Fears on arrival

A take on solving the luggage claim madness

Uber

The design challenge

"A traveler has landed at San Francisco International Airport and ***needs to find her checked bag***.

Create a **low-fidelity interaction flow** that helps the traveler find her bag from her ***mobile app.*** Show 1 high fidelity mobile screens from your flow."

Meet Phil!

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Phil Wornath, 23

Location: Den Haag, Netherlands

Profession:

- Former Online Marketing Manager / Manager Marketing & Communications
- **Currently on:** B.Sc. - User Experience Design

Interests: UX, Marketing & e-Commerce, Tech (Mobility / Fintech)

One more thing about me...

I do travel a lot, but **without checked luggage.**

... so I think, we should not save on **design research** here.

Setup: Research, Analysis & Design

Category	Method / Activity	Budget (target)	Time (actual)
Research	Reading	0:30 h	0:30 h
Research	Interview Setup + changes	0:15 h	0:15 h
Research	Interview - 1 - Caroline Wornath, Leisure traveler	0:30 h	0:18 h
Research	Interview - 2 - Jerome Endres, Business traveler	0:30 h	0:31 h
Research	Interview - 3 - Niclas Schmidt, Adventure traveler	0:30 h	0:26 h
Analysis	User Insights	0:15 h	0:20 h
Analysis	HMW questions	0:35 h	0:30 h
Analysis	Requirements, Rapid ideation + definition of screens and possible functions	0:30 h	0:35 h
Design	Wireframes (Low Fidelity - rapid paper prototype)	0:15 h	0:10 h
Design	Wireframes (Low Fidelity - XD + LoFi UI elements)	1:30 h	1:35 h
Design	Flowchart with wireframes and annotations	0:40 h	0:30 h
Design	High fidelity prototype (1 screen)	1:00 h	0:55 h
Report	Presentation	1:00 h	1:10 h
	TOTAL	**8:00 h**	**7:45 h**

User Insights

***#1 - Travelers get off the plane with individual needs to fulfill**, before & after they collect their luggage - just as **finding a toilet**, log in to the WiFi or finding a ride to the city.*

- The most **common needs** should be covered in the app and presented whenever the traveler might need it, so she has a **practical reason to stay in the app** (navigation to claim area / snack bar / toilet, auto-login to WiFi, suggestions for **further transportation**)

User Insights

*#2 - **International travelers** in the US usually arrive **without data plan** / sim card and thus stay offline for an uncertain amount of time*

- **Core functionalities** of the app (airport map, predictions) **should be available offline**, while during waiting time, the app could guide the traveler through the jungle of airport wifi networks and show, where to get the best SIM card

User Insights

#3 - Waiting time in the baggage area is most commonly perceived as **wasted time -** In addition to that, travelers with checked luggage are **often driven by fears** ("Will I ever see my luggage again, When will it be there - and in which condition?")

- Travelers should be fed with actionable input, relevant for their current situation during the whole airport arrival journey. **That includes live-updates and estimates for their individual luggage, as well as suggestions on how to spend the waiting time:** e.g. go to toilet or check ways of transportation

HMW (How might we) - questions

#1 - How might we provide the traveler with curated information during her arrival?

- Individual user settings / preferences
- Surveys
- Make use of AI / Show options based on historic data collection of travelers intentions and movements in different airport sections (heat cameras, flow tracking, Bluetooth/ WiFi) - What is the user's first point of interest in this particular section ? Toilet, Snack machine, SIM card vending machine, Phone chargers?
- Display choices in a conversational UI
- Show travel information (Cabs - e.g. UBER (highlighted as fastest), rental cars (commission for UBER?), (public transport)

HMW (How might we) - questions

#2 - How might we make the app ready for offline use?

- **Offline airport maps with all point of interests** (Open Street Maps?)
- **Before flight:** Fetch available airport information (est. processing times, if plane arrives at XX:XX on Terminal X, after landing shows information based on final position on the runway)
- **On arrival: Indoor iBeacon transmitter** (provides information of next possible steps at the current location:
  - WiFi network information
  - List of baggage claim points with flight code and est. waiting time (app takes only the relevant information)
- **Every baggage claim section has Bluetooth connectivity** and outputs the Baggage claim area number as network name
- With the information taken from the iBeacon transmitter, **app evaluates the user's location** by matching Bluetooth access points nearby and accordingly updates location on map, while showing estimated waiting time for luggage and keeps on showing possible actions based on est. waiting time and location

