ARmageddon Group
Deliverables 30.09.22

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MOBILE USER INTERFACE

Interaction Design I HS2022

STAKEHOLDERS MAP

Informed

Involved

Core Team
Almer Technologies

ZHdK Students

**Mechanical
Engineering
Companies**
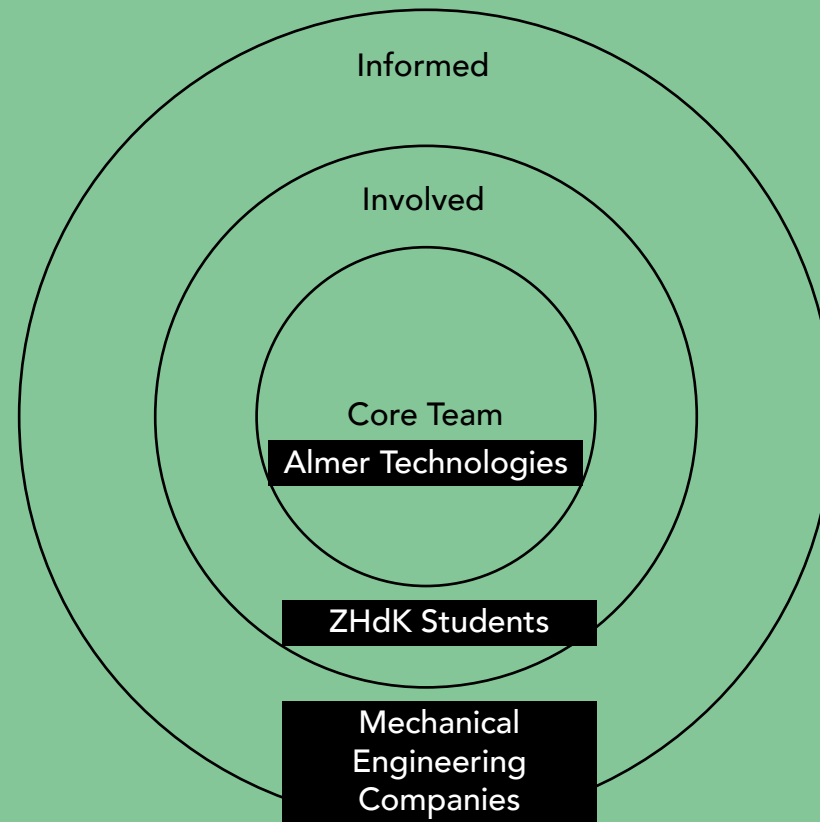
Core team

Full time on the project/team (e.g.,
PMs, engineers, designers)

Involved

Regularly providing input or help-
ing to move work forward, but this
project is not their sole focus

Informed

Wants to stay up to date and will
provide feedback/input when nec-
essary

RETO, 29

Bio:

Reto is a 29 year old frontliner working with complex machinery. He is highly skilled and tech savy.

Goals:

Fix problems as fast as possible.

Personality:

Analytical ——————●——————————○ Creative

Judging ○——————————————●————○ Perceiving

Extrovert ○————————————————●——○ Introvert

Behaviours:

He uses Andoid and windows and puts function above form. Looks for the most cost effective solutions to his problems

Pain points:
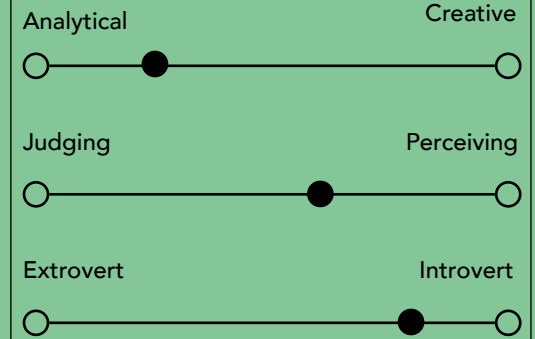
Communication issues with existing methods (microsoft teams, tablet, phone), long waiting times

Motivation:

Communication issues with existing methods (microsoft teams, tablet, phone), long waiting times

№ 1

Interaction Design I HS2022

IVAN, 36

Bio:

Ivan is a 36 years old working with complex machinery and is the one costumers contact if they have unexpected problems with their machines. He has a lot of experience and people rely daily on his expertise

Behaviours:

He is old school but ready to adopt to new technologies. He is pragmatic, logical and tech savy
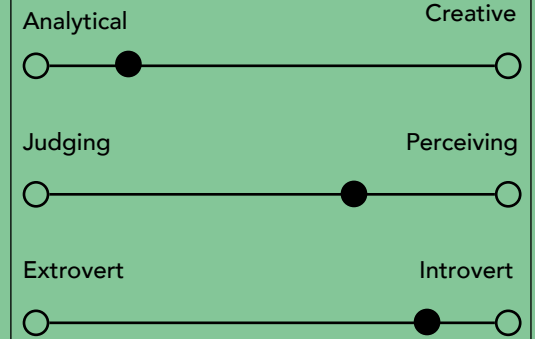
Goals:

Educate and guide costumers.

