APPENDICES

A Project brief

DESIGN FOR our future

6417

TU Delft

IDE Master Graduation

Project team, Procedural checks and personal Project brief

This document contains the agreements made between student and supervisory team about the student's IDE Master Graduation Project. This document can also include the involvement of an external organisation, however, it does not cover any legal employment relationship that the student and the client (might) agree upon. Next to that, this document facilitates the required procedural checks. In this document:

- The student defines the team, what he/she is going to do/deliver and how that will come about.
- SSC E&SA (Shared Service Center, Education & Student Affairs) reports on the student's registration and study progress.
- IDE's Board of Examiners confirms if the student is allowed to start the Graduation Project.

USE ADOBE ACROBAT READER TO OPEN, EDIT AND SAVE THIS DOCUMENT

Download again and reopen in case you tried other software, such as Preview (Mac) or a webbrowser.

STUDENT DATA & MASTER PROGRAMME

Save this form according the format "IDE Master Graduation Project Brief_familyname_firstname_studentnumber_dd-mm-yyyy" .
Complete all blue parts of the form and include the approved Project Brief in your Graduation Report as Appendix 1 !

family name: Keijer
initials: A M given name: Anniek
student number: 4555341
street & no.:
zipcode & city:
country:
phone:
email:

Your master programme (only select the options that apply to you):

IDE master(s): ( ) IPD (★) DfI ( ) SPD
2nd non-IDE master:
individual programme: - - (give date of approval)
honours programme: ( ) Honours Programme Master
specialisation / annotation: ( ) Medisign ( ) Tech. in Sustainable Design ( ) Entrepeneurship

SUPERVISORY TEAM **

Fill in the required data for the supervisory team members. Please check the instructions on the right !

** chair: Jotte de Koning dept. / section: SDE/DFS
** mentor: Sonja van Dam dept. / section: SDE/DFS
2nd mentor: Elisabeth Tschavgova
organisation: Schiphol
city: Amsterdam country: The Netherlands

Chair should request the IDE Board of Examiners for approval of a non-IDE mentor, including a motivation letter and c.v..

Second mentor only applies in case the assignment is hosted by an external organisation.

comments (optional): Sonja and Jotte are both from DfS, but have complementary skills and expertise. Elisabeth is an additional mentor for close collaboration with the TULIPS project. Together this forms a balanced team.

Ensure a heterogeneous team. In case you wish to include two team members from the same section, please explain why.

IDE TU Delft - E&SA Department /// Graduation project brief & study overview /// 2018-01 v30 Page 1 of 7

Procedural Checks - IDE Master Graduation

TU Delft

APPROVAL PROJECT BRIEF
To be filled in by the chair of the supervisory team.

chair Jotte de Koning date 12 - 04 - 2023 signature

CHECK STUDY PROGRESS
To be filled in by the SSC E&SA (Shared Service Center, Education & Student Affairs), after approval of the project brief by the Chair.
The study progress will be checked for a 2nd time just before the green light meeting.

Master electives no. of EC accumulated in total: 27 EC
Of which, taking the conditional requirements into account, can be part of the exam programme 27 EC

List of electives obtained before the third semester without approval of the BoE

(X) YES all 1st year master courses passed

( ) NO missing 1st year master courses are:

name Robin den Braber date 12 - 04 - 2023 signature RdB

FORMAL APPROVAL GRADUATION PROJECT
To be filled in by the Board of Examiners of IDE TU Delft. Please check the supervisory team and study the parts of the brief marked **.
Next, please assess, (dis)approve and sign this Project Brief, by using the criteria below.

- Does the project fit within the (MSc)-programme of the student (taking into account, if described, the activities done next to the obligatory MSc specific courses)?
- Is the level of the project challenging enough for a MSc IDE graduating student?
- Is the project expected to be doable within 100 working days/20 weeks ?
- Does the composition of the supervisory team comply with the regulations and fit the assignment ?

Content: (V) APPROVED ( ) NOT APPROVED

Procedure: (V) APPROVED ( ) NOT APPROVED

comments

name Monique von Morgen date - KE 17/4/2023 signature MvM

Initials & Name A M Keijer Student number 4555341

Title of Project Behavior change strategies for higher return of PET bottles/cans

Personal Project Brief - IDE Master Graduation

Behavior change strategies for higher return of PET bottles/cans — project title

Please state the title of your graduation project (above) and the start date and end date (below). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

start date 13 - 03 - 2023 — 29 - 08 - 2023 end date

INTRODUCTION **

Please describe, the context of your project, and address the main stakeholders (interests) within this context in a concise yet complete manner. Who are involved, what do they value and how do they currently operate within the given context? What are the main opportunities and limitations you are currently aware of (cultural- and social norms, resources (time, money,...), technology, ...).

Greenhouse gas emissions need to be reduced in order to fight climate change. We therefore need to reduce, reuse and recycle our current resources. Consumers also need to be conscious about their footprint and need to make sustainable choices. This graduation project is addressing the need to improve sustainable consumer behavior at airports on returning PET bottles and aluminum cans at Schiphol. The aim of this graduation project is to find possible solutions regarding collection strategies and behavior change strategies to improve the amount of returned PET bottles and cans at the airport. Currently only a fraction is returned to be recycled at Schiphol, so there is much room for improvement. See image 1 for a preliminary overview of the stakeholders that are important in the waste streams of Schiphol.

Schiphol has the goal to be zero-waste by 2030, which means that "all raw materials, components and products will be reused or recycled to the maximum extent possible according to the waste hierarchy" (Royal Schiphol Group, 2022). Returning PET bottles and aluminum cans, helps to reuse the materials used for bottles and cans. Next to this, recycling bottles is more sustainable than making new ones: it uses less virgin materials, less energy, and creates less carbon dioxide (Dearmitt, 2020). The Netherlands has legislation which includes that there is a deposit paid with every PET bottle. From the 1st of April, this legislation will also include aluminum cans.

The end of life phase of a PET bottle or aluminum can at Schiphol can go 3 ways, after it is either bought at Schiphol or brought in from outside the airport. Option (1): it is discarded in a PET donation box (see image 2); (2) it is discarded in the residual or plastic waste bin; (3) it is taken away from Schiphol grounds (through a flight or taking it home) and discarded elsewhere.

From a previous own study, where stakeholders in the airport's PET bottle collection system were interviewed, limitations were found that cause the current low amount of returned PET bottles. First, there are practical limitations: there is no way to get the deposit back in the current context (there are no reverse vending machines present, only donation boxes as RVMs are expensive to purchase and maintain). Second, international plastic bottles do not come with a deposit scheme and make for a large diversity in bottles and cans. Ideally these are also collected. A final limitation is that waste in the donation boxes are contaminated with other waste, which makes recycling less effective.

For the future intervention to be designed, some challenges arise from the given context. At Schiphol there is a large diversity of people, from countries all over the world. People come from countries with different systems for plastic bottle recycling, with different bottles and cans and different habits or practices around it. The challenge is to design a system or intervention that is universally understandable regarding practical use. Another challenge is that passengers do not speak the same textual nor visual language, this means that the language that will be used needs to be understandable for multiple cultures. Last, in the context of an airport people are in a hurry and do not have time to extensively search for a PET bottle or aluminum cans collection point.

This graduation is part of TULIPS, a project funded under the European Union's Horizon 2020 research and innovation program. It responds on the Green Deal and aims to reduce (and even eliminate) emissions at airports. Schiphol will be the facilitator of this project, to be able to (make and) test prototypes in the context of an airport.

space available for images / figures on next page

Initials & Name A.M. Keijer Student number 4555341

Title of Project Behavior change strategies for higher return of PET bottles/cans

introduction (continued): space for images

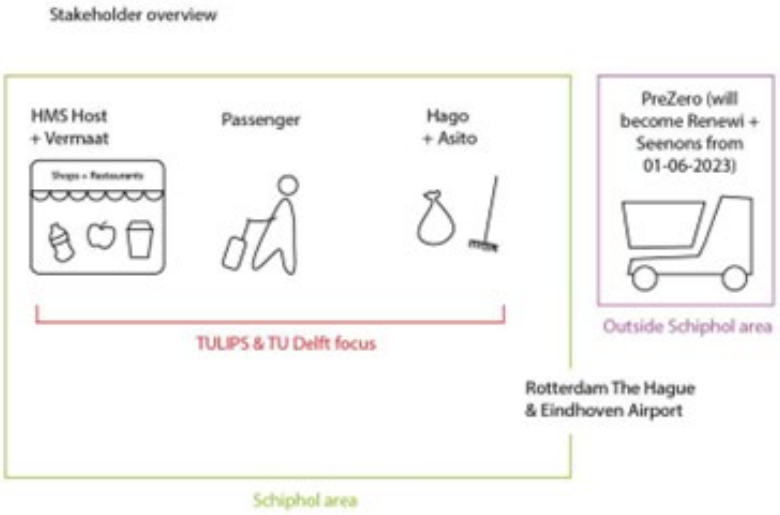


image / figure 1: Preliminary stakeholder overview

image / figure 2: Donation box for PET bottles

Personal Project Brief - IDE Master Graduation

PROBLEM DEFINITION **

Limit and define the scope and solution space of your project to one that is manageable within one Master Graduation Project of 30 EC (= 20 full time weeks or 100 working days) and clearly indicate what issue(s) should be addressed in this project.

This project will focus on a return system for PET bottles and aluminum cans at Schiphol airport for its passengers. The research questions that will be answered are:
- What practices do people currently have around the use and discarding of PET bottles and aluminum cans?
- What are current barriers for returning PET bottles and aluminum cans?
- Which behavior change interventions are relevant for Schiphol to stimulate passengers to return PET bottles and cans?

The three main challenges that I see in this project are:
1) To find a common ground for the multicultural environment of the airport in returning PET bottles and cans. It needs to be understandable by multiple cultures as they have different cultural practices. This means that the system needs to be clear, as different cultures have different ways of disposing a PET bottle/can.
2) The deposit/return system needs to be understandable for people from all over the world, by applying universal semiotics that are independent of a user's spoken language.
3) The threshold needs to be as low as possible to return a PET bottle/can, as people might be in a hurry to catch their plane and do not have time to seek for collection points.

ASSIGNMENT **

State in 2 or 3 sentences what you are going to research, design, create and / or generate, that will solve (part of) the issue(s) pointed out in "problem definition". Then illustrate this assignment by indicating what kind of solution you expect and / or aim to deliver, for instance: a product, a product-service combination, a strategy illustrated through product or product-service combination ideas, ... In case of a Specialisation and/or Annotation, make sure the assignment reflects this/these.

I will find out what the current issues are regarding not returning PET bottles/cans at Schiphol. I will subsequently seek for possibilities that will solve this matter regarding sustainable consumer behavior.

My design challenge for this project is: How can the number of returned PET bottles and cans at Schiphol be increased?
The solution which will be made, will aim to stimulate behavior change of passengers. The main outcome will be a solution that will enable the return of PET bottles and cans at airports, a system that is clear and accessible for multiple cultures.

The aim of this project will be design for behavioural change (Delft Design Guide). I will therefore dive into the sociocultural context of passengers in order to understand individual behaviours of a multicultural group.
- I will study the current situations at Schiphol through observational research, interviews with stakeholders and passengers/international students, and will conduct (literature) research on sustainable consumer behavior change strategies.
- Next to that, co-creation sessions and observations will be done to include the passengers in the project to gather understanding of their behaviour. The insights of these activities enable the creation of potential design directions on PET bottle and aluminum can collection with a tangible product (system).
- Following, I will test one of the possible solutions in the context of Schiphol.
- Finally, I will use these insights to will deliver a set of recommendations on how to use a tangible PET bottle and aluminum can collection product that will be implemented at Schiphol.

Initials & Name A.M. Keijer Student number 4555341

Title of Project Behavior change strategies for higher return of PET bottles/cans

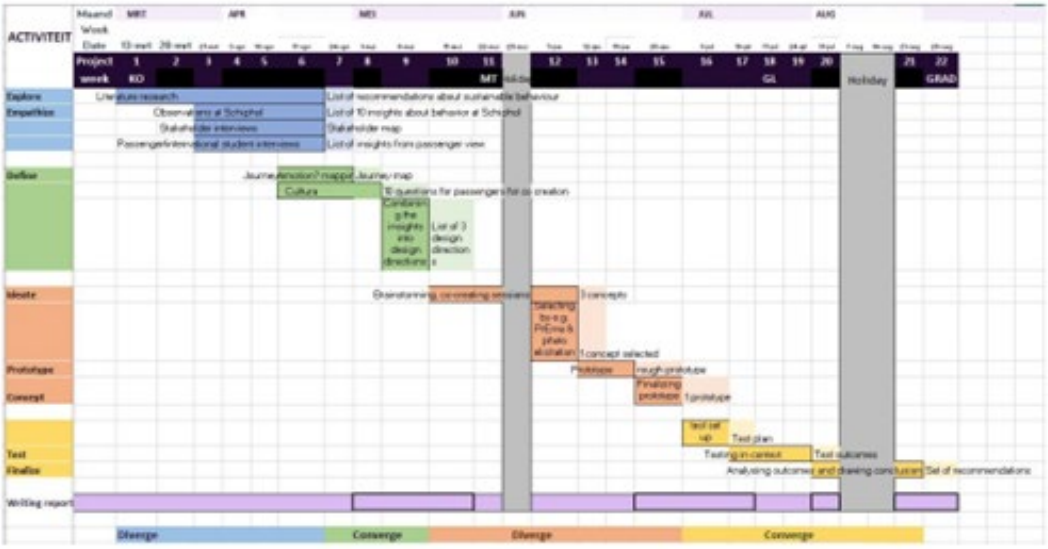
Personal Project Brief - IDE Master Graduation

TUDelft

PLANNING AND APPROACH **

Include a Gantt Chart (replace the example below - more examples can be found in Manual 2) that shows the different phases of your project, deliverables you have in mind, meetings, and how you plan to spend your time. Please note that all activities should fit within the given net time of 30 EC = 20 full time weeks or 100 working days, and your planning should include a kick-off meeting, mid-term meeting, green light meeting and graduation ceremony. Illustrate your Gantt Chart by, for instance, explaining your approach, and please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any, for instance because of holidays or parallel activities.

start date 13 - 3 - 2023 29 - 8 - 2023 end date



The design process which I will be using is the double diamond. It has four stages, which form two diamonds. Per diamond I will have a diverging stage, where I will expand and broaden the information and insights. Subsequently there will be a converging stage in each diamond, where selections and choices will be made.

- In the first diverging phase I will focus on doing research. By doing literature research I will gather insight on the importance of collecting PET bottles and cans, and I will gather insight about sustainable consumer behavior. By doing user observations at schiphol I will be able to gather information about the context. By doing interviews at Schiphol I will gather more information about motivations to return or to not return their bottles and Schiphol's stakeholders.
- For the first converging step I will map the customer journey of buying a PET bottle/can to returning it to a collection point. I will use Cultura (Delft Design Guide) to gain understanding in cross cultural situations. It will give a more comprehensive view on the cultural context. After that, the more detailed problem definition is formed by the research conclusions. The insights from the previous activities are combined to form design directions.
- In the second diverging phase, I will conduct co creating sessions with international passengers/students in order to use their insights. I will then create a prototype which includes these insights.
- In the last converging phase I will prepare a test and test the prototype in the context by placing a tangible product at Schiphol and interview passenger who use it. The outcomes will be summarized and conclusions will be made.

For writing the report, I plan to do this every week for one morning/afternoon a week. During busier times I hightlighted the report writing as I expect writing then to be more time consuming.

Initials & Name A.M. Keijer Student number 4555341

Title of Project Behavior change strategies for higher return of PET bottles/cans

Personal Project Brief - IDE Master Graduation

TU Delft

MOTIVATION AND PERSONAL AMBITIONS

Explain why you set up this project, what competences you want to prove and learn. For example: acquired competences from your MSc programme, the elective semester, extra-curricular activities (etc.) and point out the competences you have yet developed. Optionally, describe which personal learning ambitions you explicitly want to address in this project, on top of the learning objectives of the Graduation Project, such as: in depth knowledge a on specific subject, broadening your competences or experimenting with a specific tool and/or methodology, ... Stick to no more than five ambitions.

What I want to learn:
I want to learn how to use design for emotion in this graduation project. I can see that this could play a role in the understanding of behaviour of current visitors. I learned different aspects about this topic in a block course, but I would like to implement it in this project.
Next to this, I want to learn to be more critical about my own work and make this like a habit, to reflect and be critical on myself. This also includes making decisions by myself and being able to feel confident about them.

What I want to prove:
That I am able to design fruitful co creation sessions with multi cultural participants.