HMW (How might we) - questions

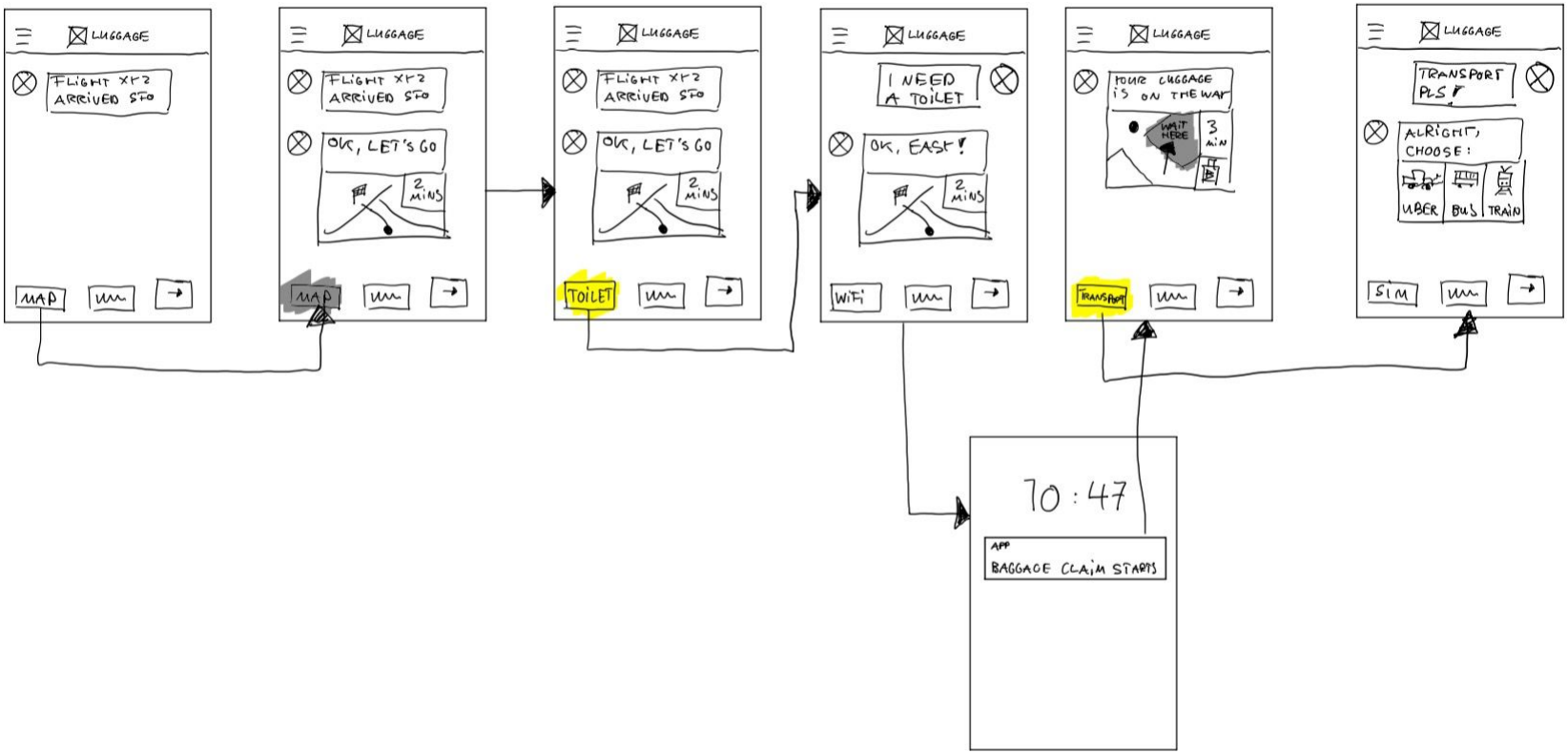
#3 - How might we give the traveler live updates for her individual luggage?