Pain points:

Communication issues with existing methods (microsoft teams, tablet, phone). Many costumers to attend

Personality:

Analytical ———●———————○ Creative

Judging ○———————●——○ Perceiving

Extrovert ○———————●—○ Introvert

Motivation:

Communication issues with existing methods (microsoft teams, tablet, phone), long waiting times

№ 2

Interaction Design I HS2022

EDUARDO, 36

Bio:

Eduardo is a 34 year old Manager that has to work with many different parties. He has a lot of pressure and needs to have an overview of everything going on with a project
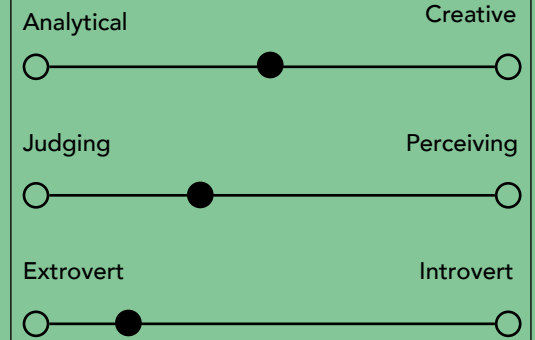
Behaviours:

His main working tool is his iphone and email. Usually stressed and loves coffee

Goals:

Independence and self sufficient of team members, looks for the most efficient workflow

Pain points:

Concerned with time and cost

Personality:

Analytical ○———————●————————○ Creative

Judging ○————————●——————————○ Perceiving

Extrovert ○———●——————————————○ Introvert

Motivation:

Communication issues with existing methods (microsoft teams, tablet, phone), long waiting times

№ 3

Interaction Design I HS2022

Bio:

Aziza, 43
Qualification Engineer
Works in the a pharmaceutical company that manufactures equipment for sale in all countries of the world.

Her responsibility is to show customers from all over the world their product and check the state of the product

AZIZA, 43

Behaviours:

She uses her Phone and Tablet a lot at work for documentation and communication with clients.
She is open to new technologies.

She tried working with AR glasses

Goals:

To make the process of introduction of customer to a product easier, less expensive, and more intuitive while they are in another country.

Pain points:

Communication issues with existing methods.

Hard to bult trust and communication on distance.

When wearing AR glasses for a few hours she get headaches because of weight

Personality:

Analytical — Creative

Judging — Perceiving

Extrovert — Introvert
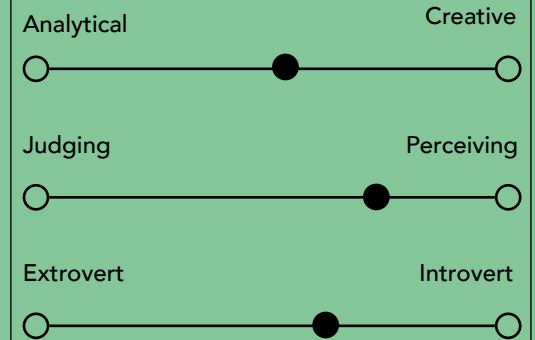
Motivation:

Make the process faster, cheaper, more ecologically-friendly

№ 4

YASH, 32

Bio:

Yash is an Ambulance paramedic. He works in a medical team who arrives by ambulance to assess the patient medical condition and treat him before taking him to the hospital. They manage the treatment on the way to the hospital until a patient is in the care of the emergency department.

He does:
provide advanced life support
perform clinical procedures
administer drugs
decide which hospital or medical facility is the most appropriate for their patient.

Behaviours:

He is always collected and reserved. By reflex, at any moment he is ready to quickly respond to an emergency. Very empathic. It is hard to endure the death of patients.

Goals:

He noticed that in some situations ambulance cannot do much and all the situation depends on people around a patient. He would like to be able to help on a distance.

Pain points:

Communication issues
Patients/people around cannot describe the emergency situation clearly
Trust issues (that he understands them correctly)

Personality:

Analytical ———●——————○ Creative

Judging ○———————●—○ Perceiving

Extrovert ○————●———○ Introvert
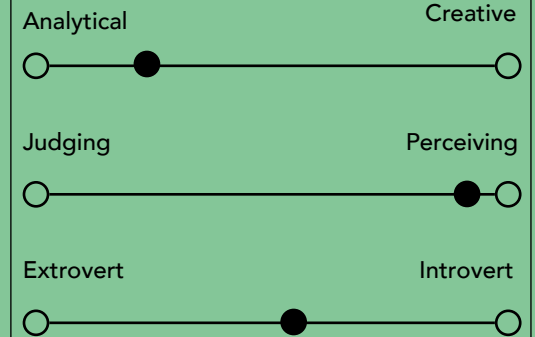
Motivation:

Reduce the number of situations where people are left alone to face an emergency situation
To remove the feeling of helplessness
Provide people with a feeling of reliance

№ 5

Interaction Design I HS2022

ARMINE, 48

Bio:

Armine works as a technical engineer. Armine has over 30 years of experience.
She works on development of a new equipment/ machines. She always tries to find ways to make a process smoother and faster. Though safety is her always number one priority.

She often collaborates with engineers from other departments who are located worldwide to work on a

Behaviours:

Usually, she thinks that to get work done she has to do it herself. She has a hard time delegating tasks or sharing responsibility.

She welcomes new technologies but prefers only necessary gadgets.

In her opinion technologies should be "invisible" in use. She needs it to only assist her actions.

