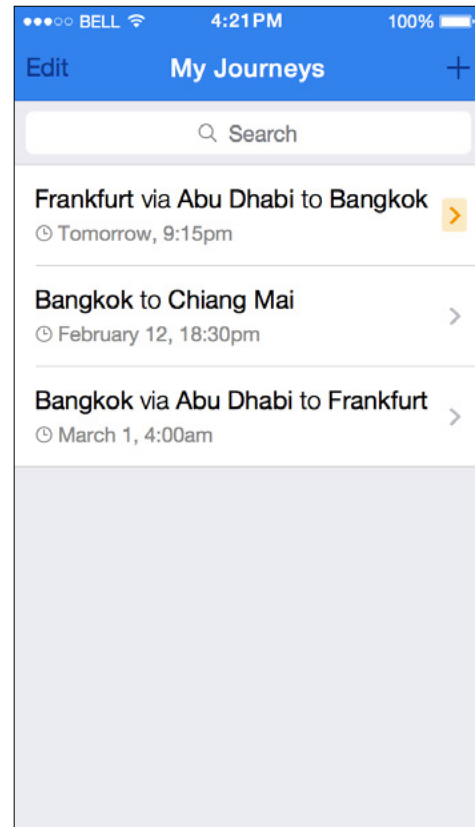
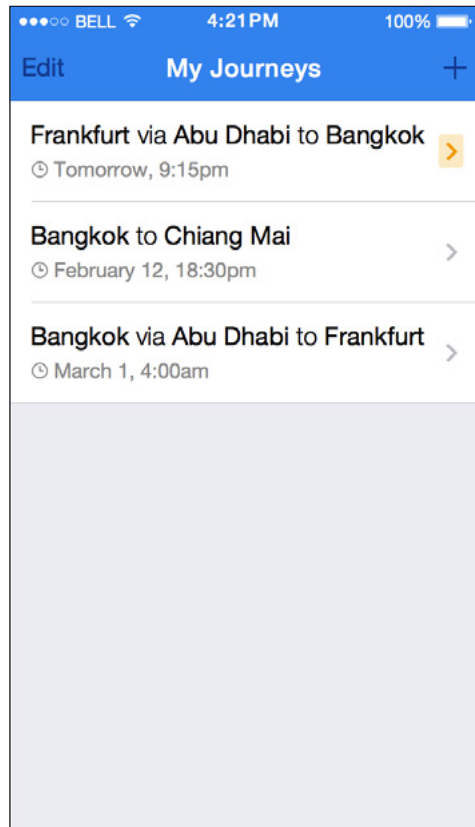
For the toolbar, we developed icons for the journey page and airport services. It was a challenge to find icons that adequately conveyed our idea within the small space allotted for toolbar icons. For the journey page, we thought about visuals that a user might associate with a flight journey including a suitcase and a plane. However, we