



SUSTAINABLE URBAN VEHICLE "ALLEY HOOP"

Elena Pallares Diez



UNIVERSITAT
POLITÈCNICA
DE VALÈNCIA

THE HAGUE
UNIVERSITY OF
APPLIED SCIENCES

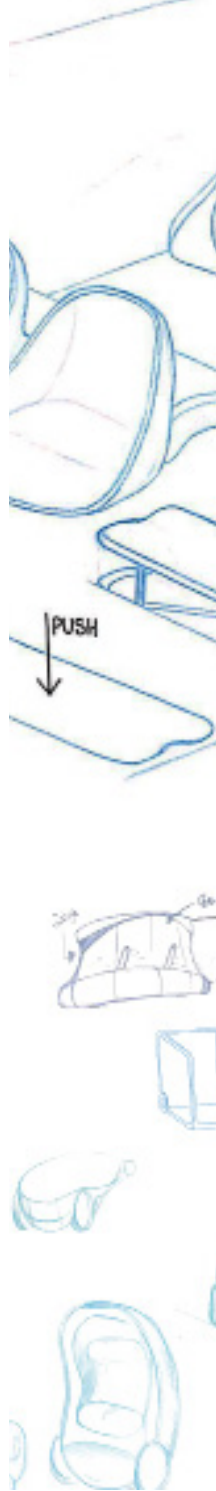


RESUMEN

In the year 2025 the world will be ever more crowded, ordinary transportation devices will congest the city. The environment and pollution is a worldwide problem, so smart sustainability and innovation in the mobility sector are the key to a bright, improved future.

Our mission is to improve life of the future with sustainable, autonomous, on-demand transportation devices. URBINN aims to make the world more livable and more smart sustainable with our technical innovations in mobility.

URBINN develops the first prototype to continue the innovation development of the Alley Hoop. Our goal is to improve the life of billions of people in the urban environment in 2025. We offer smart sustainable, specific transportation solutions. Suitable for people transportation and package delivery systems.



WEEK 1

Division of work

Brainstorming

Research

Pinterest

Target group

Competitors

Teachers meeting

Vision

Plan of approach

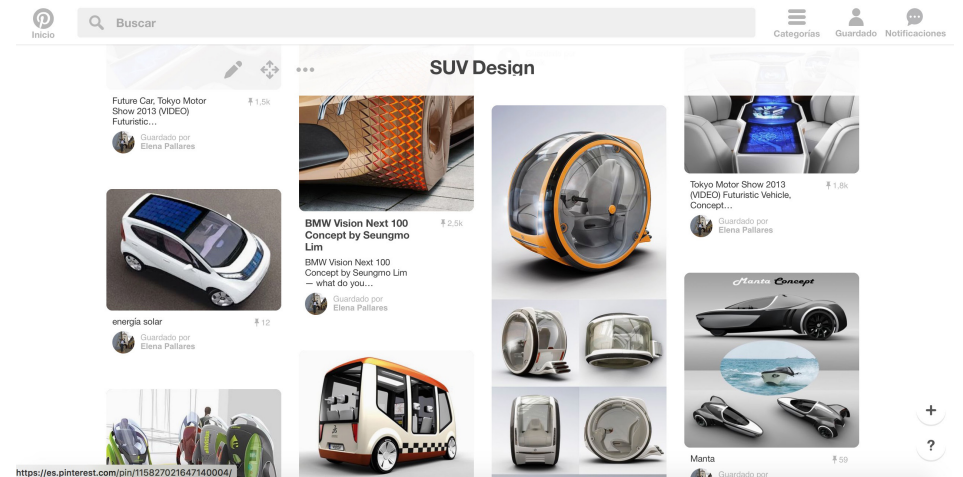
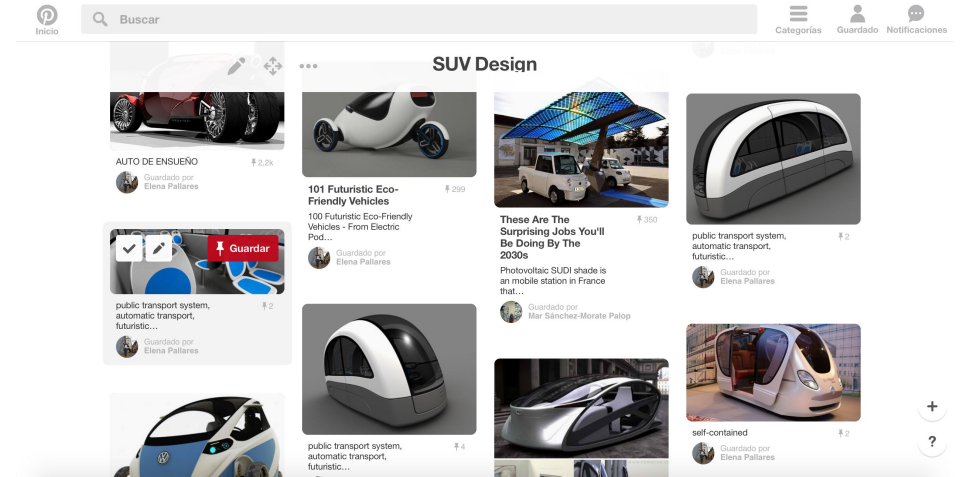
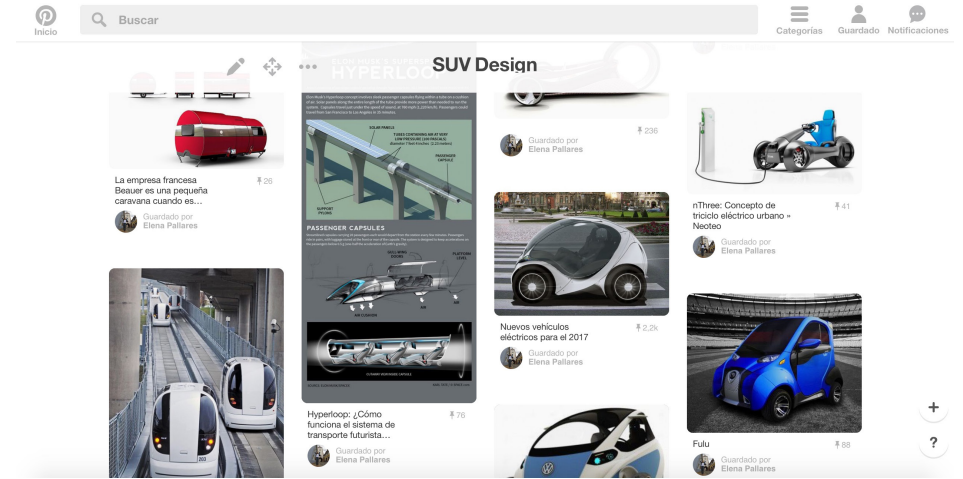
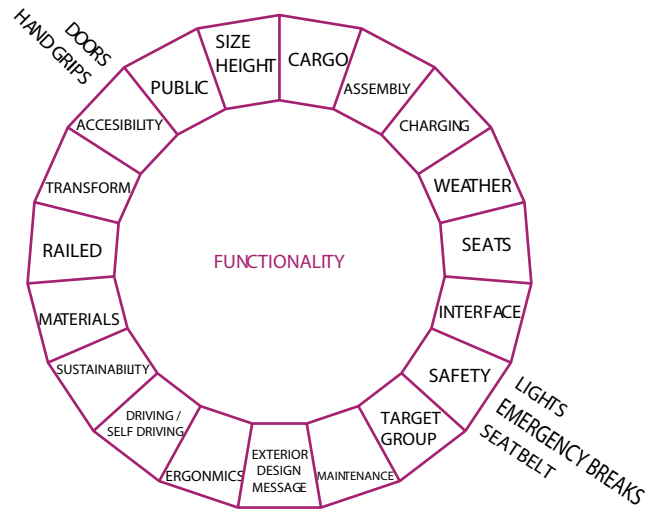
Target group

Storytelling

Mision

Moodboard

Power Train	Navigation
Thomas Sander Nicky Luc	Kris Sepper Dean
Frame Chassis	Design Team
Sion Cor Niels Alexandra Laura Jay	Mink Elena Mar Ying Maarten Bram





NAME Andrea

AGE 24

SENTIMENTAL SITUATION She has a boyfriend from 2 years.

ACQUISITION LEVEL She is middle class

PROFESSION She has a part-time work at a design studio as She studies her master of Industrial design.

PERSONALITY / VALUES She values the most the friendship, she is really concern with the need of taking care of the environment and she believes that must live in a more sustainable way.

LIFESTYLE Andrea loves music, she plays in a band with other friends. She used to go to the university most of the days by train but what she loves the most is traveling around the world but, as she is from Spain, they usually go to different places in Europe. Every time she has some free time, she always tries to go in an adventure.

TYPE OF PURCHASE She usually buys lots of material for all of her designs. Her purchase is normally reduced to useful things such as food or those materials for university. Since she lives alone and she has to earn some money by herself, she goes shopping with friends once a month, when there are no trips planned.

As the sun goes down in Barcelona and the sky turns gray, the traffic is getting worse. Andrea gets into her Volkswagen Beetle colored blue sky, legacy of her parents and that shares with her sister Noa. Now she is going home. She parks in the building and runs upstairs, with her camera hanging from the neck. She has her wallet full of polaroids, memory cards and even reels of analog cameras, she makes so much noise that Noa even heard her arriving before she gets home.

"Is there anyone at home?"

Her sister, with a very little complexion, fair hair, and blue eyes like ice, comes out of the kitchen with a hot cup of tea.

It is nice for them to see each other again. They have such similar features and thoughts. So similar that sometimes they feel they are looking themselves in a mirror, and seeing their reflection.

"How is the new photography project going?"- Noa asks.

"Well, it seems that customers were really enthusiastic with the idea of recreating old photographs, so it's going to be fun. I can still remember when we sat on the reading room's rug and spent whole afternoons imagining the lives of those people who appeared in Dad's photographs. Do you remember when we went to The Netherlands and there were bikes everywhere?" said Andrea.

"Yes, I loved it. But your obsession with collecting old photos will never end," Noa said with a smile.

They have not lived at home for 6 years. They decided that they wanted to learn more, and study abroad. Their family agreed and they decided to start this adventure.

Noa and Andrea have two more sisters who have lived most of the time in a town in Asturias. In this region there is not much more than large farming trucks, and the essential shops. Their parents educated them with

effort. Their thoughts were that success is only achieved through hard work, and the only thing that exists is a simple and austere life.

But Andrea and Noa always dreamed of going further, living different lives, with professions that would allow them to imagine the world in their own way. So, without thinking it twice, they went to Barcelona with nothing more than their clothes and the support of each other.

Noa began her art studies at the art school, while Andrea, who is two years younger, was finishing her Bachelor studies.

The rest of the time the two of them have been living in a flat, which they made it their little paradise.

Now that they are both working and they are independent. They have been able to decorate the house in their own way. Walls, once white only, have become something more colorful. they have also some plants and flowers that Noa takes care of.

Andrea went to the large desk by the living room window, and took a look at her sister's work. The beautiful illustrations seemed to come to life, every day she drew more delicate things, she could see that her sister had improved during these years and she felt so proud of her.

"Hey! Leave that!" - interrupted Noa, with a sharp voice- I told you I would show you when it was finished.

"I'm sorry, you know how curios I could be" Andrea said with a laugh.

After a pleasant and quiet supper commenting each one's day while they drank a large glasses of milk and cookies, they went to their respective rooms and the house was completely calmed and dark. Only from Andrea's room there was some light coming from beneath the door. She is planning a new trip to The Netherlands, as a surprise for her sister's birthday, that will be next weekend.



NAME Gerda Van Dijk

AGE 75-year-old

SENTIMENTAL SITUATION Widow, lives just with her old dog

ACQUISITION LEVEL Pension, average money

PROFESSION Retired teacher, lives in a fifth floor.

PERSONALITY / VALUES Very kind with her neighbours

LIFESTYLE Likes jazz music, walking through parks, volunteer in elementary schools, babysit her grandson, likes animals, has a few friends, likes to knit, use to cook stamppot, has a girl and a boy (the father of her grandson).
Starts her day at 7am, she walks down the stairs to pick up the newspaper and then she gets back home on the elevator. Then she prepares her breakfast (cereal and green tea)

TYPE OF PURCHASE She buys liquorice from the supermarket for her grandson
Every time she goes to the supermarket she gives some money to the homeless

TASTE/ LIKES/ HOBBIES She likes reading the most, but also making Sudoku to keep her brain trained.

I wake up at 7am in the morning and I dress up for the day. Before breakfast I go down stairs of my 5 floor flat to pick up the newspaper so I can read it meanwhile I'm having my green tea and cereals. Normally I take Dash (my dog) to the park right before starting my day.

At 8:45 am I usually go to my son's to pick up my grandson Jeffrey and take him to kindergarten. Afterwards, I go either as a volunteer to the primary school or to my knitting club for a couple of hours.

At 12am I have my lunch or by myself or with Marianna, the old lady from the 2nd floor.

After lunch is my favorite time for reading, currently I'm reading a Spanish cooking book, it's very interesting.

*Around 3pm I go to do the shopping and then I brought it home before going to pick up my grandson at 5pm to take him home.
Around 5pm I start preparing the dinner, so everything ready by 6pm, I really like to spend time cooking.*

After that I normally meet some friends and we do puzzles or Sudoku together, sometime we just chat about life.

Finally, around 7pm I have my shower and then I go to bed. Before Sleeping I like to watch some news or read something.



NAME Richard Blok

AGE 22-year-old

SENTIMENTAL SITUATION Single

ACQUISITION LEVEL He still living at home.

PROFESSION Molecular biology student / Part-time work in a Restaurant

PERSONALITY / VALUES Quick learner, eco-friendly, out-going, open-minded, generous and environmentally conscious.

LIFESTYLE He drives a sustainable electric vehicle that shares with his sister to go around. He is very fit and healthy. He volunteers in an animal shelter. He has two dogs and an iguana. He loves travelling with friends and explore the world.

TYPE OF PURCHASE He buys only ecological food that knows where it comes from.

TASTE/ LIKES/ HOBBIES He plays basketball three times a week. He likes computers, YouTube and gaming. He is very interested in cars and plants.

In a normal day I usually wake up at 6:30am. Twice a week I go running and also I take my dogs, Ringo and Ragnar, for a walk. Then I have a quick shower.

Afterwards, around 8am, I have my breakfast, which is a complete meal that provides me a lot of energy, with my whole family because is the only time we are all together.

Later on, I go to university because I'm doing a minor specialized in molecular biology that is a bit hard but I really love it, from 9am to 5pm. I go either in my car or by bike, depending on my sister's schedule. I eat a Sandwich for lunch at midday with my classmates.

Afterwards I go to my basketball practice with all my colleagues, we need to train hard because we compete every Saturday.

When I get home, I have my dinner and normally I study a bit for University, I only work during the weekend.

In the evening, I like to get into my computer to get updated on how the world is doing, then I play some games and also take my dogs for a walk again and I feed my iguana.

Afterwards I always read a bit before going to sleep which is around 11pm.



NAME Henk de Vries

AGE 45-year-old

SENTIMENTAL SITUATION Married, 3 children

ACQUISITION LEVEL High-level

PROFESSION Coach

PERSONALITY / VALUES Equality, Achievement as a way of living, friendly, helper, bighearted and liberal.

LIFESTYLE He has an especial vehicle for himself, so he can drive it with his disability. He is very energetic, always doing stuff and going around helping others. He is very worried about the climate situation and also loves to exercise.

TYPE OF PURCHASE He buys a lot of thing but always taking into account where they came from, how they were made, if they are recyclable... Also he spends his money in his children but without spoiling them.

TASTE/ LIKES/ HOBBIES He loves assisting to conferences both as a guest and as a lecturer. Spending time with his family, specially on the weekends and meet up with all his friends and colleagues.

I usually wake up at 6am, as I don't like to see my condition as a disability I get ready all by myself even though it takes more time. Then my family sets the table and get the breakfast ready and we eat it all together.

Later on in the morning I go to work, I have such an amazing team, we don't have a fix timetable, because we know our work per day and as long as it is done by 8pm, we don't really worry about the schedule.

My work mainly consists on meeting people or teams and help them out in whatever they need, sometimes they come into the office and some other times I go to them.

I work in a big building but our floor has many windows to make people comfortable and happy here.

I really believe that a better world is possible so I push my self harder everyday to make people reach their dreams. I think I can be a good coach and disability is not an impediment but a strength that I have. After work, I come back home to be with my family.

Then I go to the gym with my closest friend and we stay there until dinner time when we go home and I usually prepare dinner with my lovely wife to our daughters. Many times they don't appreciate that but love to do so.

'In the year 2025 the world will be ever more crowded, ordinary transportation devices will congest the city. The environment and pollution is a worldwide problem, so sustainability and innovation in the transportation sector are the key to a bright, improved future.'

'To improve life of the future with sustainable, comfortable on-demand transportation devices. URBINN aims to make the world healthier and more sustainable with our technical innovations. If we do not improve on sustainability in the transport sector we will not be able to have a liveable environment. And if we want to be able to still have the mobility we take for granted today, every day. we need to develop a concept which is more efficient and able to cope with increasing population density.'

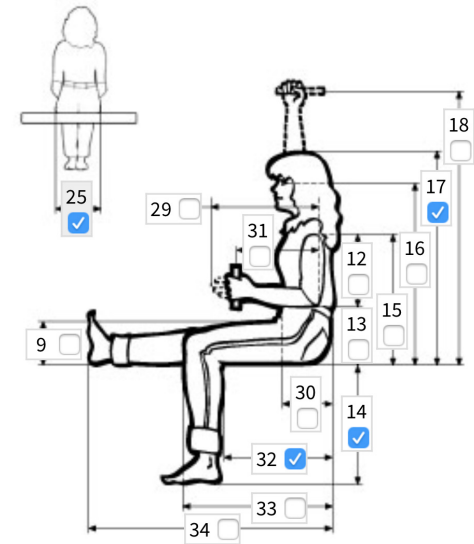
WEEK 2

- Anthropometrics
- System engineering
- Identity colour selection
- Logo
- Coaching session
- Project Management
- Sketching

ANTHROPOMETRIC ANALYSIS

Dutch Population between 20-60

Measurements 1



mean and sd	single measure				set percentiles		set measurements
populations	Dutch adults 20-60, mixed		Dutch adults 20-60, male		Dutch adults 20-60, female		
measures	mean	sd	mean	sd	mean	sd	
Hip breadth, sitting (mm)	399	29	394	28	405	29	
Sitting height (mm)	911	51	945	38	877	38	
Popliteal height, sitting (mm)	463	40	491	32	436	26	
Buttock-popliteal depth (mm)	505	29	515	28	495	26	

mean and sd	single measure			set percentiles	set measurements
populations	Dutch adults 20-60, mixed	Dutch adults 20-60, male	Dutch adults 20-60, female		
measures	P50	P50	P50		
Hip breadth, sitting (mm)	399	394	405		
Sitting height (mm)	911	945	877		
Popliteal height, sitting (mm)	463	491	436		
Buttock-popliteal depth (mm)	505	515	495		

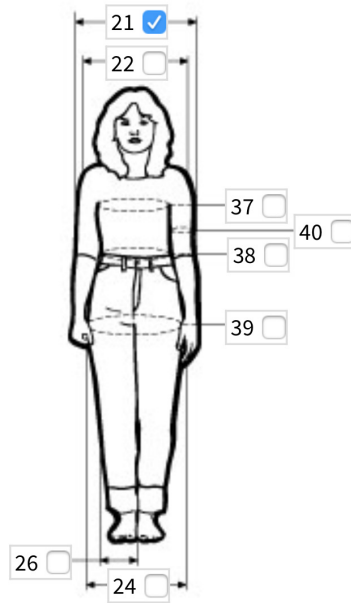
Hip breadth, sitting (mm) 25

Sitting Height (mm) 17

Popliteal height, sitting (mm) 14

Buttock- popliteal depth (mm) 32

mean and sd	single measure				set percentiles	set measurements
measures	Hip breadth, sitting (mm)	Sitting height (mm)	Popliteal height, sitting (mm)	Buttock-popliteal depth (mm)		
populations	319	911	463	505		
Dutch adults 20-60, mixed	P0.29	P50	P50	P50		
Dutch adults 20-60, male	P0.37	P18.55	P19.08	P36.05		
Dutch adults 20-60, female	P0.15	P81.45	P85.05	P64.97		

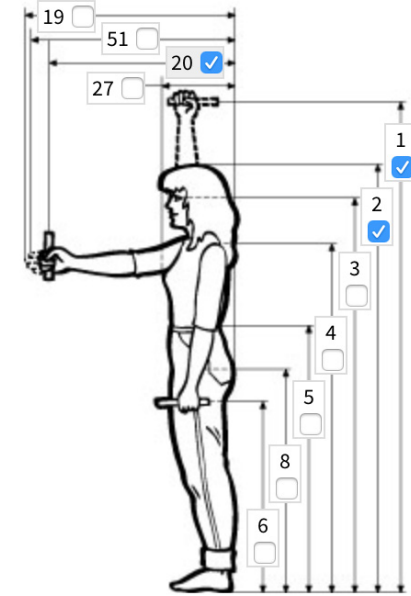


mean and sd	single measure		set percentiles		set measurements	
populations	Dutch adults 20-60, female		Dutch adults 20-60, male		Dutch adults 20-60, mixed	
measures	mean	sd	mean	sd	mean	sd
Breadth over the elbows (mm)	457	43	499	39	478	46

mean and sd	single measure		set percentiles		set measurements	
populations	Dutch adults 20-60, female	Dutch adults 20-60, male	Dutch adults 20-60, mixed			
switch axis	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
measures	P 50 +	P 50 +	P 50 +			
Breadth over the elbows (mm)	457	499	478			

mean and sd	single measure	set percentiles	set measurements
measures	Breadth over the elbows (mm)		
populations	457		
Dutch adults 20-60, female	P50		
Dutch adults 20-60, male	P14.08		
Dutch adults 20-60, mixed	P32.4		

Breadth over the elbows (mm) 21



mean and sd	single measure		set percentiles		set measurements	
populations	Dutch adults 20-60, female	Dutch adults 20-60, male	Dutch adults 20-60, mixed			
measures	P50	P50	P50			
Stature (mm)	1668	1817	1743			
Reach height, standing (mm)						
Arm length (mm)	682	758	720			

mean and sd	single measure		set percentiles		set measurements	
populations	Dutch adults 20-60, female	Dutch adults 20-60, male	Dutch adults 20-60, mixed			
measures	P50	P50	P50			
Stature (mm)	1668	1817	1743			
Reach height, standing (mm)						
Arm length (mm)	682	758	720			