№ 6

Interaction Design I HS2022

Goals:

An easy and trustworthy workflow with collegues from abroad
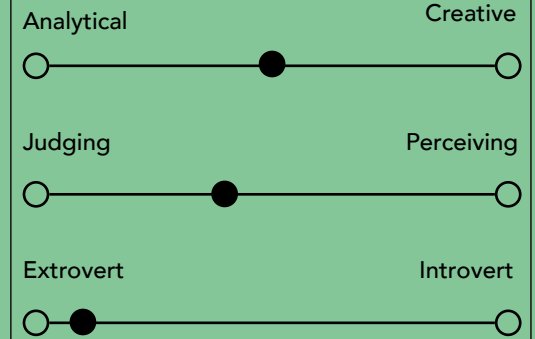
Make it easy to brainstorm together

More intuitive way of communication

Pain points:

Hard to collaborate when partners all located worldwide

Hard to explain the design ideas

Personality:

Analytical ———————————— Creative

Judging ———————————— Perceiving

Extrovert ———————————— Introvert

Motivation:

More intuitive way of communication/collaboration

Bio:

Silvia (37), working as an experienced Agricultural Engineer. She works on field and is involved in waste-to-energy projects and carbon sequestration.

SILVIA, 37

Goals:

Prepare and present technical reports, meet with clients, and communicate technical concepts/ machinery to internal and external stakeholders.

Personality:

Analytical ———●————————○ Creative

Judging ○————————●————————○ Perceiving

Extrovert ○——●————————————○ Introvert

Behaviours:

She uses an android tablet and is well organised. Works on field or from the office.
She documents everything and is tedious.

Pain points:

Having all her tasks incorporated, many different fields and communication programs being involved.
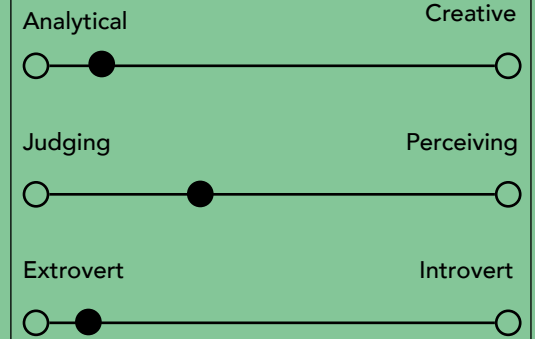
Motivation:

Improvement of farming equipment and machinery, hopes to get easier solutions for problem solving.

№ 7

Interaction Design I HS2022

EMMY, 23

Bio:

Emmy is 23 and works as a junior Mechanical Engineer in hydroelectric facilities.

Behaviours:

Is adaptable and comfortable with using new technologies. She works closely with her supervisor, helps a lot with tech gadgets, and is able to bring new ideas to the table.
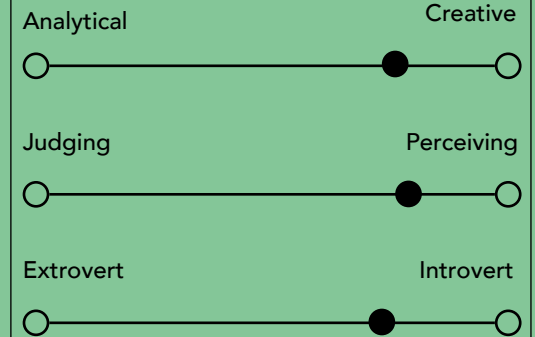
№ 8

Interaction Design I HS2022

Goals:

Learning and become more confident in her field.

Pain points:

Prefers to find solutions on her own and wants more independency. Worries to get to nervous using AR.

Personality:

Analytical ————————●——○ Creative

Judging ————————————●—○ Perceiving

Extrovert ————————————●——○ Introvert

Motivation:

Being

Bio:

Aparna is 49 and a Consultant for Packaging Professionals. She is an expert in cosmetics area.

APARNA, 49

Behaviours:

She uses Apple products (iPhone and tablet) and windows based computers. Technically fit, has a firm tone and prefers saying things once.

№ 9

Interaction Design I HS2022

Goals:

A seamless workflow where everyone knows their position and task.

Pain points:

Believes that on sight customer service is essential for trust and prefers her experts doing the job. What happens if something breaks, who needs to pay?

Personality:

Analytical ○———————●———○ Creative

Judging ○———————————●—○ Perceiving

Extrovert ○———●——————————○ Introvert
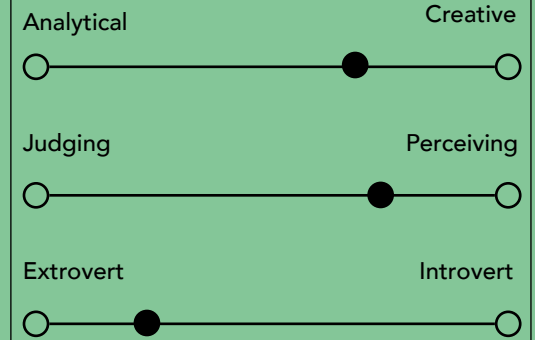
Motivation:

Future orientated, low-cost, efficiency

Bio:

Benito is a 46 year old costumer supporter. He works remote by giving instructions to engineers through call (voice or video).
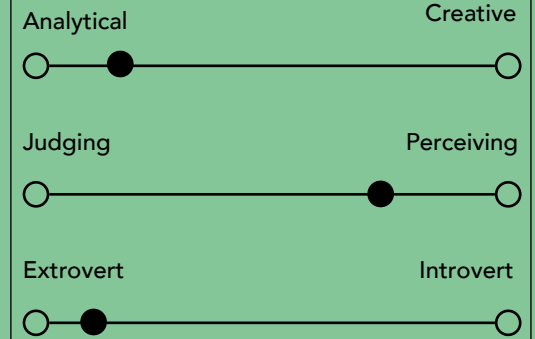
Goals:

Detecting problems through video call

Personality:

Analytical ———●————————————○ Creative

Judging ○————————————●——○ Perceiving

Extrovert ○—●————————————○ Introvert

BENITO, 46

Behaviours:

He is very calm in his field of work. He has to remain calm to prevent hysterical behaviour on the engineers site.