- **Persistent notification** for live updates on lock screen
- **Bluetooth tag paired with the user's smartphone (could be any Bluetooth device - e.g. Fitness tracker)**
  - **Update 1 - Baggage drop:** Connection to smartphone lost: Baggage dropped
  - **Update 2 - Baggage in airplane:** Connection re-established (might not happen at all, maybe while boarding)
  - **Update 3 - (provided by Beacon)** General information about estimated baggage waiting time
  - **Update 4 - Baggage available in claim area:** Connection re-established
- **Data (Non-hardware) based fallback:** AI-based estimated general waiting time for luggage + averaged waiting time during baggage pickup period based on booking status (aircraft load) of the particular flight

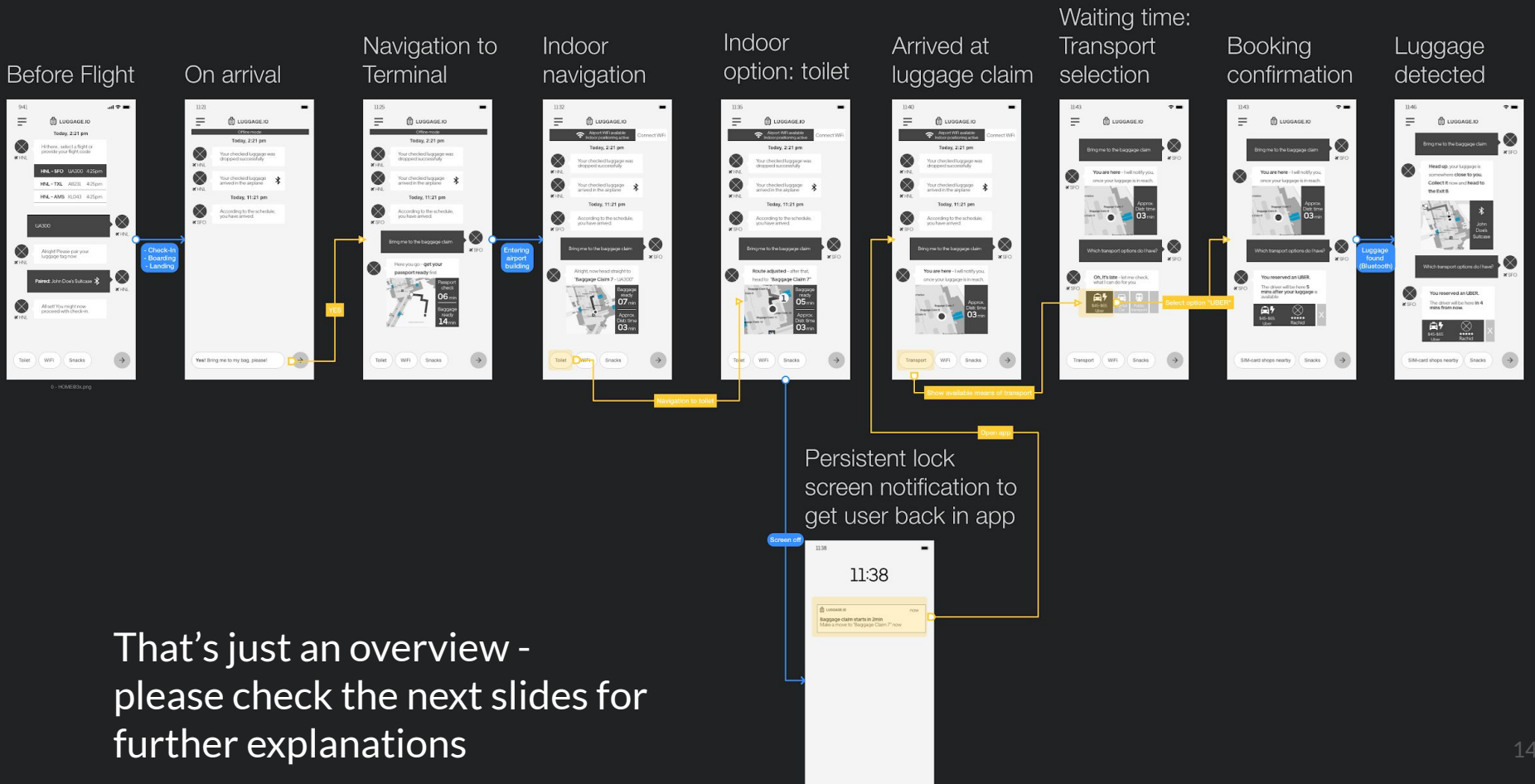
Requirements

- **The following table shows a list of:**
  - **Requirements**
  - **Comments** to each requirement with ways to approach it
  - **First clustering** into possible screens
- This step is crucial and acts as a **solid foundation** for the further **design process** and enables me to work more **structured**, **goal-oriented** and **time efficient**.