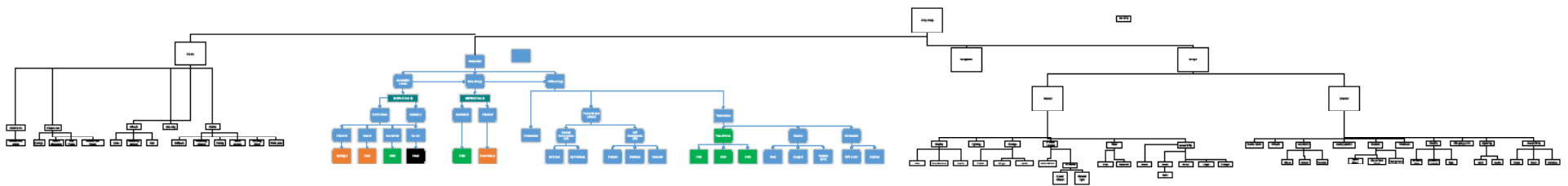
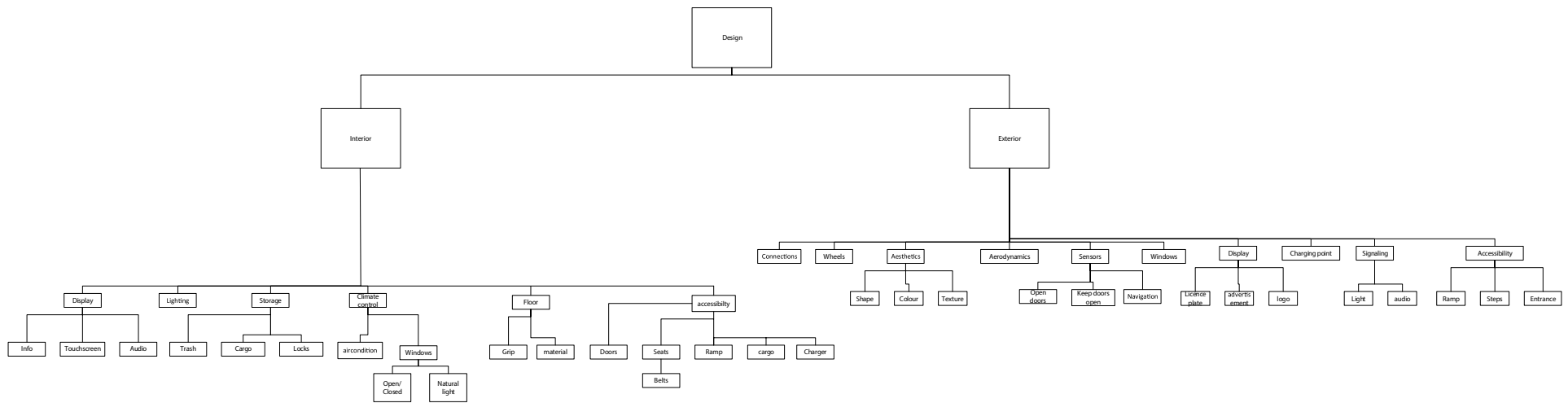
mean and sd	single measure	set percentiles	set measurements
measures	Stature (mm)	Reach height, standing (mm)	Arm length (mm)
populations	1668	1607	682
Dutch adults 20-60, female	P50		P50
Dutch adults 20-60, male	P3.63		P4.56
Dutch adults 20-60, mixed	P23.96		P24.48

Stature (mm) 2

Reach height, standing (mm) 1

Arm length (mm) 20

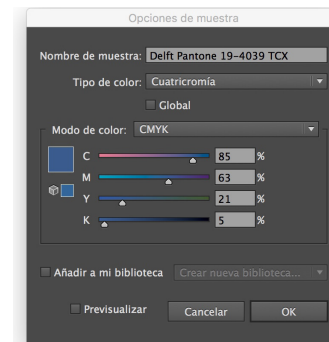
- Set of requirements
- Plan of approach
- Sketches, concepts
- Select the concept
- Detail the concept
- World preparation of the vehicle
- Lecturers discussing
- Produce & assembled
- Test quality - testing



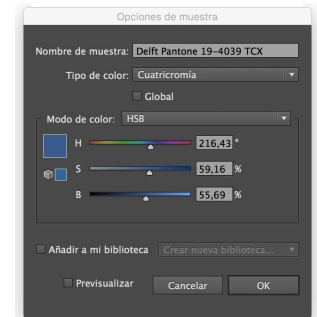
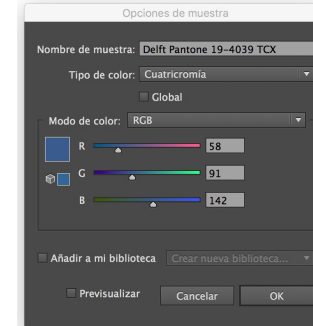
IDENTITY COLOUR SELECTION



Pantone 19-4039 TCX
Delft



PANTONE
19-4039 TCX



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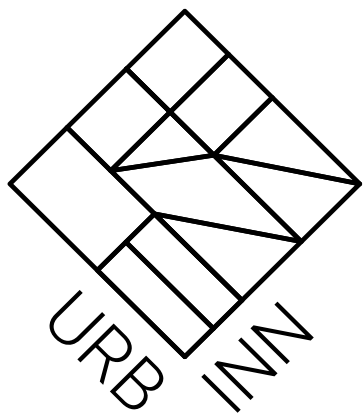
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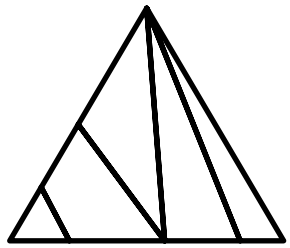


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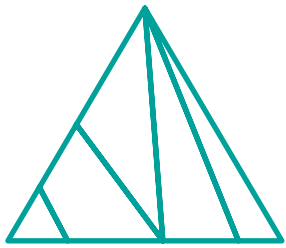


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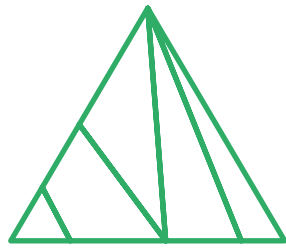




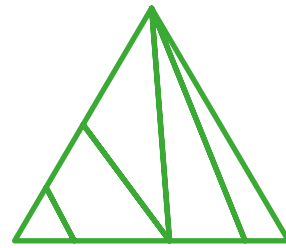
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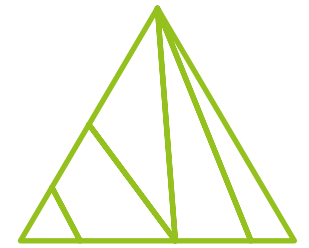
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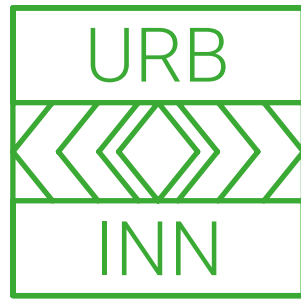
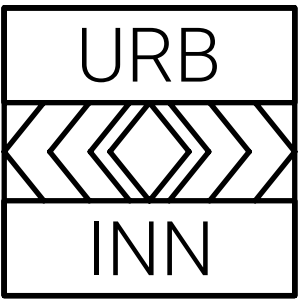
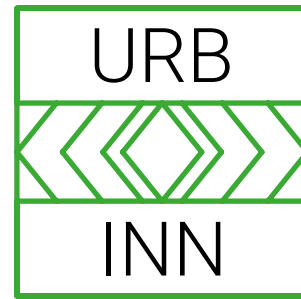
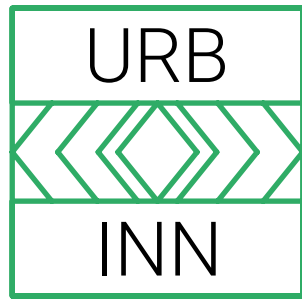
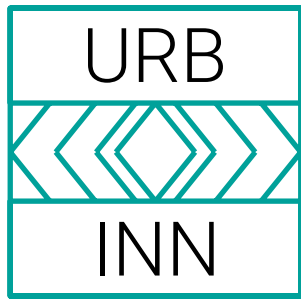
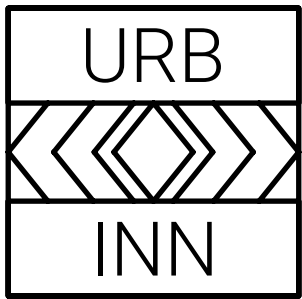


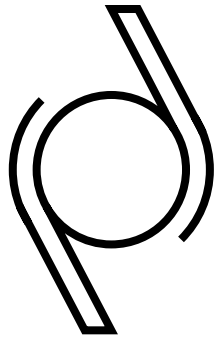
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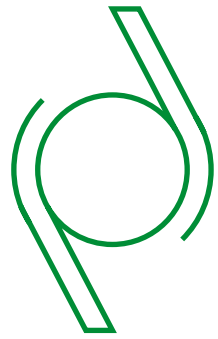




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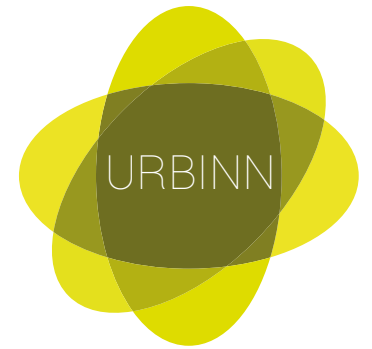
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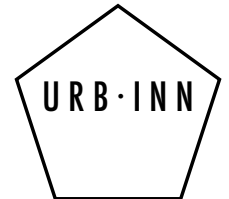
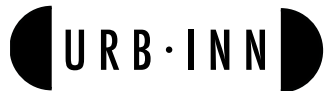
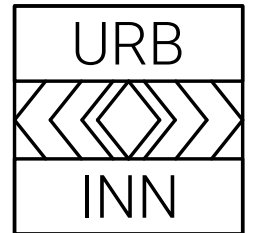
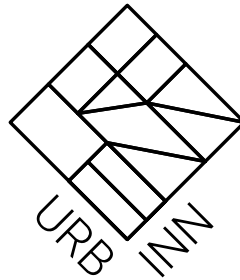
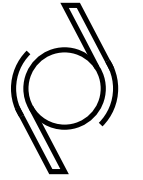
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Plan of approach

- Reason why
- What and how we are going to do?
- Quality
- Requirements
- Where are we going: design, produce de vehicle

Take into account:

Do the plan for 2 quarters not just for 10 weeks

Look the documents that already exist, with our own vision.

Link with system engineering

Clarify decisions

Overview

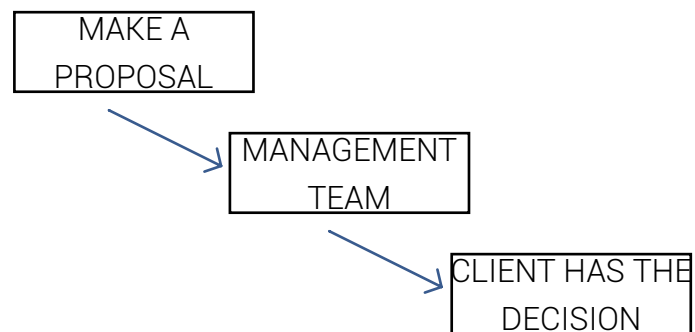
Cooperate

What is our place on the project

None gets lost.

List of requirements

- Justify all requirements
- How do we make decisions
- Target group
- Settle
- Know the lack of info we have



"Produce to receive feedback to work properly"

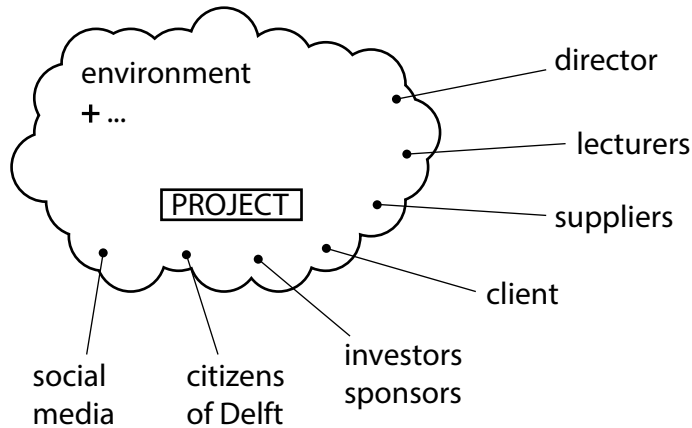


System engineering

1. Assumptions
2. Principles (laws, to guide the project)
3. Procedures (how to work)
4. Process (executing)

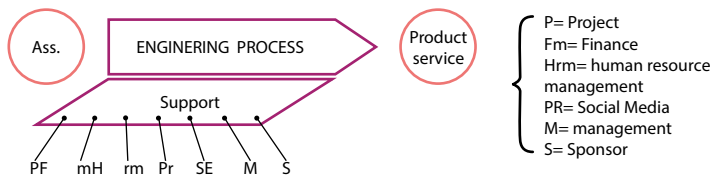
Assumptions

A1



The project don't die when we left it needs to be continued.
PRINCE 2 --> Project in controlled environment

A2 · three main processes



A3: Main Processes

A4: We learn from the past

- Documentation / Storing information
- Experts
-

All those assumptions should appear during he process of the project.

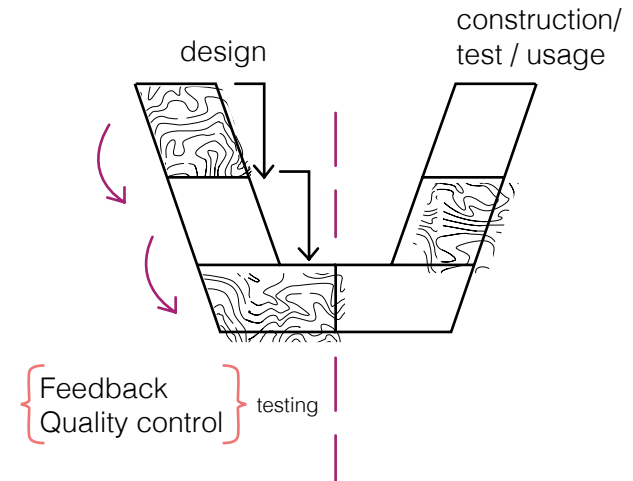
Principles --> "laws"

1. We use Prince 2

- Continuous business justifications (documents must be justified, don't ask for permission just if is possible.)
- Experience based learning (stored in documents)
- Roles and responsibilities defined (if you promised something you must do it "m m w w", a man a man a word a word)
- Managing per phases Gates (go or not going to the next step)
- Tailored (made for us)
- General -----> Specific

2. System engineering

- Need to be accepted by the team and it is not needed that it is accepted for the client (assumed we are professionals)
- V-shape for system engineering



- Production is always followed by a result.
- Structure follows process
- Everything is documented

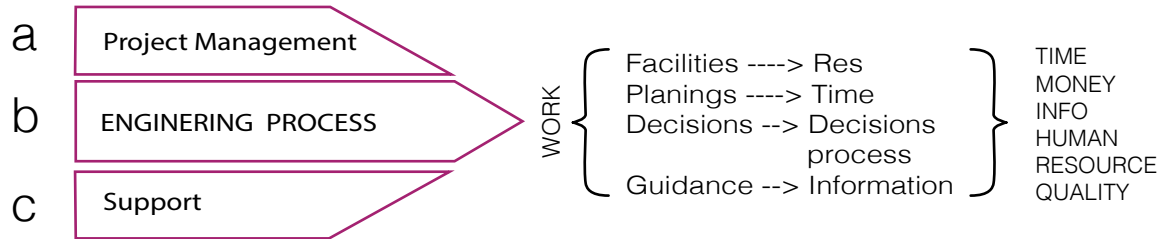
Procedures

- 1. Goals
- 2. Politics
 - Safety
 - Reliability --> Documentation (justify / corrected)
 - E&E
- 3. Confluence - CMS

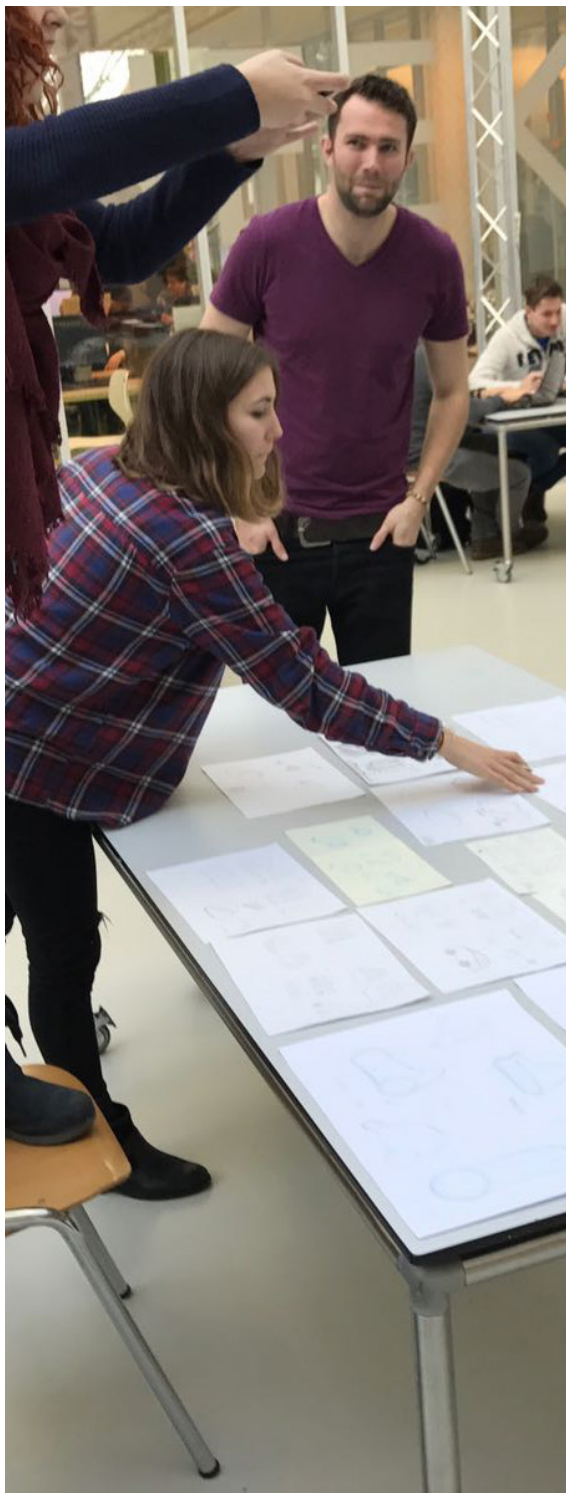
N° documents? --> 1 step = 1 document for each
N° testing --> x10 each part of the vehicle

Report and documentation on the portfolio for each part, final evaluation on the project.

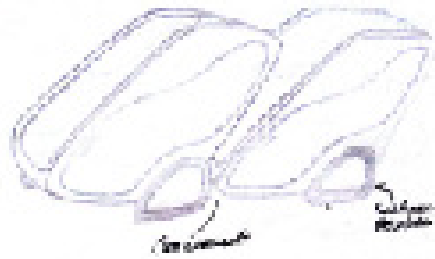
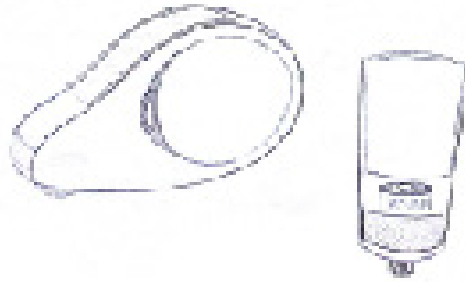
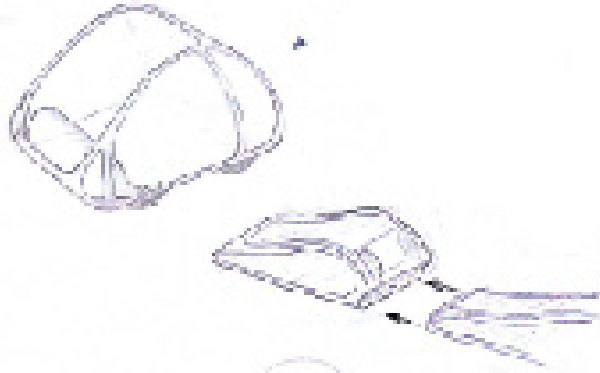
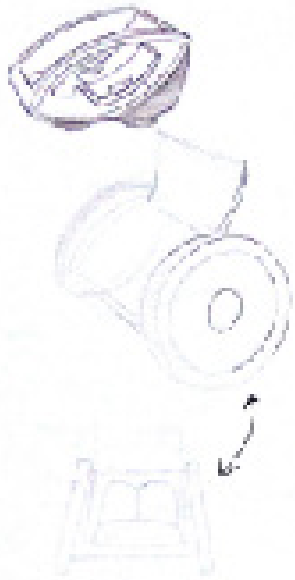
Project manager



SKETCHING



URBINY
DESIGN



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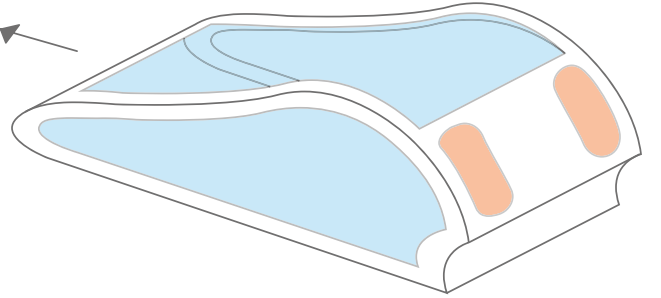
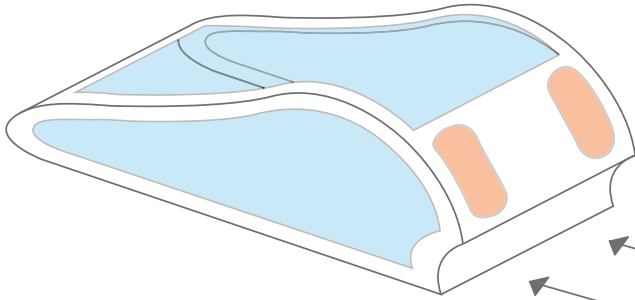
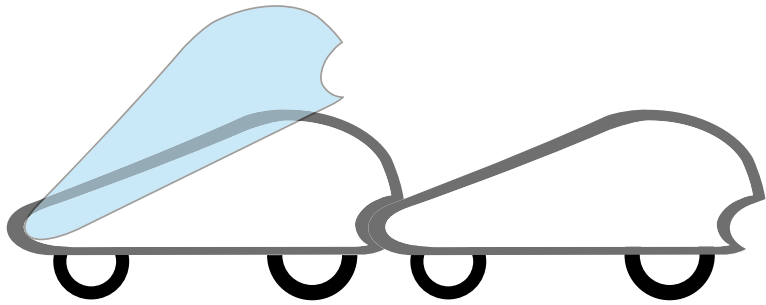
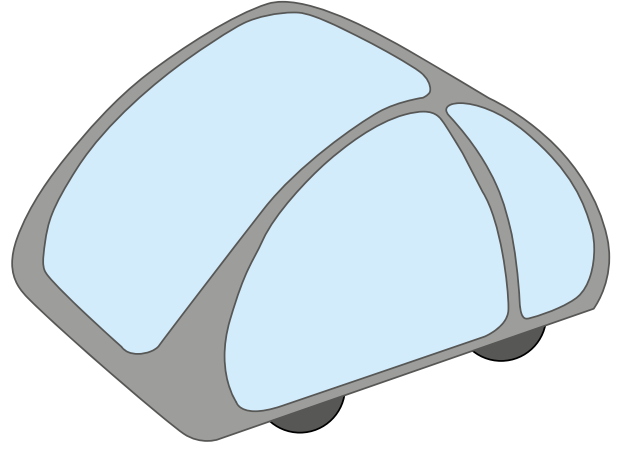
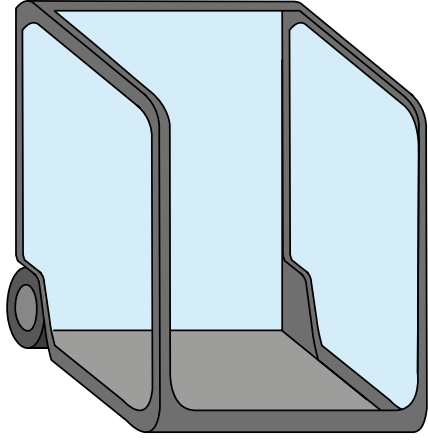
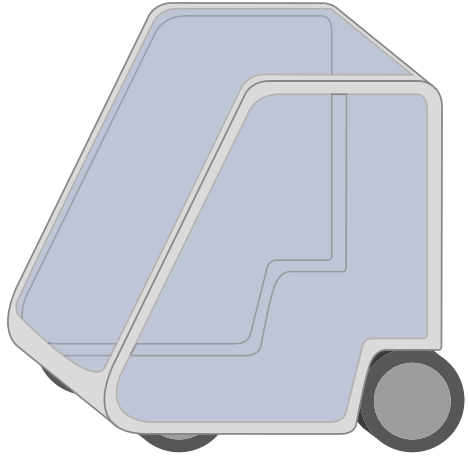
- Migliore fin...
- Stato
- Migliore fin...