felt that a graphic conveying a list was more specific to our journey page because it

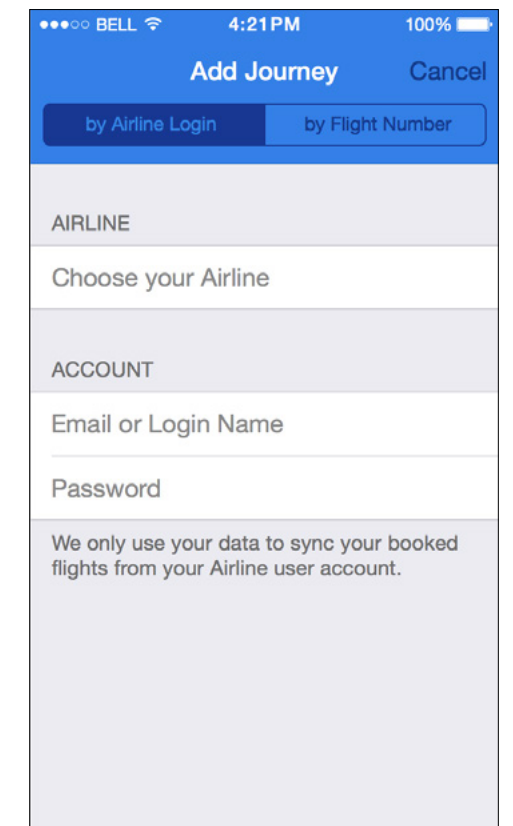
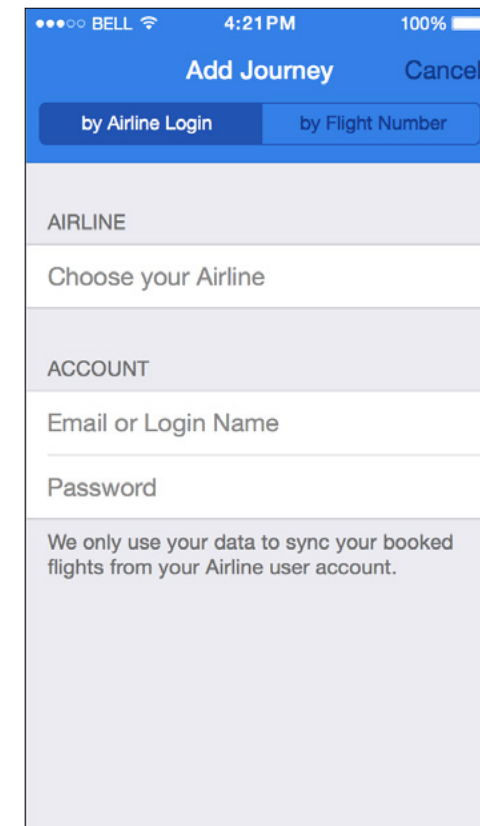
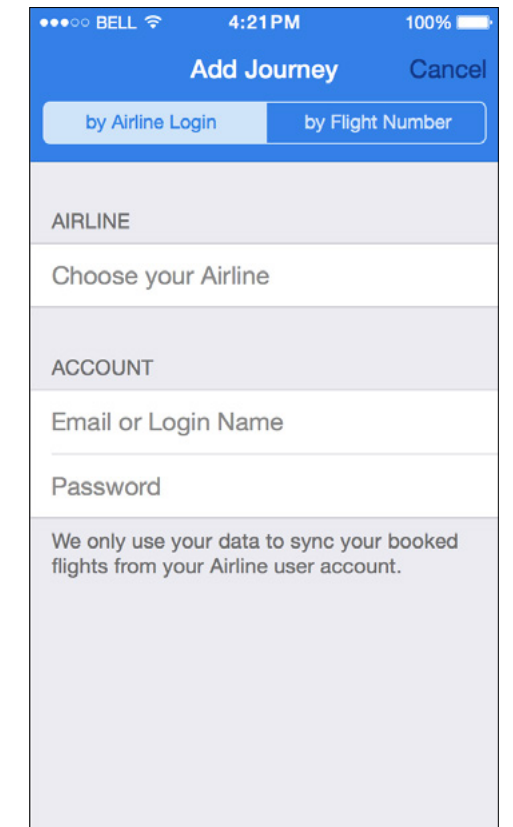
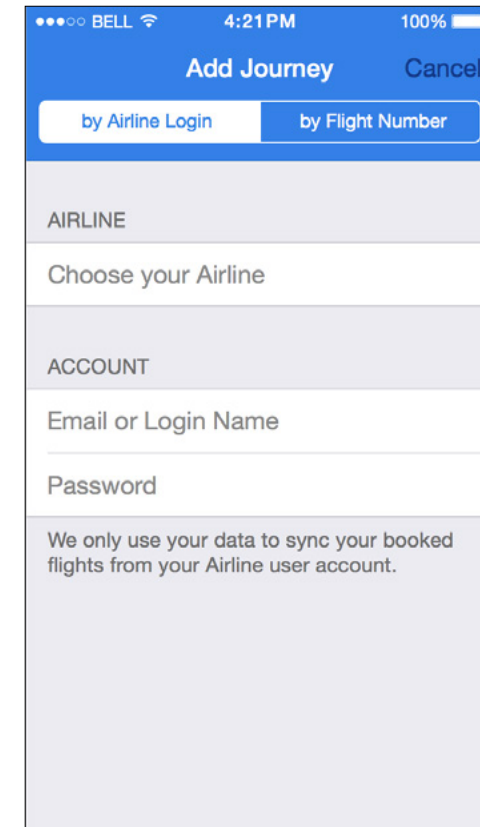
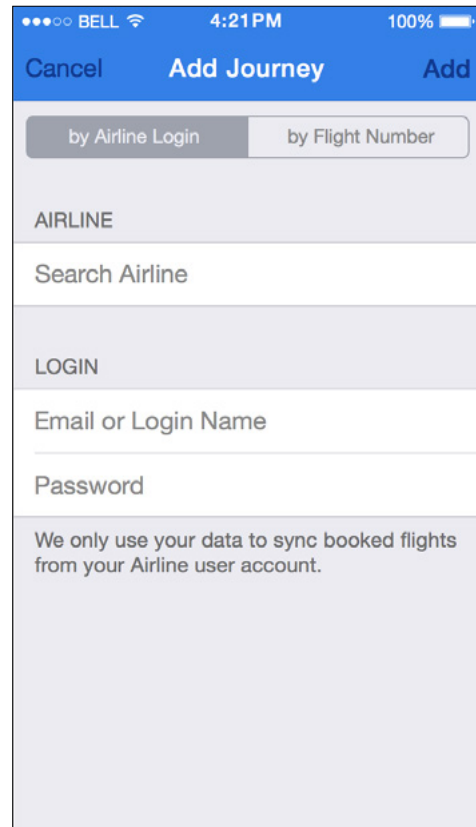
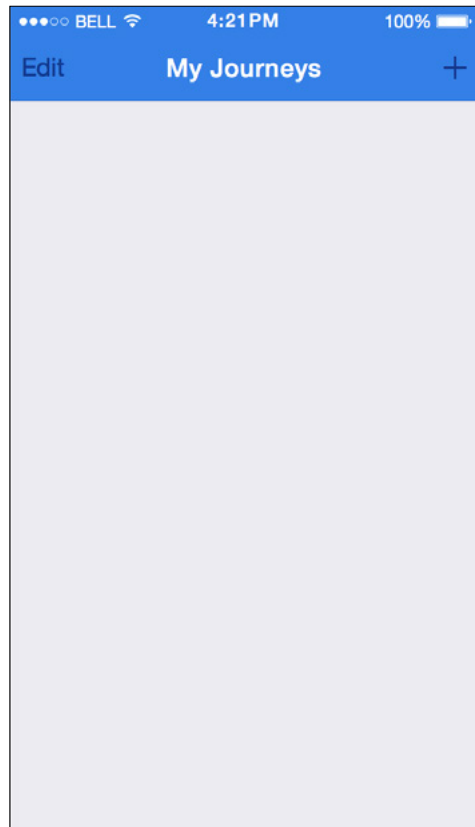
shows users how to navigate the airport using a list. For airport services, we