This project is a perfect match for me as sustainable consumer behavior related research was the first topic which made me enthusiastic about doing research for. During the elective sustainable consumer behavior, I became more skilled in doing relevant literature research to be able to generate relevant insights from it. Our project in this course mostly focused on Dutch market, and I would love to expand my knowledge about multiple cultures regarding sustainable behavior. Also, this project makes me apply my gathered knowledge, which is an extra step that I would love to learn more about.

Next to this I am very enthusiastic to help design for a sustainable future. I am aware that this is a very big and challenging topic overall, but in my opinion this can be solved by cutting this into smaller projects and topics to later be able to address sustainability for a bigger impact. I am therefore eager to start working on this, in order to contribute to a sustainable future.

Lastly, I want to be proud of the outcome. I want to show that I am capable of doing this project and come up with a creative outcome, which is hopefully new and inspiring to Tulips and airports in the future.

FINAL COMMENTS

In case your project brief needs final comments, please add any information you think is relevant.

Dearmitt, C. (2020). The Plastics Paradox: Facts for a Brighter Future.
Royal Schiphol Group. (2022). Sustaining your world: Vision and strategy towards the most sustainable airports.
https://tulips-greenairports.eu/

Initials & Name A M Keijer Student number 4555341

Title of Project Behavior change strategies for higher return of PET bottles/cans

B Interview questions passengers

Interview setup Schiphol

General information:

- **Area where I want to conduct interviews:**
  I would like to conduct interviews near the gates. This is where people already passed some options to buy PET bottles/cans and options to dispose of the bottle.
- **Date of interview: One of the following dates**
  - Monday 8th of May 14.00 – 17.00
  - Tuesday 9th of May 9.00 – 17.00
  - Wednesday 10th of May 9.00 – 12.00
  - Thursday 11th of May 14.00 – 17.00
  - Friday 12th of May 9.00 – 17.00
- **Duration of interview:** 10 minutes per participant
- **Ideal sample number:** 5 to 10 participants

Intro

- Recruit someone who is possibly buying a bottle or can. If there are no people available -> regular passengers. Do you have 10 minutes to answer some questions?
- I am doing research about PET bottles and cans at the airport, is it possible to ask some questions to you about waste disposal habits?
- Is it okay if I record this interview? This recording will only be used for internal research (to listen back) and will not be shared with others. It is anonymous and not traceable back to you.
- Consent form will be signed

What is your home country?

Use and disposal of PET bottles/aluminum cans

PET bottles & Existing practices

- Do you typically buy drinks in PET bottles or cans when you travel? When is it the case that you buy a drink?
- Do you typically buy drinks in PET bottles or cans at home? / Is this also a common practice for you to buy a "coca cola in a PET bottle" at home when you are not traveling?
- What are you planning to do with this bottle when you are done drinking? (they might want to keep it – also interesting to ask follow up on that). / How would you dispose of your PET bottles or cans at the airport?
- How do you typically do that in your home country? Is there a recycling system in place?
- Have you noticed any recycling bins for disposing of PET bottles or aluminum cans at the airport? Where were they situated? Was it clear to you where and how to dispose of them?

- Do you know if the situation in your home country differs from the situation here at Schiphol? How?

Sustainability

- What does sustainability mean to you?
- On a scale of 1 to 10, how much do you consider yourself to be sustainability-oriented? 1 not at all – 10 Fully aware of sustainability in my life.
- Are you aware of the environmental impact of single-use plastic bottles and aluminum cans?

If there is time:

- Do you make a conscious effort to reduce your use of single-use plastics while traveling? In what ways?
- What do you think airports and airlines could do to promote sustainable behavior among travelers?

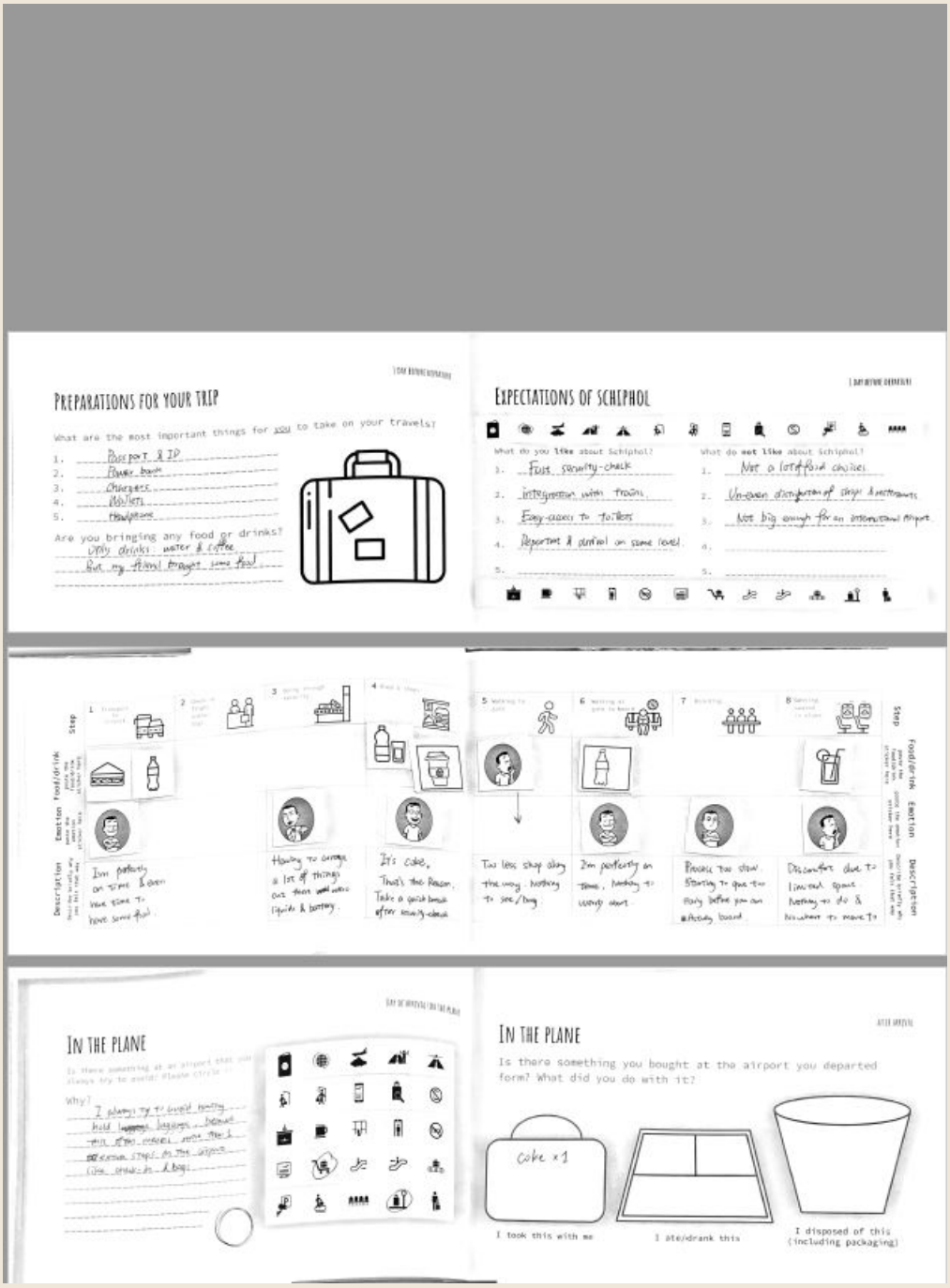
Existing practices

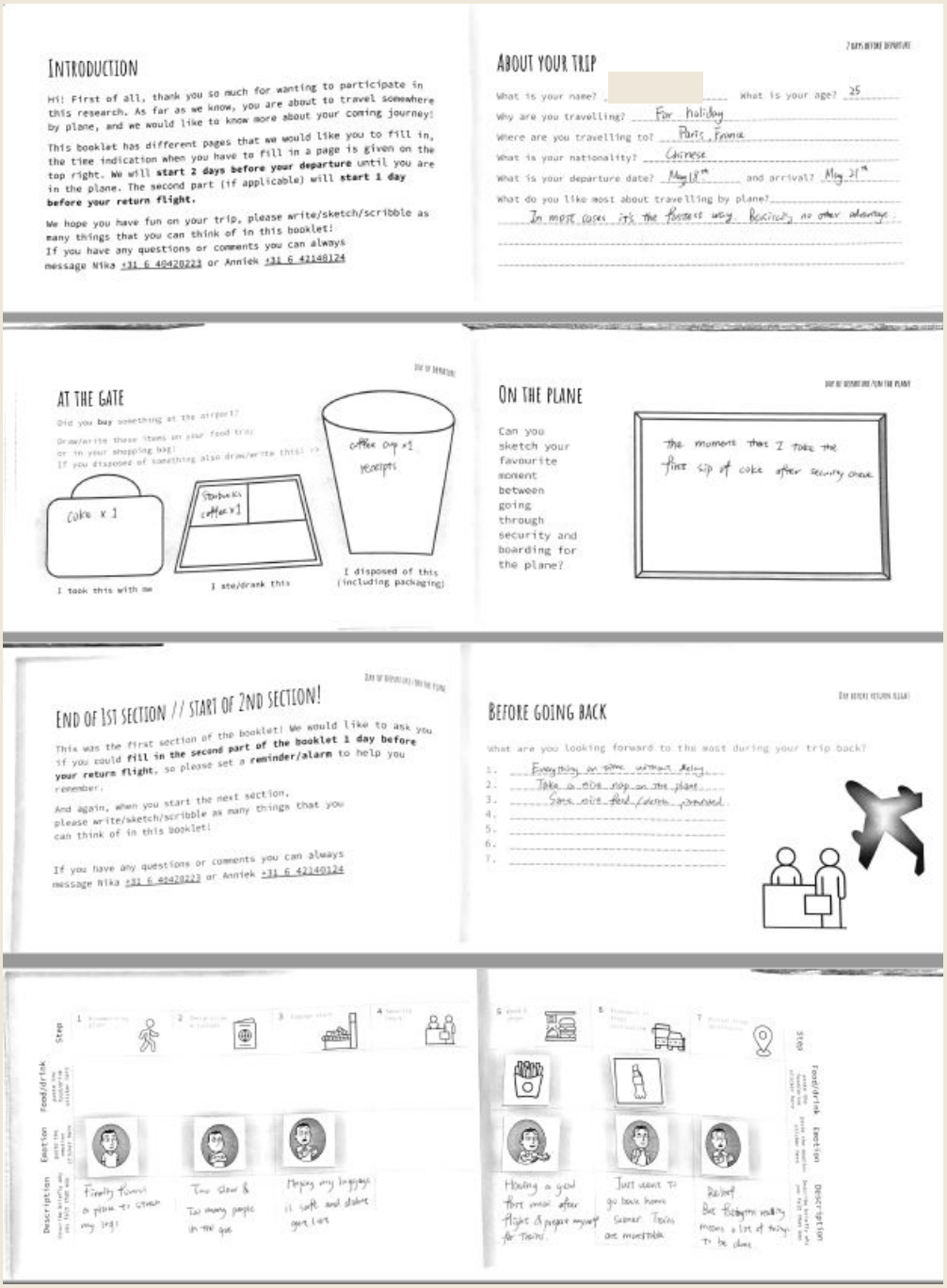
- Are you aware of any recycling or waste reduction initiatives at the airport or within the aviation industry?
- Do you have any suggestions for how the airport could improve its recycling or waste reduction efforts?

Thanks

- Thank you a lot for your time and effort!
- Give a small thank you gift

C Sensitising booklets





Introduction

Hi! First of all, thank you so much for wanting to participate in this research. As far as we know, you are about to travel somewhere by plane, and we would like to know more about your coming journey!

This booklet has different pages that we would like you to fill in, the time indication when you have to fill in a page is given on the top right. We will **start 2 days before your departure** until you are in the plane. The second part (if applicable) will **start 1 day before your return flight.**

We hope you have fun on your trip, please write/sketch/scribble as many things that you can think of in this booklet!
If you have any questions or comments you can always message Nika +31 6 40420223 or Anniek +31 6 42140124

About your trip

2 days before departure

What is your name? _____ What is your age? 25

Why are you travelling? For holiday

Where are you travelling to? Paris, France

What is your nationality? Chinese

What is your departure date? May 18th and arrival? May 21th

What do you like most about travelling by plane?
In most cases it's the fastest way. Basically no other advantage.

At the gate

Did you **buy** something at the airport?

Draw/write these items on your food tray or in your shopping bag!
If you disposed of something also draw/write this! ->

I took this with me

I ate/drank this

I disposed of this (including packaging)

On the plane

Can you sketch your favourite moment between going through security and boarding for the plane?

End of 1st section // start of 2nd section!

This was the first section of the booklet! We would like to ask you if you could **fill in the second part of the booklet 1 day before your return flight**, so please set a **reminder/alarm** to help you remember.

And again, when you start the next section, please write/sketch/scribble as many things that you can think of in this booklet!

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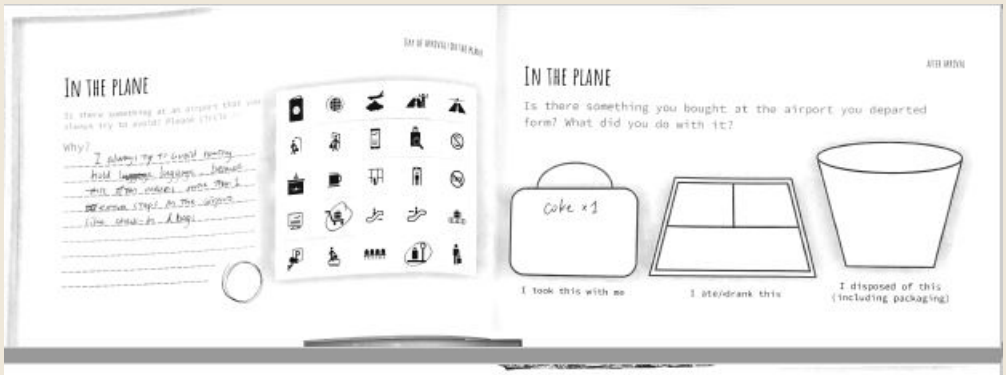
Before going back

What are you looking forward to the most during your trip back?

1. Everything on time without delay
2. Take a nice nap on the plane
3. Some nice food/drink provided
4.
5.
6.
7.



IN THE PLANE

Is there something at an airport that you always try to avoid? Please circle :)

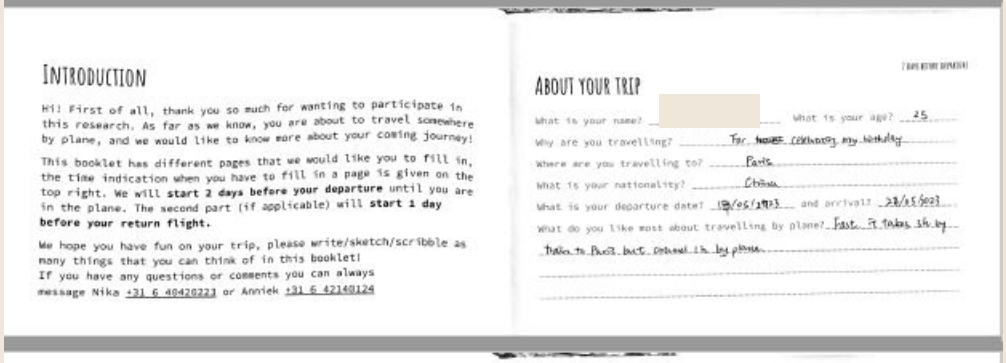
Why?

I always try to avoid having to hold luggage because this often causes more stress at the airport like check-in & bags.

IN THE PLANE

Is there something you bought at the airport you departed form? What did you do with it?

I took this with me | I ate/drank this | I disposed of this (including packaging)



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If you have any questions or comments you can always message Nika +31 6 40420223 or Anniek +31 6 42140124

ABOUT YOUR TRIP

What is your name? _____ What is your age? 25

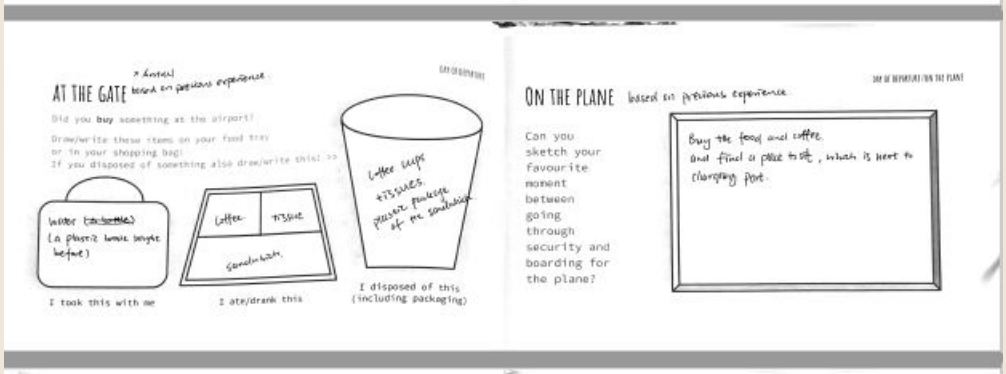
Why are you travelling? For [illegible] celebrating my birthday

Where are you travelling to? Paris

What is your nationality? China

What is your departure date? 19/05/1993 and arrival? 23/05/2023

What do you like most about travelling by plane? Fast. It takes 1h by train to Paris but around 11h by plane.