Handwritten notes:

- Migliore fin...
- Stato
- Migliore fin...

VECTORIAL SKETCHING



WEEK 3

Foldable table research

Tuk Tuk

Safety and security
lecture

Vision Mission Strategy

Group Meeting

Design meeting

Research





DAM DELFT SHUTTLE

Waar rijden we

De herkomst of aankomst van een rit met de shuttle ligt in de TU wijk en omgeving, begrensd door de Schiedijk, Duitgawesweg, de AD en de Heerjesslaan, dus ook in Technopolis en Delftechpark (zie plattegrond op achterzijde)

Tijden

Van maandag t/m vrijdag van 08:00 tot 18:00 uur. In de weekenden zijn de SHUTTLES te huur voor evenementen, pendeldiensten en citytours in en rond Delft.

Betalen

Met DPN bij de chauffeur in het voorruit of met de 10 rittenkaart (202, voor verkooppunten).

Vervoer van deur tot deur bij u in de buurt vanaf slechts € 1,50

Snel van station Delft Zuid naar de TU-wijk en weer terug, van huis naar een OV knooppunt of van Exact naar de Porceleynse Pies? De elektrische DAM DELFT SHUTTLE brengt u waar u maar wilt. Bel ons op **06 211 42 987** of houd ter plekke een lege SHUTTLE aan door uw hand op te steken. De chauffeur is snel ter plaatse en brengt u naar elke gewenste bestemming binnen ons rijgebied (zie plattegrond op de achterzijde).

De DAM DELFT SHUTTLE van DAM Nederland legt duurzame verbindingen tussen mensen, voorzieningen en werk en is aanvullend op het Openbaar Vervoer.

Tarieven

€ 1,50 p.p. per rit van 0 – 3 km
€ 3,00 p.p. per rit van 3 – 6 km

Voor meer informatie

tijdens kantooruren : 06 532 298 54
of ga naar www.dam-nederland.nl



BEL VOOR EEN RIT : 06 211 42 987



Goed op weg met DAM DELFT SHUTTLE

Hoe werkt de DAM DELFT SHUTTLE

1. U belt met 06 211 42 987 en u krijgt de centrale aan de telefoon.
2. U geeft aan waar en hoe laat u opgehaald wilt worden, met hoeveel personen u reist en waar u naar toe wilt.
3. De SHUTTLE is snel ter plaatse en u stapt in.
4. Bij aankomst op de eindbestemming rekent u de ritprijs af via een pin betaling of de DAM DELFT SHUTTLE rittenkaart.



U kunt ook altijd een lege SHUTTLE op straat aanhouden door duidelijk uw hand op te steken.

Op werkdagen van 08:00 tot 18:00 uur zullen alle beschikbare SHUTTLES klaarstaan bij station Delft Zuid om de passagiers van daar uit te vervoeren binnen ons rijgebied.

De DAM DELFT SHUTTLE rittenkaart is te koop bij de chauffeurs van de shuttles (enkel met pin afrekenen). Binnenkort volgen meerdere vaste verkooppunten.

De DAM DELFT SHUTTLE is een initiatief van het Ondernemersfonds Delft werkgebied 17 voor en door alle ondernemers op de TU-campus, Delftechpark en Technopolis.

De DAM DELFT SHUTTLE biedt gastvrije bereikbaarheid binnen LINK20, ondersteund door de gemeente Delft.



Today we have been done a class about safety and security with Hans.

We have learn that if we dont know how to go is needed to ask and know the problem, the info, scenarios, research. Also that al begins with preparation because we need to understand the chain of safety as a model of quality and governance.

We are going to use the Relative ranking method for safety

R = Impact + Exposure + Probability

And many other things that are really usefull for work in the good direction always knowing how to act and prevent.

Life in 2025 (to add to actual we made)

People will slow down

More ethical responsibility

People want things as fast as possible but as they will slow down.

Awarenes of enviromental problems

Use more sustainable and innovative products

Less access to vehicles to city center, urban lifestyle

More free tiem so it will slow down.

Clients

Direct Client -> Accenda (Also bussiness partner)

Client (site partner) -> DAM

Things to do

SOR AH

Clear group assigment

Safety (Jay)

Reasearch Document

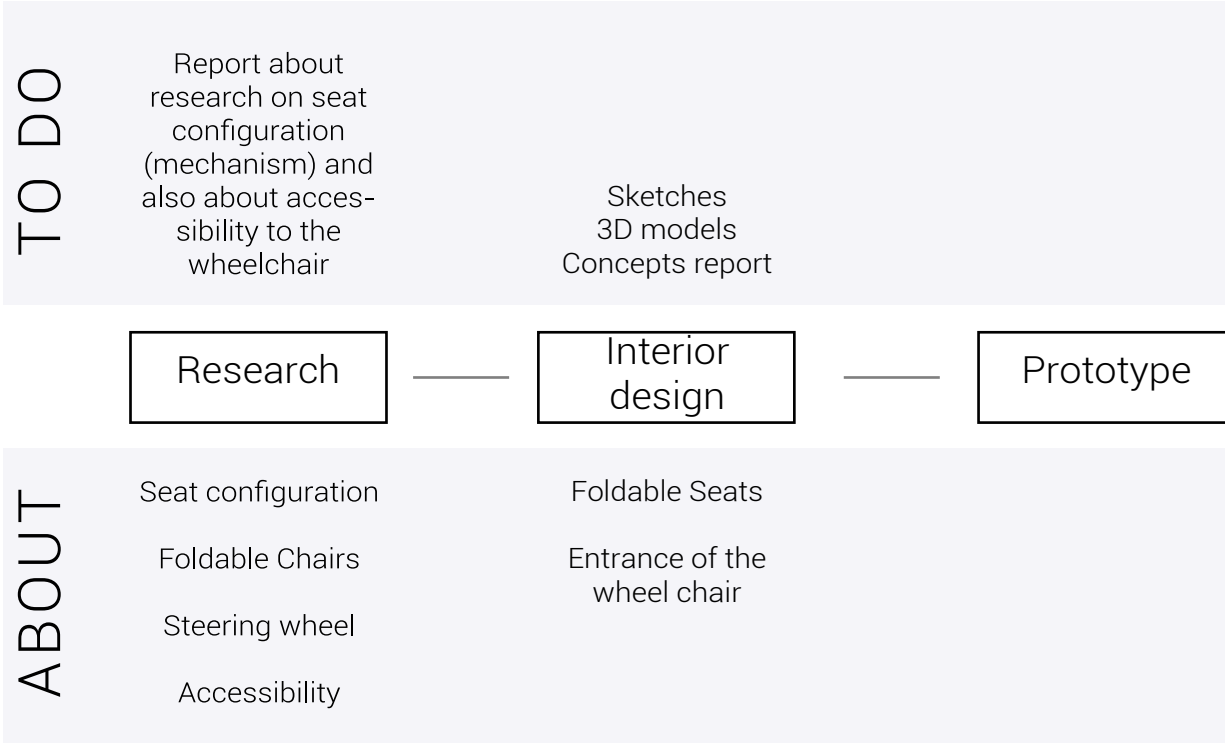
Research report for design, test frame, template

Bussines plan

PR Team will be: Alexandra Vila, Mar Sánchez-Morate, Paula Hueso and I

We need to focus in the interior of the car looking for foldable seats and design and prototype based on the done research

The car is not going to be autonomous for now, so we need also to think about the steering wheel for the test frame.



Seating

The seat needs to be foldable to make room for storage or wheelchairs.
 The height of the chair is minimal 877 mm (See Anthropometric Analysis).
 The depth of the chair is minimal 515mm (See Anthropometric Analysis).
 The width of the chair is minimal 405 mm (See Anthropometric Analysis).
 The maximum weight the chair can hold is (...)kg.
 The grab/handle for folding the chair needs to be in eyesight.
 The grab/handle for folding the chair needs to be easy accessible.

Materials

The chair needs to be made of 100% sustainable materials.

Principles seating

Enough space is need
 ed to prevent your popliteal from jamming with the chair.
 Enough support from the upper leg for stability and comfort.
 Lower legs must have the space to be placed in the front or underneath the seat.

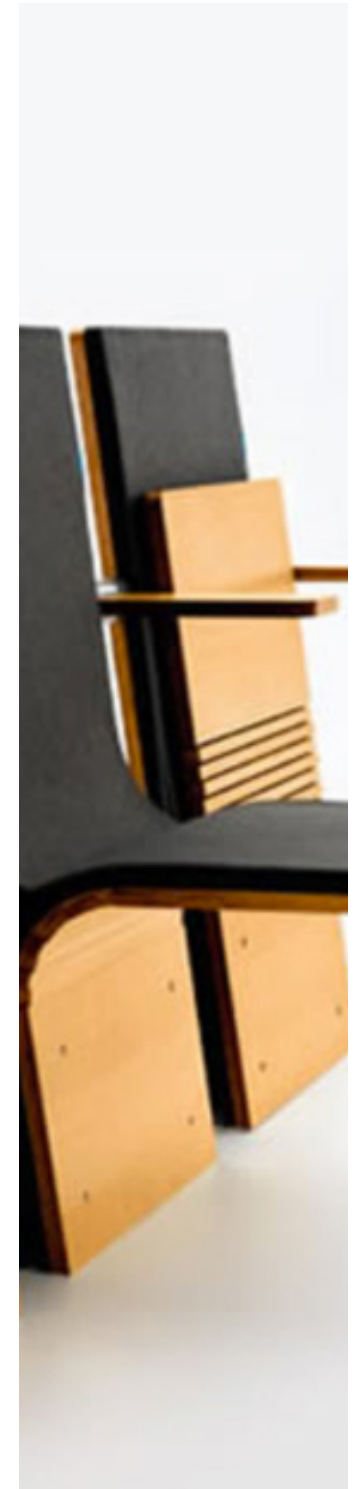
Requirements Doors

Numbers:
 Wheel Chair
 Width: 70 cm (max allowed in dutch PT)*
 Length: 120 cm (max allowed in dutch PT)*
 Hight: 109 cm (max allowed in dutch PT)*
 Reach of the person: 60cm far, 140cm high (from ground)

Average Person

Other:

Opens automatically
 Comfortable to get in (Height, Width)
 Wheelchair accessible



Control buttons?
Compact (uses no space on the inside of the vehicle) pneumatic?
Sensors to notice obstructions grips/handles
Emergency door unlock

Questions

How will the door be controlled? Pneumatics/Hydraulics/Electric. (Depends on available resources)
What would be the size of the door?
Will the door open automatically
How will you enter the vehicle when the doors are closed and the vehicle is turned off.

WEEK 4

- Social media meeting
- Face book research
- Planning for the social media
- Photos
- Team video for presentation
- Leaflet
- Company day
- Group meeting

Things we need to clear:

- Use the URBINN account or the Urban Cruisers one
- Expand to other Web / Social Media
- Ask for twitter permission that we don't have already

TO DO list

- New group photo
- Twitter password
- Ask what is expected from us to do?
- Ask how manage the web www.urbinn.nl
- Email password (urbinn@hhs.nl)

- Ask for what policy has been made until now
- Research about content in each social media, strategy on post, interest hours and days to post (events, spacial days, exhibitions, open house)
- Present ourselves



SOCIAL NETWORK	TARGET GROUP	CONTENT	STRATEGY
Facebook	Students > International > Freshman Companies Lecturers	Presentation > Team > Subteams Process Updates	Personalized audience Video content Generate interaction and conversation. Visual means
Instagram	Students > High School > University	Presentation > Team > Subteams Team Building > Strenghtsfinder > Cultural differences	Publish 1-2 times/day Use hashtags Geolocalize posts
Twitter	Users interested > In cars > Environment > Technology > Sustainability > Design Companies	Events Articles Images Process Updates Share Facebook content	Tweet regularly Interact with the leads: like and retweet content. Use twitter analytics.
LinkedIn	Investors Start Ups Companies	Create content that adresses the issues being discussed in the groups	Join groups and share content with them. Publish from 5PM to 6PM and before 9AM

We have sent an email to all the group members to ensure that they remember that next day will take place the photo day and that they reserve part of their time for the photos.

Elena Pallares

6 de marzo de 2017, 15:08

Para: Kris Zemblaku, Dean De Ridder, Mar Sánchez, Seppe Volkaerts, [y 16 más...](#)

Enviado - Hotmail 



Social Media

Hi everybody,

We will like to remind all of you that tomorrow will take place the day to make te group photo and also the individual photo for the project. We are all agree that tomorrow we all should wear a **white** blank shirt (or something white) with **blue jeans**.

And other thing that we need from all of you is to full fill a little **personal presentation**. Please complete it correctly and serious.

Personal Presentation

Name:

Age:

Studies:

Nationality:

Top 5 talents:

Role in the team:

Motivation in the project:

And please like the Facebook page <https://www.facebook.com/The-UrbanCruisers-1449096238718679/>
It needs at least our support :)

Thank you in advance team.
Have fun!

Social Media Team

PHOTO DAY - MAKING OFF







I have make a video for the Company day, the video shows the members of the team each sub team and how we work daily. I have made it with After Effects.

H/
BETAFACTORY



URBINNEC@gmail.com
TIS Expertisecentrum
Rotterdamweg 137
2526 AL Delft

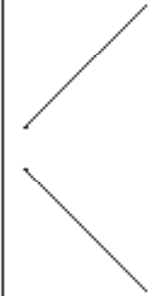
3-6, 9 of Bachelor course
12 EC Minor Using Label
15 EC Minor/Entrepreneur course
30 EC Graduate/Minor Int. Project

**MULTIPLE OPTIONS IF
YOU WANT TO JOIN US**

URBINN



THE HAGUE
UNIVERSITY OF
APPLIED SCIENCES



Effective strategy to optimize facebook page

Impact -> Engage -> Convert

VIDEO STRATEGY (15 min videos)

- TYPES**
- Promotion video of the brand
 - Promotion video of a product or service
 - Review video of events
 - Demonstration video
 - Tutorial video
 - Personal videos, interviews
 - Video for special days

- TAKE INTO ACTION**
- Humoristic, emotional part
 - Be unic and original
 - Good resolution
 - Where are we going to upload videos
 - Frequency (define it and follow straight)
 - Hours of posting (Facebook insight)

Call buttons to the action (CTA`s)

Personalized audience (use PIXEL TRACKING = identify the target and do campaign directly to them)

Video content

Generate interaction and conversation

- Entrainment content
- Ask actual followers or friends to name theirs
- Ask questions to received feedback

Visual means

- Add pictures to the things we post



Elena Pallares

AGE	21
NATIONALITY	Spanish
STUDIES	Industrial Design Engineering.
TOP 5 TALENTS	Adaptability, Emphaty, Self-Assurance, Developer, Relator.
ROLE	I am part of the Design Team and the Social Media Team.
MOTIVATION	The challenge of working with international students making a common project that requires different kind of skills. And also contribute to develop an innovative and sustainable vehicle, always being aware of the global environmental problems.

Client meeting day 8th March

Accenda (Business partner)

Maarten and John → electric and hydrogen cars

Expert in autonomous vehicles + interns (Grec)

remake mission and vision / strategy optimized
(more words like happy)

Damm

Looking more into the finish product, ideas for
accessibility, assignment for the design team
clear that assignment the management team and
let design know

Vision they have is \$ similar as ours.

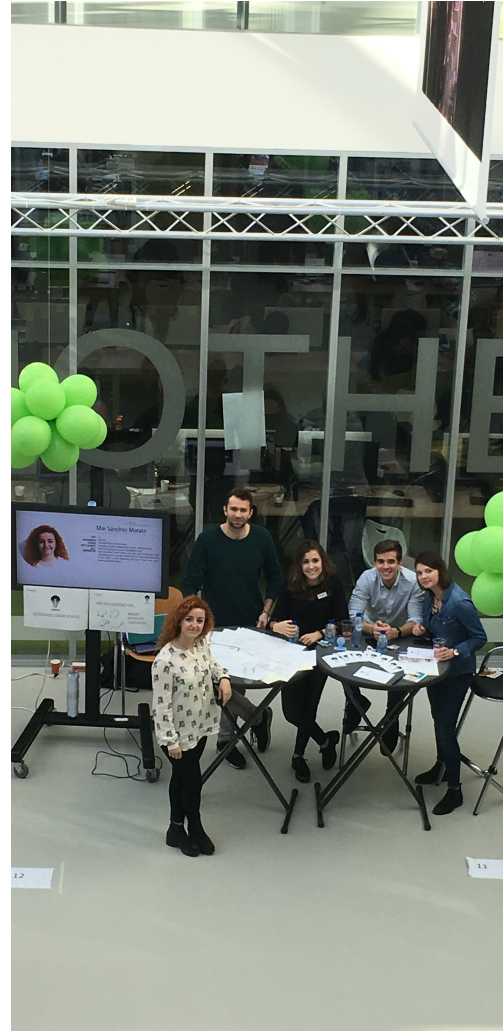
They are interested in the whole project

Exhibition day

Jay / Paula / Mar / Thomas / Sanders

Laura / Alex / Luc / Maarten





Today 9 th of March has take place the COMPANY DAY when we need to show our project to all the companies that come to see the university and promote the team.

Group Meeting

10th March

EXTERIOR

Esthetic

- Shape → Aerodynamics
- Color
- Texture

Wheels → based on Frame team research

- 4 wheel
- 2 front 2 back

Windows → what kind of windows

- open / close
- fixed...

Display

- license plate
- logo

Charge point/s → Power train research needed

Sensor

- Navigation (Belgium)
- opening doors
- keep doors open

Signaling

- lighting
- audio

Accessibility

- wheelchair
- People → Ergonomics 95%
- Cargo → Traffic in/ou
- Baby trolley → L1 by 1
- Old people → L2 by 2
- Fat people
- Suitcases

Regulations

INTERIOR

lighting

- Top
- Floor
- [...]

- Touch screen
- Audio
- Information
- Advertisements

Display

- Digital
- Printed

Accessability

- Grips
- Ramps*
- Seat
- Cargo
- doors
- charger
- maintenance

- Advertisements
- Instructions
- Emergency options
- Info
- Emergency breaks
- Emergency breaks (Emergency) Aid kit

Storage Space

- cargo
- "locking"

*both: ext + int

Seats

- folding
- Belts
- Adaptable

What kind of seats are we going to use? (and how many)

Climate Control

- air conditioning
- windows

What is needed to make AFI climate comfortable?

Floor

- material
- grip

Usage

Doors - Handless

- Trash
- Charger
- Wi-fi
- Drinks?
- Avatar

What is needed to make AFI comfortable?

Security

- payment system
- order the car
- Limitation of passengers
- safety regulations
- camera

WEEK 5

Design meeting
Research
Interaction with the user
Social media meeting

DESIGN MEETING

We start thinking about what people need? And based on that we will decide and design for it. So for that we need to design what motivates us the most to have a basis to start the project.

FOLDABLE CHAIRS

Mar
Ying

BODY

Bram
Xander

DISPLAY INTERACTION WITH THE USER

Elena
Paula

ACCESSIBILITY

Maarten

We have been discussing: How the service will be?
What kind of demand?
How many people can fit in? In order to have it always full

OPTIONS

- A. Extra cost -> Pick up for yourself
- B. Normal cost -> Stop during the way

SERVICE

Taxi service / Pizza service elevator system / Public transport service

N° PEOPLE

+3 taxi / -3 Elevator pizza

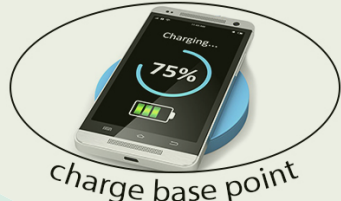
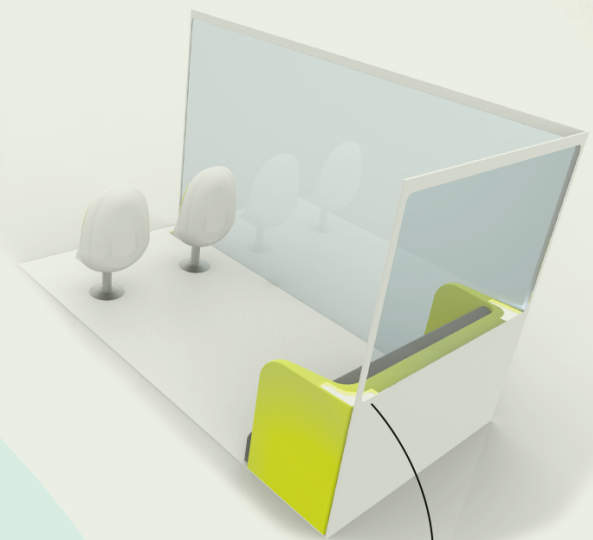
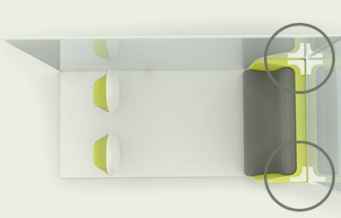
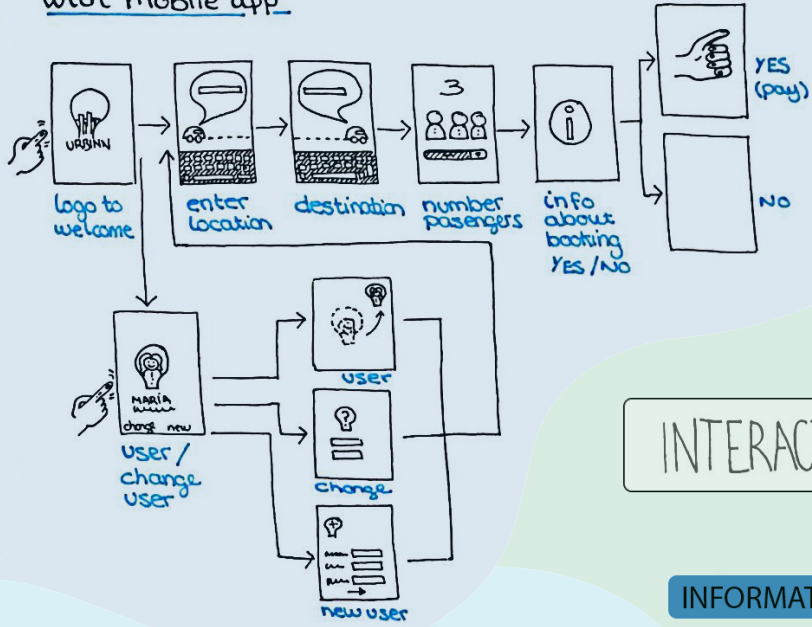
So we have seen that is needed to make a research about WHAT THE CAPACITY OF OUR VEHICLE WILL BE? AND WHY?
IS BETTER TO HAVE A 4 CAR OR A 6 CAR?