were unsure of how to represent the functions of the feature. We explored many information symbols, and found that a location marker with a magnifying glass was the best option. This shows the airport services provides the ability to search for specific services and find their location.

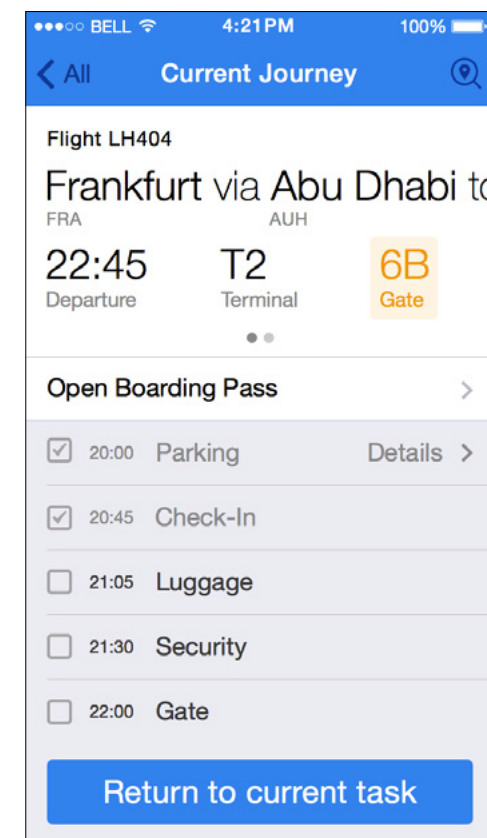
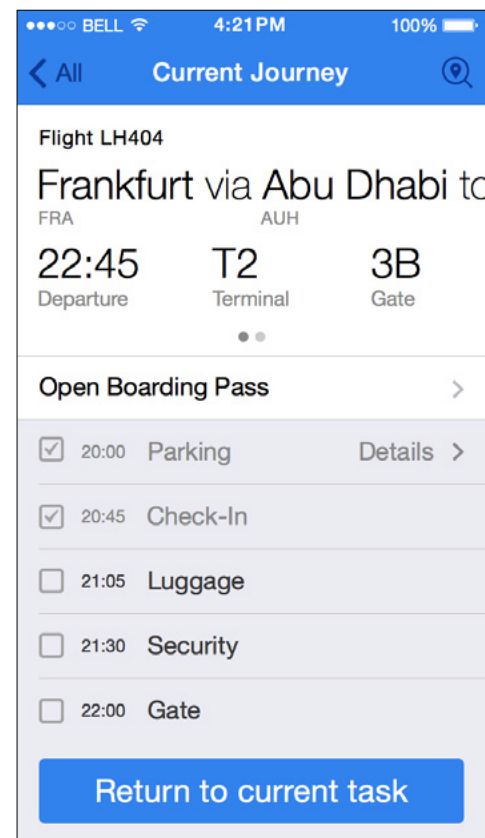
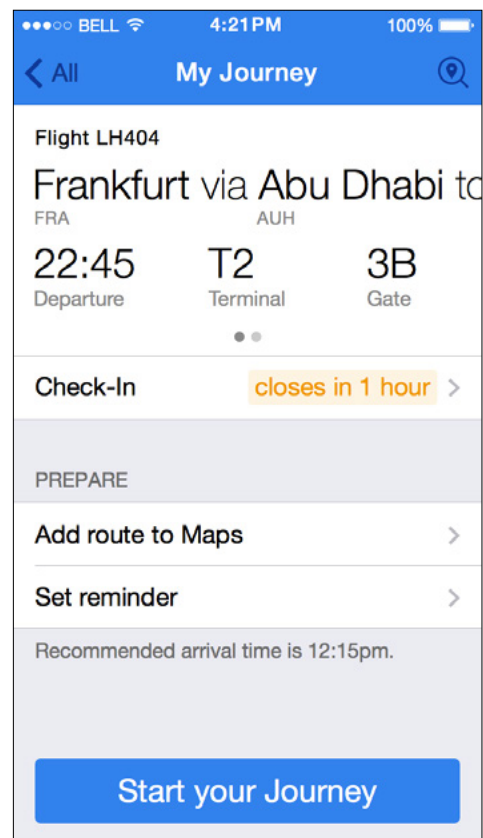