Requirements	Comment / Rapid ideation	Screen
The overall user interface should follow a **"conversational UI"-approach**, as the displayed information flows just in a single direction. Using this approach, the user's focus can be improved through keeping the currently visible screen elements to a minimum.	Speech bubbles with rich content and different options to interact according to time / location	ALL
The user needs a way to input his flight	Show list of flights nearby / flight code input	0 - HOME
The user shall be able to get the **latest luggage status** displayed	Show if checked luggage was loaded to the air plane at all (show last Bluetooth connection as XX:XX - luggage detected)	1.1 - STATUS - BAG DROPPED
The user shall be able to see his **current position on a map** combined with the **next steps**	Include OSM view of SFO airport, show baggage claim status + suggested options	2.1 - MAP VIEW - OUTDOOR
The user shall be able to see his current position **inside the airport after passport check**	Include OSM indoor view of SFO - show live baggage claim status, changed location and **possible options from that location**	2.2 - MAP VIEW - INDOOR
The user shall be able to easily trigger actions concerning his / her current **needs** (e.g. start navigation to **closest toilet**)	Include OSM indoor view - show closest toilet	2.3 - MAP VIEW - NAV - TOILET
The user shall be able to easily **recover the app's state from the lock screen**	Show persistant notification on lock screen "Est. baggage claim starts in 2 mins"	3.1 - NOTIFICATION - STATUS - CLAIM
The user needs a way to know, when **his particular luggage** arrives on the baggage conveyor belt	Screen that is showing during baggage claiming period	2.4 - MAP VIEW - NAV - CLAIM
The user needs a way to know, when **his particular luggage** arrives on the baggage conveyor belt	Show notification, once baggage was found on the belt (Bluetooth connection)	1.2 - STATUS - BAG FOUND
After baggage collection, the user should be able to proceed with the consequenty next step of **selecting his mean of transport**	List means of transport (UBER - "fastest / best for heavy luggage" / Rental car / public transport)	4 - TRANSPORT


LUGGAGE
FLIGHT XY2 ARRIVED SFO
MAP
OK, LET'S GO
2 MINS
I NEED A TOILET
TOILET
OK, EAST!
WiFi
YOUR LUGGAGE IS ON THE WAY
WAIT HERE
3 MIN
TRANSPORT
TRANSPORT PLS
ALRIGHT, CHOOSE:
UBER
BUS
TRAIN
SIM
10:47
APP
BAGGAGE CLAIM STARTS

Low fidelity Flowchart

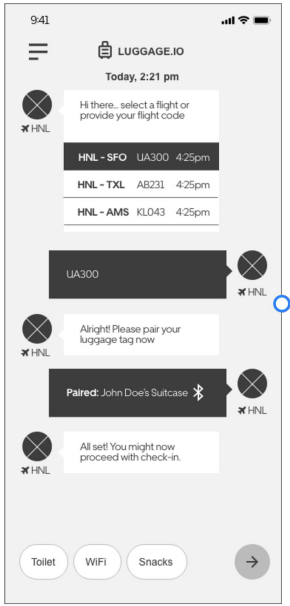


That's just an overview - please check the next slides for further explanations

Before Flight

- Select flight / enter flight code

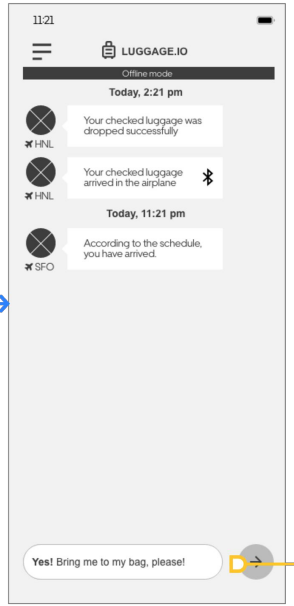
- **Pair Bluetooth dongle in luggage piece**
- Data-based Fallback solution possible



0 - HOME@3x.png

- Check-In
- Boarding
- Landing

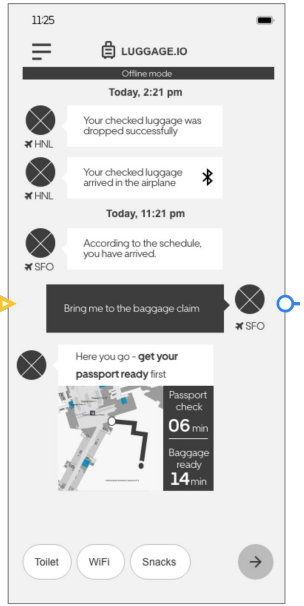
On arrival



- **Status updates** (even in **offline mode**)