The things we have research about were:

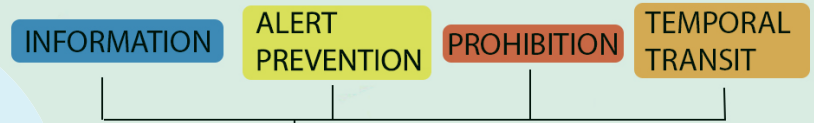
- Size
- Motorization
- Weight
- Program (algorithm)
- Price per travel (Check existant ways of Travel)
- Ratio weight / power train
- Rush hour -> "elevator" on demand /transport
- Now rush
- Transport mainly during down time
- Cargo capacity (compare)

1 ORDER THE CAR

with mobile app

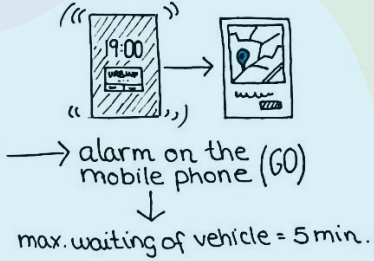


INTERACTION WITH THE USER

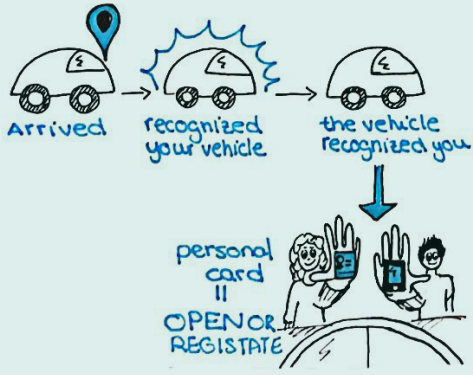


2 WAITING

How the user know that the vehicle has arrived



3 CAR ARRIVES



ACCESIBILITY

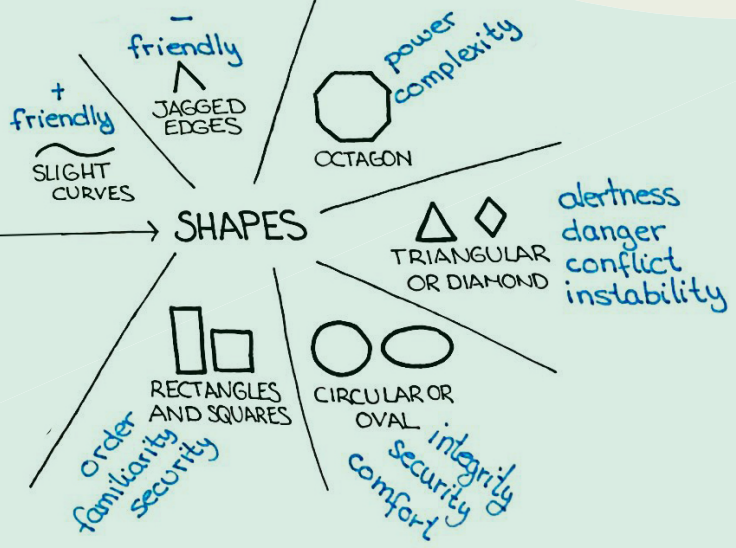
4 ENTER INSIDE

COLORS

Signaling

INSTRUCTIONS

SHAPES



In the meeting Veerle Peeters has give us the passwords and also the email address to manage the Social Media. And we have decided that is needed more daily work such ass posting photos and history stories in Instagram and Facebook

Instagram Bio -> Group of technology students from THUAS /HHS

"This is the official instagram account for the sustainable urban vehicle project run by international students from the HHS"

Delft, Netherlands.

Twitter Bio

"This is the official twitter account for the sustainable urban vehicle project run by international students from the HHS"

@Urbinn_hhs



WEEK 6

- Sharring ideas with Richard
- Management meeting
- Sketching
- Pros-cons Sketches
- Meeting with Accenda

SHARING IDEAS WITH RICHARD

Wed, 22th March

Sharring ideas with Richard

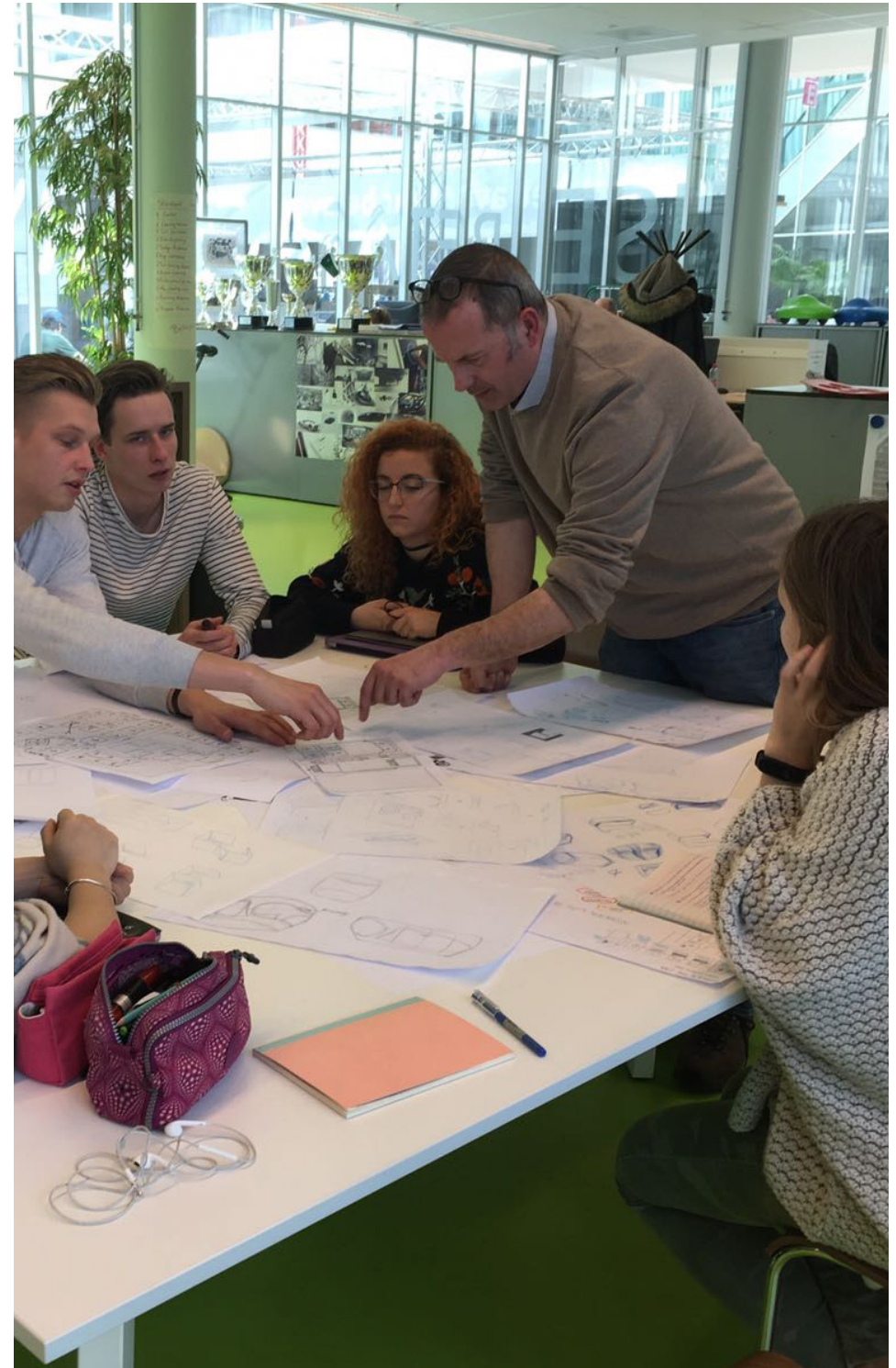
- Foldable chairs → a lot of ideas to develop
- Measurements: width and highth → maybe is short
150 180 for tall people
 - Those are the ones that accenda has accepted.
 - Car that can adapt it's body's width while during
- Interaction with the user
 - How to call the car, mobile phone, taxi way (stopping)
- Order services

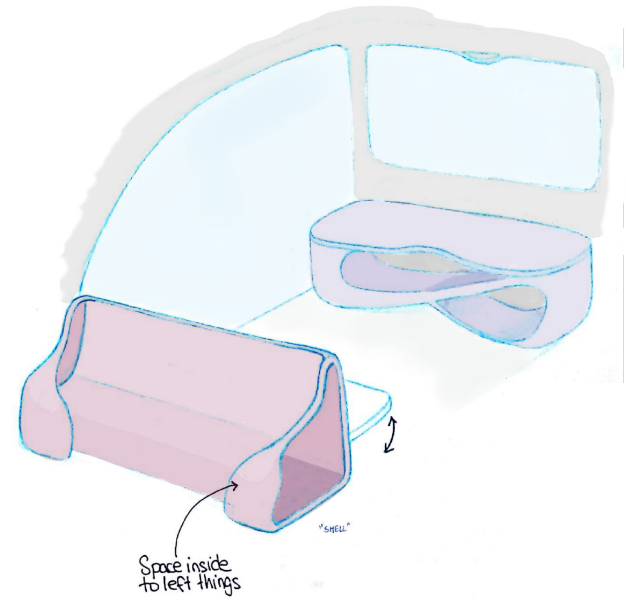
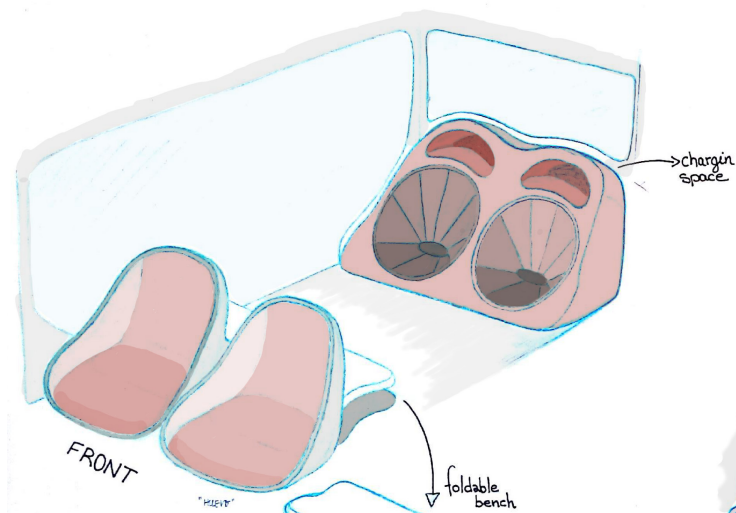
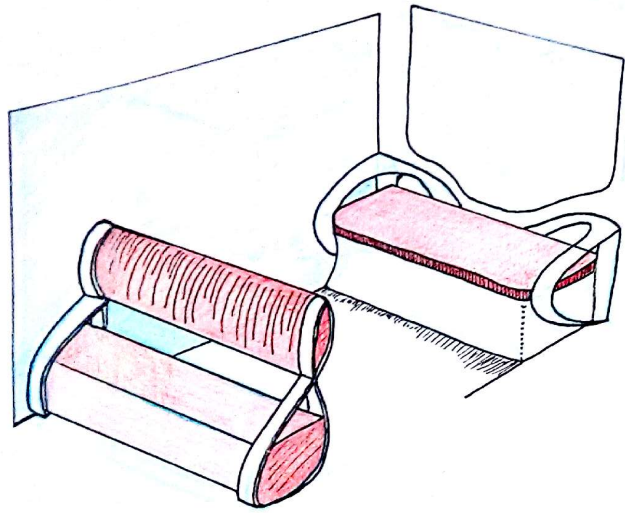
→ Elevator	} combined
→ Taxi	
- Accesibility options
 - ramp
 - app that gives the user a wheelchair accessibility option boarding places
 - SUV scan the height of the sidewalk and adjust its height to aligne with the sidewalk
- Exterior → many ideas / scketches

Problem Statement

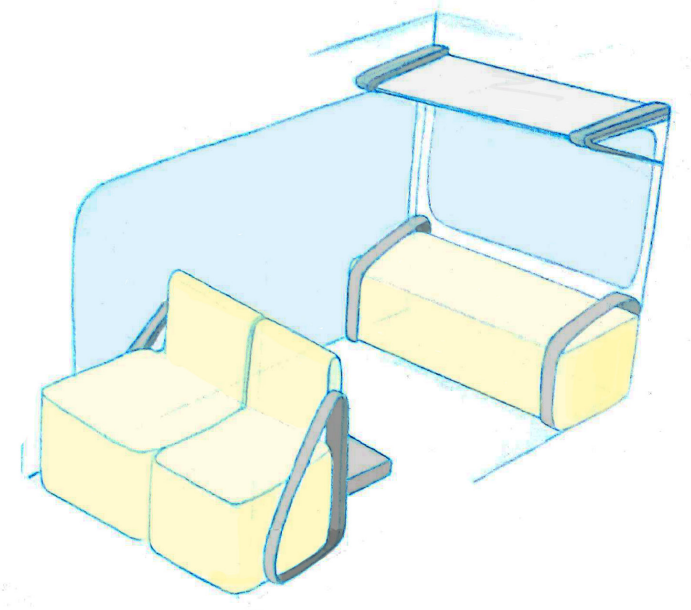
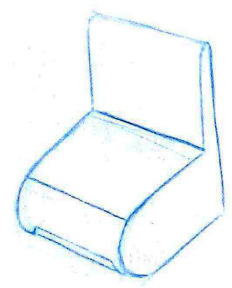
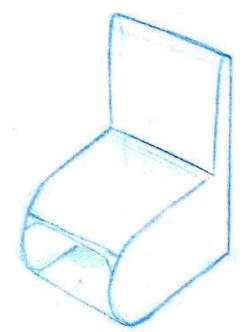
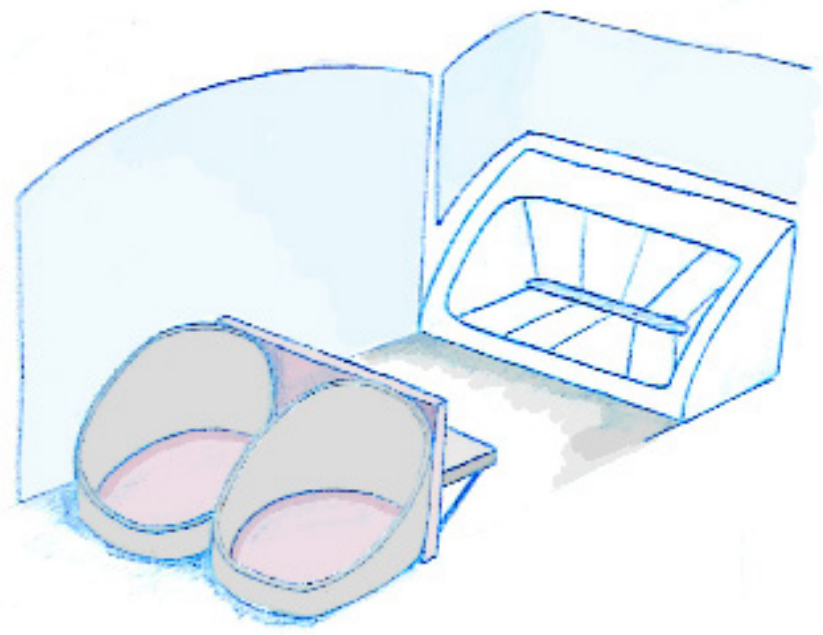
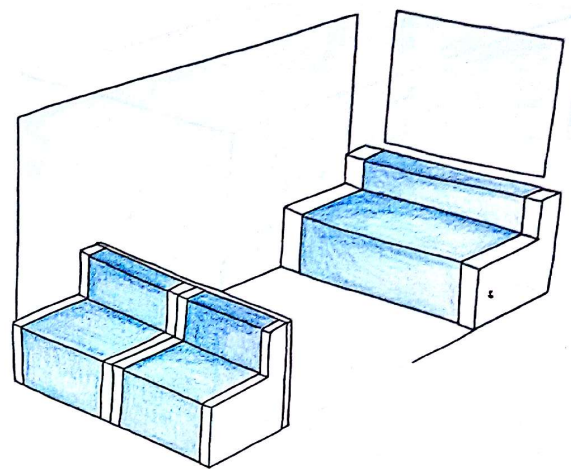
- Roles unclear
- Goal setting of the meeting
- Nicky: lecturers are part of the team.
 - Depending on: not talking about topics
 - Lecturers: not efficient
 - Goal professor
 - Solving problems
- Problems on:
 - Communication not present
 - Transparency -> Explain -> Help "them"

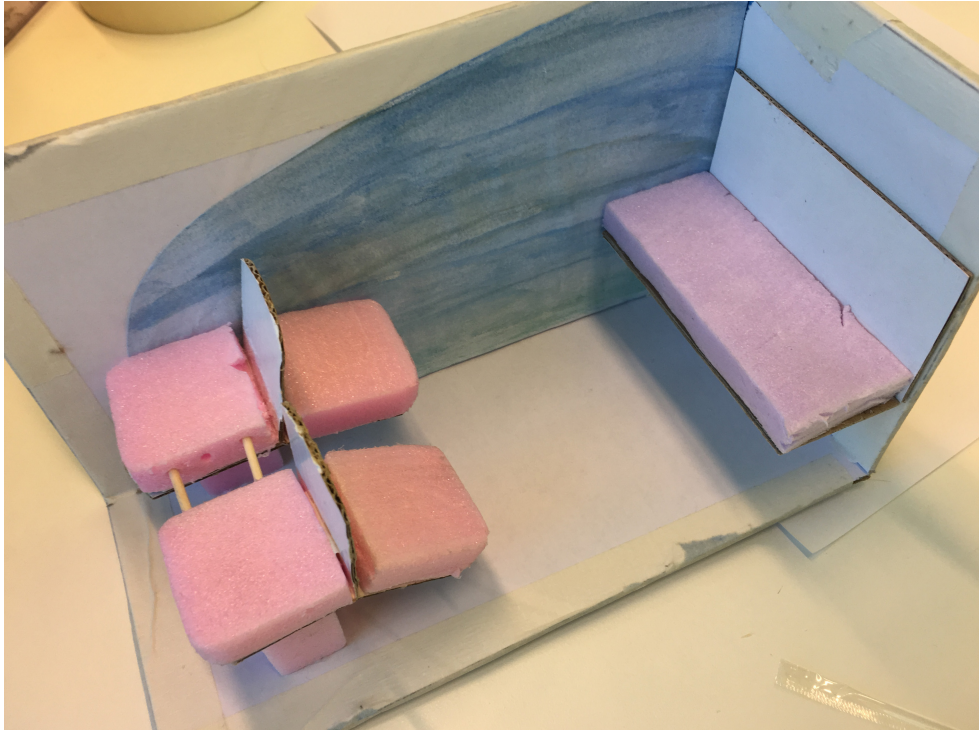
Structure of the meetings
 Roles of lectures
 Cultural differences do their best
 Lack of specific info the assignment (project)
 We improve things
 communication missing between subteams
 Some people are not serious enough
 Team spirit
 shared vision way of working and goals
 open team, listening
 we don't enter meeting with clear questions



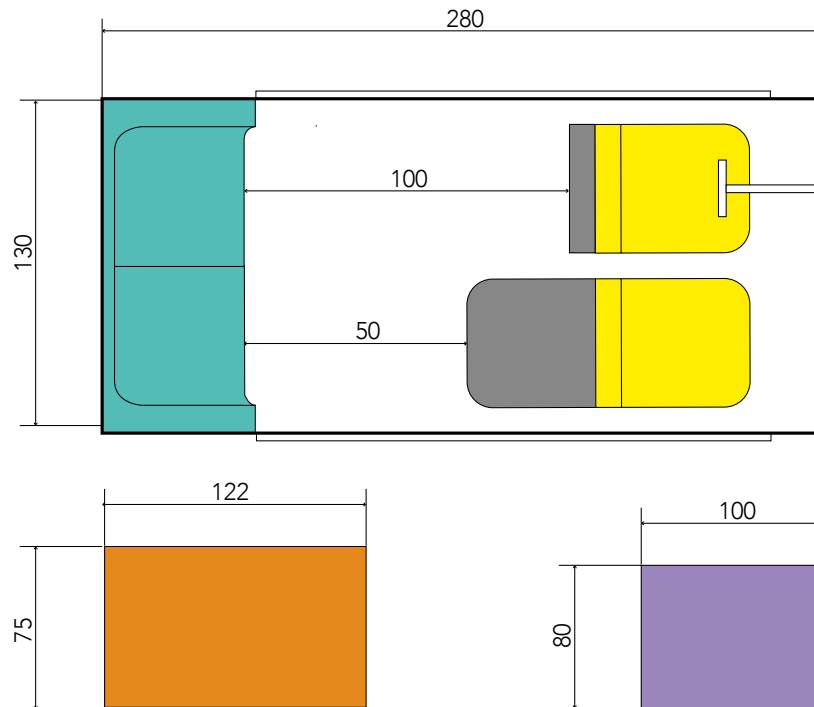


INTERIOR SKETCHES





GENERAL MESURAMENTS



This is the mock up that we have presented to Accenda to make them realize about the real measurements and existing distances inside the vehicle

EXTERIOR-body

- Organic Shape
- Difficult to build it
- Stability
- Good use of the "glass"- futuristic look
- We need to think more about the doors
- Need to take into account the crash safety (frame inside to protect passengers)

1

- Big roof for solar panels
- Eco-friendly shape
- Not as futuristic design
- Cute

2

- Front wheels
- Difficult maintenance of the wheels
- Futuristic
- Really good front, different

3

- Looks like an alien
- Futuristic
- Reminds to URBINN logo
- Seems heavy looking from the front
- Will be wider

4

INTERIOR- Chairs and configuration

- Difficult to maintenance, cleaning
- Think more about them and the mechanism

Push up chairs

- Nothing in the head for the driver comfort
- Mobile phone charger innovation

Interior 1

- Space underneath the bench to be used for the frame
- Good looking
- Innovative shapes

Interior 2

WHEELCHAIR ACCESSIBILITY

- Accessible from both sides
- Under the floor- easier for the other passengers
- Fast in use
- Use a lot of space
- Maybe didn't fit in the width of the car

1

- Fast in use
- Less space needed
- Needs to stop besides de sidewalk
- Check if it fits
- Not very innovative
- Useful

2

Actually the space for the wheelchair is 130 and the wheelchair space is 122 so the existing difference is 8. Our proposal is:

$$3,2 \times 1,45 \times 1,9 \quad \text{—————} \quad 3,2 \times 1,6 \times 1,9$$

Pros : It fits on the streets and can turn
The difference is just 0,15

Think about:

Check what is the license that Tuk Tuk have.

How many routes are as the "complicated" case.

75 pages document of regulation.