AT THE GATE

× Arrival based on previous experience

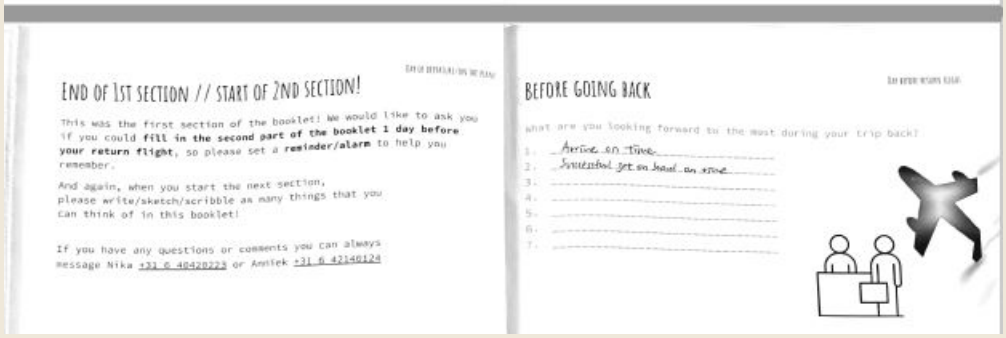
Did you **buy** something at the airport?

Draw/write these items on your food tray or in your shopping bag!
If you disposed of something also draw/write this! >>

I took this with me | I ate/drank this | I disposed of this (including packaging)

ON THE PLANE based on previous experience

Can you sketch your favourite moment between going through security and boarding for the plane?



END OF 1ST SECTION // START OF 2ND SECTION!

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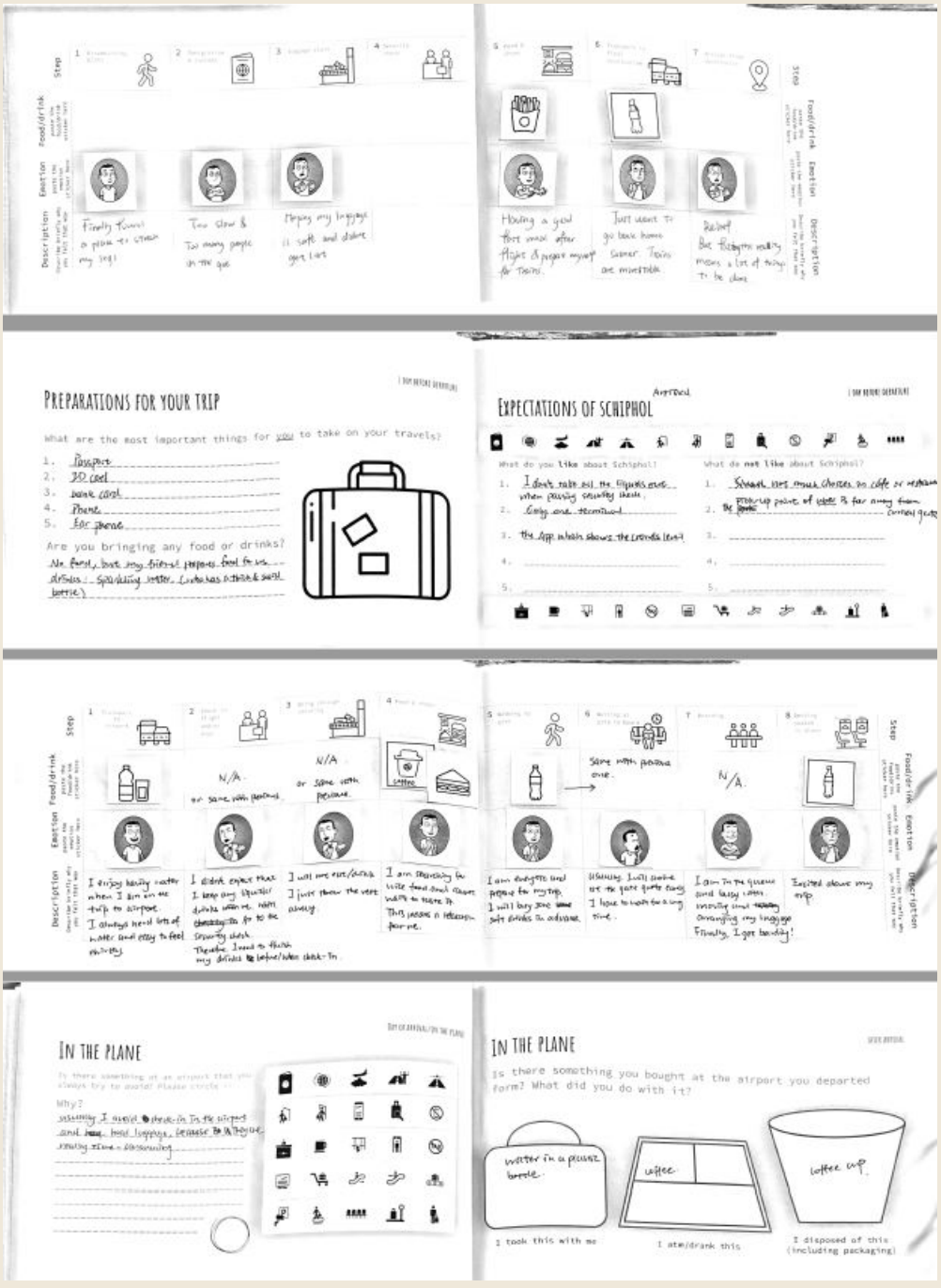
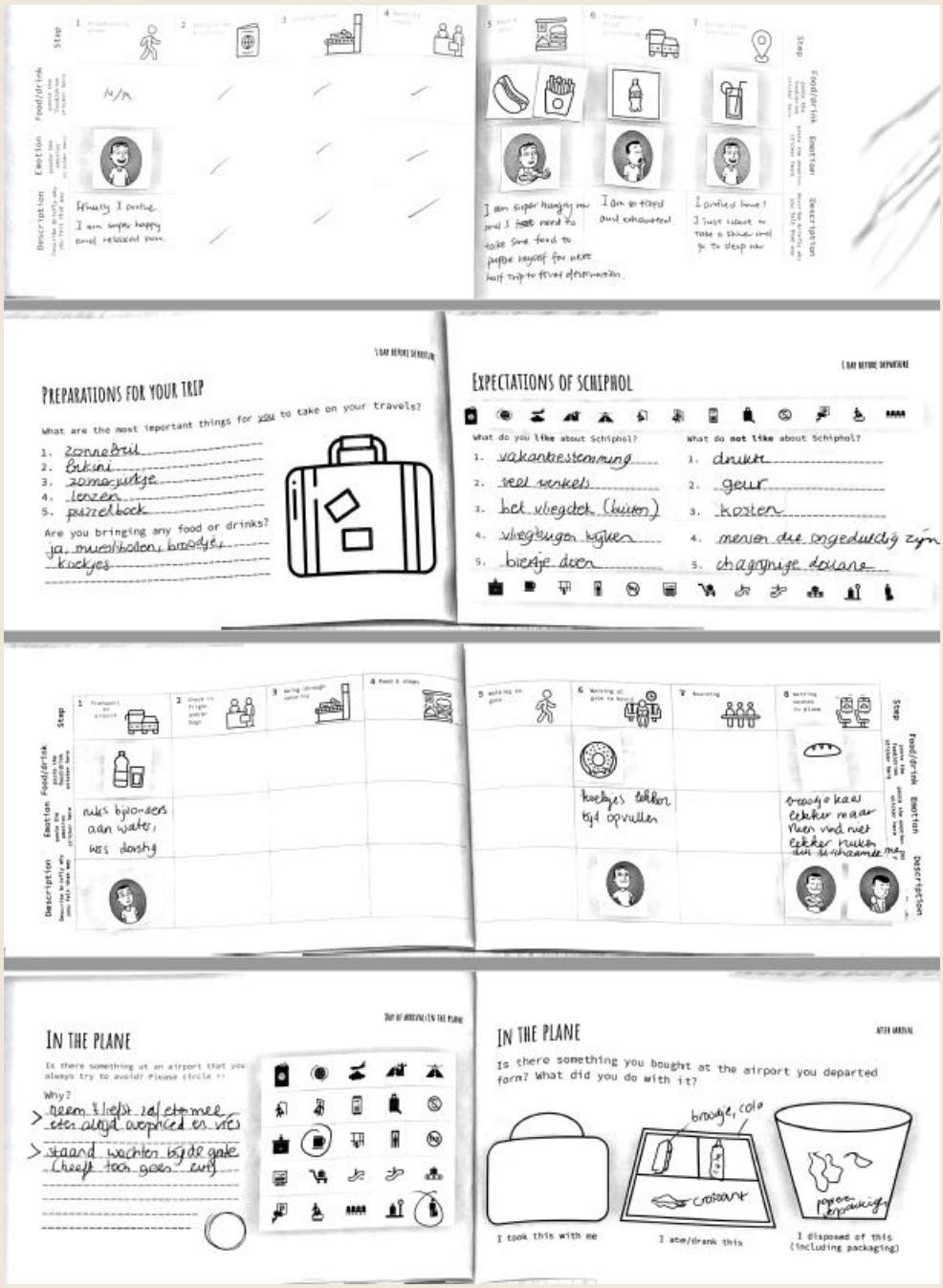
If you have any questions or comments you can always message Nika +31 6 40420223 or Anniek +31 6 42140124

BEFORE GOING BACK

what are you looking forward to the most during your trip back?

1. Airline on time
2. Successful jet on board on time
3. _____
4. _____
5. _____
6. _____
7. _____


Step
Food/drink
Emotion
Description
Finally found a place to stretch my legs
Too slow & Too many people in the que
Moving my luggage is soft and didn't get lost
Having a good fast meal after flight & prepare myself for Trains.
Just want to go back home sooner. Trains are mindtable
Relief
But forgotten reality means a lot of things to be done
PREPARATIONS FOR YOUR TRIP
What are the most important things for you to take on your travels?
1. Passport
2. 3D card
3. bank card
4. Phone
5. Ear phone
Are you bringing any food or drinks?
No food, but my friend prepares food for us
drinks: sparkling water. (who has a thick & small bottle)
EXPECTATIONS OF SCHIPHOL
Artificial
What do you like about Schiphol?
1. I don't take all the liquids out when passing security check.
2. Easy one terminal
3. the App which shows the crowds level
What do not like about Schiphol?
1. Smash not much choices in cafe or restaurant
2. the pick-up point of water is far away from current gate
N/A
or same with previous
N/A
or same with previous
coffee
Same with previous one.
N/A
I enjoy having water when I am on the trip to airport.
I always need lots of water and easy to feel thirsty
I didn't expect that I keep any liquids drinks with me. Hard to go to the security check.
Therefore I need to finish my drinks before/when check-in
I will not eat/drink
I just throw the rest away
I am searching for wide food and cleaner with to store it.
This means a relaxation for me.
I am energetic and prepare for my trip.
I will buy some soft drinks in advance.
Usually I will come at the gate quite early.
I have to wait for a long time.
I am in the queue and busy with moving and arranging my luggage
Finally, I got boarding!
Excited about my trip.
IN THE PLANE
Is there something at an airport that you always try to avoid? Please circle --
Why?
usually I avoid check-in in the airport and have hand luggage, because they are reading time-consuming
IN THE PLANE
Is there something you bought at the airport you departed form? What did you do with it?
water in a plastic bottle.
coffee
coffee cup.
I took this with me
I ate/drank this
I disposed of this (including packaging)


Step
Food/drink
Emotion
Description
N/A
Finally I arrive
I am super happy and relaxed now.
I am super hungry now and I feel need to take some food to pepper myself for next half trip to travel destination.
I am so tired and exhausted
I arrived home!
I just want to take a shower and go to sleep now
PREPARATIONS FOR YOUR TRIP
What are the most important things for you to take on your travels?
1. zonnebril
2. bikini
3. zomerjurkje
4. lenzen
5. puzzelboek
Are you bringing any food or drinks?
ja, muesliboden, broodje, koekjes
EXPECTATIONS OF SCHIPHOL
What do you like about Schiphol?
1. vakantiestemming
2. veel winkels
3. het vliegdek (buiten)
4. vliegtuigen kijken
5. biertje doen
What do not like about Schiphol?
1. drukte
2. geur
3. kosten
4. mensen die ongeduldig zijn
5. chagrijnige douane
nuks bijzonders aan water, was dorstig
koekjes lekker tijd opvullen
broodje kaas lekker maar niet vind niet lekker ruiken
IN THE PLANE
Is there something at an airport that you always try to avoid? Please circle >>
Why?
> neem & liefst zal etermee eten altijd overpriced en vies
> staand wachten bij de gate (heeft toch geen zin)
IN THE PLANE
Is there something you bought at the airport you departed form? What did you do with it?
broodje, cola
croissant
I took this with me
I ate/drank this
I disposed of this (including packaging)

Introduction

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We hope you have fun on your trip, please write/sketch/scribble as many things that you can think of in this booklet!
If you have any questions or comments you can always message Nika +31 6 40420223 or Anniek +31 6 42140124

2 DAYS BEFORE DEPARTURE

About your trip

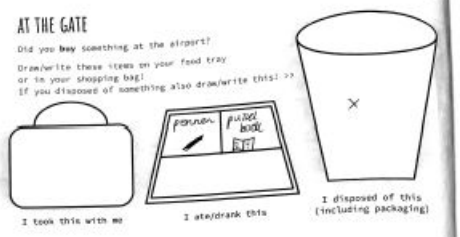
What is your name? [redacted] what is your age? 25
Why are you travelling? Holiday
Where are you travelling to? Portugal
What is your nationality? Nederlands
What is your departure date? 19 mei and arrival? 26 mei
What do you like most about travelling by plane?
[redacted]
je komt er in een snelle tijd
sfeer op het vliegveld (iedereen in de vakantiesfeer)

DAY OF DEPARTURE

At the gate

Did you **buy** something at the airport?

Draw/write these items on your food tray or in your shopping bag!
If you disposed of something also draw/write this! >>



I took this with me | I ate/drank this | I disposed of this (including packaging)

DAY OF DEPARTURE/ON THE PLANE

On the plane

Can you sketch your favourite moment between going through security and boarding for the plane?

End of 1st section // start of 2nd section!

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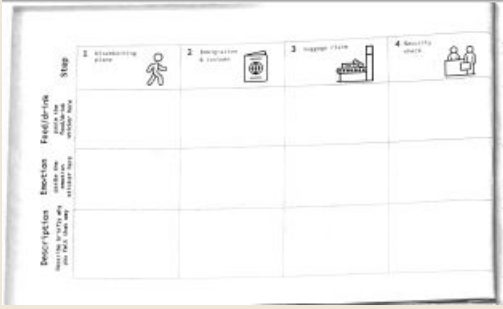
DAY BEFORE RETURN FLIGHT

Before going back

What are you looking forward to the most during your trip back?

1. geland zijn
2.
3. Kan verder niks bedenken
4.
5.
6.
7.



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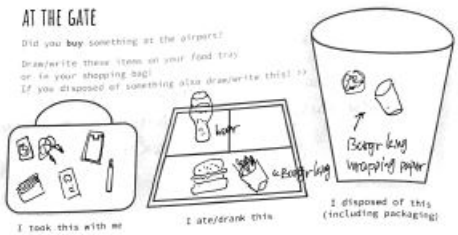
About your trip

What is your name? _____ What is your age? 26
Why are you travelling? Take a break
Where are you travelling to? Paris
What is your nationality? China
What is your departure date? 03.12.2023 and arrival? 07.12.2023
What do you like most about travelling by plane? It can reach the destinations quickly, and many places can only be reached by airplane.

At the gate

Did you **buy** something at the airport?