Pain points:

Communication issues due to bad connection, language barrier, misunderstandings

Motivation:

He likes the idea of seeing through the eyes of the engineer on site but is afraid that working with AR/VR glasses causes more issues

№ 10

Interaction Design I HS2022

Bio:

Monika is a 58 year old technical engineer specialised in heavy machinery. Has been working in this field for more than 25 years. Generally never had to use the AR/VR glasses, since she came across all possible issues.

MONIKA, 58

Behaviours:

She is very strategic when facing an issue with a machine. She goes through the manual step-by-step.

№ 11

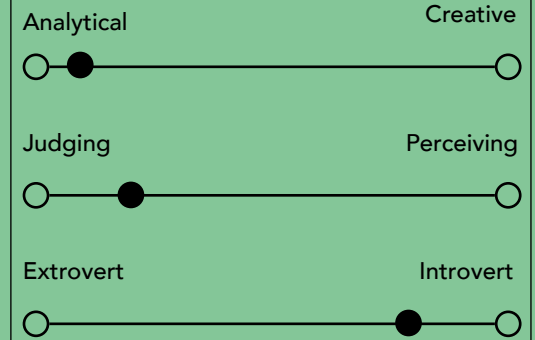Interaction Design I HS2022

Goals:

Happy costumers, flawlessly working machines

Pain points:

Costumers try to fix the problem themselves and make it worse. Missing items.

Personality:

Analytical ————————— Creative

Judging ————————— Perceiving

Extrovert ————————— Introvert

Motivation:

She doesn't like the futuristic technology and thinks the relationship with the support people is on the line.

DEVYANI, 31

Bio:

Devyani is a 31 year old manager who just recently restructured her company by getting more energy efficient machines from abroad.

Behaviours:

She's very creative and wants to try different ways of running her business. Due to recent occurences, she decided to swap all machines.
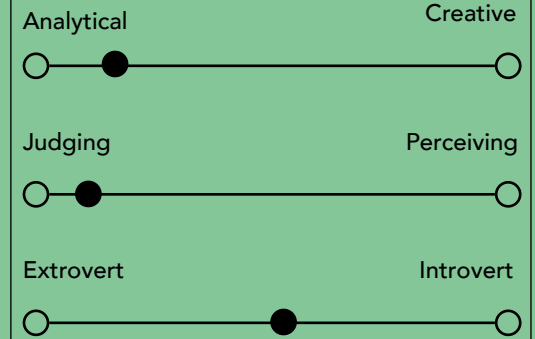
Goals:

Keep the same amount of output with less energy waste.

Pain points:

If a machine breaks down, it takes a long time for a specialist to get in touch or fix the issue. Loss of income.

Personality:

Analytical —————————— Creative

Judging —————————— Perceiving

Extrovert —————————— Introvert

Motivation:

She's keen to try out the new possibilities that come with the glasses in order to minimalise her main painpoints.

№ 12

Interaction Design I HS2022

JIM, 43

Bio:

Jim is a 43 years frontline engineer who works at a production site. He has never used AR Glasses before and is only familiar with normal digital devices

Behaviours:

Jim just wants to solve the problem as fast as possible. He has no interest in looking through the whole documentation and figureout the problem by himself
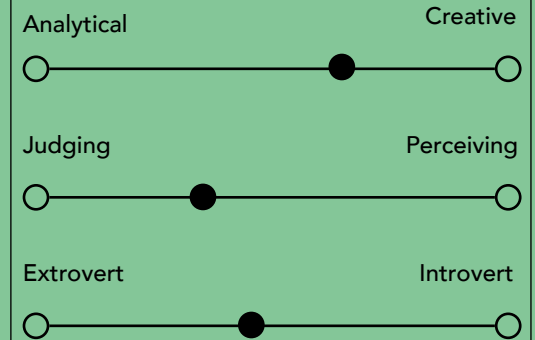
Goals:

The goal is primarily to fix the problem as easily as possible.
He wants to understand where which parts have to be dismounted, replaced, etc.

Pain points:

Until now all the communication was over Microsoft Teams. He had to look at the tablet and the communication was very slow.

Personality:

Analytical ———————●——○ Creative

Judging ———●————————○ Perceiving

Extrovert —————————●———○ Introvert

Jim really knows the machine he works at. There are some small parts and sensors though, that he doesn't really know.
He doesn't really care how, but he just want's that everything works.
He isn't particularly interested in AR, as the solutions worked so far.

Motivation:

Easier use of a display as reference. Better assisted instructions while repair.

№ 13

THOMAS, 39

Bio:

Kevin is a field engineer. He chose this job because he likes to work with his hands and in the field, but is also really interested in the theoretical an technical challenges of the engineering industry.