YES

Navigation to Terminal

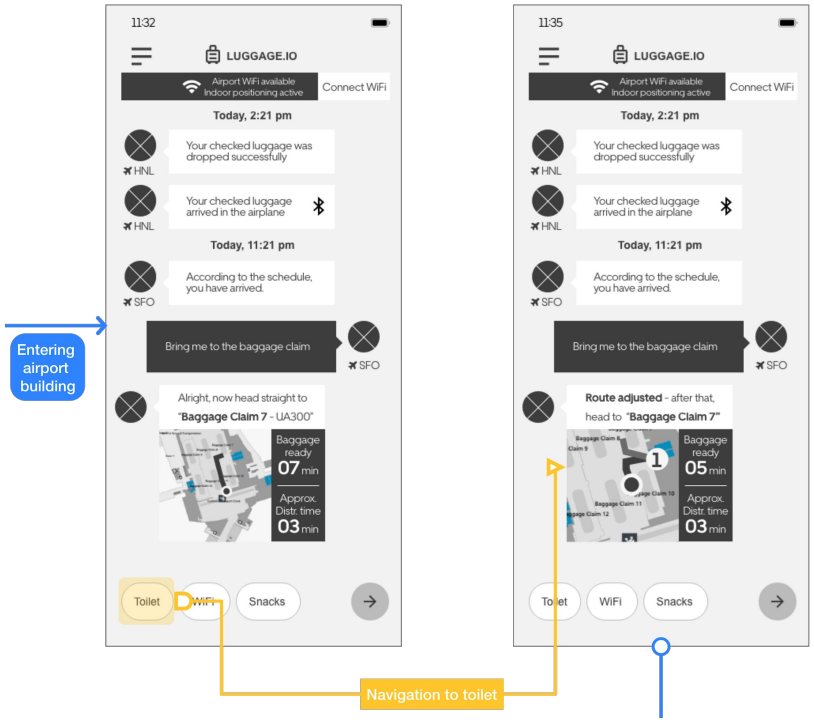


- Offline outdoor navigation
- **Maps** and prediction for **luggage claim waiting time** based on historic data **cached offline**

- Indoor iBeacon transmits
  - Live information for luggage claim
  - WiFi information

Indoor navigation

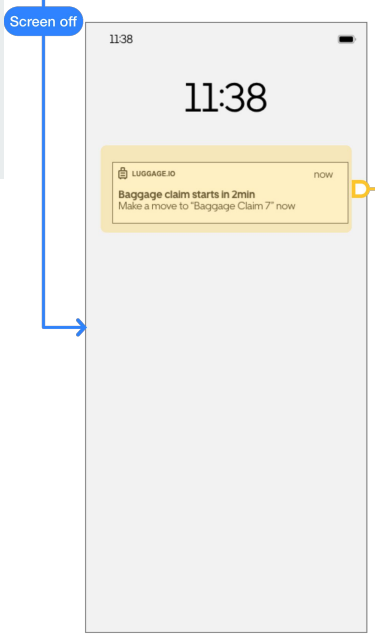
Indoor option: toilet



- Offline indoor navigation to POIs using available bluetooth networks nearby
- Automatic re-routing, main objective (baggage claim) remains in route

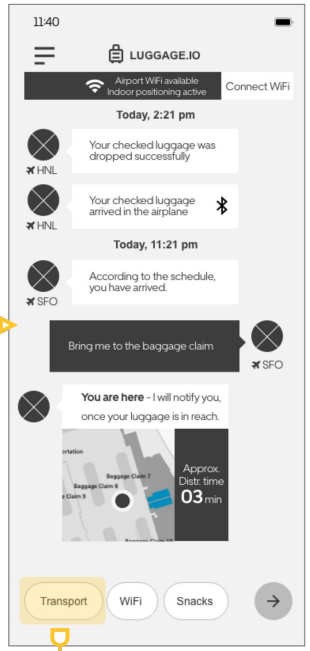
- Users turn off their phones on the toilet (usually)
- Notifications are used to get the user back to his objective (bag collection)

Persistent lock screen notification to get user back in app



Open app

Arrived at luggage claim



Show available means of transport

- Check for available means of transport

The selection of a **safe mean of transport** is crucial for a **coherent luggage collection experience.**