Draw/write these items on your food tray or in your shopping bag!
If you disposed of something also draw/write this! >>



I took this with me | I ate/drank this | I disposed of this (including packaging)

On the plane

Can you sketch your favourite moment between going through security and boarding for the plane?

End of 1st section // start of 2nd section!

This was the first section of the booklet! We would like to ask you if you could **fill in the second part of the booklet 1 day before your return flight**, so please set a **reminder/alarm** to help you remember.

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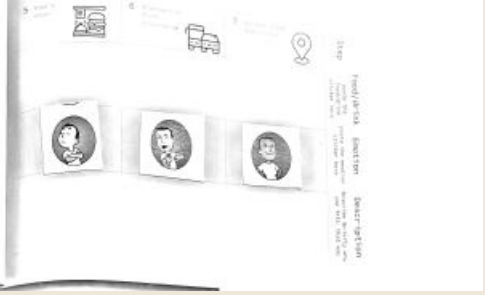
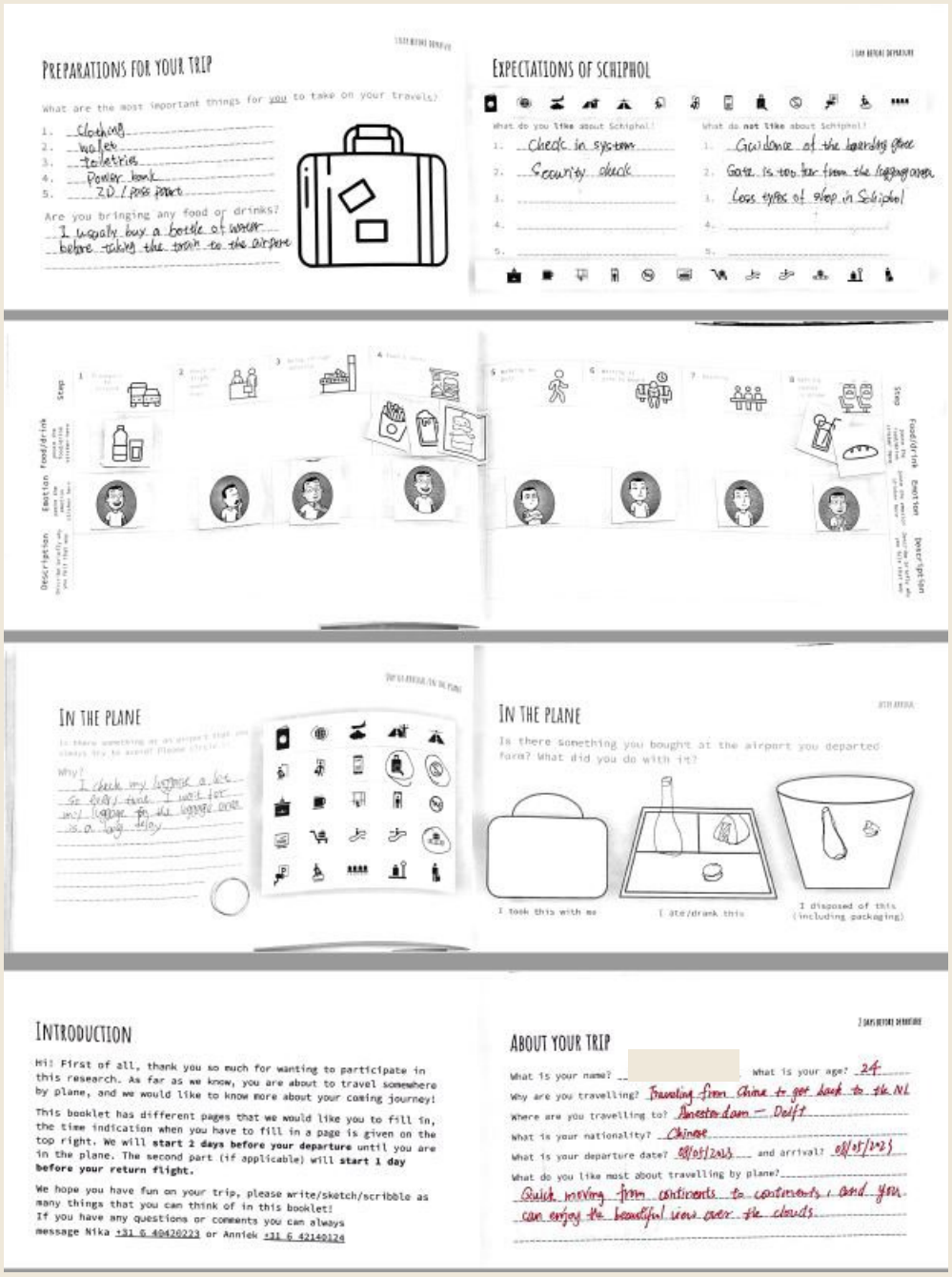
Before going back

what are you looking forward to the most during your trip back?

1. Safe landing
2. Take a sleep
3. Hope NS is more timely
4. _____
5. _____
6. _____
7. _____





Preparations for your trip

What are the most important things for you to take on your travels?

1. Clothing
2. wallet
3. toiletries
4. Power bank
5. ID / pass port

Are you bringing any food or drinks?

I usually buy a bottle of water before taking the train to the airport

Expectations of Schiphol

What do you like about Schiphol?	What do not like about Schiphol?
1. Check in system	1. Guidance of the boarding gate
2. Security check	2. Gate is too far from the luggage area
3.	3. Less types of shop in Schiphol
4.	4.
5.	5.

Step

Food/drink

Emotion

Description

In the plane

Is there something at an airport's step you always try to avoid? Please circle it.

Why?

I check my luggage a lot so every time I wait for my luggage for the luggage area is a big step

In the plane

Is there something you bought at the airport you departed form? What did you do with it?

I took this with me

I ate/drank this

I disposed of this (including packaging)

Introduction

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About your trip

What is your name? [redacted] What is your age? 24

Why are you travelling? Traveling from China to get back to the NL

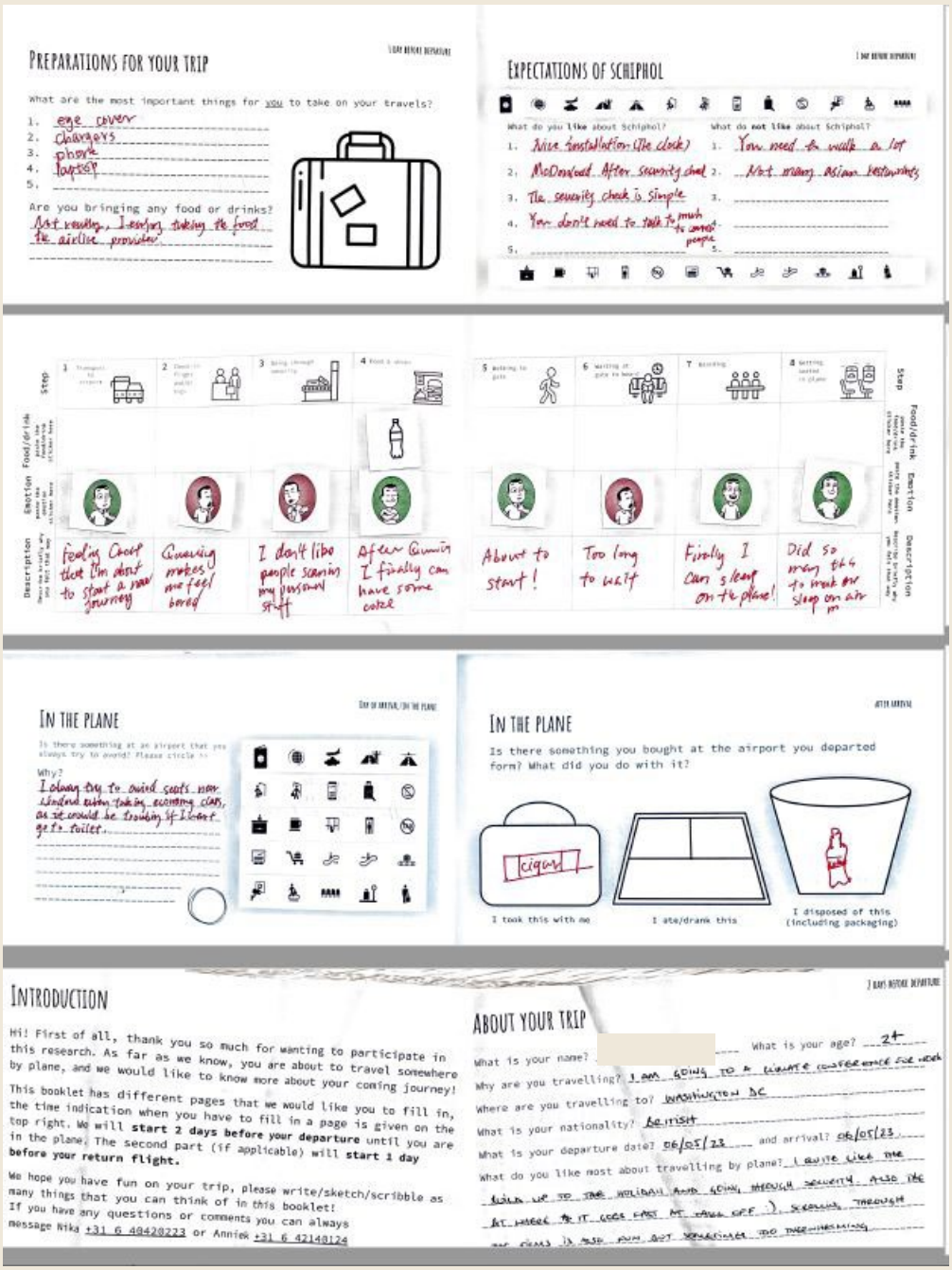
Where are you travelling to? Amsterdam – Delft

What is your nationality? Chinese

What is your departure date? 08/05/2023 and arrival? 08/05/2023

What do you like most about travelling by plane?

Quick moving from continents to continents, and you can enjoy the beautiful view over the clouds.



Preparations for your trip

What are the most important things for you to take on your travels?

1. eye cover
2. chargers
3. phone
4. laptop
5.

Are you bringing any food or drinks?

Not really, I enjoy taking the food the airline provider

Expectations of Schiphol

What do you like about Schiphol?

1. Nice installation (the clock)
2. McDonald After security check
3. The security check is simple
4. You don't need to talk to much to connect people
5.

What do not like about Schiphol?

1. You need to walk a lot
2. Not many asian restaurants
3.
5.

Step	1 Transport to airport	2 Check-in flight and/or bags	3 Going through security	4 Food & drinks	5 Walking to gate	6 Waiting at gate to board	7 Boarding	8 Getting seated in plane
Food/drink								
Emotion								
Description	Feeling Cheat that I'm about to start a new journey	Queuing makes me feel bored	I don't like people scanning my personal stuff	After Queuing I finally can have some coke	About to start!	Too long to wait	Finally I can sleep on the plane!	Did so many this to work on sleep on air m

In the plane

Is there something at an airport that you always try to avoid? Please circle >>

Why?

I always try to avoid seats near window when taking economy class, as it could be troubling if I want go to toilet.

In the plane

Is there something you bought at the airport you departed form? What did you do with it?

cigar

I took this with me

I ate/drank this

I disposed of this (including packaging)

Introduction

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We hope you have fun on your trip, please write/sketch/scribble as many things that you can think of in this booklet!
If you have any questions or comments you can always message Nika +31 6 48428223 or Anniek +31 6 42148124

About your trip

What is your name? [redacted] What is your age? 24

Why are you travelling? I am going to a climate conference for work

Where are you travelling to? Washington DC

What is your nationality? British

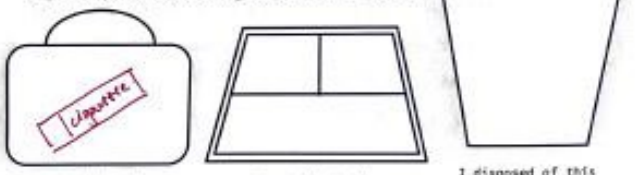
What is your departure date? 06/05/23 and arrival? 06/05/23

What do you like most about travelling by plane? I quite like the build up to the holiday and going through security. Also the bit where it goes fast at take off :). Scrolling through the films is also fun but sometimes too overwhelming

AT THE GATE

Did you **Buy** something at the airport?

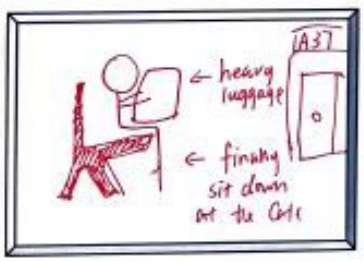
Draw/write these items on your food tray or in your shopping bag!
If you disposed of something also draw/write this! >>



I took this with me | I ate/drank this | I disposed of this (including packaging)

ON THE PLANE

Can you sketch your favourite moment between going through security and boarding for the plane?



END OF 1ST SECTION // START OF 2ND SECTION!

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BEFORE GOING BACK

What are you looking forward to the most during your trip back?

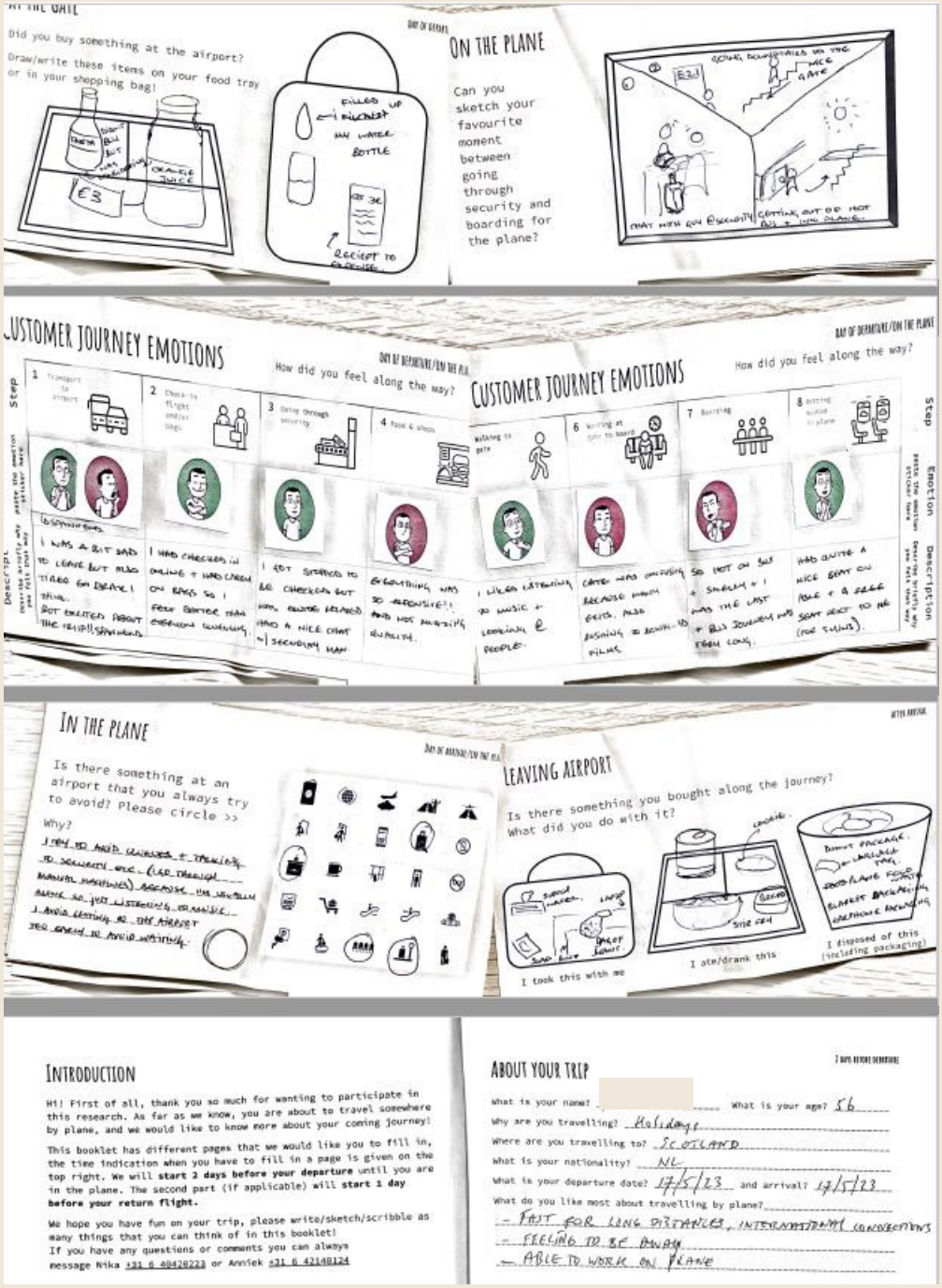
1. Sleep on air
2. Swift on air
3. The silence and compact space on the plane
4. _____
5. _____
6. _____
7. _____

PREPARATIONS FOR YOUR TRIP

What are the most important things for you to take on your travels?