Behaviours:

Kevin is excited to solve problems and would rather fix everything himself. If he isn't sure if the people on site are able to fix the problem, he rather gathers a team and travels to the site.
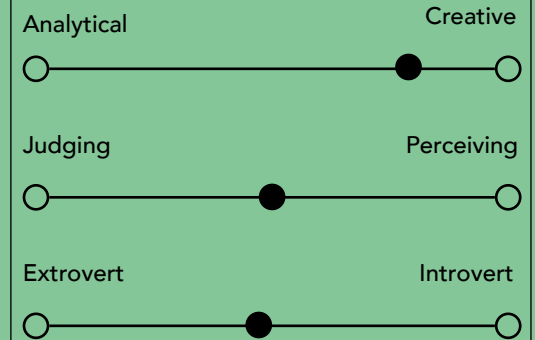
Goals:

His goal is to fix the problem and looks for other maintenance issues. One visit should suffice for a longer time.

Pain points:

In a lot of situations he doesn't really understands what the problem is because the descriptions aren't very precise

Personality:

Analytical ○———————●—○ Creative

Judging ○————————●————○ Perceiving

Extrovert ○————————●————————○ Introvert

Open person who loves to meet new people and new cultures. He also really likes his job because of the days off while traveling.

Motivation:

Not a lot of interest in the AR Glasses other than being able to recognize the problem better. He wouldn't want that every problem is being solved with the glasses, because that would take away his favorite part of the job and he would just sit at his desk all day long.

№ 14

Interaction Design I HS2022

THOMAS, 39

Bio:

Thomas is the manager of local production site in India. He is responsible that the production runs smooth and uninterrupted.

Behaviours:

Thomas is clearly interested that the problem is being solved as fast as possible as time and money is being saved. He doesn't really care what his workers like, he just wants the problem fixed.
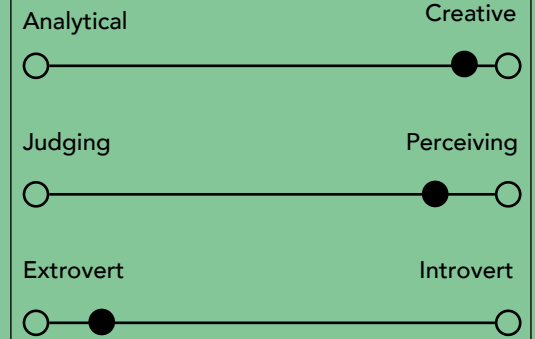
Goals:

His goal is to run the production as smoothly as possible

Pain points:

If there are external experts involved there is a lot of time being lost in production, because flight hours can take up to 50 hours.
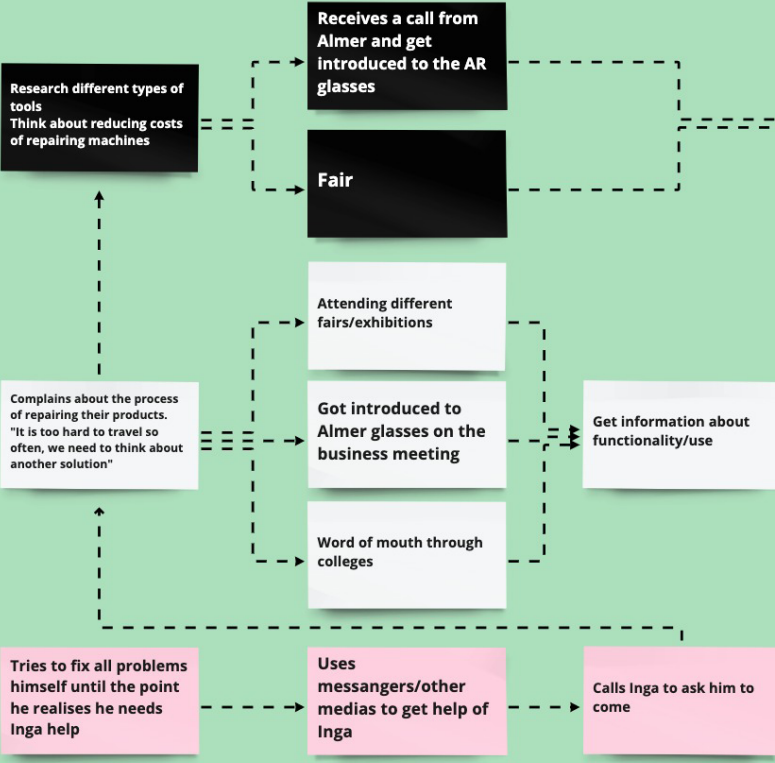
Personality:

Analytical —————————————●—○ Creative

Judging —————————————●—○ Perceiving

Extrovert —●——————————————○ Introvert
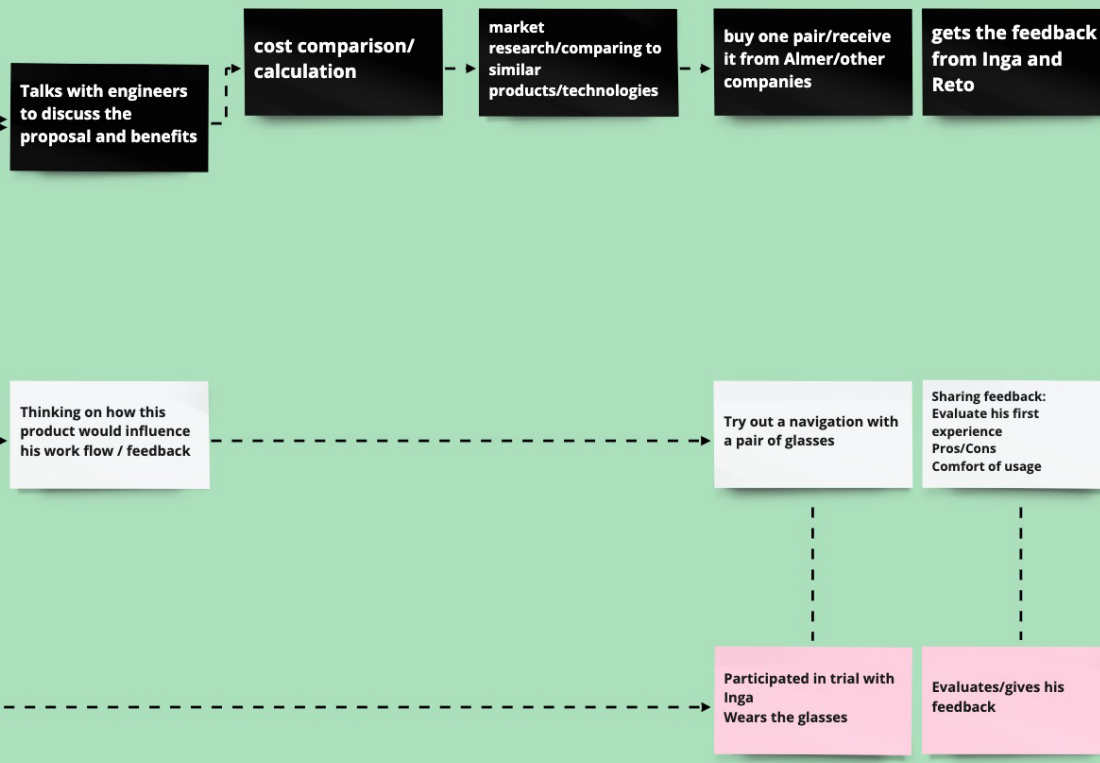
Bit of an asshole but succesful

Motivation:

Maybe he gets promoted if his production site produces more than others.