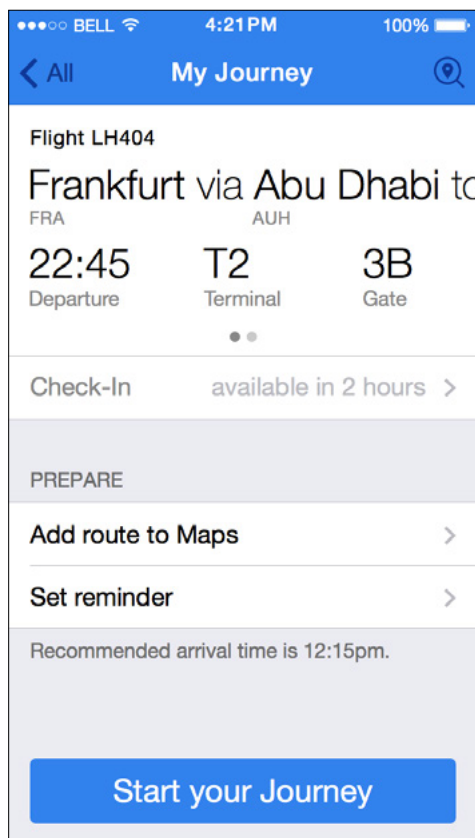
With the icons in the process screens, we had even less space to use. First, we explored the checkmark trying to find a clear and simple solution. Then we focused on reminder icons beneath. We considered icons that were just lines, and also icons that were fully filled with

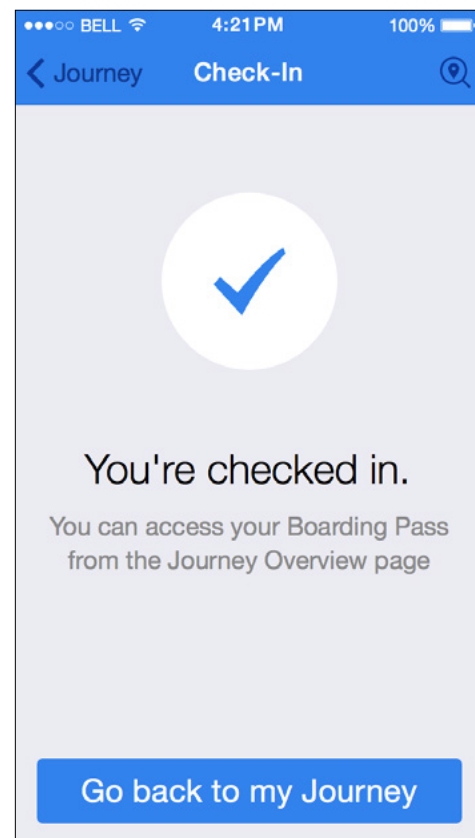
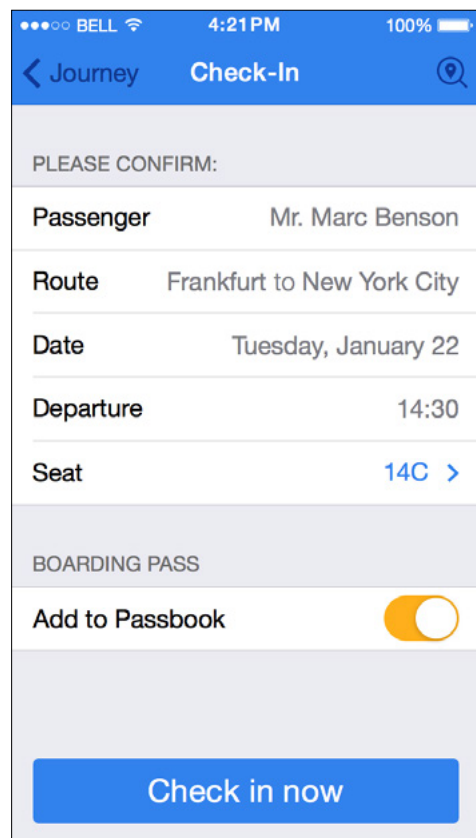