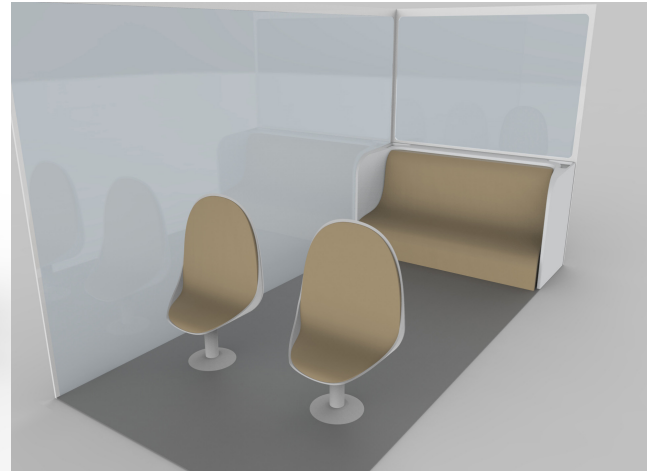
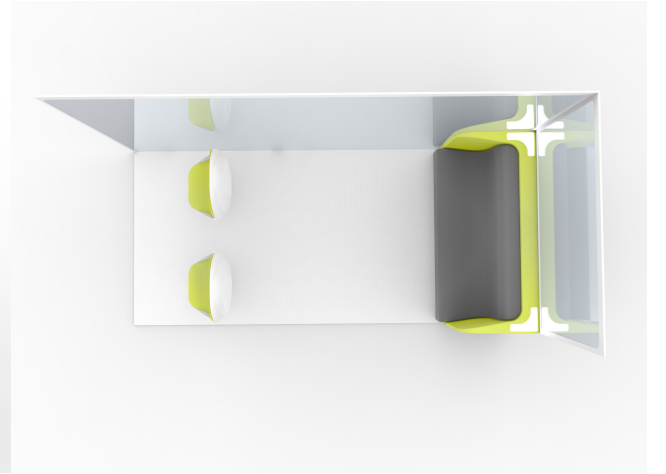
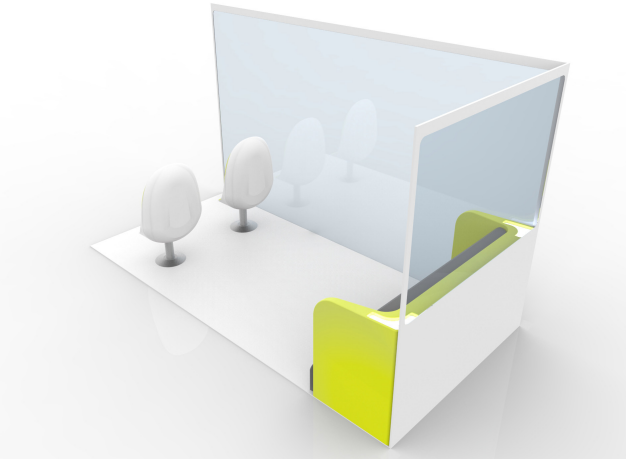
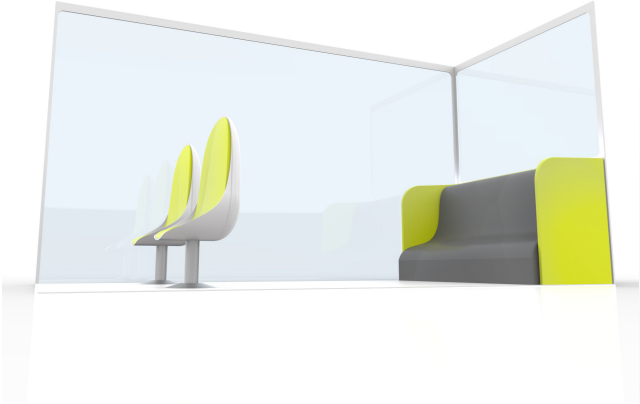
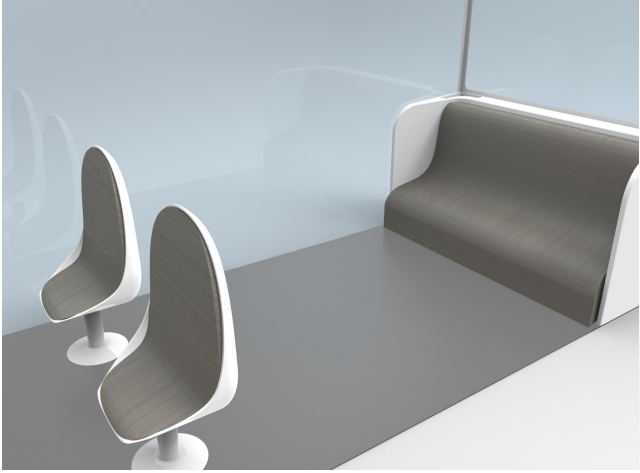


WEEK 7

- Interior concept in Solid Works
- Group meeting
- Client meeting
- Design meeting
- Pressure cooker



INTERIOR CONCEPT IN SOLID WORKS



Group Meeting		28 th March
• <u>Project exhibition (HHS Tuesday wk 8)</u>	4/4/17	16:00-18:00
- Stand		
- Poster		
- Video...		
• <u>Mayer Delft visit URBINN (wk 9 - Thursday 13th)</u>		
• <u>Cultural Differences</u>		
- 5min. presentation - Wednesday wk 8		
- Portfolio - Wednesday wk 9		

Opening	1	TODAY AGENDA
Announcement	2	
Progression (each department)	3	
Goals and deadlines	4	
Transfer project to Q4	5	
Any other business	6	

FRAME TEAM

Calculation

Communicate solutions with design team

How many batteries? Communicate with power train

Goals: have a frame running and start building from day 1 so everything needs to be bought.

NAVIGATION

They have already presetrn part of the project in Belgium

Need to structure and described for the end of the quarter

Make an appointment with Accenda to recive good feedback for the wheels

Driving sensors (KRIS), GPS (SEPPE), Anti-colision (DEAN)

POWER TRAIN

Using smart frame

Programme

Which kind of batteries? BMW

DESIGN TEAM

Materials (general view) need to develop in detail

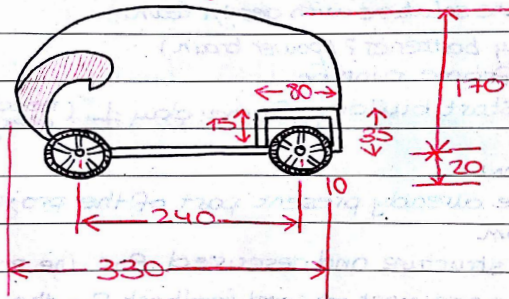
Expected a planning for each team this week.

Design meeting

- feedback form
- Assessments -> portfolio
- Cultural differences work
- 2h work tomorrow without stop **PRESSURE COOKER (10-13h)**

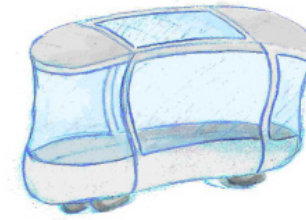
1 door, only one way

Smart battery place 'at the back



PRESSURE COOKER SESSIONS

	4 th April	5 th April	6 th April
Seat Configuration	1	1 Seat Configuration	2 Driver Chair B
Windows and use of the glass	2	2 Foldable Chairs A	2 Driver chair B
	3	3 Driver Chair B	



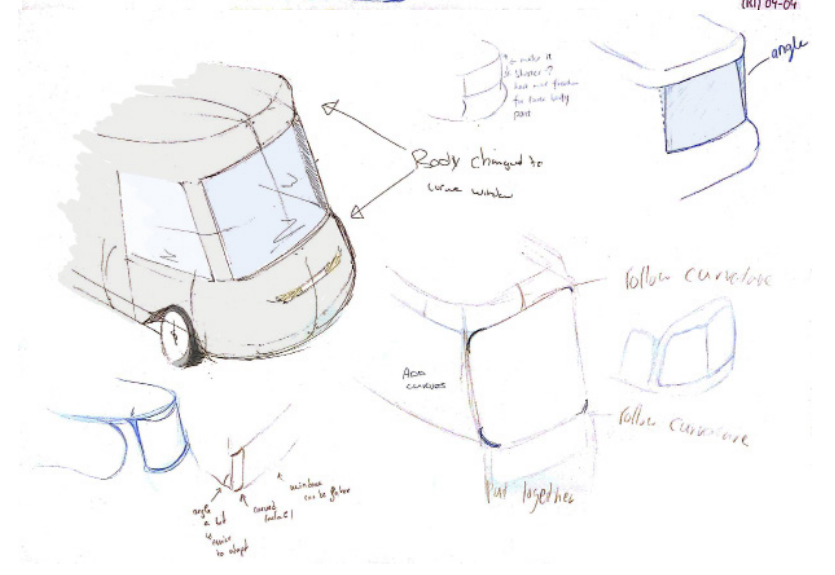
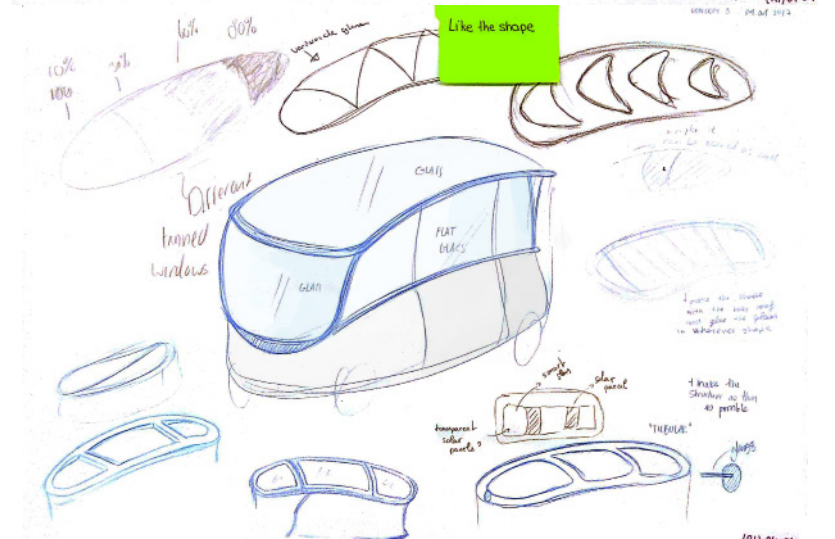
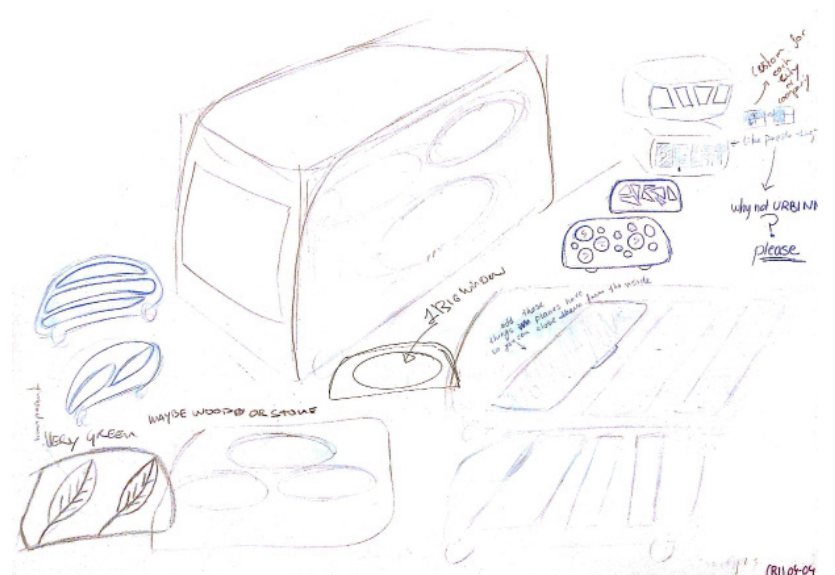
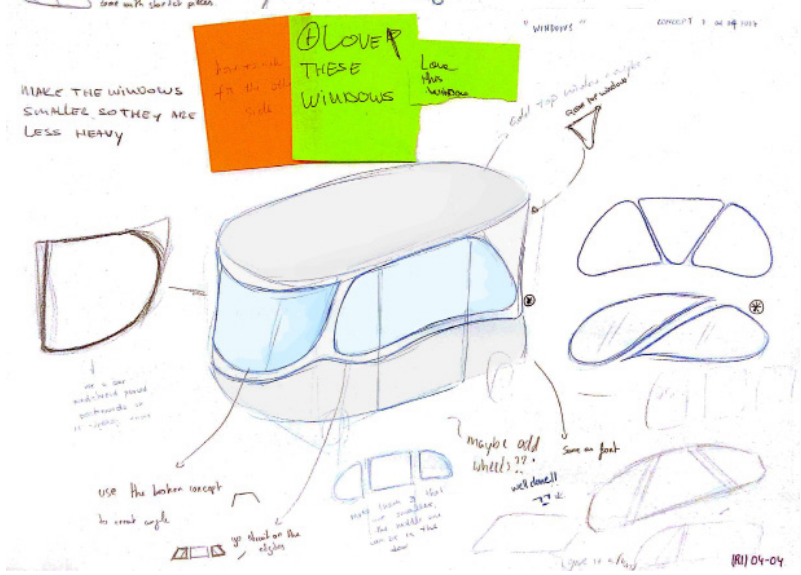
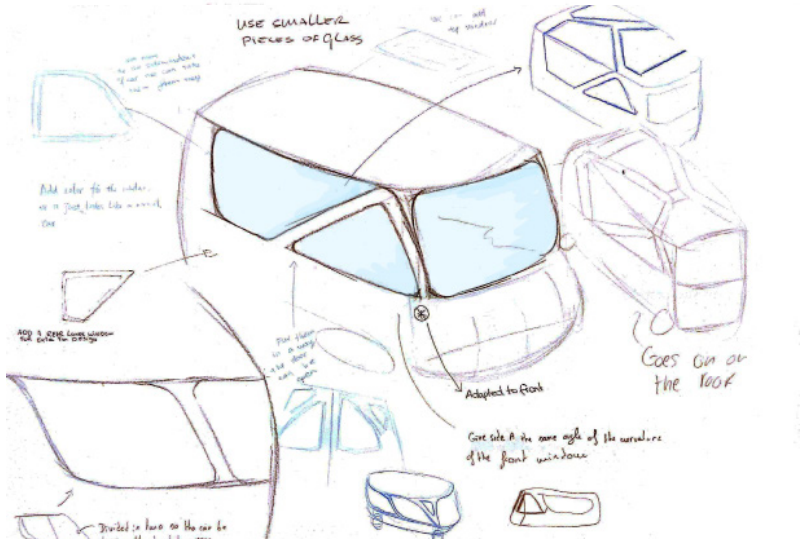
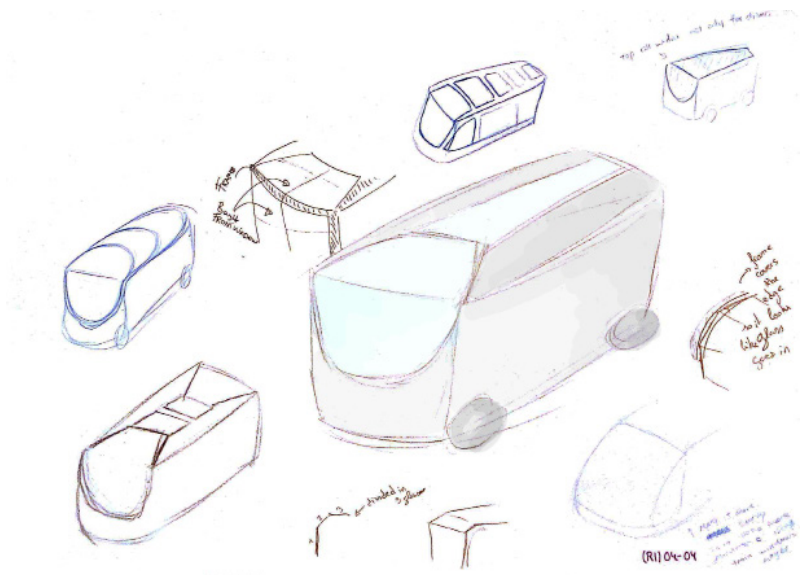
BRAINSTORM



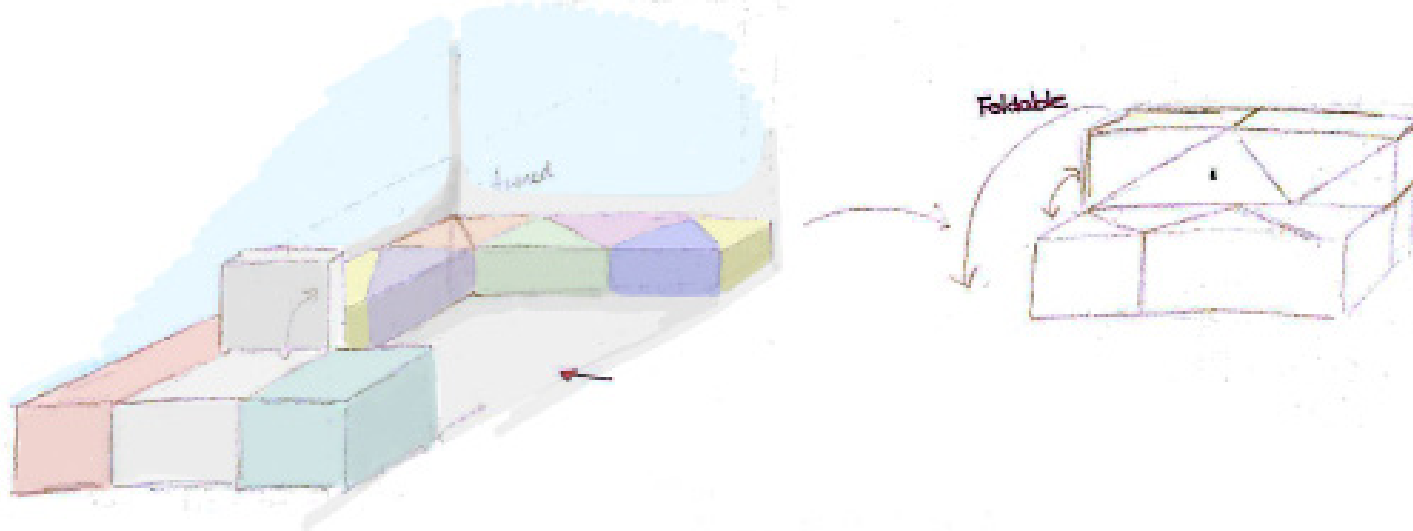
ROUND 1

Research	30 min.
Brainstorm	15 min.
Explanation of concepts	10 min.
Vote (reduce to 8 concepts)	5 min.
Switch brainstorm	
Explanation of concepts	
Vote	
Put 3 concepts nice	
Decide one for recommendations	

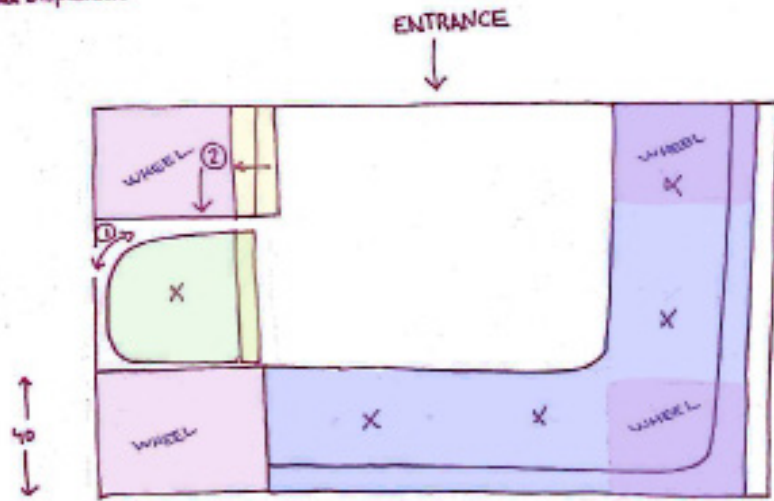




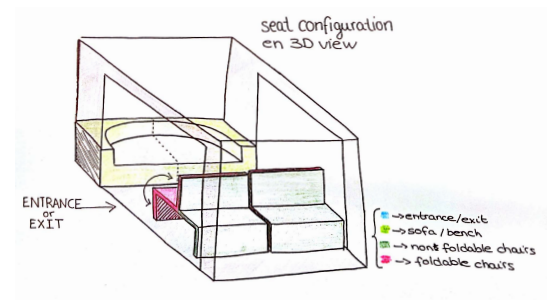
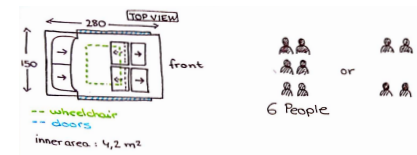
Seat Disposition

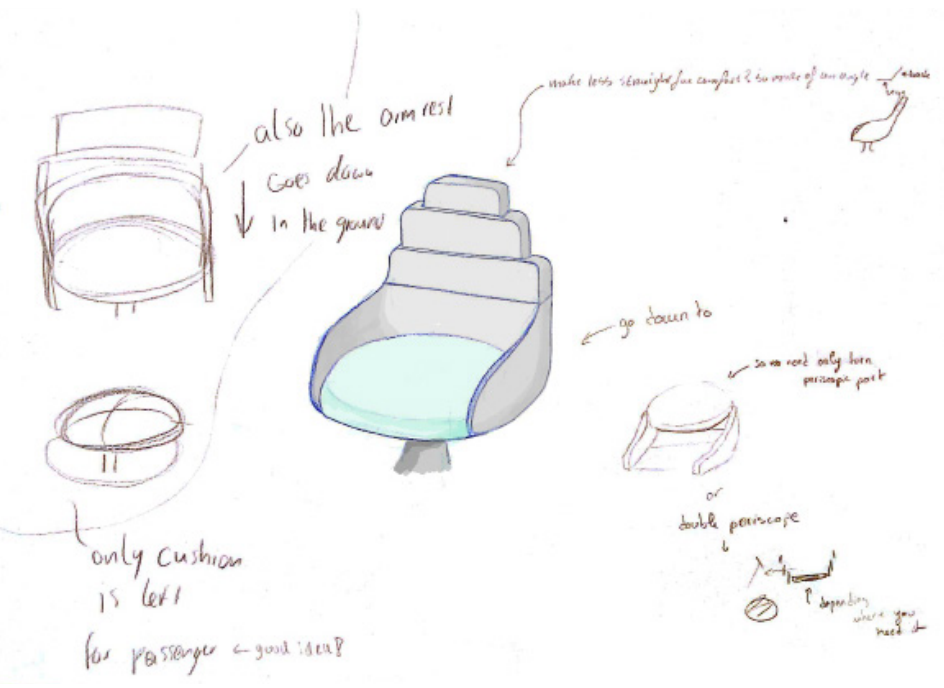
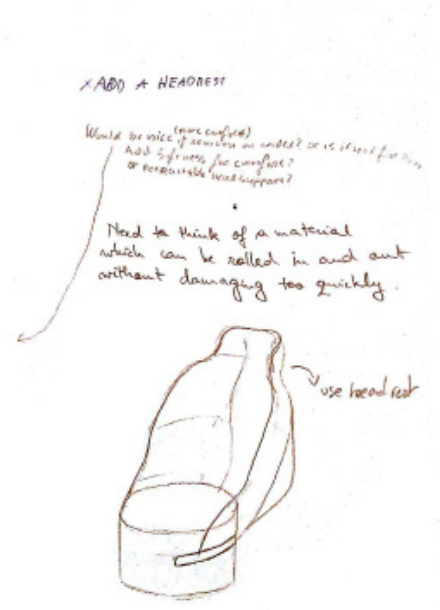
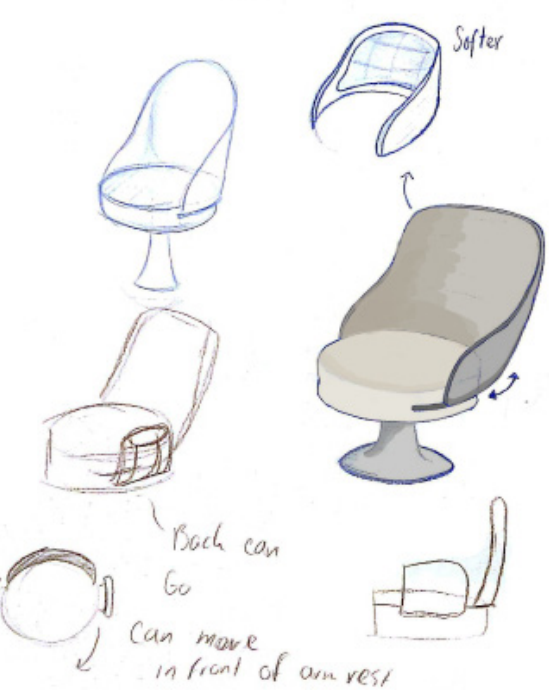