№ 15

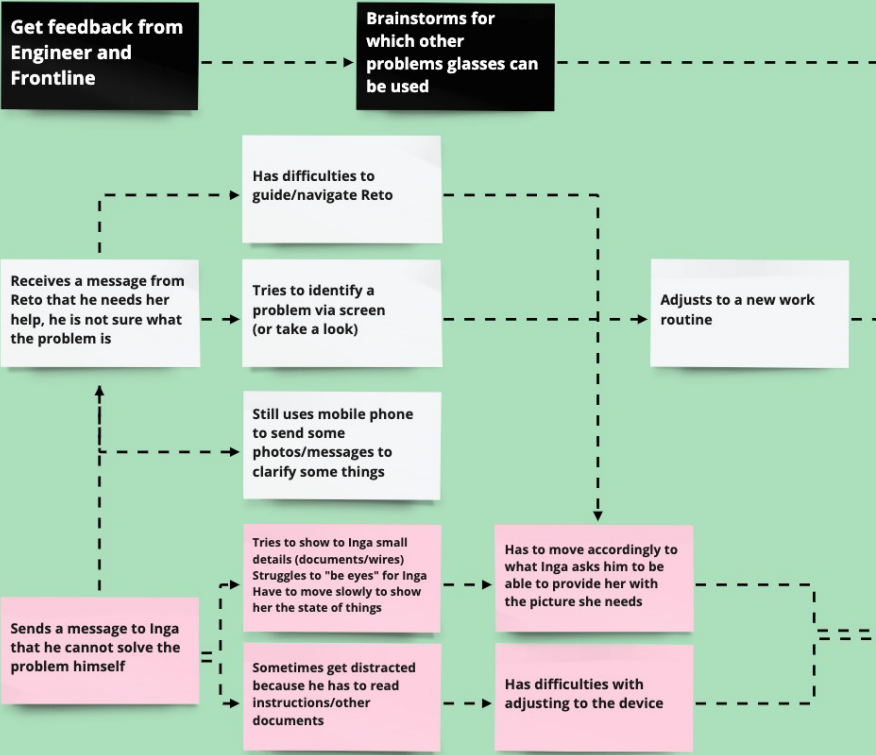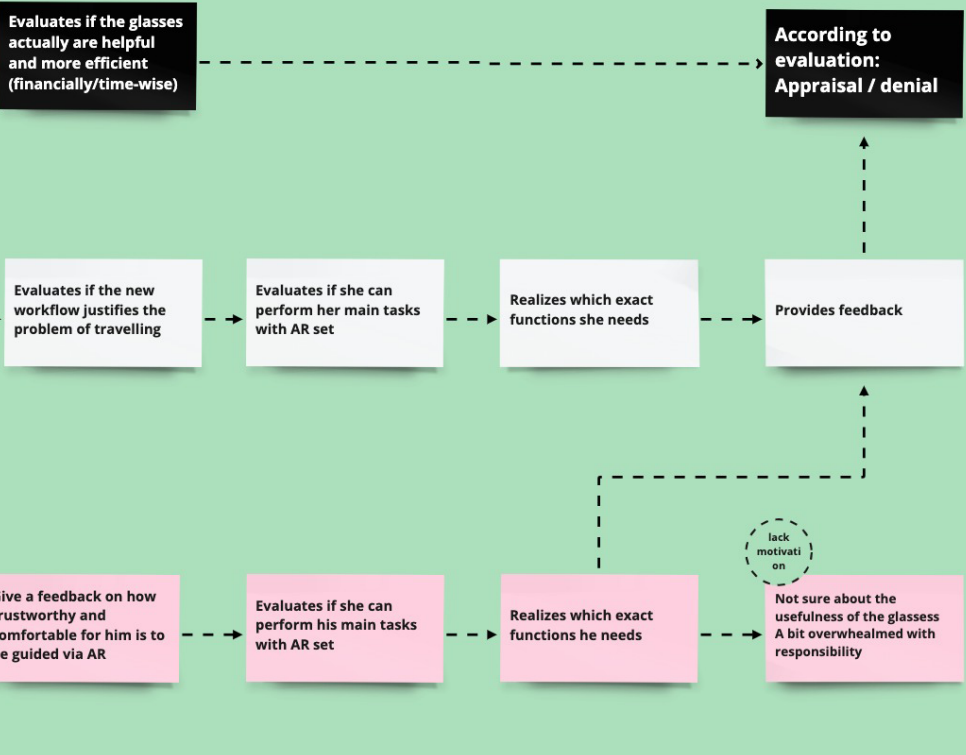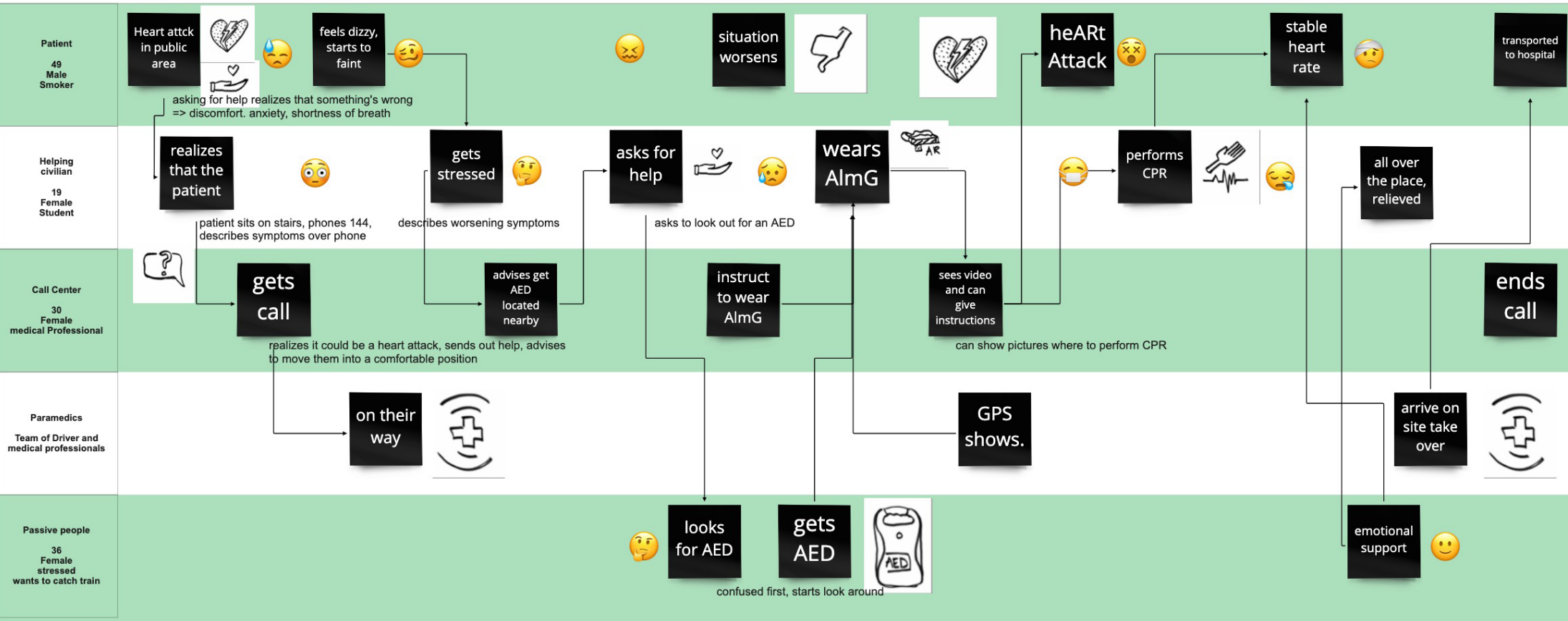| Stage	"Discovery"	"Commitment"
Actions		
Manager: Eduardo 👱‍♂️💻	**Research different types of tools** Think about reducing costs of repairing machines → **Receives a call from Almer and get introduced to the AR glasses** → **Fair**	**Talks with engineers to discuss the proposal and benefits** → **cost comparison/ calculation** → **market research/comparing to similar products/technologies** → **buy one pair/receive it from Almer/other companies** → **gets the feedback from Inga and Reto**
Engineer: Inga 👩‍🔧	**Complains about the process of repairing their products.** "It is too hard to travel so often, we need to think about another solution" → **Attending different fairs/exhibitions** / **Got introduced to Almer glasses on the business meeting** / **Word of mouth through colleges** → **Get information about functionality/use**	**Thinking on how this product would influence his work flow / feedback** → **Try out a navigation with a pair of glasses** / **Sharing feedback: Evaluate his first experience Pros/Cons Comfort of usage**
Fronliner: Reto 👷	**Tries to fix all problems himself until the point he realises he needs Inga help** → **Uses messengers/other medias to get help of Inga** → **Calls Inga to ask him to come**	**Participated in trial with Inga Wears the glasses** / **Evaluates/gives his feedback**
Pain Points	● High cost of product maintenance / Complaints from the engineers ○ Travel issues/ understanding that some issues will always need his guidance ● Tries to fix the problems he is not understanding in order to not ask Ivan to come / a lot of communication via messengers	● Unclear benefit of usage of glasses / Cost / Uncertainty about what engineer really needs ○ Trust issues to the AR process ● Discomfort of change of workflow / Miscommunication occurs
Touchpoint	● Almer sales guy / conventions / Media ○ Manager / Media / co workers ● Costumer support of machines / Media	● Engeeners / calculation software / Internet / Almer ○ Co workers / Manager / Frontline ● Costumer support / Co workers
Opportunity	Market to specific industry Aim specific needs and promote specific solutions	Clearly distinguish use case from other tools / glasses (pros/cons cost and features) Highlight that the functionality is enough for main tasks of an engineer (they dont need a set for 5000$)