1. PASSPORT
2. HEADPHONES
3. PHONE
4. PORTABLE CHARGER
5. MONEY (EVERYTHING IS SO EXPENSIVE)
6. ENOUGH PANTS
7. HAND CREAM

EXPECTATIONS OF SCHIPHOL


AT THE GATE
Did you buy something at the airport?
Draw/write these items on your food tray or in your shopping bag!
ORANGE JUICE
€3
FILLED UP MY WATER BOTTLE
ON THE PLANE
Can you sketch your favourite moment between going through security and boarding for the plane?
CUSTOMER JOURNEY EMOTIONS
How did you feel along the way?
Step
Emotion
Description
CUSTOMER JOURNEY EMOTIONS
How did you feel along the way?
IN THE PLANE
Is there something at an airport that you always try to avoid? Please circle >>
Why?
LEAVING AIRPORT
Is there something you bought along the journey?
What did you do with it?
I took this with me
I ate/drank this
I disposed of this (including packaging)
INTRODUCTION
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We hope you have fun on your trip, please write/sketch/scribble as many things that you can think of in this booklet!
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ABOUT YOUR TRIP
What is your name? [redacted] What is your age? 56
Why are you travelling? Holidays
Where are you travelling to? SCOTLAND
What is your nationality? NL
What is your departure date? 17/5/23 and arrival? 17/5/23
What do you like most about travelling by plane?
- FAST FOR LONG DISTANCES, INTERNATIONAL CONNECTIONS
- FEELING TO BE AWAY
- ABLE TO WORK ON PLANE

SPACE FOR TEXT/SKETCHES/SCRIBBLES
EMOTIONS ALONG YOUR JOURNEY
Can you explain how you felt?
END OF 1ST SECTION // START OF 2ND SECTION!
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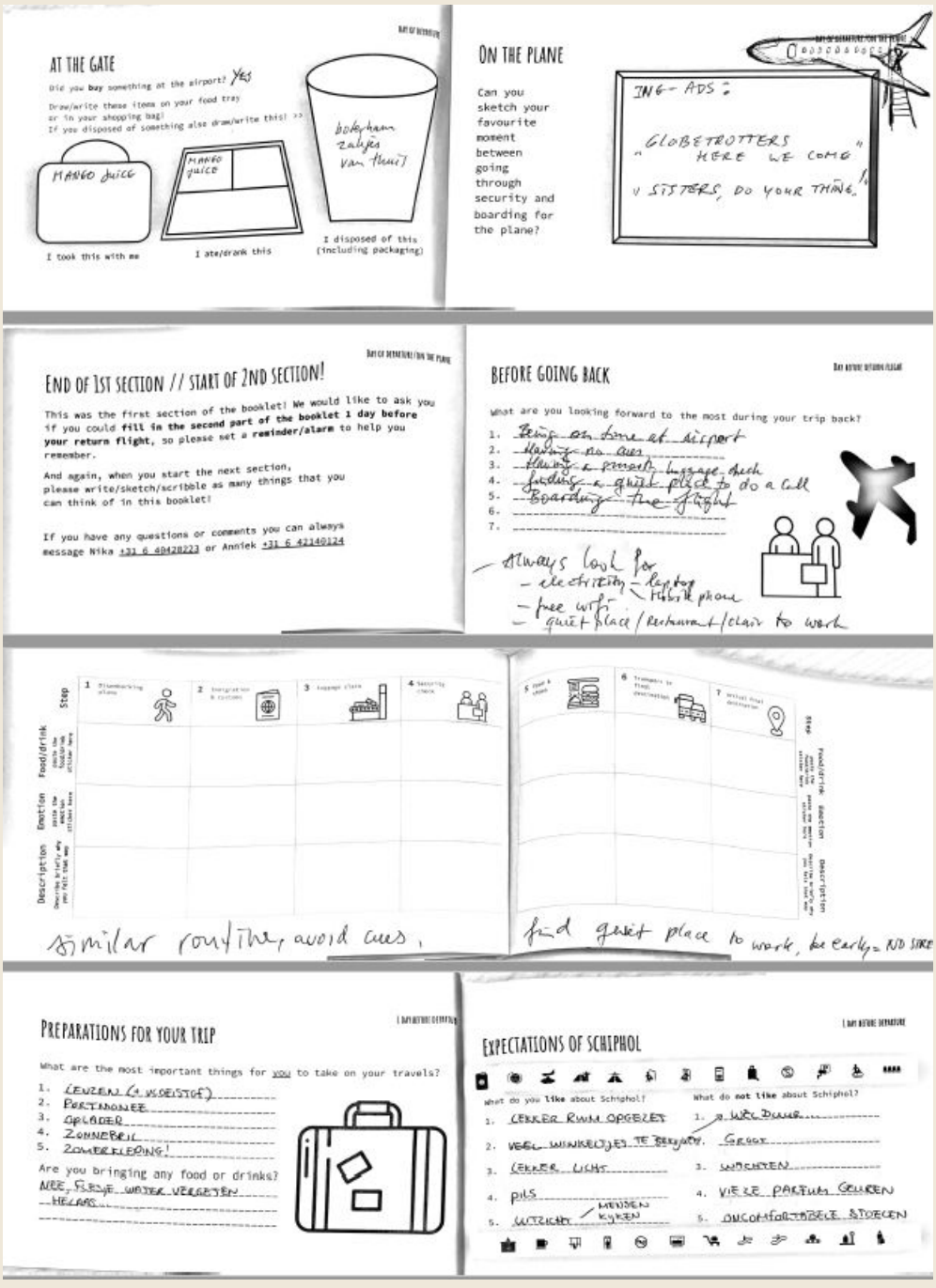
BEFORE GOING BACK
What are you looking forward to the most during your trip back?
CUSTOMER JOURNEY EMOTIONS
How did you feel along the way?
CUSTOMER JOURNEY EMOTIONS
How did you feel along the way?
PREPARATIONS FOR YOUR TRIP
What are the most important things for you to take on your travels?
Are you bringing any food or drinks?
EXPECTATIONS OF SCHIPHOL
What do you like about Schiphol?
What do not like about Schiphol?


AT THE GATE
Did you buy something at the airport? YES
Draw/write these items on your food tray or in your shopping bag!
If you disposed of something also draw/write this! >>
MANGO JUICE
MANGO JUICE
boterham zalijes van thuis
I took this with me
I ate/drank this
I disposed of this (including packaging)
ON THE PLANE
Can you sketch your favourite moment between going through security and boarding for the plane?
ING-ADS:
"GLOBETROTTERS HERE WE COME"
"SISTERS, DO YOUR THING!"
END OF 1ST SECTION // START OF 2ND SECTION!
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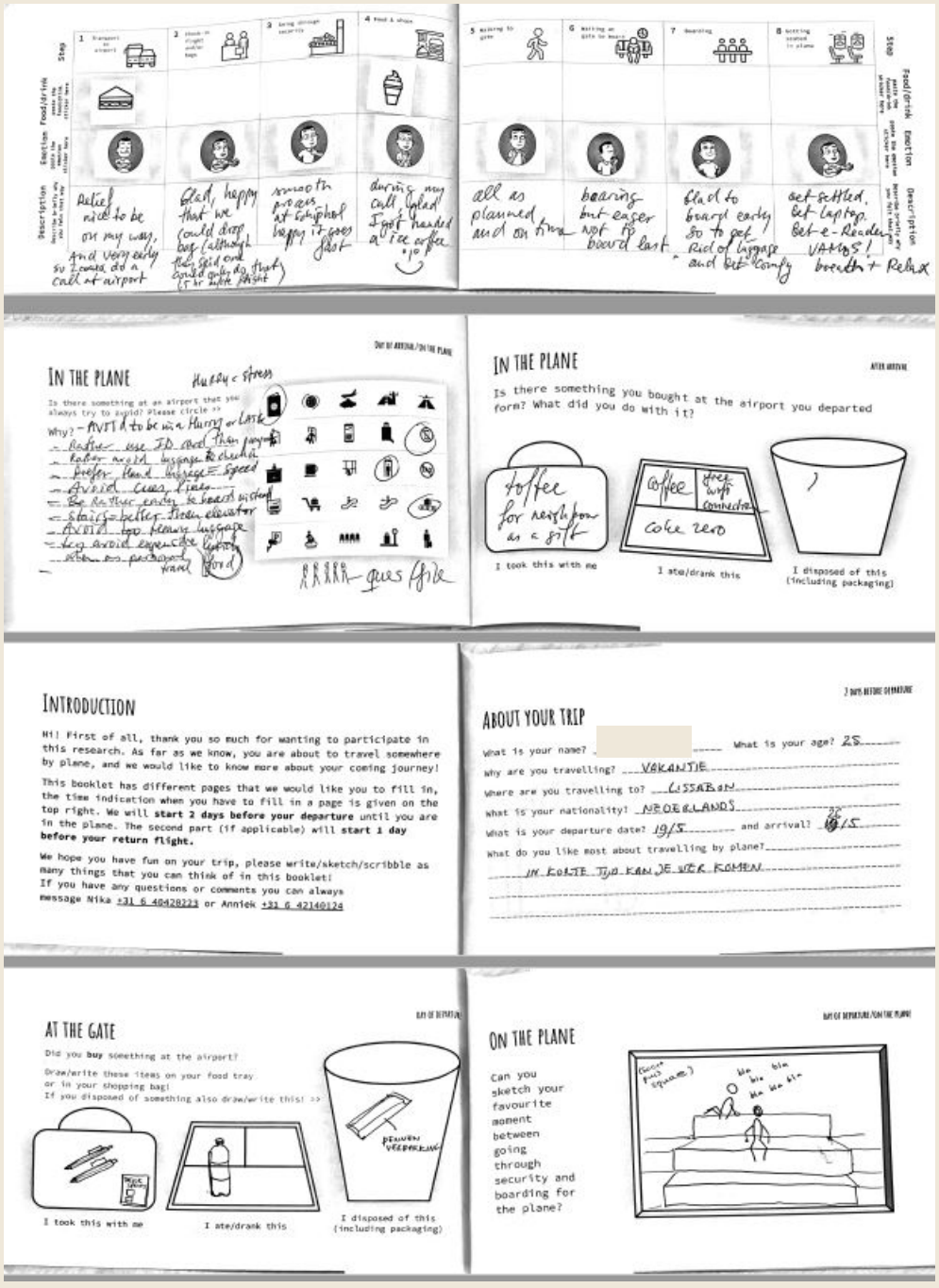
BEFORE GOING BACK
What are you looking forward to the most during your trip back?
1. Being on time at airport
2. Having no cues
3. Having a smooth luggage check
4. finding a quiet place to do a call
5. Boarding the flight
6.
7.
Always look for
- electricity - laptop / mobile phone
- free wifi
- quiet place / restaurant / chair to work
Step
Food/drink
Emotion
Description
similar routine, avoid cues,
find quiet place to work, be early = NO STRE
PREPARATIONS FOR YOUR TRIP
What are the most important things for you to take on your travels?
1. LENZEN (+ VOEISTOF)
2. PORTMONEE
3. OPLADER
4. ZONNEBRIL
5. ZOMERKLEDING!
Are you bringing any food or drinks?
NEE, FLEYE WATER VERGETEN
HELAAS...
EXPECTATIONS OF SCHIPHOL
What do you like about Schiphol?
1. LEKKER RUIM OPGEZET
2. VEEL WINKELTJES TE BEKIJKEN
3. LEKKER LICHT
4. PILS
5. LUTZICHT / MENSEN KIJKEN
What do not like about Schiphol?
1. WEL DUUR...
2. GROOT
3. WACHTEN
4. VIEZE PARFUM GEUREN
5. ONCOMFORTABELE STOELEN


Step
Food/drink
Emotion
Description
Relief nice to be on my way, And very early so I could do a call at airport
Glad, happy that we could drop bag (although they said one could only do that 15 hr before flight)
smooth process at Schiphol happy it goes fast
during my call, glad I got handed a ice coffee
all as planned and on time
boaring but eager not to board last
Glad to board early so to get rid of luggage and get comfy
Get settled. Get laptop. Get e-Reader VAMOS! breath + Relax
IN THE PLANE
Hurry < stress
Is there something at an airport that you always try to avoid? Please circle >>
Why? - AVOID to be in a Hurry or LATE
- Rather use ID card than pay
- Rather avoid luggage to check in
- Prefer Hand luggage = speed
- Avoid cues, lines
- Be Rather early to board instead
- Stairs = better than elevator
- AVOID too heavy luggage
- try avoid expensive lunch when as personal travel food
ques/file
IN THE PLANE
Is there something you bought at the airport you departed form? What did you do with it?
toffee for neighbour as a gift
coffee
free wifi connection
coke zero
I took this with me
I ate/drank this
I disposed of this (including packaging)
INTRODUCTION
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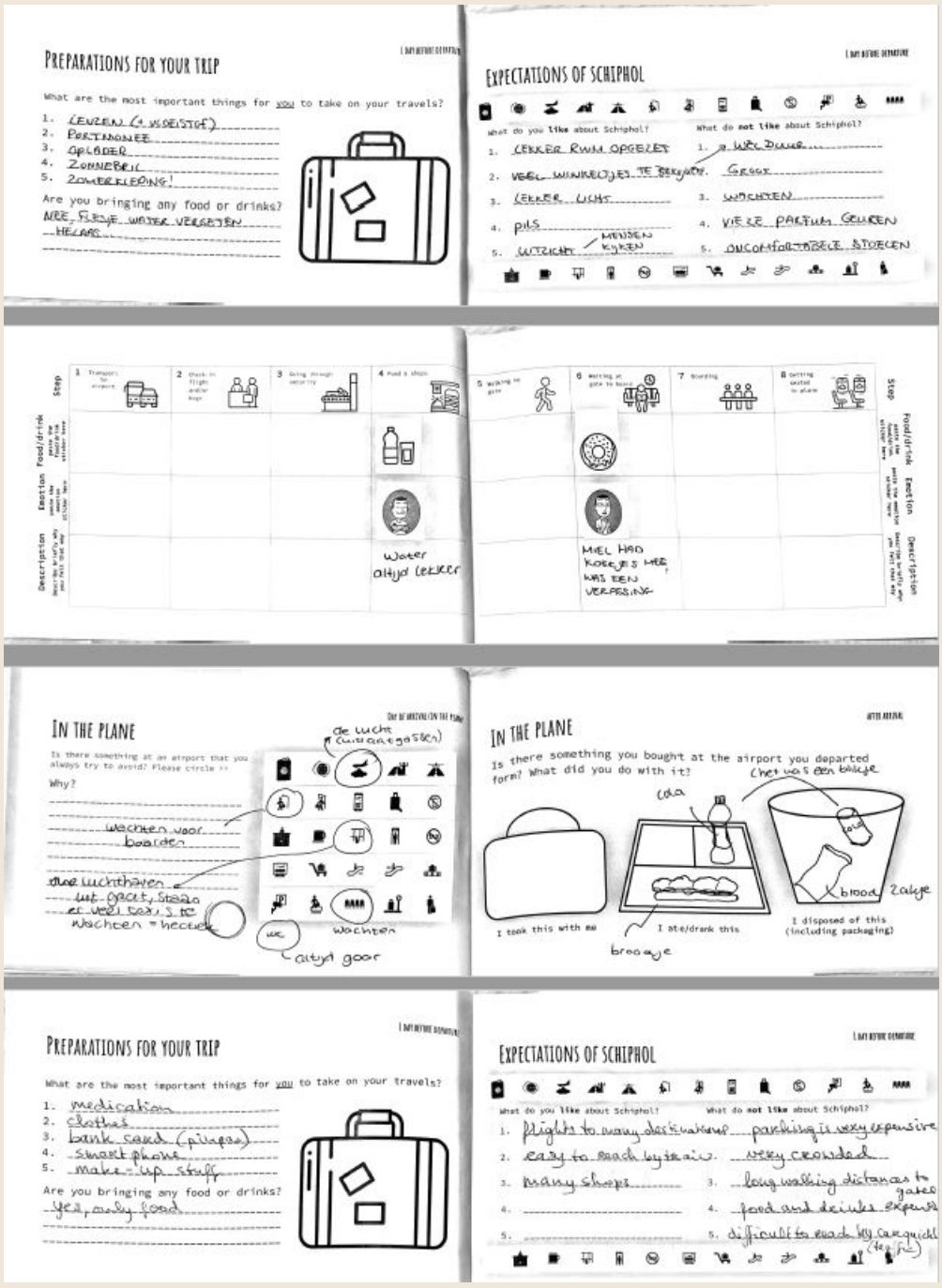
ABOUT YOUR TRIP
What is your name?
What is your age? 25
Why are you travelling? VAKANTIE
Where are you travelling to? LISSABON
What is your nationality? NEDERLANDS
What is your departure date? 19/5 and arrival? 26/5
What do you like most about travelling by plane?
IN KORTE TIJD KAN JE VER KOMEN
AT THE GATE
Did you buy something at the airport?
Draw/write these items on your food tray or in your shopping bag!
If you disposed of something also draw/write this! >>
PENNEN VERBERKING
I took this with me
I ate/drank this
I disposed of this (including packaging)
ON THE PLANE
Can you sketch your favourite moment between going through security and boarding for the plane?