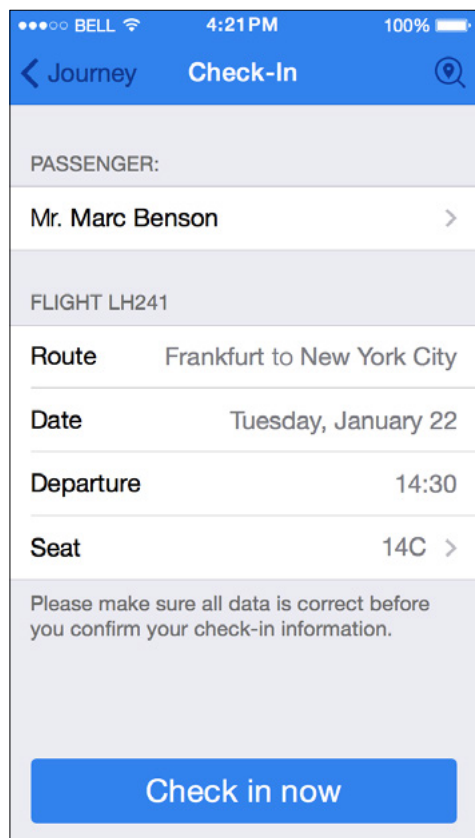
color. The icon for the time reminder was clear with a clock, and the skip a step icon was clear with a checkmark. We had more difficulty finding an appropriate icon for the passport reminder, and made many different variations to find an icon that was obviously a passport.

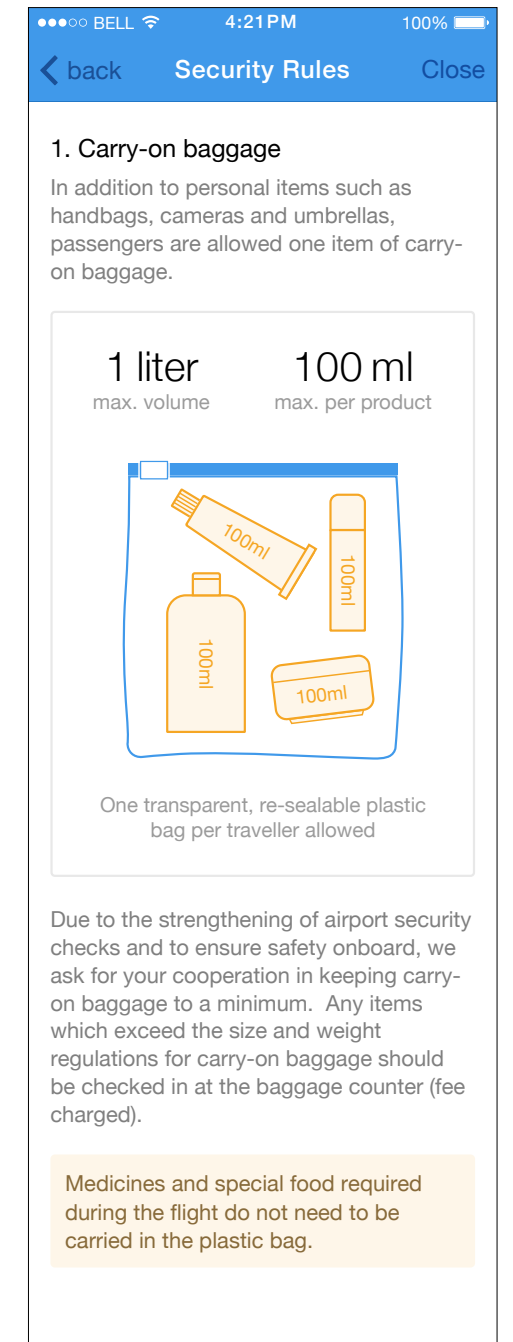
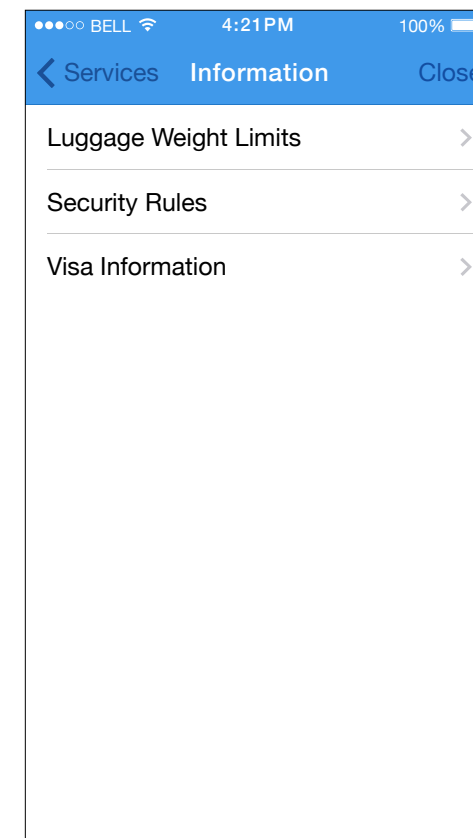
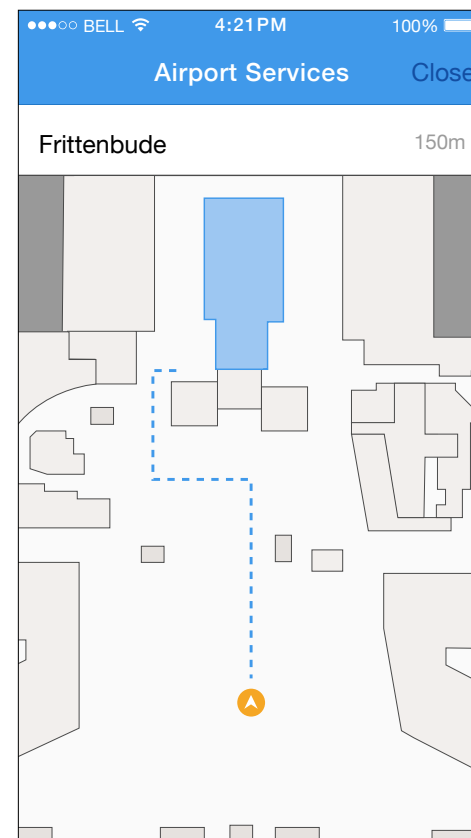