Seat Disposition



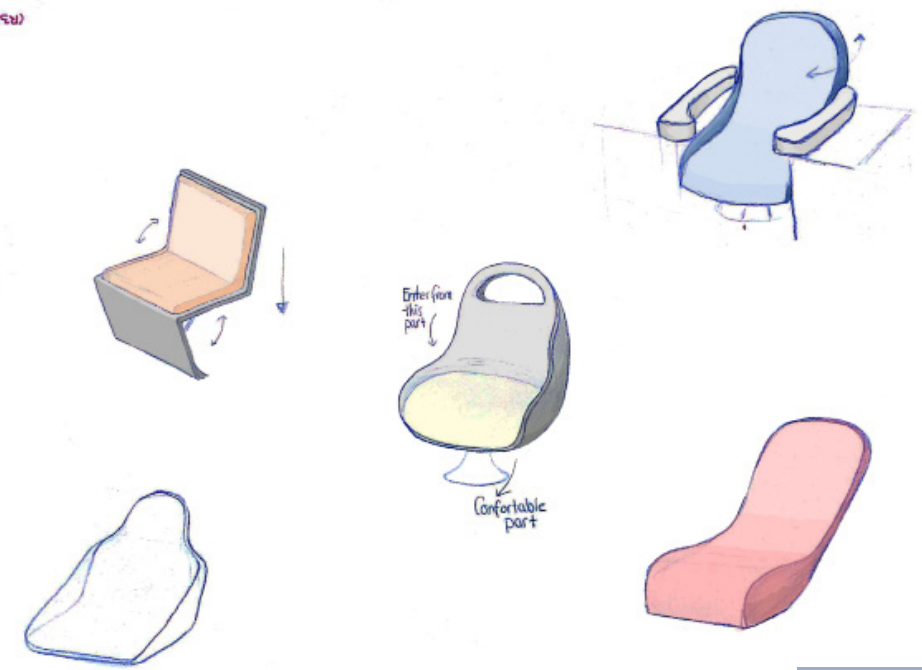
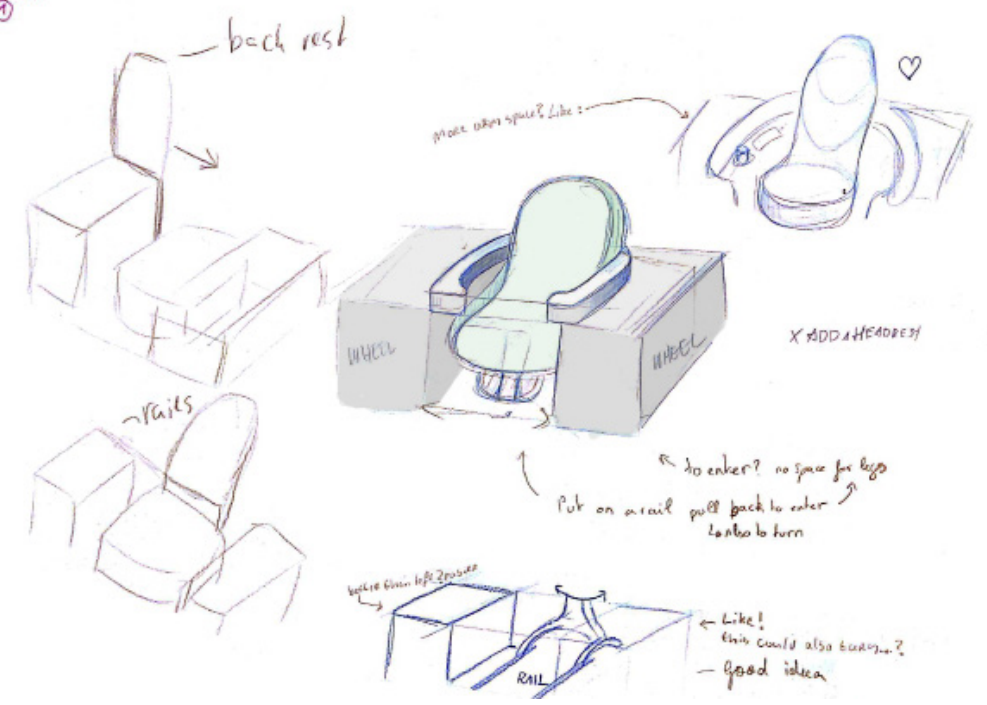
- ① Turned
- ② steps to let the driver get in
- ③ Back part flipping not the hole chair

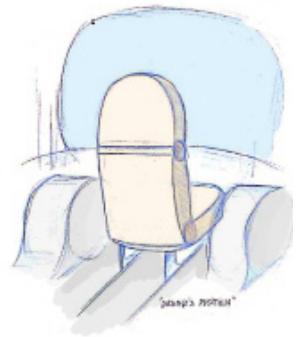
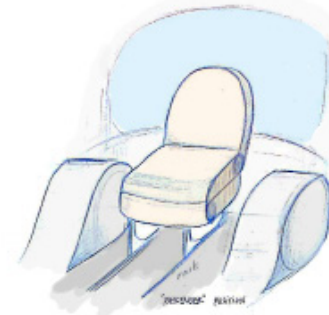
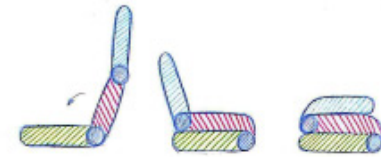
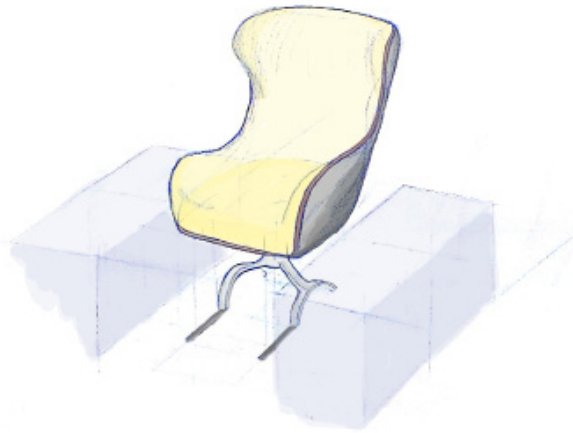




10-05-04

XXX
⑦



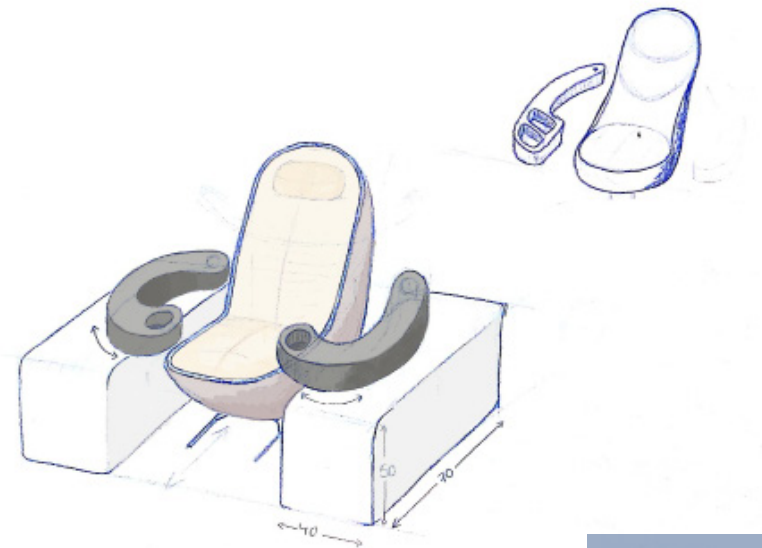


PRESSURE COOKER - CONCEPT 1

Driver Seat



Get in and out "PERISCOPE"





WEEK 1

Remake the leaflet for the minor market

Minor Market

General plan of action

Interaction inside

Exterior interaction

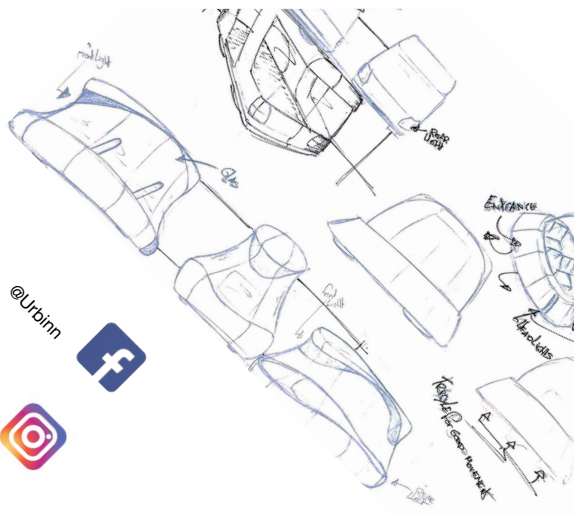
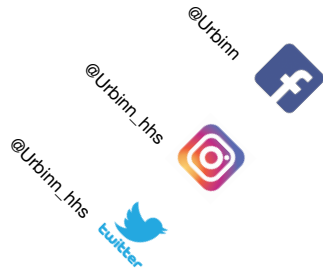
H/
BETAFACTORY

p.menger@hhs.nl
Betafactory
Rotterdamseweg 137
2628 AL, Delft

30 EC Graduation/Minor Int. Project
15 EC Intershp/Free course
Minor Living Labs/
12 EC Elective course
3, 6, 9 or

MULTIPLE OPTIONS IF
YOU WANT TO JOIN US

URBINN



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APPLIED SCIENCES

1

Define what we need
for interaction

2

Decide an interior and
exterior

3

Define on detail the
interior and exterior

4

Adapt the to do list to
the interaction to the
int/exterior

CARGO

Skip to end of metadata

Created by elenapallaresdiez on 25/Apr/2017

OPEN DOOR
RAMP GOES DOWN *
ROLL IT IN
STOP FIX IT
UNLOAD (LEAVE IT ON THE FLOOR)
FORK LIFT OUT *
SECURE THE CARGO
RAMP IN *
CLOSE THE DOOR

OPEN THE DOOR (from outside, people inside, who?)
RAMP OUT DOWN
UNSECURE CARGO
FORK LIFT IN
LOAD CARGO BACKWARDS
ROLL OUT
RAMP IN
CLOSE THE DOOR

* No for the mechanical fork lift

PASSENGERS

Skip to end of metadata

Created by elenapallaresdiez, last modified on 25/Apr/2017

OPEN THE DOOR
STEP IN (BEND DOWN)
WALK INSIDE

DRIVER seat

Pull out chair
Spin
Spin back
Pull in chair
Block chair
Seatbelt *
Drive interaction

BENCH seats

Search for seat
Rotate
Sit down
Put seatbelt *
Seatbelt off *
Stand up (bended)
Find your way out
Step out

FOLDABLE CHAIR seats

Search seat
Foldout chair
Turn to sit
Sit
Seatbelt
Take out
Stand (bended)
Open door
Go out

* Driver seatbelt three points / Passenger two points

WHEELCHAIR

Skip to end of metadata

Created by elenapallaresdiez, last modified on 25/Apr/2017

OPEN DOOR
RAMP GOES DOWN
CLOSE DOOR
ROLL IN
STOP / BREAK
BLOCK WHEELCHAIR *
UNBLOCK
OPEN THE DOOR
RAMP OUT
ROLL OUT BACKWARDS
RAMP IN
CLOSE DOOR

* Check if the wheelchair blocked is enough for the wheelchair passenger to be safe or need extra safe mechanism

- Exterior interaction

- STOP

- LIGHT | night | stop
| day | emergency
| | advice something

- BUTTONS

- SOUNDS | doors
| ramp in
| ramp out

- WIPERS

- LICENSE PLATE where?

- REAR VIEW MIRRORS CAMERAS

- RAMP * → conclusion needed

- DOOR * → conclusion needed

- MAINTENANCE + INTERIOR

- RECHARGING

- Questions

- Where will the engine be placed?

- What part or parts will break easily so when designing the exterior we should take them into account?

- What types of liquids/fluids will the user need to get access from the outside?

- How will the driver drive? what kind of steering?

WEEK 2

Concepts for the driver seat

Needs for the dashboard

Cultural differences newspaper

Remake the exterior to fit with the needs

<https://betafactory.atlassian.net/wiki/display/D/Requirements>



PLACE

De Koperen Kat

DECORATION**SERVICE****ATMOSPHERE****PRICING****DRINKS****MENU****BEER SELECTION / VARIETY****Comments:**

De Koperen Kat is a pub inside a brewery in Delft. As you can imagine, here you can find a big variety of craft beers from which you can choose. Also, if you are not a beer fan, you can still enjoy the atmosphere drinking beverages like soda or water.

If you are a karaoke fan, this is the place to be on Thursday nights! Because the place is small and cozy, people feel more confident to sing and you will not be given angry looks if you are not the most talented singer. So don't be afraid, go and have fun with your friends, be the star of the night!

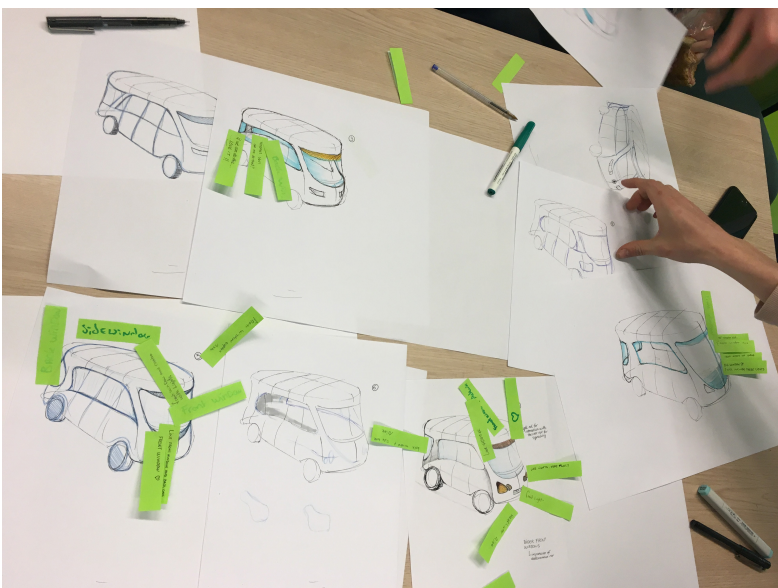
PLACE

Eetcafe de Ruif

DECORATION**SERVICE****ATMOSPHERE****PRICING****DRINKS****MENU****BEER SELECTION / VARIETY****Comments:**

Eetcafe de Ruif is a good place to go with a friend, but also with a large group. The place is very spacious and the service is very quick. If it is a nice day, you can enjoy your beer on the terrace, with a the look over the canal. Here, you can also have a snack or a warm meal, though it may be a bit expensive for students. The pub has late closing hours during the whole week and is always full of people as the atmosphere is very warm and welcoming.

REMAKE THE EXTERIOR WITH THE
NEEDS OF THE USER



WEEK 3

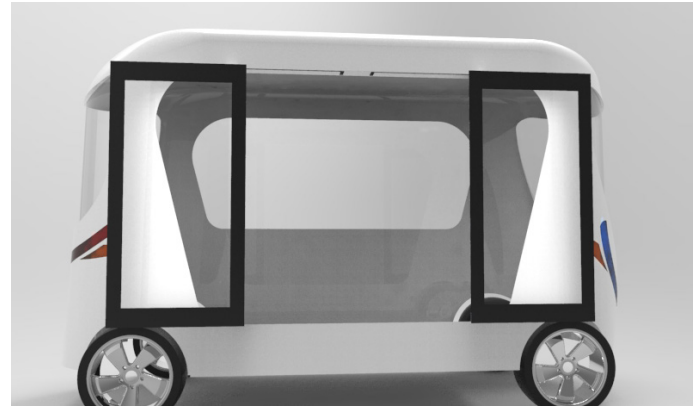
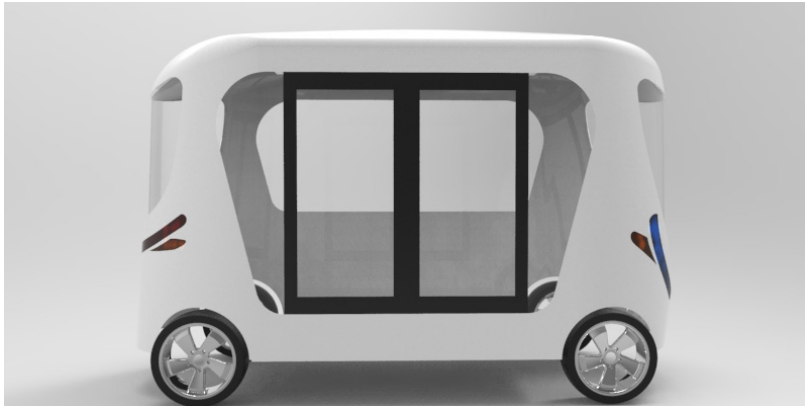
Work on the doors

Design the dashboard

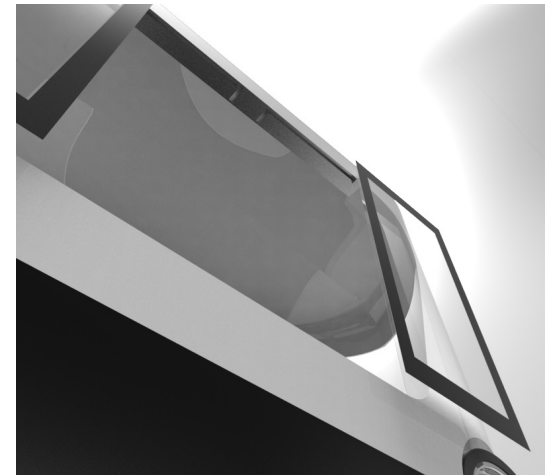
Setting the requirements for the dashboard
, buttons and steering wheel

Dashboard and driver seat research

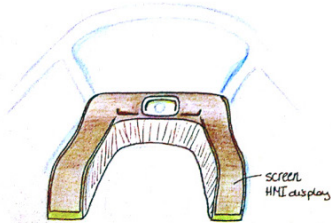
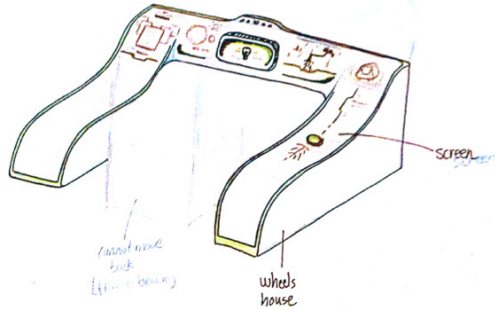
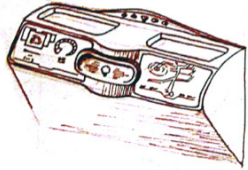
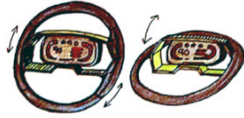
Driver anthropometrics



<https://betafactory.atlassian.net/wiki/display/D/2.2.12+-Doors>



steering wheel: 2 positions (autonomous driver or driver)



Tuesday 9th

- Social media photos at 13:30 Friday → Black or dark need to send an e-mail to remind.
- Design meeting Distribution of the tasks between interior/exterior

INTERIOR	INT. WITH THE FRAME	EXTERIOR
Elena Mar	Xander (How to connect?)	Bram (solid works) Nick (solid works) Milan Roy

For tomorrow: defining the final interior concept to start with the solidworks model.

→ Dashboard

- speedometer (mandatory)
- battery level
- GPS + road info
- Extra information
- Side mirrors (cameras)
- System check interface (general + detailed)
- Basic indication system (blinkers/alerts/warnings)
- Door sensors
- Clock
- Gear information (DNPR)
- Interior illumination

- Temperature
- RPM
- Battery info (watts/charging)
- Engine monitor
- Maintenance info (tire pressure, oil level, etc)
- Suspension settings

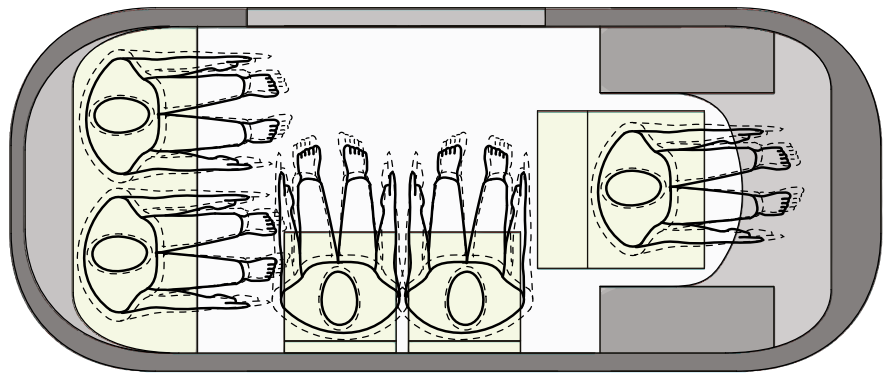
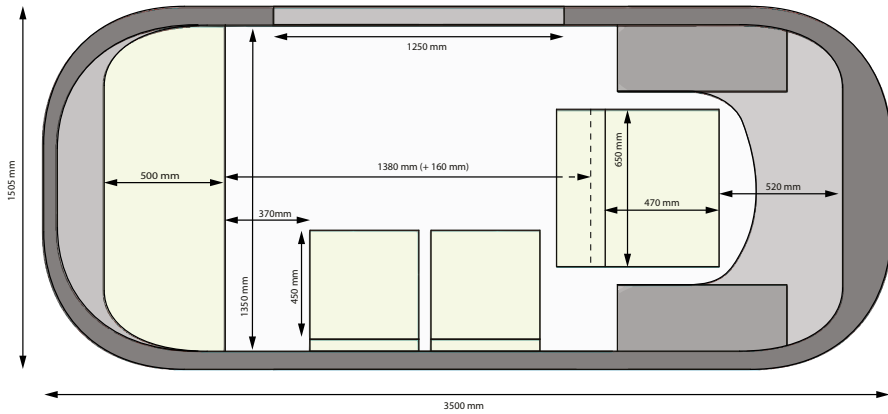
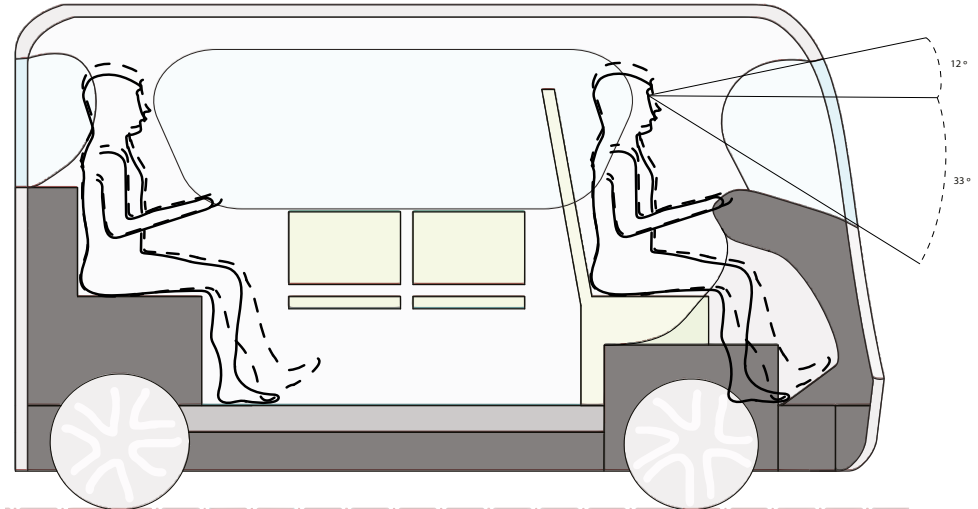
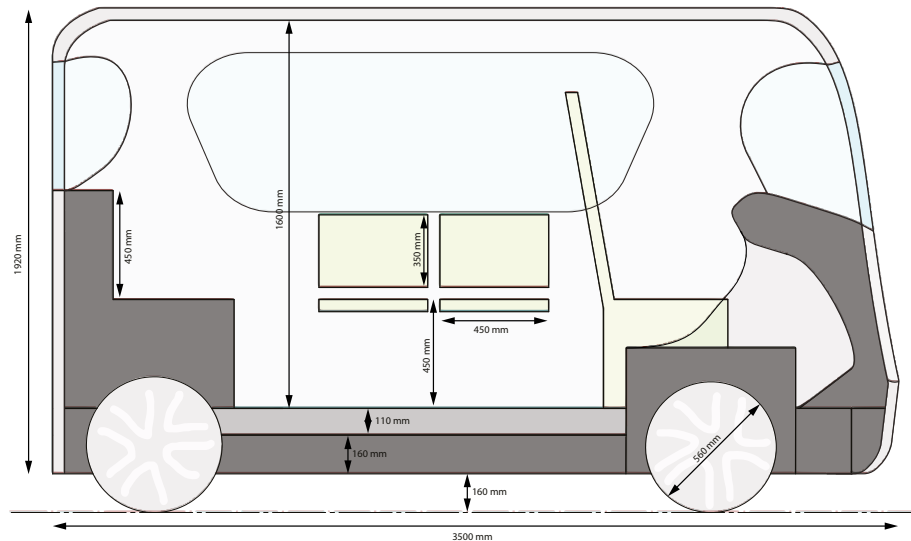
→ Buttons

- Doors
- Ignition
- Parking brake
- Driving lights
- Gear(?)
- Interface controller (?)
- Warning light
- Lower suspension (?) (Automatic?)