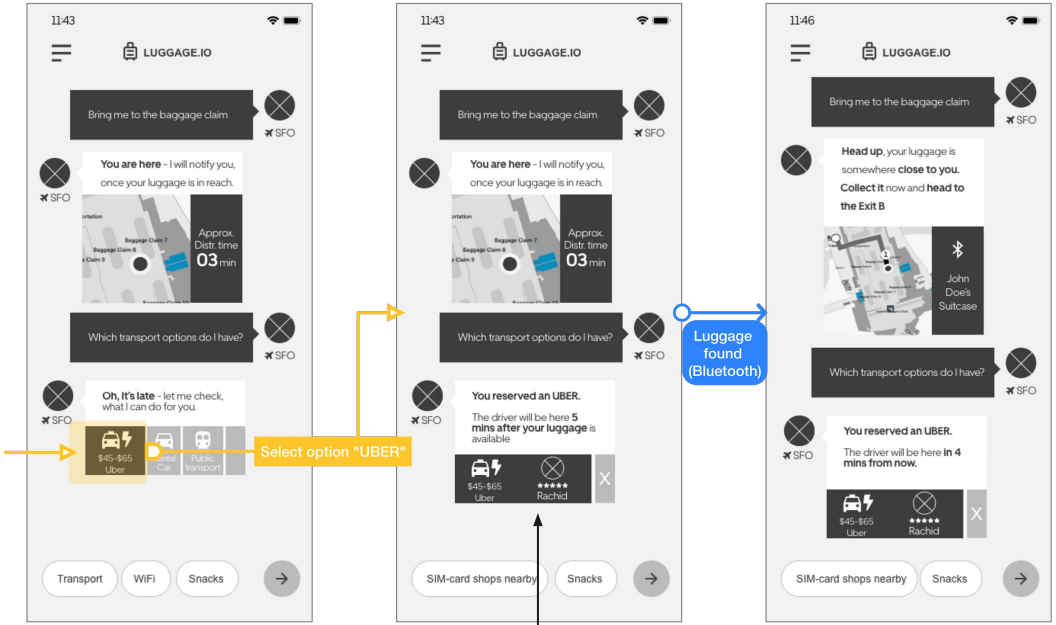
- Output of available means of transport (It's late, 11:43pm)

- Selection of "UBER", highlighted as "fastest"

Waiting time: Transport selection

Booking confirmation

Luggage detected



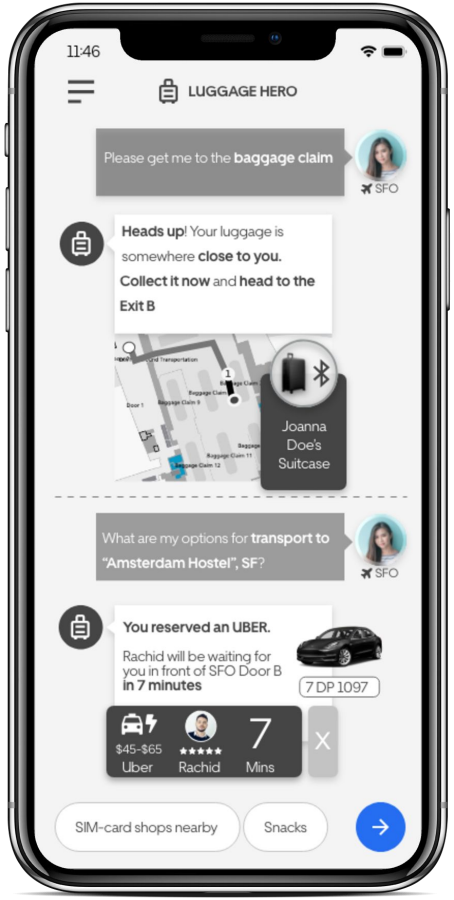
- **Bluetooth connection with luggage is re-established**
- User gets notification for luggage collection and map gets adjusted (way out to the cabs)
- driver gets final confirmation

While luggage is yet to be delivered, reservation is kept on hold

Conversational UI with message bubbles updating, whenever new information is available

- Less clutter in comparison to “static” chat bots

The app covers both the time **before and after luggage collection with the objective to keep stress and fears to a minimum** and finally ensures a safe arrival at the final destination for both luggage and traveler



Changes in High fidelity version

- No structural changes needed
- Improved visual hierarchy
- Aligned grids
- Added rich content

Next possible steps:
- Interactive prototype
- Expert review
- User testing
- ...

That's it, for now

Thanks for considering my application.

Feedback is always welcome - both concerning next steps in the application process and the design process I've chosen.

In the case, you want to invest, just let me know !

View my CV ›

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