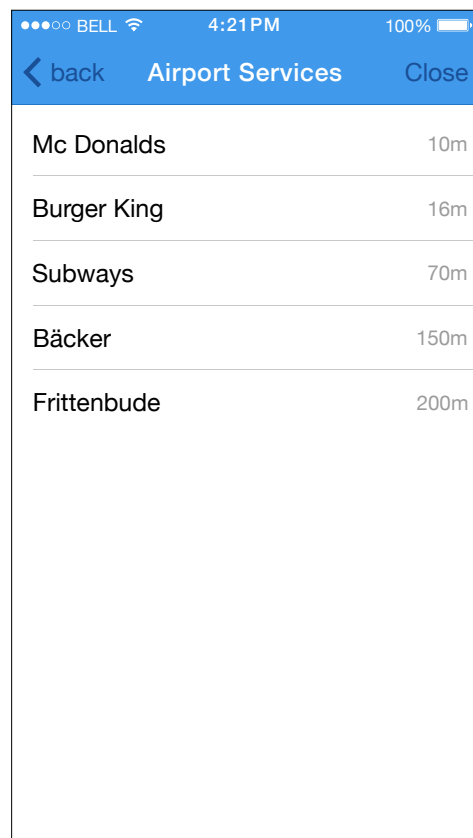
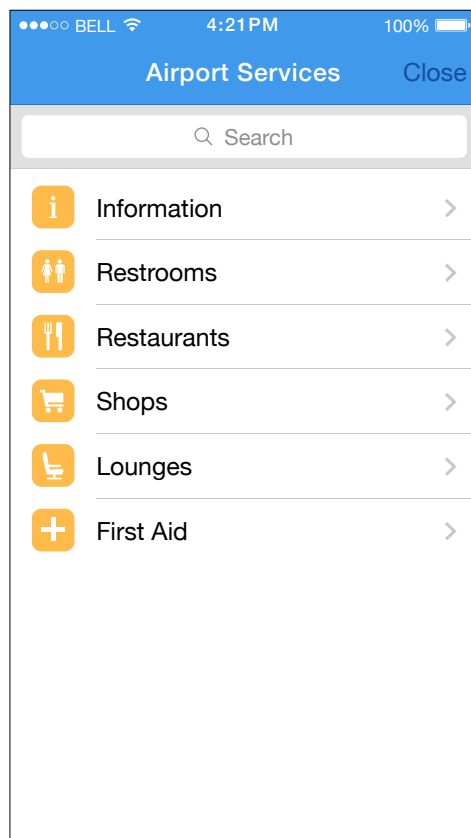


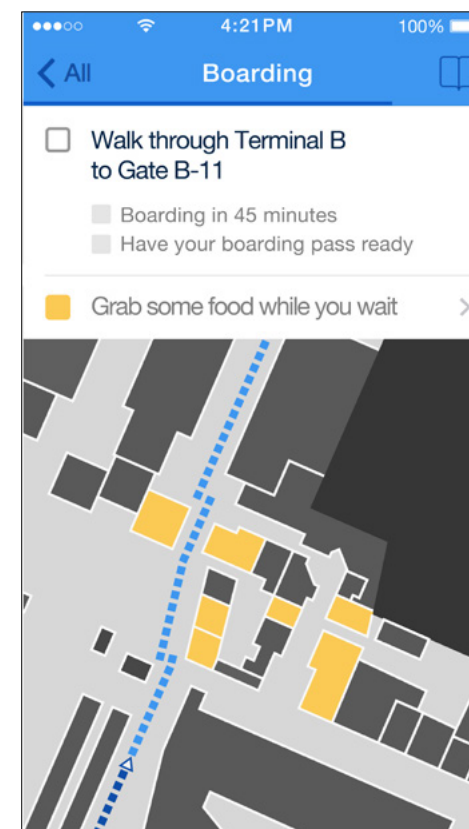
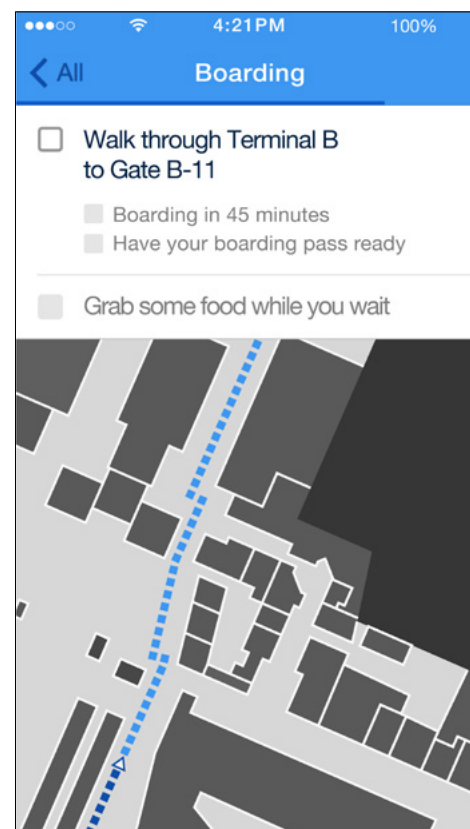
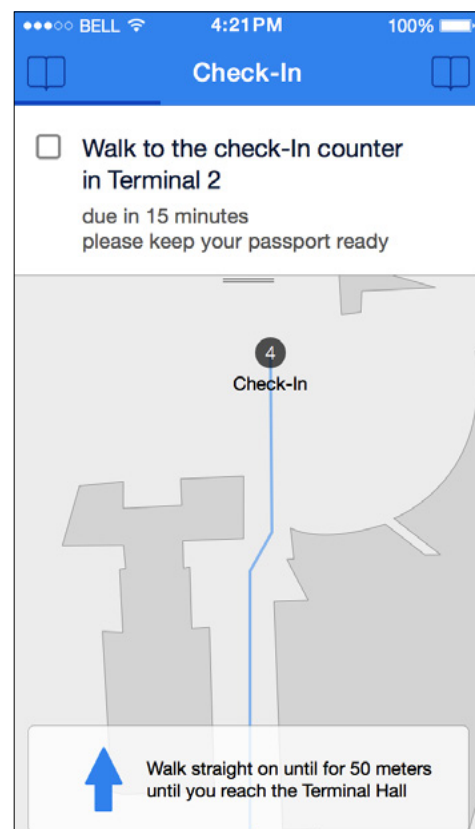
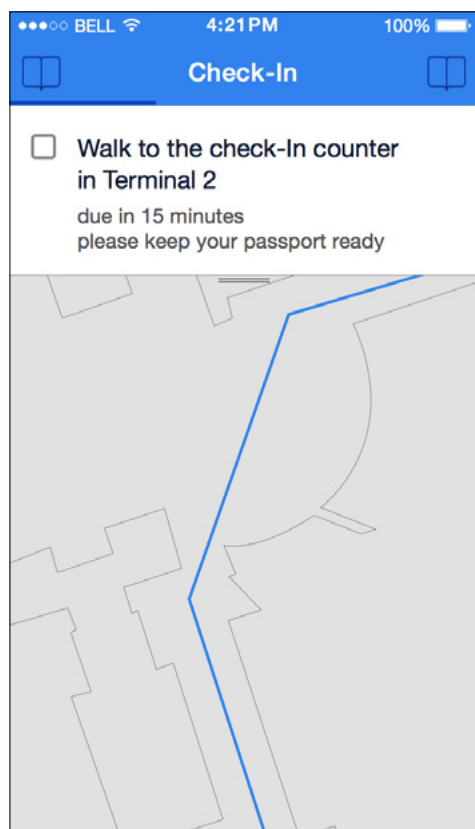
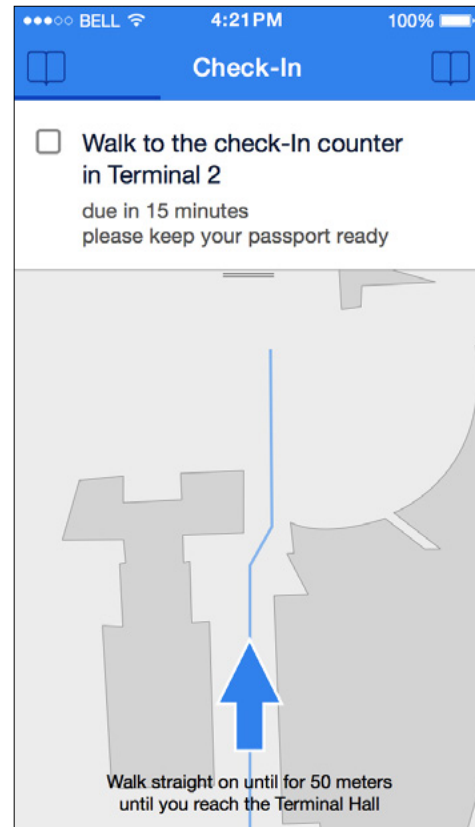
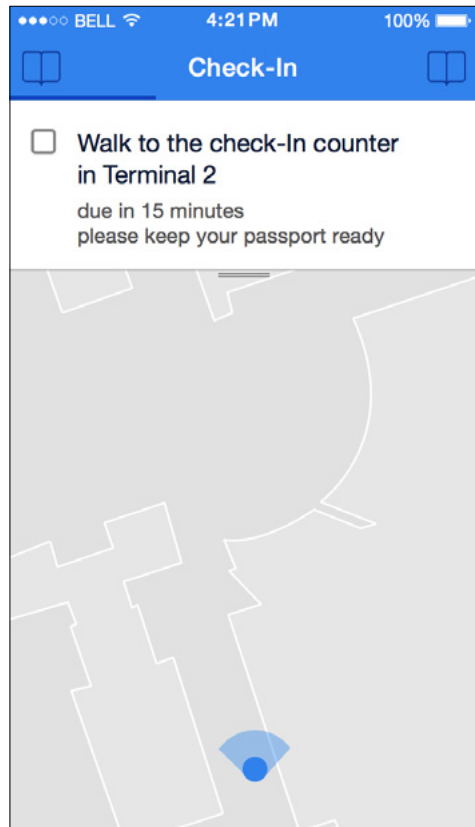




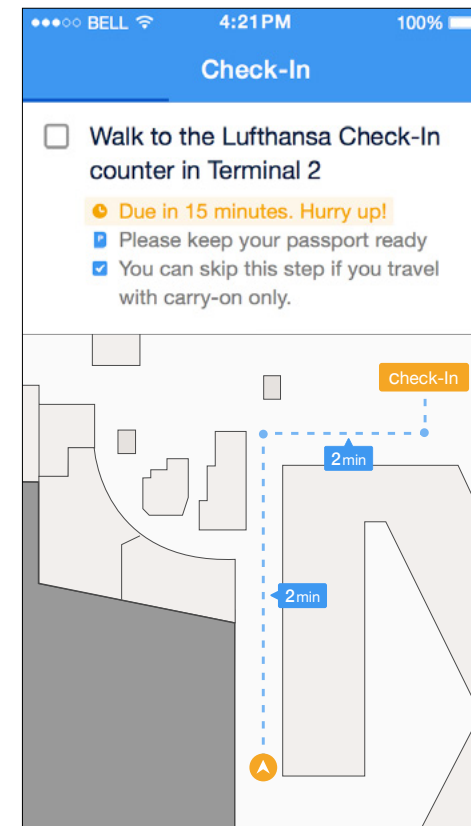








It was important that the maps were as clear as possible, and so we focused on how to provide all of the relevant information without overloading the screen. We played with different color variations, and considered the use of perspective to enhance the user experience.



Ultimately, we found that lighter greys within the airport were best to display the overall layout of the airport with orange and blue used to highlight key locations. The key feature of the maps is their ability to lead the user to the necessary points in their journey through the airport with the cursor and journey line. The cursor provides the location of the user in context with their environment; while the line details the path they must follow. A simple circle with an arrow was the best solution because it provided location and direction without too much visual clutter.