PREPARATIONS FOR YOUR TRIP
What are the most important things for you to take on your travels?
1. LEUZEN (+ VOEISTOF)
2. PORTMONEE
3. OPLADER
4. ZONNEBRIL
5. ZOMERKLEDING!
Are you bringing any food or drinks?
NEE, FLEYE WATER VERGETEN HELAAS.
EXPECTATIONS OF SCHIPHOL
What do you like about Schiphol?
1. LEKKER RUIM OPGEZET
2. VEEL WINKELTJES TE BEKIJKEN
3. LEKKER LICHT
4. PILS
5. UITZICHT
MENSEN KIJKEN
What do not like about Schiphol?
1. WEL DUUR...
GROOT
3. WACHTEN
4. VIEZE PARFUM GEUREN
5. ONCOMFORTABELE STOELEN
Step
Food/drink
Emotion
Description
Water altijd lekker
MIEL HAD KOEKJES MEE, WAS EEN VERFRISING
IN THE PLANE
Is there something at an airport that you always try to avoid? Please circle >>
Why?
wachten voor boarden
de lucht (uitlaatgassen)
wachten
altijd goor
IN THE PLANE
Is there something you bought at the airport you departed form? What did you do with it?
cola
Chet was een blikje
brood
zakje
I took this with me
I ate/drank this
I disposed of this (including packaging)
broodje
PREPARATIONS FOR YOUR TRIP
What are the most important things for you to take on your travels?
1. medication
2. clothes
3. bank card (pinpas)
4. smart phone
5. make-up stuff
Are you bringing any food or drinks?
yes, only food
EXPECTATIONS OF SCHIPHOL
What do you like about Schiphol?
1. flights to many destinations
2. easy to reach by train
3. many shops
What do not like about Schiphol?
1. parking is very expensive
2. very crowded
3. long walking distances to gates
4. food and drinks expensive
5. difficult to reach by car quickly (traffic)

DAY OF DEPARTURE

AT THE GATE

Did you **buy** something at the airport?

Draw/write these items on your food tray
or in your shopping bag!
If you disposed of something also draw/write this! >>

I took this with me

I ate/drank this

I disposed of this
(including packaging)

DAY OF DEPARTURE/ON THE PLANE

ON THE PLANE

Can you sketch your favourite moment between going through security and boarding for the plane?

DAY OF DEPARTURE/ON THE PLANE

END OF 1ST SECTION // START OF 2ND SECTION!

This was the first section of the booklet! We would like to ask you if you could **fill in the second part of the booklet 1 day before your return flight**, so please set a **reminder/alarm** to help you remember.

And again, when you start the next section, please write/sketch/scribble as many things that you can think of in this booklet!

If you have any questions or comments you can always message Nika +31 6 48420223 or Anniek +31 6 42140124

DAY BEFORE RETURN FLIGHT

BEFORE GOING BACK

What are you looking forward to the most during your trip back?

1. de winkels
2. mensen kijken
3.
4.
5.
6.
7.

INTRODUCTION

Hi! First of all, thank you so much for wanting to participate in this research. As far as we know, you are about to travel somewhere by plane, and we would like to know more about your coming journey!

This booklet has different pages that we would like you to fill in, the time indication when you have to fill in a page is given on the top right. We will **start 2 days before your departure** until you are in the plane. The second part (if applicable) will **start 1 day before your return flight.**

We hope you have fun on your trip, please write/sketch/scribble as many things that you can think of in this booklet!
If you have any questions or comments you can always message Nika +31 6 48420223 or Anniek +31 6 42140124

2 DAYS BEFORE DEPARTURE

ABOUT YOUR TRIP

What is your name? _____ What is your age? 57

Why are you travelling? visiting friends

Where are you travelling to? Edinburgh

What is your nationality? NL

What is your departure date? 17-5-'23 and arrival? 17-5-'23

What do you like most about travelling by plane?
getting somewhere abroad very fast

DAY OF DEPARTURE

AT THE GATE

Did you **buy** something at the airport?

Draw/write these items on your food tray
or in your shopping bag!
If you disposed of something also draw/write this! >>

Mango-passionfruit smoothie

carrot cake

frappuccino

- plastic cup of frappuccino
- straw (paper)
- paper bag + napkin of cake

I took this with me

I ate/drank this

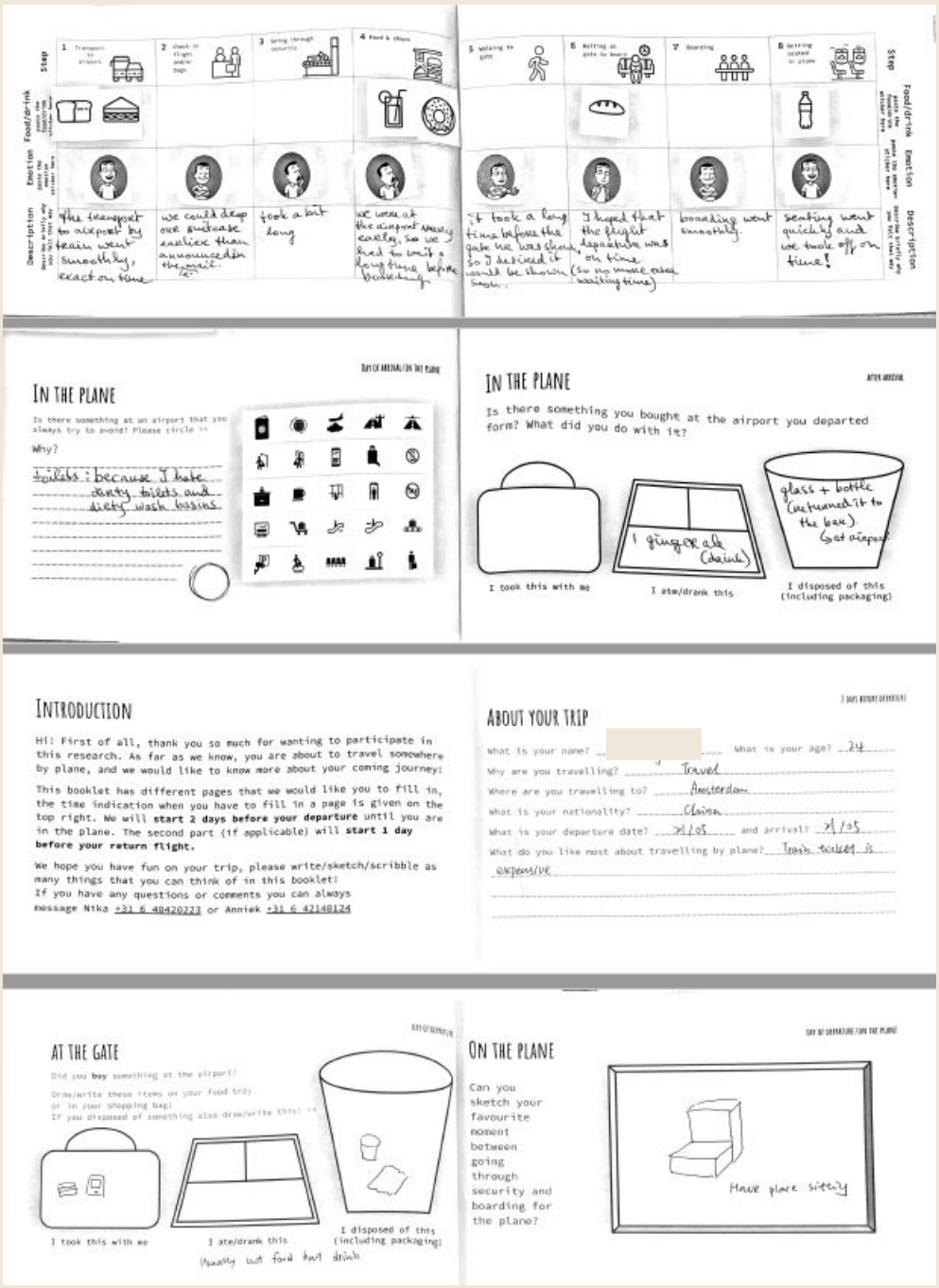
I disposed of this
(including packaging)

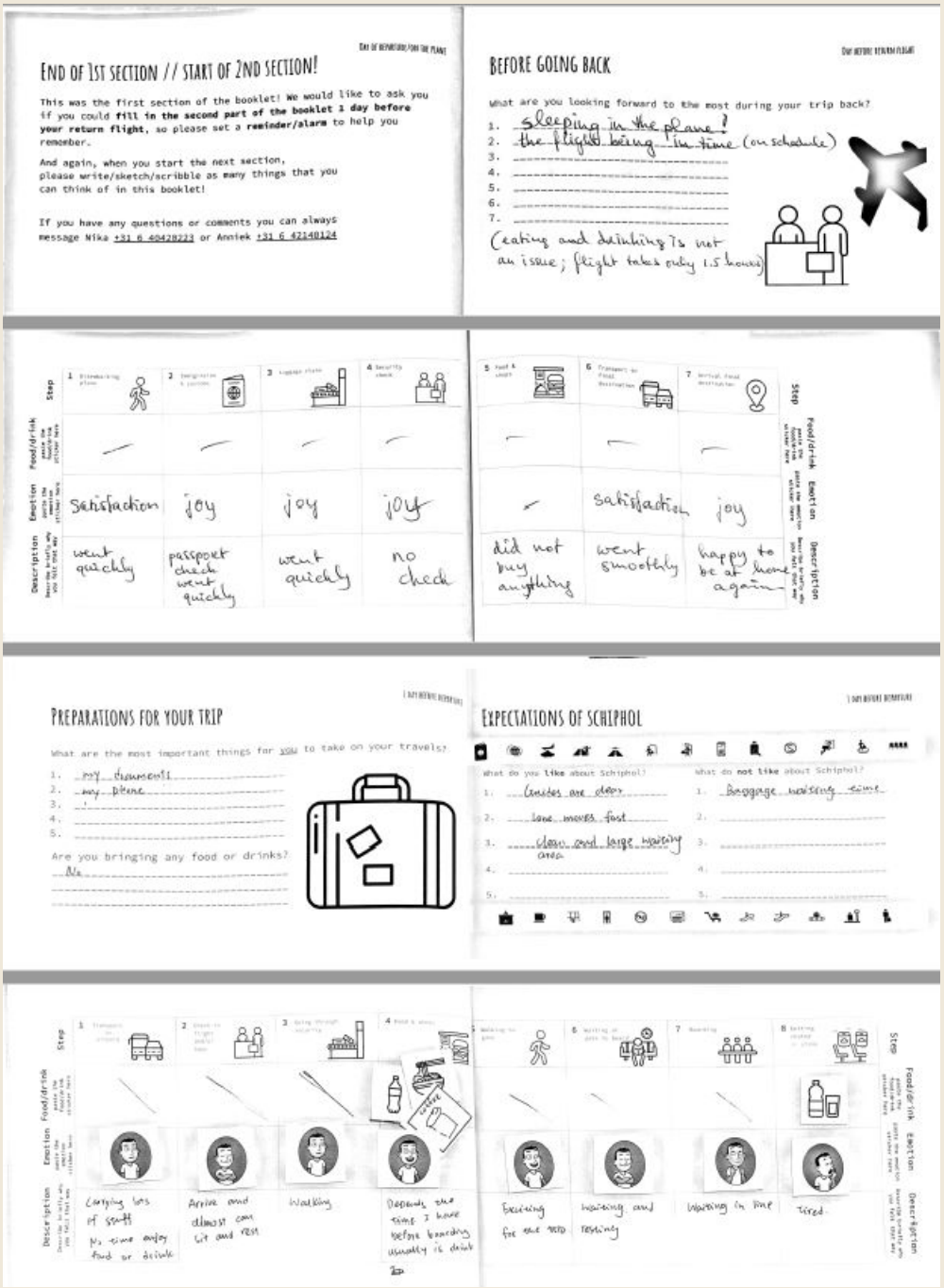
DAY OF DEPARTURE/ON THE PLANE

ON THE PLANE

Can you sketch your favourite moment between going through security and boarding for the plane?

having a frappuccino with cake while waiting for boarding


Step
Food/drink
Emotion
Description
the transport to airport by train went smoothly, exact on time
we could drop our suitcase earlier than announced in the mail.
took a bit long
we were at the airport very early, so we had to wait a long time before boarding
it took a long time before the gate he was shown, so I desired it would be shown soon.
I hoped that the flight departure was on time (so no more extra waiting time)
boarding went smoothly.
seating went quickly and we took off on time!
IN THE PLANE
Is there something at an airport that you always try to avoid? Please circle ==
Why?
toilets: because I hate dirty toilets and dirty wash basins
IN THE PLANE
Is there something you bought at the airport you departed form? What did you do with it?
I took this with me
I ate/drank this
I disposed of this (including packaging)
INTRODUCTION
Hi! First of all, thank you so much for wanting to participate in this research. As far as we know, you are about to travel somewhere by plane, and we would like to know more about your coming journey!
This booklet has different pages that we would like you to fill in, the time indication when you have to fill in a page is given on the top right. We will start 2 days before your departure until you are in the plane. The second part (if applicable) will start 1 day before your return flight.
We hope you have fun on your trip, please write/sketch/scribble as many things that you can think of in this booklet!
If you have any questions or comments you can always message Nika +31 6 48420223 or Anniek +31 6 42148124
ABOUT YOUR TRIP
What is your name?
What is your age? 24
Why are you travelling? Travel
Where are you travelling to? Amsterdam
What is your nationality? China
What is your departure date? 21/05 and arrival? 21/05
What do you like most about travelling by plane? Train ticket is expensive
AT THE GATE
Did you buy something at the airport?
Draw/write these items on your food tray or in your shopping bag!
If you disposed of something also draw/write this! ==
I took this with me
I ate/drank this
I disposed of this (including packaging)
Usually not food but drink
ON THE PLANE
Can you sketch your favourite moment between going through security and boarding for the plane?
Have place sitting



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BEFORE GOING BACK

What are you looking forward to the most during your trip back?

1. sleeping in the plane?
2. the flight being in time (on schedule)
3.
4.
5.
6.
7.

(eating and drinking is not an issue; flight takes only 1.5 hours)

Step	1	2	3	4
Food/drink				
Emotion	Satisfaction	joy	joy	joy
Description	went quickly	passport check went quickly	went quickly	no check

Step	5	6	7
Food/drink			
Emotion		satisfaction	joy
Description	did not buy anything	went smoothly	happy to be at home again

PREPARATIONS FOR YOUR TRIP

What are the most important things for you to take on your travels?

1. my documents
2. my phone
3.
4.
5.

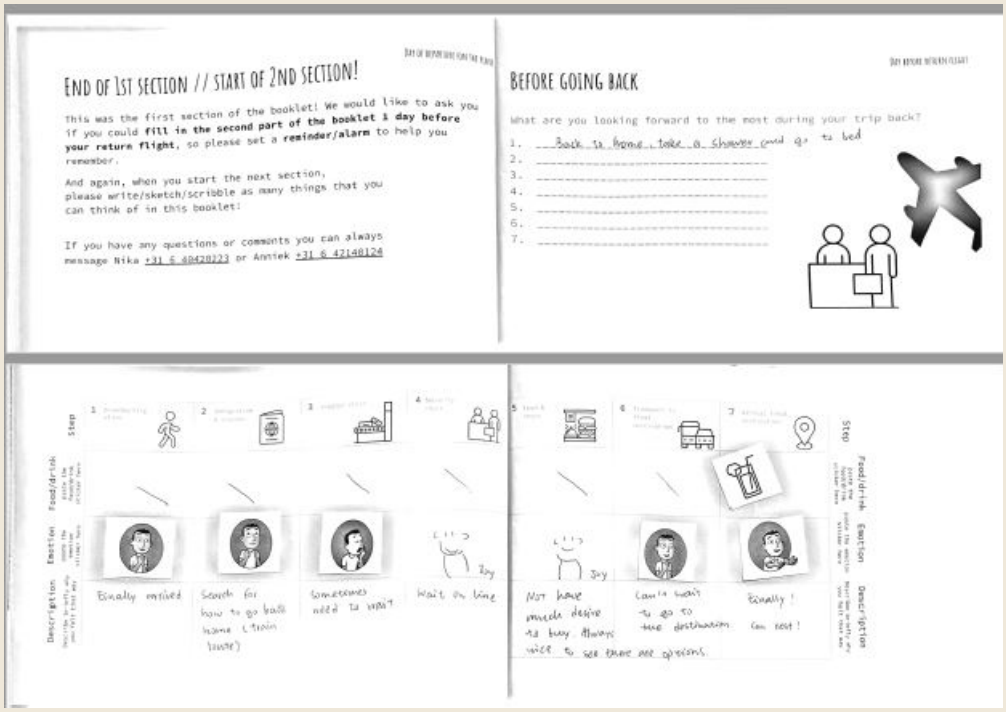
Are you bringing any food or drinks?