→ Steering wheel

- Display functions access
- Lights exterior (includ. blinkers)
- Whipers
- Sound alert system
- Height adjustment. (?)

LOOK FOR
Brakes + acceleration (WHERE)
AC system (only driver?)



WEEK 4

Driver seat in solid works

Foldable Chairs in solid works

Composite workshop with David

Research about materials and methods
to build the mock up

<https://betafactory.atlassian.net/wiki/display/D/Solidworks+model>



RESEARCH ABOUT MATERIALS AND METHODS TO BUILD THE
MOCK UP

<https://betafactory.atlassian.net/wiki/display/D/2.6.2+Mock+u-p+materials>

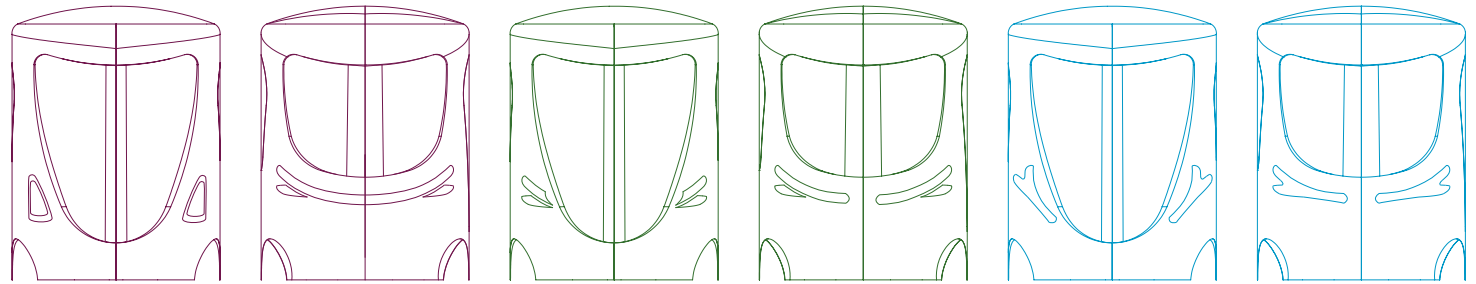
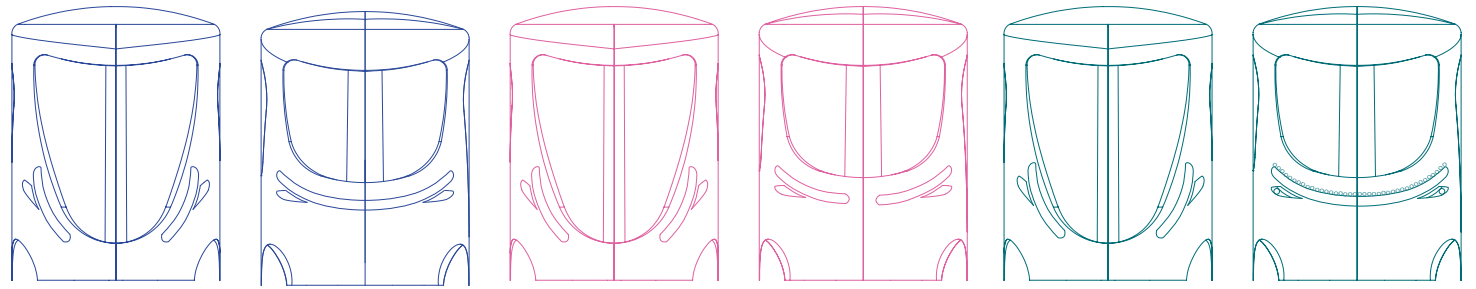


WEEK 5

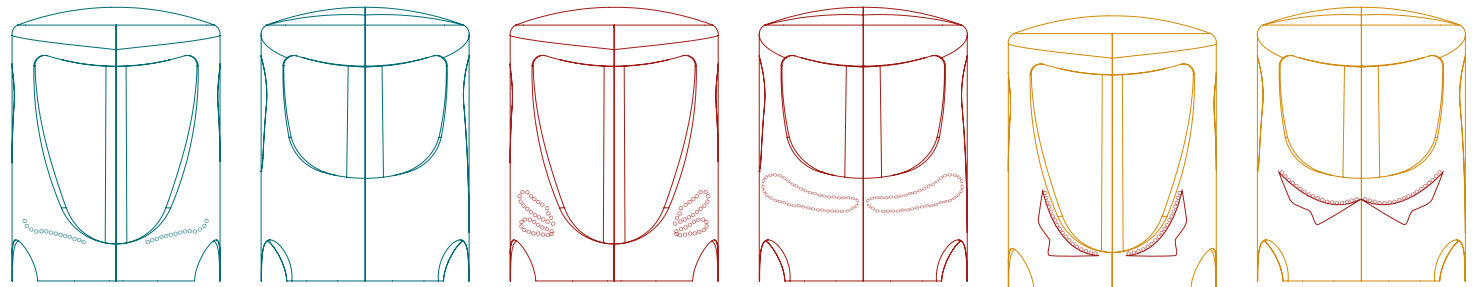
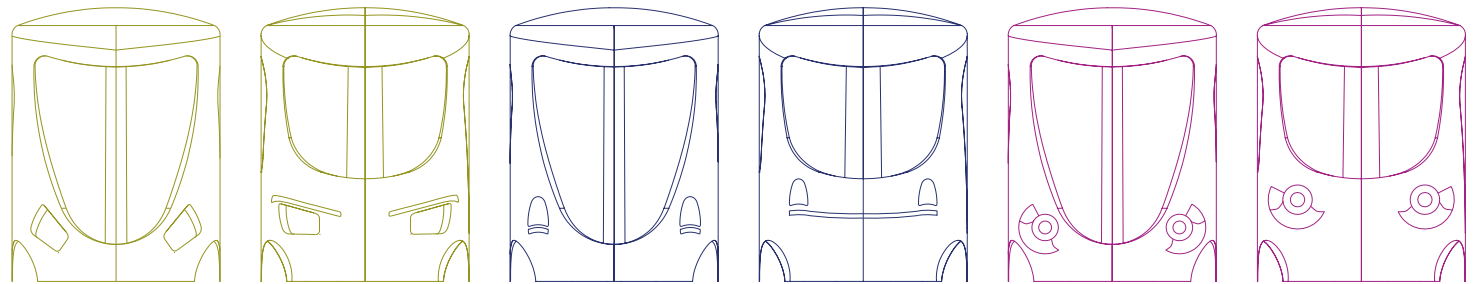
Research about lights

Design and sketch different possible lights

<https://betafactory.atlassian.net/wiki/display/D/Renders>



<https://betafactory.atlassian.net/wiki/display/D/Regulation>



WEEK 6

Cleaning bettactory and making the space

PR new panels


Team members photos


Test the materials




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 **STUDEER JIJ...**
ELEKTRONICA?
MECHANICA?
DESIGN? IT?

 **GEINTERESSEERD IN...**
DUURZAAM VERVOER?
AUTONOME VOERTUIGEN?
SLIM TRANSPORTEREN?
INTERNATIONAAL?
TEAMWORK?




 **OPZOEK NAAR...**
EEN MINOR?
AFSTUDEREN?
EEN STAGE?



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APPLIED SCIENCES

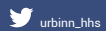


 **STUDYING...**
ELECTRONICS?
MECHANICS?
DESIGN? IT?

 **INTERESTED IN...**
SMART TRANSPORTATION?
AUTONOMOUS VEHICLES?
SUSTAINABLE MOBILITY?
INTERNATIONALITY?
TEAMWORK?



 **LOOKING FOR...**
A MINOR?
GRADUATION?
AN INTERNSHIP?



MELD JE DAN NU AAN!

urbinn@hhs.nl



COME AND JOIN US!

urbinn@hhs.nl

<https://betafactory.atlassian.net/wiki/display/4S/4.5.1+Photos>



WEEK 7 Y 8

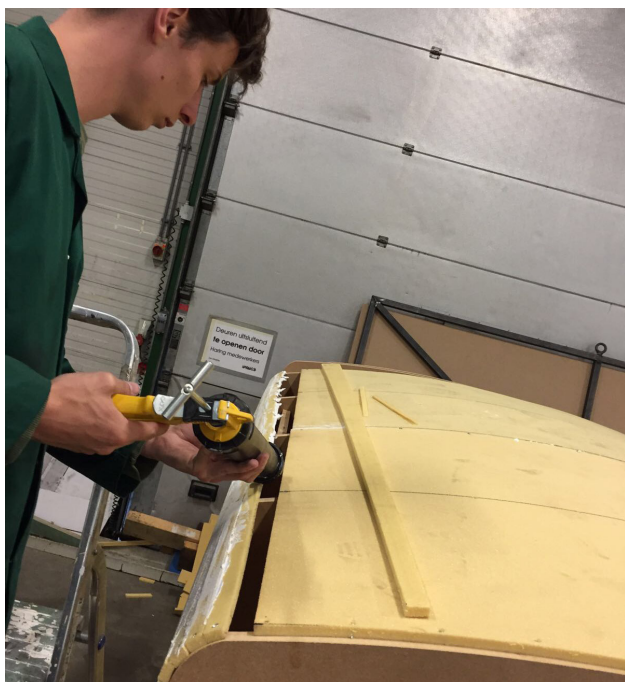
STEP 1 - construction of the wooden skeleton

STEP 2 - Making the foam body

STEP 3 - Fibre glass process















THURSDAY 15th - STEP 3: FIBER GLASS PROCESS











DOCUMENTS

Requirements

Target release	
Epic	
Document status	DRAFT
Document owner	Mar Sánchez-Morate Palop , elenapallaresdiez
Designer	Mar Sánchez-Morate Palop
Developers	Xander Kragt Mateu , elenapallaresdiez
QA (Quality Assurance)	

Goals

- To define what will the dashboard need to have.

Assumptions

- The car will be both, autonomous and steer-by-wire.

Requirements

#	Dashboard	User story	Importance	References to justifications
1	Speedometer		MUST HAVE	
2	Battery level		MUST HAVE	
3	GPS + Information			
4	Extra information	Temperature RPM Battery information (Engine monitor): Watts, charging rate... Maintenance information: Tire pressure, oil level brake... Suspension settings		
5	Side mirrors	Cameras		
6	system check interface	General and detailed		
7	Basic indication system	Blinkers Alerts Warnings		
8	Door sensors			
9	Clock			
10	Gear information	DNPR		
11	Interior illumination			

Requirements

#	Buttons	User story	Importance	References to justifications
1	Doors	Warning lights		
2	Ignition	lower suspension? Automatic?		
3	Parking break			
4	Driving lights			
5	Gear			
6	Interface controles			

Requirements

#	Steering wheel	User story	Importance	References to justifications
1	Display functions access			
2	Lights exterior	Includes blinkers		
3	Wipers			
4	Sound alert system			
5	High adjustment			
6	Interface controles			

User interaction and design

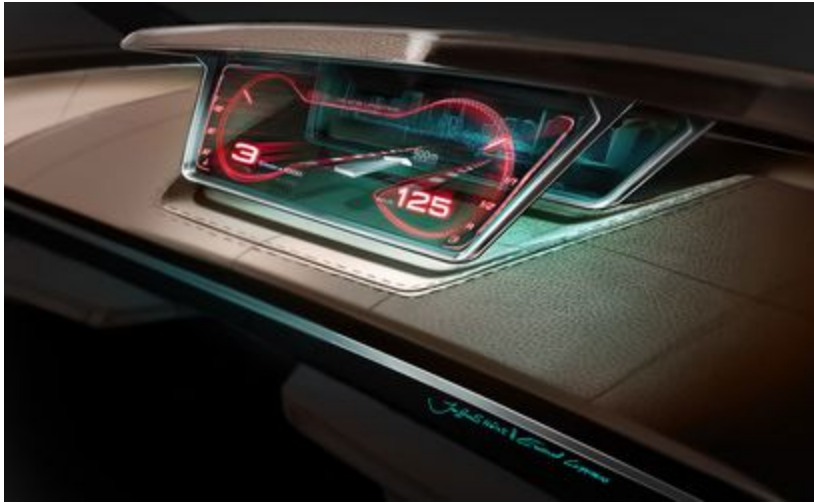
Inspiration











Questions

Below is a list of questions to be addressed as a result of this requirements document:

Question	Outcome

2.2.12 Doors

Door interaction:

Button for door (pressing the button)

Sound:

- Locate/Inform
- Noise (sound confirmation that button as been pressed)

Visual:

- Light (helps locate and keep track of door movement)
- Light (green circle turns of when door can't not be open)
- Light (green circle lights up when possible to press button to open door)
- Light (green circle blinks when door in movement)
- Blue light dots (when keep pressing they will light up one by one until circle is completed and the ramp will deployed when the doors open.)
- The part that can be pressed will be grey colour
- Word "Press" or "Push" will be printed in the part of the button meant to by pressed (the grey part)

Touch:

- The word "Press" or "Push" will be printed in braille in the correspondent part.
- Resistance and then released of it will be added to the button (touch confirmation of having pressed correctly the button/ Safety measure so that it's less likely to press it by mistake.)

Opening door

Sound:

- Mechanical noise of the door when moving (confirmation that it's working/ Alerts users that something is happening)
- Button sound

Visual:

- Button light
- Visual guidance to the button

Touch:

- Button (braille inscription)

Door process

- Vehicle arrives
- Look for button
- Locate button
- Press button
- Step back
- Watch the door open
- When door open step in
- Sit down
- Press button to close door / wait for automatic door to close
- Press button to open door
- Step down
- Press button to close door / wait for automatic door to close

Disable/ cargo

- Vehicle arrives
- Look for button
- Locate button
- Press button and hold it for 5 s until light circle complete
- Step back
- Watch the door open
- Watch the ramp deploy
- When door open and ramp totally deployed step in
- Roll in / Upload cargo
- Press button to close door / wait for automatic door to close
- Press button to open door (5s again)
- Wait until door and ramp are deployed
- Roll out / download cargo
- Press button to close door / wait for automatic door to close

Requirements

Width: 70 cm (max allowed in dutch PT)*

Length: 120 cm (max allowed in dutch PT)*

Height: 109 cm (max allowed in dutch PT)*

Reach of the person: 60cm far, 140cm high (from ground)

Average Person

Other:

Opens automatically

comfortable to get in (Height, Width)

wheelchair accessible

Control buttons?

Compact (uses no space on the inside of the vehicle)

pneumatic?

Sensors to notice obstructions

grips/handles

Emergency door unlock

Questions

How will the door be controlled? Pneumatics/Hydraulics/Electric.
(Depends on available resources)

What would be the size of the door?

Will the door open automatically

How will you enter the vehicle when the doors are closed and the vehicle is turned off.

*<https://www.gyb.nl/reizen/toegankelijk-ov>

<https://www.eumonitor.nl/9353000/1/j9vvik7m1c3gyxp/vj6ip9u42lxu> (Dutch) Laws PT vehicle 8+ passengers.

Research

Definitions

Example:	Example example.
Alley Hoop	The autonomous sustainable vehicle that is going to drive in Delft in 2025.
Bi-folding door	A door with hinged panels that in the open position fold against the door bulkhead.
Bi-parting door	A door, usually sliding, that has two panels that open from the center and are normally synchronized manual operation: A door capability that permits operation by hand without tools or keys.
Collision post door	The door opening between the collision posts of the car and normally used for passing between cars.
Door pocket	A compartment into which a door panel is retracted when in the open position.
Passenger compartment door (body end door)	For cars with end vestibules, the door opening between the main passenger compartment of the car and the car vestibule.
Plug door	A door with a mechanism that, when opening, moves the door panel(s) out and parallel to the side of the car in the open position.
Side entrance door	The door opening(s) on the side of the car normally used for passenger access and egress.
Trap door	A hinged panel that rotates upward to reveal a set of steps used for low level access. In the down position, the panel becomes part of the floor used for high-level platform access. In both the up and down positions, the panel is retained by a latch and the panel usually contains a handrail on the underside for use when in the up position.

2. Research Questions

- What is the best way to open the doors of the Alley Hoop to make it easy for the target group to enter the vehicle?

Sub-questions

- What are the possibilities for opening a door automatic?
- What are the possibilities for opening a door manual?
- What kind of ways are there in 2025 to open doors automatic?

3. Research method

Most of the research method will be done by searching for information on the internet.

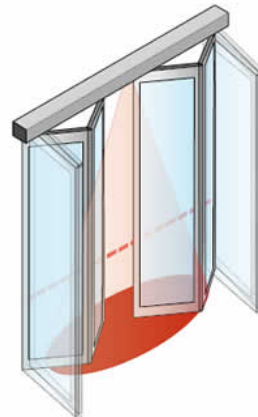
All the information will be quality based, so fixed information that is being published on internet sites, books and other information sources.

4. Technical Market analysis

4.1 Types of doors

For a good research on types of doors, the first thing is to look what kind of doors there are in public places that can be used in the Alley Hoop.

4.1.1 Foldable doors



These doors opens by folding the panels together. This technique is normally used in small spaces where there is no room for sliding doors. The advantage with this technique is that minimum room is needed for the total installation space. [1]

Image : (http://www.spec-net.com.au/press/1009/door_211009.htm)

4.1.2 Sliding doors



Sliding doors opened by sliding to the side. These doors can be opened by pressing a button or with a sensor placed above the door. These sensors detect persons that are in front of the entrance.

[http://www.ovpro.nl/metro/2012/01/30/nieuwe-metro-gvb-ruimer-en-veiliger/\(image\)](http://www.ovpro.nl/metro/2012/01/30/nieuwe-metro-gvb-ruimer-en-veiliger/(image))

4.1.3 Swing Plug Doors

Pneumatic

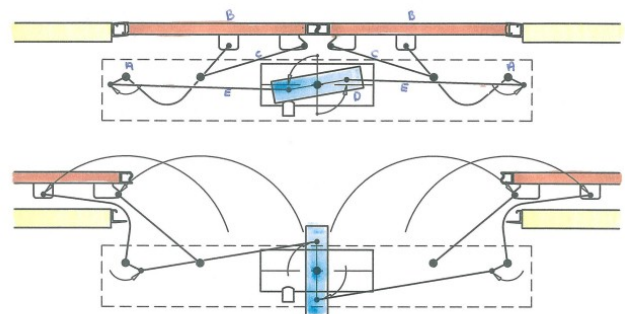
“The definition of the Swing Plug door is based on the aspect that the door opens by means of plugging out of the door portal followed by a swing movement till the open position.

This movement is generated by the rotation of the door pillars (A) which are connected to the door leaves (B) by means of the pillar arms (C).

During the movement the door leaves are kept parallel to the car body with the parallel arms (C).

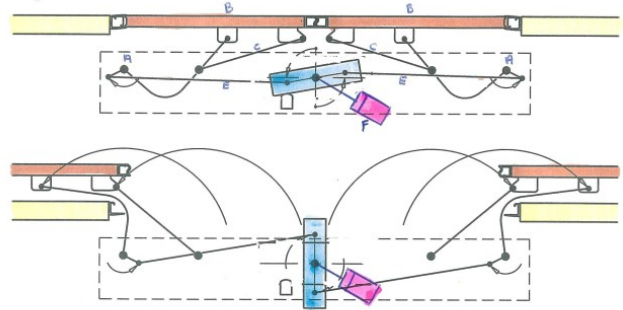
The rotation of the door pillars are initiated by the pneumatic torque cylinder (D) and the linkage (E) between those.

The cylinder is kept in the “over centre” position in the door closed position, realizing the mechanical locking of the door, also in case the air pressure to the cylinder is lost.” [2]



Electric

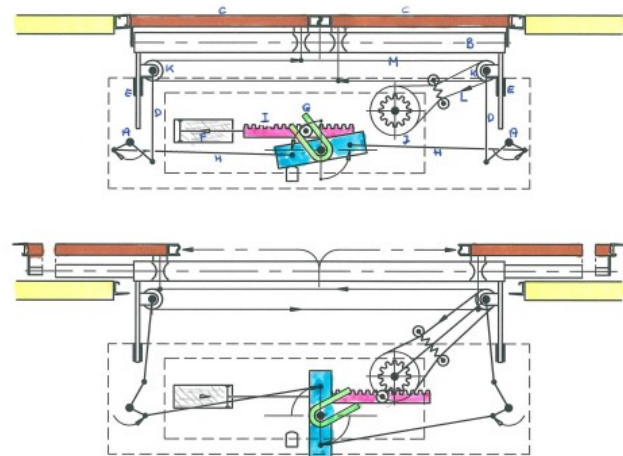
“The principle operation is similar to the principle operation of the pneumatic version, with the only difference that the power source is electric instead of pneumatic i.e. an electro motor in combination with gearbox (F) is replacing the pneumatic torque cylinder.” [3]



4.1.4 Plug Swing Sliding Doors

Pneumatic

“The principle of the Plug Swing Sliding door is that the door opens by means of plugging out of the portal followed by a sliding movement alongside the car body. The plugging is realized by the rotation of the door pillars (A) which pushes out the telescope (B) on which the door leaves (C) are mounted, at the bottom an arm with roller into a guiding rail on the door leaf and on the top a coupling rod (D) in combination with a roller car (E) at which the telescope is connected to .

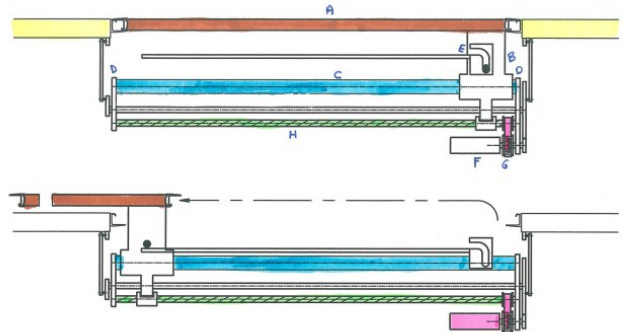


The rotation of the door pillars are initiated by the pneumatic cylinder (F) in combination with the “Scotch Yoke” mechanism (G) and the linkage (H) between those. The cylinder is kept in the “over centre” position in the door closed position, realizing the mechanical locking of the door, also in case the air pressure to the cylinder is lost.