Service Blueprint

Stage	"Use"	"Evaluation"

Actions

Manager: Eduardo 👨‍💻

- **Get feedback from Engineer and Frontline** → **Brainstorms for which other problems glasses can be used**
- **Evaluates if the glasses actually are helpful and more efficient (financially/time-wise)** → **According to evaluation: Appraisal / denial**

Engineer: Inga 👩‍🔧

- Has difficulties to guide/navigate Reto
- Receives a message from Reto that he needs her help, he is not sure what the problem is → Tries to identify a problem via screen (or take a look) → Adjusts to a new work routine
- Still uses mobile phone to send some photos/messages to clarify some things
- Evaluates if the new workflow justifies the problem of travelling → Evaluates if she can perform her main tasks with AR set → Realizes which exact functions she needs → Provides feedback

Fronliner: Reto 👷

- Sends a message to Inga that he cannot solve the problem himself
- Tries to show to Inga small details (documents/wires) Struggles to "be eyes" for Inga Have to move slowly to show her the state of things
- Has to move accordingly to what Inga asks him to be able to provide her with the picture she needs
- Sometimes get distracted because he has to read instructions/other documents
- Has difficulties with adjusting to the device
- Give a feedback on how trustworthy and comfortable for him is to be guided via AR → Evaluates if she can perform his main tasks with AR set → Realizes which exact functions he needs → (lack motivation) Not sure about the usefulness of the glassess A bit overwhelmed with responsibility

Pain Points

"Use"
- ● Spend more time to introduce glasses / Not sure what is the best for his engineers / functions
- ○ Difficulty to navigate Reto / see small details / shaking camera / miscommunication / need to use additional media /
- ● (pink) Miscommunication / difficulties to move in accordance what Inga said/ distraction

"Evaluation"
- ● Hesitation about reliability of the technology / change of the company workflow Take care of safety / instructions on the other side / legal questions
- ○ Finding a way with Reto of communication / navigation / collaboration Issues with trusting in the process / Overwhelm with calls, work (workers call more often) / not structured workflow / schedule

Touchpoint

"Use"
- ● Engineers / other company managers
- ○ Frontliners / other engineers / manager
- ● (pink) Engineers / co-workers

"Evaluation"
- ● Engineers / Event-Organisations / Business-Events
- ○ Personal surroundings (friends/family) / frontliners
- ● (pink) Other frontliners / engineers / personal surroundings (friends/family)

Opportunity

"Use"
- On-boarding of the glasses / proper introduction with manual
- Zoom / video-stabilizer
- better camera and low light performance / flashlight

"Evaluation"
- Costumer support

miro

VISION CASE: Emergency Assistance HB

Almer Glasses

Patient 49 Male Smoker	Heart attck in public area 💔🫳 😓	feels dizzy, starts to faint 🥵

asking for help realizes that something's wrong => discomfort. anxiety, shortness of breath

situation worsens 👎 💔

heARt Attack 😵 → stable heart rate 🤕 → transported to hospital

Helping civilian 19 Female Student	realizes that the patient 😳

patient sits on stairs, phones 144, describes symptoms over phone

gets stressed 🤔 😥

asks for help 🫴 😢   describes worsening symptoms   asks to look out for an AED

wears AlmG

performs CPR 😷 😩

all over the place, relieved

Call Center 30 Female medical Professional	💬 gets call

realizes it could be a heart attack, sends out help, advises to move them into a comfortable position

advises get AED located nearby

instruct to wear AlmG

sees video and can give instructions

can show pictures where to perform CPR

ends call

Paramedics Team of Driver and medical professionals	on their way ➕

GPS shows.

arrive on site take over ➕

Passive people 36 Female stressed wants to catch train	🤔 looks for AED gets AED

confused first, starts look around

emotional support 🙂

Need for improvement
- **Automatic Connectivity**
- **Remote Start**
- **Campaign to sensibilise**

Why?
- **Emotional support**
- **Confidence in taking care**

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