No

EXPECTATIONS OF SCHIPHOL

What do you like about Schiphol?	What do not like about Schiphol?
1. Aisles are clear	1. Baggage waiting time
2. lane moves fast	2.
3. clean and large waiting areas	3.
4.	4.
5.	5.

Step	1	2	3	4	5	6	7	8
Food/drink								
Emotion								
Description	Carrying lots of stuff No time enjoy food or drink	Arrive and almost can sit and rest	Walking	Depends the time I have before boarding usually is drink	Excercing for one hour	Waiting and resting	Waiting in line	Tired



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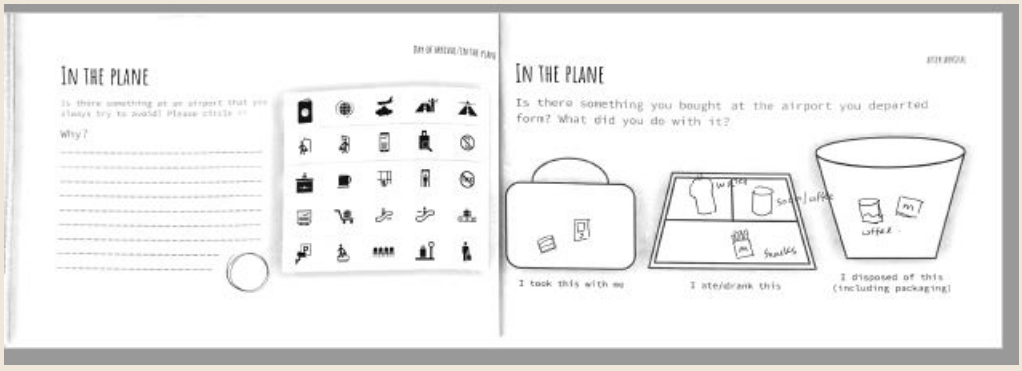
And again, when you start the next section, please write/sketch/scribble as many things that you can think of in this booklet:
If you have any questions or comments you can always message Nika +31 6 40420223 or Anniek +31 6 42148124
Before going back
What are you looking forward to the most during your trip back?
1. Back to home, take a shower and go to bed
2.
3.
4.
5.
6.
7.
Step
Food/drink
Emotion
Description
Finally arrived
Search for how to go back home (train route)
Sometimes need to wait
Wait on line
Not have much desire to buy always nice to see there are options.
Can't wait to go to the destination
Finally! Can rest!



In the plane
Is there something at an airport that you always try to avoid? Please circle it
Why?
In the plane
Is there something you bought at the airport you departed form? What did you do with it?
water
soda/coffee
snacks
coffee
I took this with me
I ate/drank this
I disposed of this (including packaging)

D Interview setup Statiegeld Nederland

D Interview Employee Statiegeld Nederland

1. Introduction of
2. Introduction of the TULIPS project

Questions for Charlene:

3. Could you tell us about the current deposit system in The Netherlands? What is the role of statiegeldnederland?
4. Could you tell us about the different deposit systems that are currently in use?
5. Are there deposit systems/bins that have been in use that turned out not to work well? Why was that?
6. How did the setup of the statiegeld innamepunten (deposit system bins) at train stations work and what is the current status?
7. Plastic bottles from dairy and syrups are excluded from the deposit system (source: statiegeldnederland.nl). Why is that the case?
8. From April 1, 2023, a nationwide and consumer-friendly deposit system will be operational for all metal beverage packaging with a volume of 3 liters or less (source: statiegeldnederland.nl). Could you elaborate on how this system will work? How is returning aluminum cans different than the PET bottles?
9. What are other future plans for statiegeld nederland to expand the facilities, also for aluminum cans?
10. Do you have any examples on how other countries approach the system of returning PET bottles/cans?

Not sure about asking the following questions, but wanted to write it down too:

11. Are you as statiegeldnederland also involved in plastic waste collection like PMD?

For supermarkets bigger than 200 m2 & manned gas stations on the highway:

- Manual collection (the bottle is scanned at checkout);
- Collection with a reverse vending machine (RVM);
- Collection through a RVM with compactor.

12. What is a compactor?

For smaller businesses who want to collect but are not obliged to:

- Collection through a donation bin (for charity)
- Manual collection and giving deposit back to the consumer
- Collection with a RVM and giving back the deposit to the consumer

E Brainstorm general

The agenda was as follows:

Activity	Goal of the activity	Outcome
1. Welcome	Introducing the Research group in the project	Informed Research group
2. Restating the problem How can passengers be encouraged to return their PET bottles/cans along their journey at the airport? Ieder 5 opties bedenken Choosing the preferred one (everyone 1 vote (stickers)	Letting the Research group feel involved and responsible for the problem (including them in the decision)	
3. SPARK	Making the problem as perceived specific&sharp, positive, ambitious, relevant & real, and keeping it simple.	Problem as Perceived (PaP) 'Hoe maken we het zo intuitief mogelijk om PET/blik in te leveren'
4. Brainwriting (3 options 4x2min) op PaP		
5. Break		
6. Think like a criminal		
7. Axis ability and motivation		

F Brainstorm motivation

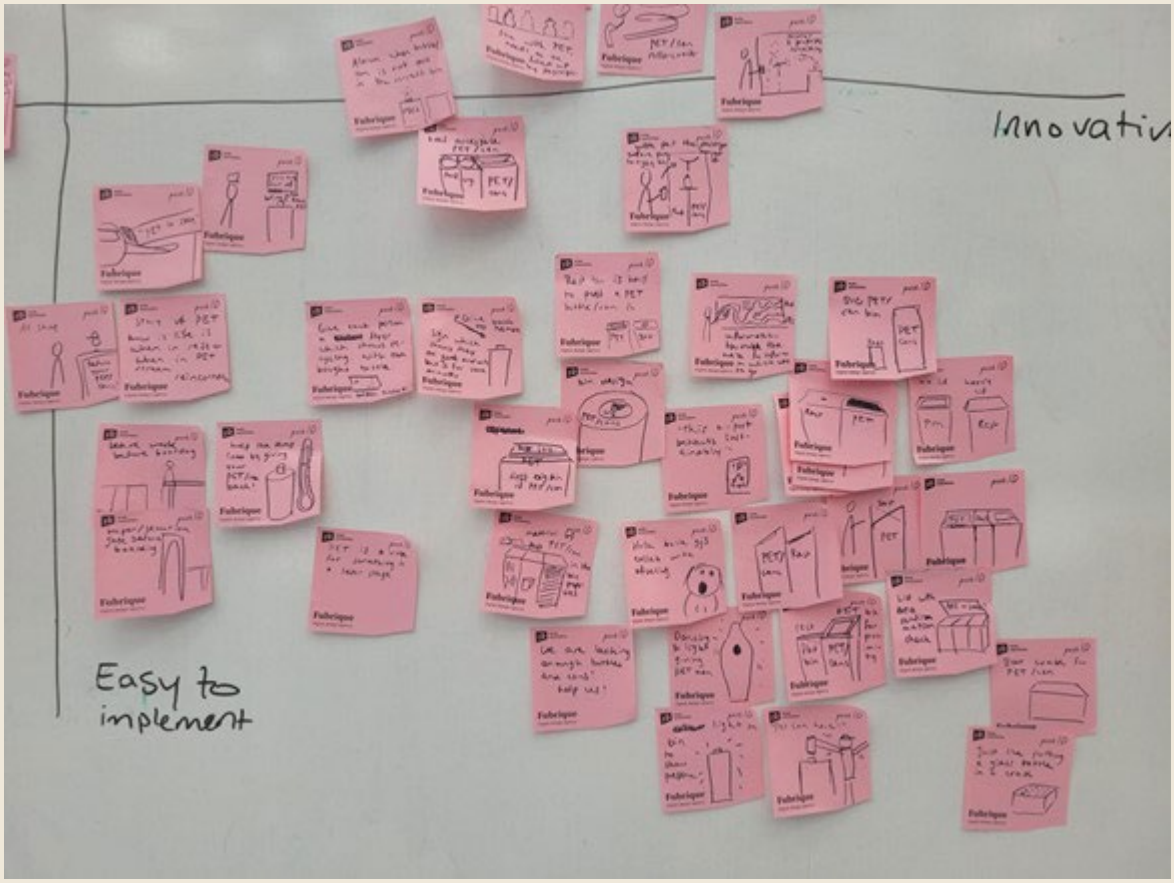
F Brainstorm 2 on motivation

The agenda looked as follows:

Activity	Goal of the activity	Outcome
1. Welcome	Making the participants feel welcome	
2. Explaining the setup and personas	Instructing the participants	Instructed participants
3. In role braindump (what would motivate your passenger to separate their waste?)	Letting the participants ideate on their first associations	First associated ideas
4. In role ideation on: - pleasure/pain - hope/fear - acceptance/rejection	More specific ideation on the motivators	Ideas per persona
5. Dividing ideas in a C box	Selecting ideas on innovativeness and feasibility	See figure FIXME
6. Creating a concept poster in groups of 2	Concluding the ideas and selecting the most promising ones and adding details to the ideas	See figure FIXME

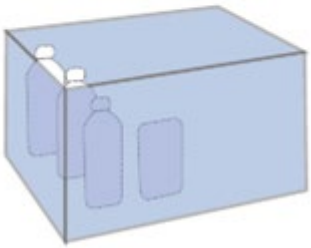
G DwI ideation

Difficu
to
implen
novative


Innovati
Easy to
implement

H Concept directions

1. PET/can crate



This crate will be available next to every FF2/FF3 bin. It lets passengers put their bottles and cans in, so it will only be used for this. For glass bottles this is already a solution.

2. Example bin

This bin shows what goes in which hole. It has a double shell where example waste is put in between. This way passengers will have an exact example

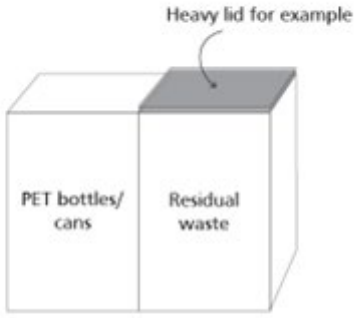
3. Art installation

This is an artistic installation which is made out of PET bottles and/or cans. There are some empty spots, where passengers can put their own bottle/can so they are involved in making the art together.

4. Efteling experience

A rollercoaster for the PET bottle or can. It engages the passenger in a fun way to throw away their PET bottle or can and enjoy for a moment when waiting for their boarding time. A collaboration could be made with Efteling (like Rijksmuseum also did).

5. Residual is difficult



By making the residual waste bin less attractive to put waste in, people need to wait and think about their separation options, and hopefully throw it in the correct bin and recycle.

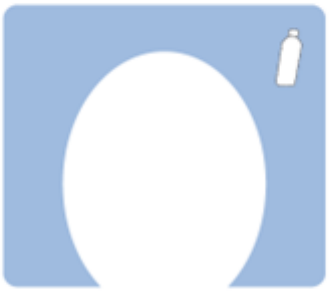
6. Passenger voting

One passenger throws away their PET/can but it will wait for the next passenger to be separated. The next passenger will determine with his own bottle/can which bin the previous passengers' can will go into.

7. Moving information

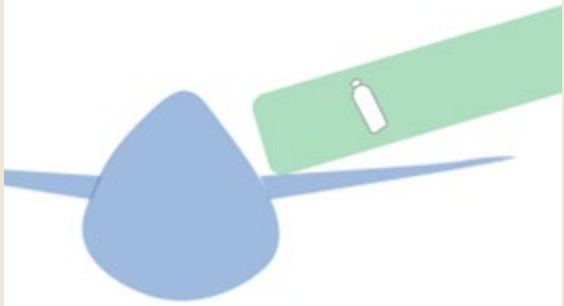
Information can be static, but it will probably not attract much attention. Therefore there needs to be a person/ robot which moves with the information for passengers regarding the waste separation.

8. Gate before gate



There is a gate just after the main shops and restaurants, where information is showed about what to do with a PET bottle or can, so passengers will act upon it at the gate.

9. Aviobridge

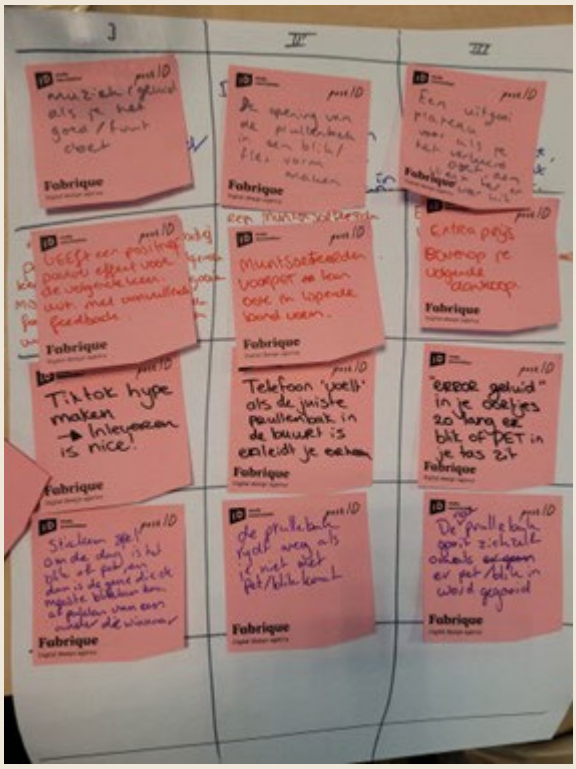


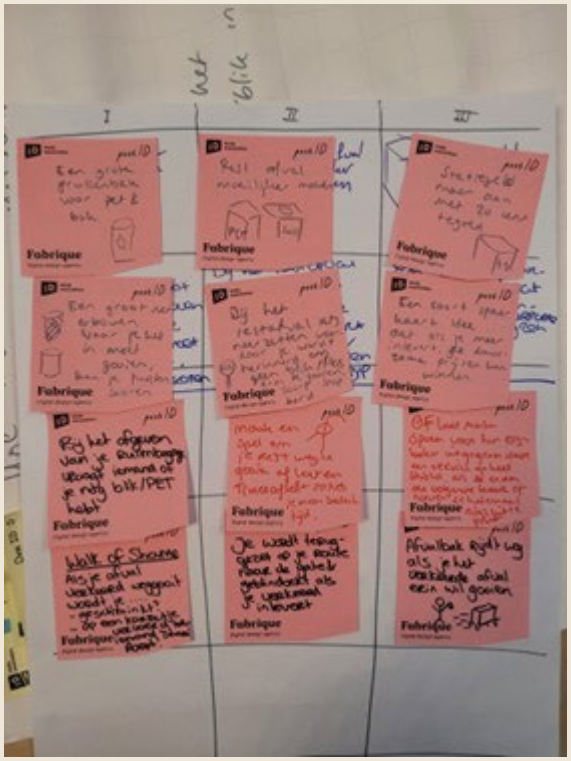
Passengers will look at the airplanes and their aviobridges often when at the airport. These can be used to make passengers aware of the PET/can recycling possibilities at Schiphol.