As soon as the door is plugged-out the sliding movement is realized by means of the gear rack (I) in combination with the gear on the primary pulley (J) ,pulleys (K) and belts (L, M). The telescope belt (M) also functions as a synchronization of both the door leaves.

This door system can have as well a double leaf as a single leaf configuration.” [4]

Electric



“The door leaf (A) is hinged at one point by means of a carrier (B) which travels over the main shaft (C) during the sliding movement. The main shaft is connected on both sides to the roller cars (D) which are plugged out the portal opening at the beginning of the opening movement. The door movement is programmed by the curve plate (E) in combination with the roller on the carrier. The powering of the door is realized by means of the electromotor (F) with gearbox (G) in combination with the spindle (H), and functions according to the action / reaction principle.

The levers operating the roller car is kept in the “over centre” position in the door closed position, realizing the mechanical locking of the door, also in case the electrical power to the motor is lost.

This door system can have as well a double leaf as a single leaf configuration.” [5]

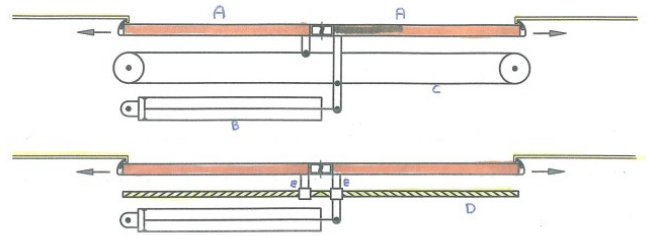
4.1.5 Sliding Doors

Pneumatic

“The operation of a sliding door is the most basic of all door types, the guiding is realized by a track in which the rollers connected to the door leaves are running.

The movement of the door leaves (A) is by means of a linear pneumatic cylinder (B) which is connected to one of the door leaves (primary). The synchronization between the primary and secondary door leaf is realized by means of a synchronization cable or belt (C) or by means of a spindle (D) and spindle nuts (E). The spindle has right and left turn thread for opposite door movements, both opening or both closing.

This door system can have as well a double leaf as a single leaf configuration.” [6]

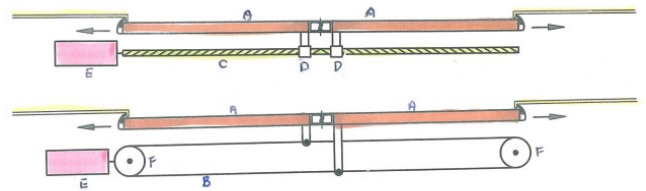


Electric

“The operation of a sliding door is the most basic of all door types, the guiding is realized by a track in which the rollers connected to the door leaves (A) are running.

The synchronization between the primary and secondary door leaf is realized by means of a synchronization belt (B) or by means of a spindle (C) and spindle nuts (D). The spindle has right and left turn thread for opposite door movements, both opening or both closing.

The movement of the door leaves is by means of electric motor (E) which is connected to one of the pulleys (F) at the belt driven type and to the spindle at the spindle type.” [7]



Integrated sliding door electrical

“DESCRIPTION

Fast sliding door with arm-subjection.

Version for 2 leaves doors.

Electric drive version 12 or 24.

Pneumatic emergency as standard.

Sensitization by electronic control and power sensitive rubber.

Emergency system buttons.

Cancellation emergency vehicle > 3 km / h.

Vehicles destined for Class I, II, A.

Complies UN regulations R107.

ADVANTAGES

Easy to install and regulate.

Fast sliding door with fastening arms.

Simple mechanism that is integrated configuration ceiling

Electronics is adjustable to the requirements of customers.

Masats be parameterized electronic / programmable.

Designed to be optionally installed with the CCM system CAN Masats.

It does not require door lock.

Height and curvature adapted to the vehicle.

Fully glazed leaf, single crystal (optional double).

TECHNICAL DATA

Minimum pressure 6 bar.

Temperature -30C + 70C work

Nominal voltage 12 / 24v \pm 20%

Displacement to the outside: 85mm.

Portal Width: 1350mm of.

Net opening: 1200 mm" [8]

Mechanism to use

- plug sliding doors

2.6.2 Mock up materials

• Target release	Design Team
Epic	
Document status	DRAFT
Document owner	Mar Sánchez-Morate Palop Paula Hueso elenapallaresdiez
Designer	Mar Sánchez-Morate Palop elenapallaresdiez Paula Hueso
Developers	Mar Sánchez-Morate Palop elenapallaresdiez Paula Hueso
QA (Quality Assurance)	

Goals

- Identify the materials for the mock up
- Select prices
- Specify quantity

Background and strategic fit

The aim of this document is to justify the mock up's optimum materials and solution.

Assumptions

This materials are needed to build the 1:1 Mock-up.

Requirements

#	Material	Description	Quantity	Price	References to justifications
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1	MDF	Medium-density fibreboard is an engineered wood product made by breaking down hardwood or softwood residuals into wood fibres, often in a defibrator, combining it with wax and a resin binder, and forming panels by applying high temperature and pressure. It is made up of separated fibres, but can be used as a building material similar in application to plywood. It is stronger and much denser than particle board.	Roy Heij milan_verschoor		<ul style="list-style-type: none"> Wikipediaorg. (2017). Wikipediaorg. Retrieved 19 May, 2017, from https://nl.wikipedia.org/vium-Density_Fibreboard In-text citation: (Wikipediaorg, 2017) WHERE TO BUY: http://www.fabfac.nl/ (Ask Nico for more info) <p>alternative - https://www.bouwmaat.nl/mdf-plaat-e-1ce4-244x122-cm-dikte-18-mm-70-pefc/0000556427</p>
2	Fiber Glass	Type of fiber-reinforced plastic where the reinforcement fiber is specifically glass fiber. The plastic matrix may be a thermoset polymer matrix – most often based on thermosetting polymers such as epoxy, polyester resin, or vinyl ester - or a thermoplastic. Fiberglass is unique in its strength and yet it is lightweight.	Fiber glass MAT 0.5 mm, 225g/m ² 0.7 mm, 300g/m ² Fiber glass WAVE Layers 1layer is 30m ² of fibre	4.49 € 4.49 € 6-9 €	<ul style="list-style-type: none"> Wikipediaorg. (2017). Wikipediaorg. Retrieved 19 May, 2017, from https://en.wikipedia.org/erglass In-text citation: (Wikipediaorg, 2017)
3	Biresin CH120-6 Hardener (B)	Composite resin hardener		(1+) 35,70 € (5+) 33,52 € / each (10+) 31,46 € /each	<ul style="list-style-type: none"> Security usage: 2.6.2 Mock up materials
7	Foam	pvc	30m ² (The whole body including doors and windows)		<ul style="list-style-type: none"> Where to buy: http://www.nestaan.nl/

8	Tools	Brushes, cups, scissors...	Unknown	-	
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Regulation

Target release	
Epic	
Document status	DRAFT
Document owner	Mar Sánchez-Morate Palop
Designer	Mar Sánchez-Morate Palop elenapallaresdiez
Developers	Mar Sánchez-Morate Palop elenapallaresdiez
QA (Quality Assurance)	

Goals

Specification of the lighting system of a motor vehicle that consists of lighting and signalling devices mounted or integrated to the front, rear, sides, and in some cases the top of a motor vehicle. This lights the roadway for the driver and increases the conspicuity of the vehicle, allowing other drivers and pedestrians to see a vehicle's presence, position, size, direction of travel, and the driver's intentions regarding direction and speed of travel. Emergency vehicles usually carry distinctive lighting equipment to warn drivers and indicate priority of movement in traffic.

Background and strategic fit

This document would have the regulations and the final lights that the SUV will need.

Assumptions

- The regulations are taken into account on this document are the ones referring to Delft's public transportation.
- Literature research is used in this document because all of the information can be found on the website of government institutes. These websites give all the regulations on the given subjects.
- The resources are trustworthy and reliable because they are found on the government websites. The data can be confirmed and backed up by the RDW regulations.

Lighting Requirements

#	Title	User story	Importance	References to justifications
1	Color of the light emitted	The colour of light emitted by vehicle is standardised by longstanding convention. No other colours are permitted except on emergency vehicles.	<ul style="list-style-type: none">• Lamps facing rearward must emit red light.• Lamps facing sideward and all turn signals must emit amber light.• Lamps facing forward must emit white or selective yellow light.	<ul style="list-style-type: none">• https://en.wikipedia.org/wiki/Automotive_lighting
2	Head lamps Forward illumination	<ul style="list-style-type: none">• Dipped beam: They provide a light distribution to give adequate forward and lateral illumination without dazzling other road users with excessive glare. This beam is specified for use whenever other vehicles are present ahead.• Main beam: They provide an intense, centre-weighted distribution of light with no particular control of glare. Therefore, they are only suitable for use when alone on the road, as the glare they produce will dazzle other drivers.		<ul style="list-style-type: none">• Dipped beam.jpg

3	<p>Auxiliary lamps</p> <p>Forward illumination</p>	<ul style="list-style-type: none"> • Driving lamps: Auxiliary high beam lamps may be fitted to provide high intensity light to enable the driver to see at longer range than the vehicle's high beam headlamps may be fitted. They are common in countries with large stretches of unit roads, or in regions such as the Nordic countries where the period of daylight is short during winter. Only on those occasions when opposing drivers passed each other would the low beam be used. Many countries regulate the installation and use of driving lamps. • Front fog lamps: They provide a wide, bar-shaped beam of light with a sharp cutoff at the top, and are generally aimed and mounted low. They may produce white or selective yellow light, and were designed for use at low speed to increase the illumination directed towards the road surface and verges in conditions of poor visibility due to rain, fog, dust or snow. They are sometimes used in place of dipped-beam headlamps, reducing the glare-back from fog or falling snow, although the legality varies by jurisdiction of using front fog lamps without low beam headlamps. In most countries, weather conditions rarely necessitate the use of fog lamps, and there is no legal requirement for them, so their primary purpose is frequently cosmetic. 		<ul style="list-style-type: none"> • auxiliary high beam lamps.jpg
4	<p>Conspicuity, signal and identification lights</p> <p>Forward illumination</p>	<ul style="list-style-type: none"> • Front position lamps: They were designed to use little electricity, so they could be left on for periods of time while parked. In most of the countries in the world only motorcycles may have amber front position lamps; all other vehicles must have white ones. Colloquial city light terminology for front position lamps derives from the practice, formerly adhered to in cities like Moscow, London and Paris, of driving at night in built-up areas using these low-intensity lights rather than headlamps. • Daytime running lamps Installation: Some countries permit or require vehicles to be equipped with daytime running lamps (DRL). Depending on the regulations of the country for which the vehicle is built, these may be functionally dedicated lamps, or the function may be provided by the low beam or high beam headlamps, the front turn signals, or the front fog lamps. Front, side, and rear position lamps are permitted, required or forbidden to illuminate in combination with daytime running lamps, depending on the jurisdiction and the DRL implementation. Likewise, according to jurisdictional regulations, DRLs mounted within a certain distance of turn signals are permitted or required to extinguish or dim down to parking lamp intensity individually when the adjacent turn signal is operating. Intensity and color UN Regulation 87 stipulates that DRLs must emit white light with an intensity of at least 400 candela on axis and no more than 1200 candela in any direction. In the US, daytime running lamps may emit amber or white light, and may produce up to 7,000 candela. This has provoked a large number of complaints about glare. • Dim-dip lamps UK regulations briefly required vehicles first used on or after 1 April 1987 to be equipped with a dim-dip device or special running lamps, except such vehicles as comply fully with UN Regulation 48 regarding installation of lighting equipment. A dim-dip device operates the low beam headlamps (called "dipped beam" in the UK) at between 10% and 20% of normal low-beam intensity. The running lamps permitted as an alternative to dim-dip were required to emit at least 200 candela straight ahead, and no more than 800 candela in any direction. In practice, most vehicles were equipped with the dim-dip option rather than the running lamps. The dim-dip systems were not intended for daytime use as DRLs. Rather, they operated if the engine was running and the driver switched on the parking lamps (called "sidelights" in the UK). Dim-dip was intended to provide a nighttime "town beam" with intensity between that of the parking lamps commonly used at the time by British drivers in city traffic after dark, and dipped (low) beams; the former were considered insufficiently intense to provide improved conspicuity in conditions requiring it, while the latter were considered too glaring for safe use in built-up areas. The UK was the only country to require such dim-dip systems, though vehicles so equipped were sold in other Commonwealth countries with left-hand traffic. 		<ul style="list-style-type: none"> • Led front position lamp.jpg
5	<p>Turn signals (direction indicators)</p> <p>Lateral</p> <p>They are blinking lamps mounted near the left and right front and rear corners of a vehicle, and sometimes on the sides or on the side mirrors of a vehicle, activated by the driver on one side of the vehicle at a time to advertise intent to turn or change lanes towards that side.</p>	<ul style="list-style-type: none"> • Side turn signals: In most countries, cars must be equipped with side-mounted turn signal repeaters to make the turn indication visible laterally rather than just to the front and rear of the vehicle. In recent years, many automakers have been incorporating side turn signal devices into the sideview mirror housings, rather than mounting them on the vehicle's fenders. Some evidence suggests these mirror-mounted turn signals may be more effective than fender-mounted items. As with all vehicle lighting and signalling devices, turn-signal lights must comply with technical standards that stipulate minimum and maximum permissible intensity levels, minimum horizontal and vertical angles of visibility, and minimum illuminated surface area to ensure that they are visible at all relevant angles, do not dazzle those who view them, and are suitably conspicuous in conditions ranging from full darkness to full direct sunlight. 		

	<p>Rear</p>	<ul style="list-style-type: none"> • Rear position lamps (tail lamps) Conspicuity for the rear of a vehicle is provided by rear position lamps (also called taillamps or tail lamps, taillights, or tail lights). These are required to produce only red light and to be wired such that they are lit whenever the front position lamps are lit, including when the headlamps are on. Rear position lamps may be combined with the vehicle's stop lamps or separate from them. In combined-function installations, the lamps produce brighter red light for the stop lamp function and dimmer red light for the rear position lamp function. Regulations worldwide stipulate minimum intensity ratios between the bright (stop) and dim (rear position) modes, so that a vehicle displaying rear position lamps will not be mistakenly interpreted as showing stop lamps, and vice versa. LEDs are gradually coming to be preferred over filament bulbs as the light sources for vehicle rear lamps. • Stop lamps (brake lights) Red steady-burning rear lights, brighter than the rear position lamps, are activated when the driver applies the vehicle's brakes. These are called stop lamps in some countries and brake lights in others. They are required to be fitted in multiples of two, symmetrically at the left and right edges of the rear of every vehicle. International UN regulations specify a range of acceptable intensity for a stop lamp of 60 to 185 candela. • Centre high mount lamp (CHMSL) It is intended to provide a warning to drivers whose view of the vehicle's left and right stop lamps is blocked by interceding vehicles. It also provides a redundant stop light signal in the event of a stop lamp malfunction. In North America where rear turn signals are permitted to emit red light, the CHMSL also helps to disambiguate brake lights from rear position lights and turn signal lights. On passenger cars, the CHMSL may be placed above the back glass, affixed to the vehicle's interior just inside the back glass, or it may be integrated into the vehicle's deck lid or into a spoiler. • Rear fog lamps In Europe and other countries adhering to UN Regulation 48, vehicles must be equipped with one or two bright red "rear fog lamps", which serve as high-intensity rear position lamps to be turned on by the driver in conditions of poor visibility to make the vehicle more visible from the rear. The allowable range of intensity for a rear fog lamp is 150 to 300 candela, which is within the range of a U.S. stop lamp (brake light). Most jurisdictions permit rear fog lamps to be installed either singly or in pairs. If a single rear fog is fitted, most jurisdictions require it to be located at or to the driver's side of the vehicle's centreline—whichever side is the prevailing driver's side in the country in which the vehicle is registered. This is to maximize the sight line of following drivers to the rear fog lamp. In many cases, a single reversing lamp is mounted on the passenger side of the vehicle, positionally symmetrical with the rear fog. If two rear fog lamps are fitted, they must be symmetrical with respect to the vehicle's centerline. Proponents of twin rear fog lamps say two lamps provide vehicle distance information not available from a single lamp. Proponents of the single rear fog lamp say dual rear fog lamps closely mimic the appearance of illuminated stop lamps (which are mandatorily installed in pairs), reducing the conspicuity of the stop lamps' message when the rear fogs are activated. To provide some safeguard against rear fog lamps being confused with stop lamps, UN Regulation 48 requires a separation of at least 10 cm between the closest illuminated edges of any stop lamp and any rear fog lamp. • Reversing (backup) lamps To warn adjacent vehicle operators and pedestrians of a vehicle's rearward motion, and to provide illumination to the rear when backing up, each vehicle must be equipped with one or two rear-mounted, rear-facing reversing (or "backup") lamps. These are required to produce white light by U.S. and international UN Regulations. However, some countries have at various times permitted amber reversing lights. In Australia and New Zealand, for example, vehicle manufacturers were faced with the task of localising American cars originally equipped with combination red brake/turn signal lamps and white reversing lights. Those countries' regulations permitted the amber rear turn signals to burn steadily as reversing lights, so automakers and importers were able to combine the (mandatorily amber) rear turn signal and (optionally amber) reversing light function, and so comply with the regulations without the need for additional lighting devices. Both countries presently require white reversing lights, so the combination amber turn/reverse light is no longer permitted on new vehicles. The U.S. state of Washington presently permits reversing lamps to emit white or amber light. • Rear registration plate lamp It is illuminated by a white lamp designed to light the surface of the plate without creating white light directly visible to the rear of the vehicle; it must be illuminated whenever the position lamps are lit. 		
<p>6</p>	<p>Large Vehicles</p> <p>Large vehicles such as trucks and buses are in many cases required to carry additional lighting devices beyond those required on passenger vehicles. The specific requirements vary according to the regulations in force where the vehicle is registered.</p>	<ul style="list-style-type: none"> • Identification lamps In the US, vehicles over 2,032 mm (80 inches) wide must be equipped with three amber front and three red rear identification lamps spaced between 6 and 12 inches apart at the center of the front and rear of the vehicle, as high as practicable. The front identification lamps are typically mounted atop the cab of vehicles. The purpose of these lamps is to alert other drivers to the presence of a wide (and usually, tall) vehicle. This type of identification lamp can also be found on road trains in Australia. • End outline marker lamp UN Regulations requires large vehicles to be equipped with left and right white front and red rear end-outline marker lamps, which serve a purpose comparable to that of the American clearance lamp, i.e. to indicate clearly the vehicle's overall width and height. • Intermediate side marker lamps and reflectors US regulations require large North American vehicles to be equipped with left and right amber side marker lights and reflectors mounted midway between the front and rear side markers. 		

7	Emergency Warning Devices	<ul style="list-style-type: none"> Hazard flashers Also called "hazards", "hazard warning flashers", "hazard warning lights", "emergency lights", "4-way flashers", or simply "flashers". International regulations require vehicles to be equipped with a control which, when activated, flashes the left and right directional signals, front and rear, all at the same time and in phase. Operation of the hazard flashers must be from a control independent of the turn signal control, and an audiovisual tell-tale must be provided to the driver. This function is meant to indicate a hazard such as a vehicle stopped in or near moving traffic, a disabled vehicle, a vehicle moving substantially slower than the flow of traffic such as a truck climbing a steep grade, or the presence of stopped or slow traffic ahead on a high speed road. In vehicles with a separate left and right green turn signal tell-tale on the dashboard, both left and right indicators may flash to provide visual indication of the hazard flashers' operation. In vehicles with a single green turn signal tell-tale on the dashboard, a separate red tell-tale must be provided for hazard flasher indication. Because the hazard flasher function operates the vehicle's left and right turn signals, a left or a right turn signal function may not be provided while the hazard flashers are operating, although the vehicle may activate the indicator and return to the hazard flashing phase once the indicator is deactivated. Retroreflectors Also called "reflex reflectors" produce no light of their own, but rather reflect incident light back towards its source, for example, another driver's headlight. They are regulated as automotive lighting devices, and specified to account for the separation between a vehicle's headlamps and its driver's eyes. Thus, vehicles are conspicuous even when their lights are off. Regulations worldwide require each vehicle to be equipped with rear-facing red retroreflectors. Since 1968 US regulations also require side-facing retroreflectors, amber in front and red in the rear. Sweden, South Africa and other countries have at various times required white front-facing retroreflectors. Variable-intensity signal lamps International UN Regulations explicitly permit vehicle signal lamps with intensity automatically increased during bright daylight hours when sunlight reduces the effectiveness of the stop lamps, and automatically decreased during hours of darkness when glare could be a concern. Both US and UN regulations contain provisions for determining the minimum and maximum acceptable intensity for lamps that contain more than a single light source. 		
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FRONT LIGHTS	BACK LIGHTS
white or yellow	emit red light
<u>DIPPED BEAM - Short range light</u> <ul style="list-style-type: none"> Exterior part of the front lights within 400 mm outer edge height min: 450 height max: 1.4 m 	
<u>MAIN BEAM - Full</u> <ul style="list-style-type: none"> Only when the car is alone on the road. Interior part at the front 	
<u>FRONT FOG LAMPS</u>	

User interaction and design

Questions

Below is a list of questions to be addressed as a result of this requirements document:

Question	Outcome

Not Doing

4.5.1 Photos

ENGINEERING

URBINN



DESIGN

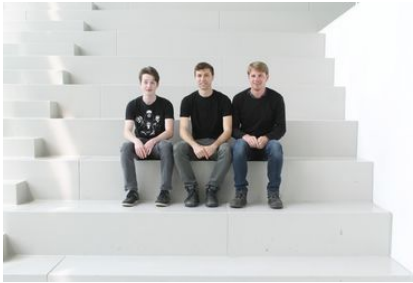




NAVIGATION

BUSSINES

SOCIAL MEDIA





MANAGEMENT



ELENA PALLARES DIEZ

GOAL SETTING & STRATEGIES

WHAT DO I HAVE LEARNED THE PREVIOUS QUARTER?

I have learned to work as part of a big team, to communicate properly the info the others need and collaborating with new people in other language that is not my mother tongue.

Also as part of the design team, I have acquire sketching skills and now I know more tool and procedures to draw more realistic and detailed. For example drawing with light blue pencils and the pressure cooker method. Those are really useful skills that I will could apply in the future.

I have learned to adapt myself to a different culture, timetable, weather, different people and way of procedure while working and different evaluation and perspective in the learning aspect.

I also have learned to work under pressure and to clear my mind and try to clear others when the assessment and goals to accomplish have been changing g each week.

FEEDBACK FOR GROWTH?

During the assessment the lecturers have appreciated the effort put on doing the portfolio, the good graphic design an organization.

I was worried about how will my English skills will affect to my work, but my speech was really fluent and easy understandable. Maybe, they have pointed, is due to my self-assurance strength.

TOP 5 STRENGHTS

Adaptability

Empathy

Self-Assurance

Relator

Developer

WHAT MAKES YOUR GOAL FOR THIS QUARTER BROADER AND/OR DEEPER THAN THE ONE THE PREVIOUS QUARTER?

My goal for this quarter is to build a 1:1 realistic mockup of the car, designed to be proud of it.

That means work during the whole process of designing an ideation of the vehicle, and procced to build a 3d model with real or composite materials to have a full view. That also should fit into the frame, what means that other of my goals is collaborate with the frame team. That will give me the chance to learn more deeper about the functionality and usage of the car and also will help to have a car witch make the entire team proud of the cooperation.



SUSTAINABLE URBAN VEHICLE
"ALLEY HOOP"