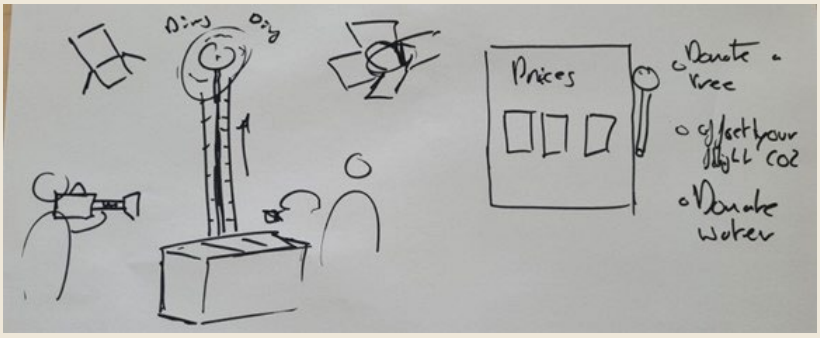
I Co-creation session

https://miro.com/app/board/uXjVMfoLvcA=/?share_link_id=810164137778

J Motivation brainstorm



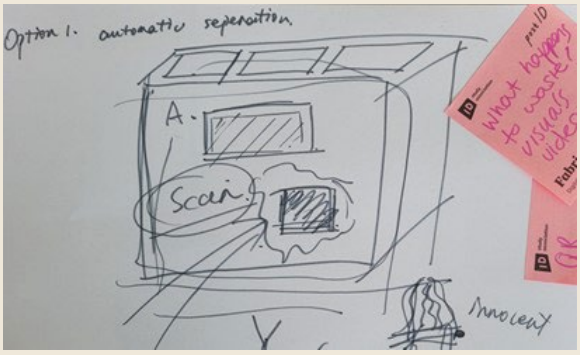


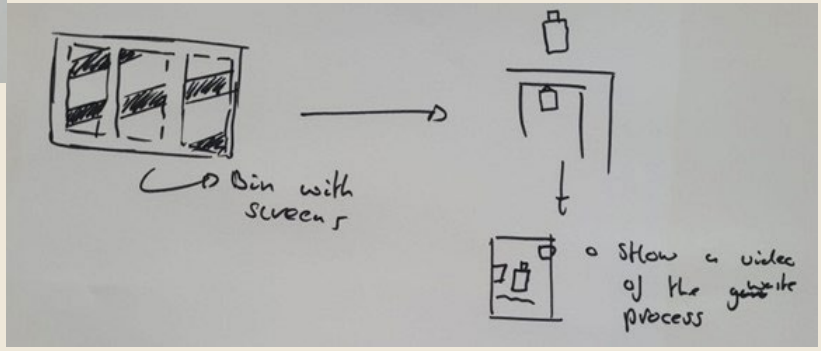


Charity Donation Voting Bin

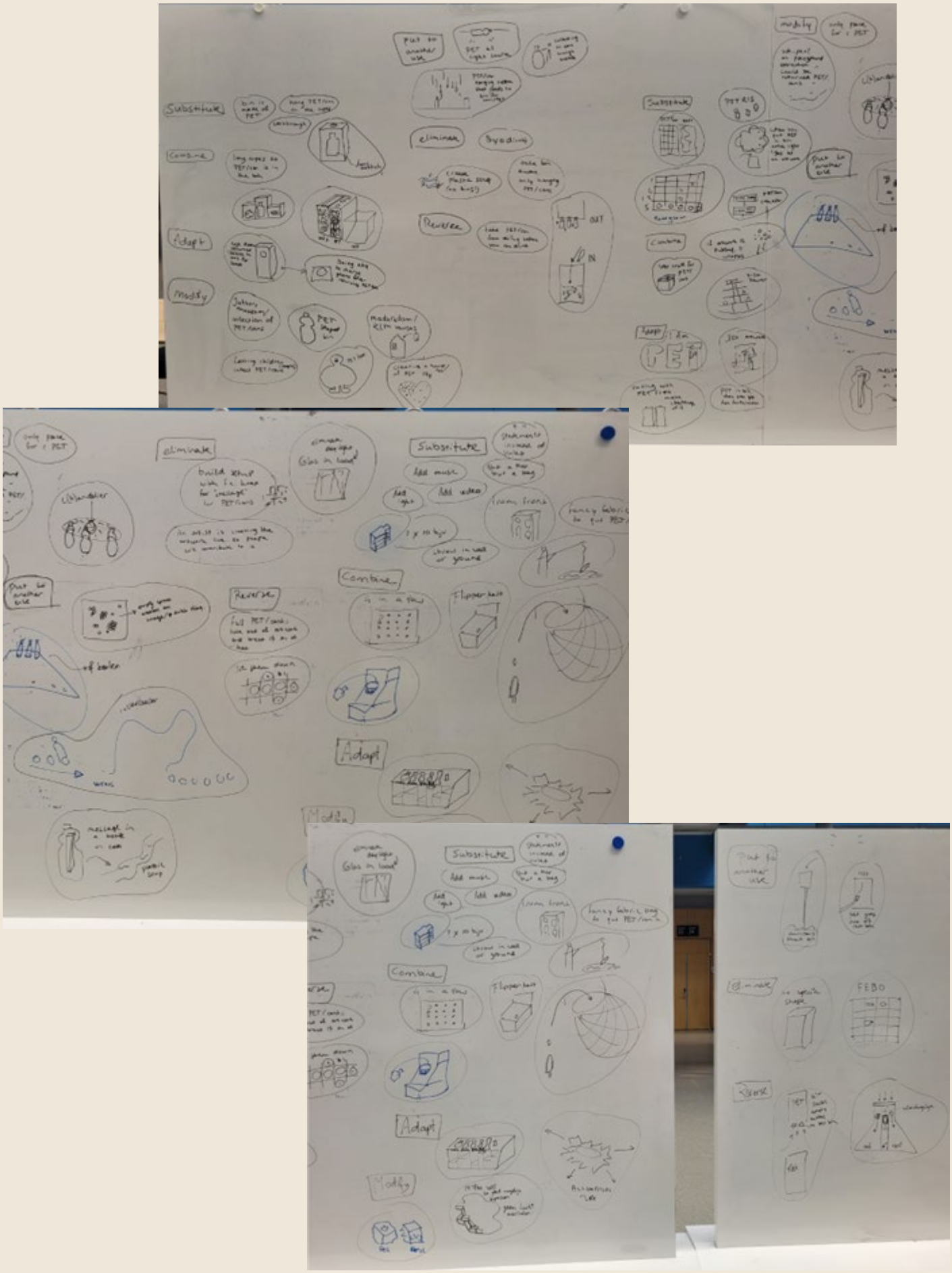
- Vote with your bottle/can, winning charity gets the money (or an additional amount since the bottles won't amount to much money)

Charity 1	Charity 2	Charity 3
short description of charity goals for each		
winner ☺		





K SCAMPER


Substitute
Combine
Adapt
Modify
eliminate
Reverse
Put to another use
Substitute
Combine
Adapt
Modify
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Substitute
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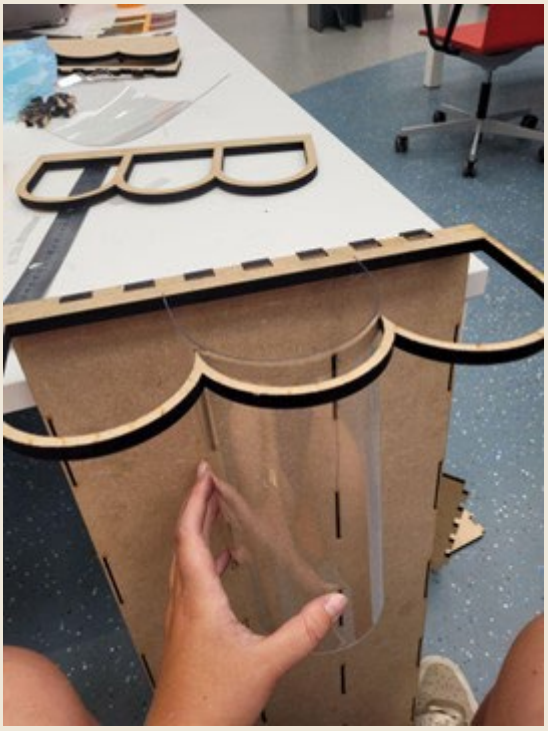
Reverse
Put to another use

L Prototyping



M test setup concepts at Schiphol

Test setup

Topic: returning PET bottle/cans – comparative study of two main concepts

Date (already arranged with Asito): 19-07-2023

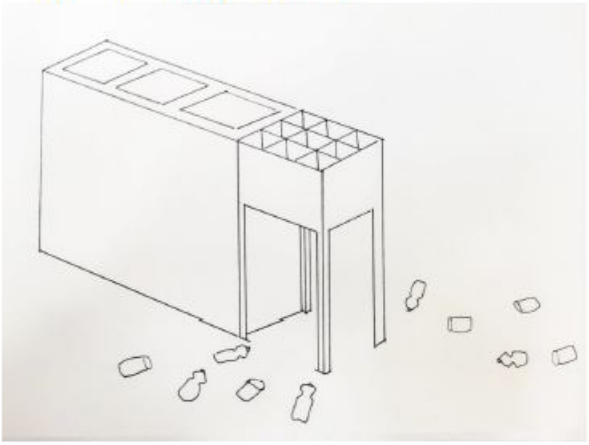
Aim: Comparison of passenger preference of the current two main concepts (concept 1: PET/can crate and concept 2: Pet/can tube)

Area: Near the gates, where people are waiting and have time to answer questions. Any gate after security is possible, MobileCentre will be called beforehand to specify which gate is clear to test at. Passengers are also more likely to have bought a drink in a PET bottle or can which they would want to dispose of. I would like to use 1 bin for both the tests. First the 1st concept setup will be made and passengers who throw a PET bottle/can away will be interviewed. Then after half of our testing time has passed, concept 2 will be set up and passengers will be interviewed when using it.

Passenger interaction: Semi structured interview after a passenger has thrown away a PET bottle/can in the FF3 bin or the concept. The same interview questions are used for both concepts (see appendix with the interview questions). Max. 5 minutes per participant. The aim is to interview around 10 to 20 participants.

Test duration: The testing day (around 8 hours) will be divided in two equally long parts (half day, 4 hours). Part one is focusing on concept 1 and part two on concept 2. During all times, I will be present at the testing location.

1st part, Concept 1: PET/can crate

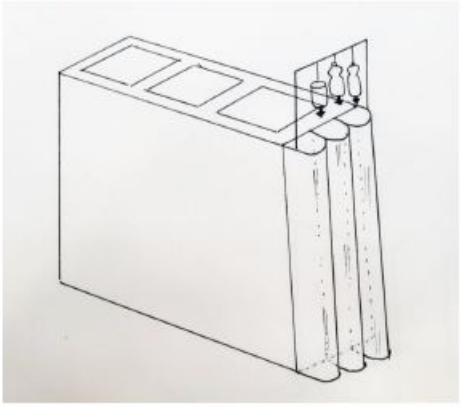


Concept 1 focuses on adding the option of PET bottles and cans to the FF3 bins (inspired by Pathé cinema glass bottle return points). Additionally, there will be stickers that are sticked on the floor which lead the passenger to the waste bin and informational visuals will be added to the crate add on.

Needed items:

- A crate prototype for the PET bottles made of wood, glue and plastic (**will bring it myself if it is allowed through security**).
- Own made stickers (with regular tape) which will be taken off the floor after the test (will bring and remove myself)
- Something to heighten the crate to the FF3 bin level (**will bring myself**)

2nd part, Concept 2: PET/can tube



This concept consists of a see-through tube, where the returned PET/cans can be seen from the outside. On top there will be a hanging mechanism to showcasing a real empty can or bottle, with an arrow at the bottom. This guides the passenger that their bottle/can is supposed to go in the tube. This could be placed at each FF3 bin, but the text of 'help us to recycle' needs to be covered up on the current FF3 bin to avoid confusion.

Needed items:

- Tube prototype made of wood, glue and plastic (**will bring myself if it is allowed behind security**)
- Tape (will bring myself)

Appendix Interview structure

Semi structed interview guide for a passenger who puts his/her PET/can in the FF3 or crate/tube add on:

Consent

- Could you sign the consent form?
- Is it okay if I record this interview to be able to listen back to it? No other parties will be involved

Interview questions:

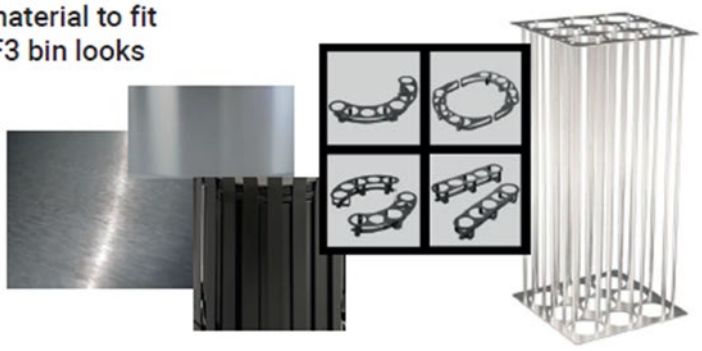
1. In what bin did you put your PET/can?
2. Can you explain why you put it in that bin? What consideration did you make?
    a. Did it grasp your attention? What parts of the design grasped your attention? Why (not)?
3. How clear was it for you where you should place your PET/can?
    a. Can you explain why?
    b. What signs guided you to guide you to the separate option?
4. Could you rate the amount of effort involved in disposing of your PET bottle/can? (scale 1-10).
    a. Could you explain why?

N Look and feel moodboard

General look of public area waste bins

Intended area of use

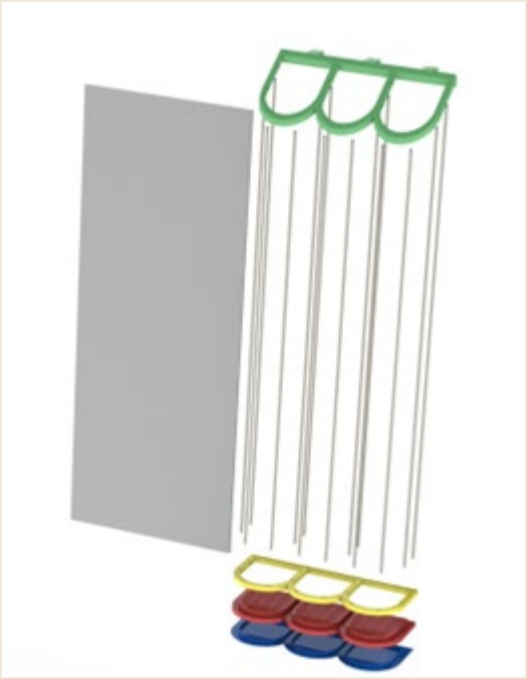
Intended material to fit with the FF3 bin looks

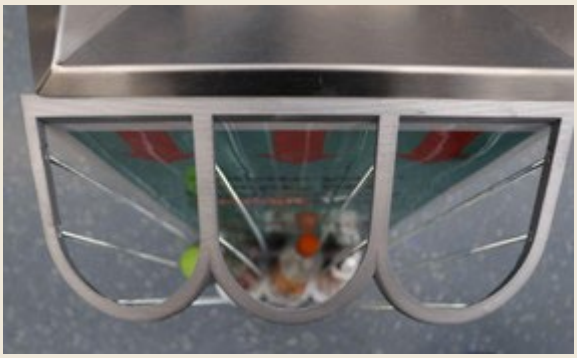


O Statiegeld nederland toolkit

https://news.pressmailings.com/hvdm/toolkit-statiegeld-nederland-campagne-2023

P Final prototype





Q Validation test set up

Test proposal

Duration: 2 full days, 7 h (9.00 - 17.00)

Study type: Comparative study

Setup:

- Day 1: baseline test (a test day with only observing in the normal Schiphol conditions)
- Day 2: testing the final prototype.

Ideally this would be planned on the same weekday, so for example one week Monday, and the following week on Monday as well. And of course both tests at the same location. This is how the passenger conditions would be comparable to the best extent.

Both of these days would have the same process:

- letting the prototype pass through the goods passage
- getting the visitor passes
- passing security + picking up prototype after security
- finding a spot to sit and observe at the test area
- measuring the initial starting condition

  Taking a photo of the initial FF3 bin contents (where the add on is placed next to)
  Taking a photo of the initial prototype contents (when testing the prototype).
  Observing where a PET bottle or can goes in. Counting in an excel where a PET bottle or can goes. Taking notes when unexpected things happen.
- observing passengers and waste at the area
- measuring the end condition of that day

  Taking a photo of the bin contents (where the add on is placed next to), taking a photo of the prototype contents (when testing the prototype). Observing where a PET bottle or can goes in.
- leaving the airport with the prototype

The testing would therefore mainly take place at one area, where me and the host could sit and work from there at a desk for example.

I would like to propose the following options (9.00 - 17.00):

1. Monday 11th and 18th of September
2. Tuesday 12th and 19th of September
3. Wednesday 13th and 20th of September
4. Thursday 14th and 21st of September