Logbook

This is your logbook. Insert here all relevant information regarding the evolution of your project

Weekly Report

1st Week Report

This week we had 3 “teamwork” sessions where we got to know each other. We had to introduce the members and define the rules, values, objectives, mission, and vision of our group. We also discussed the importance of teamwork and the biggest constraints we can encounter. On Thursday we had the presentation of the 20 projects and discussed them as a team to come up with 3 main projects.

2nd Week Report

Tasks done during our 2nd week:

- discussion about the places where crowd orchestration can be useful;
- preparation of design thinking maps to get to know our target audience and their needs;
- reading about the already used crowd orchestration tools;
- preparation of the plan of working on communication classes;
- description of ethical and sustainable aspects of our ideas for the tool.

3rd Week Report

Tasks done during our 3rd week:

- Filling the table 1 (Global Sprint Plan);
- Filling the table 2 (Project Backlog);
- Filling the table 3 (Initial Sprint Plan);
- Filling the table 4 (Project Progress Register);
- Marketing and Communication Presentation (Crowd Orchestration´s Pitch);
- The Gantt Chart was made;
- References;
- State of Art started to be done;
- Discussion with the teachers about our project´s ideas;

4th Week Report

Tasks done during our 4th week:

- Communication presentation
- Upload the “black box” System diagrams& Structural Drafts to the wiki

- Energy&sustainable homework
- Comparison table to choose the project (passive, type of sensors, type of interactions)
- Gantt chart (for resources)
- State of Art

5th Week Report

We focused on picking the final product and its basics of working, Black Box preparation, state of the art improvement. Our team started schematic drawings and structure concept. Members of the team prepared also marketing plan and application of eco-efficiency concept in our product.

6th Week Report

The team is adding the final touches to the wiki page and filling every chapter with care. Our members have worked on the following:

- Full user story;
- Case study in the implamantation of our system;
- More details found on the type of controller and wireless technology we want to use for scanning;
- Mock-up sketches;

7th Week Report

Team members finished their report chapters including Introduction, Project Management, Marketing plan, Ethics and Project Development. Interim presentation according to teachers requirements was prepared. Our team arranged meetings to practice the presentation and make some required improvements. We started the research about the systems that can be implemented in our product instead of Arduino Uno system. Schematic drawings of the system were improved.

8th Week Report

Team members improved some of the points of the report according to the teachers feedback. Conclusions for the components comparison was added. We compared Arduino Uno system with ESP32 that was suggested by the tutors. According to the change of the system, black box and PIN diagram were also changed. Some of us focused on the internal parts of the product (back-end system, battery, NFC module) and others on external elements and materials (pillar, polypropylene needed to build external elements of the scanner in order to put prices, quantities and dimensions of the elements to the list of the materials).

9th Week Report

This week the team worked on the leaflet (two versions were proposed), we had a presentation of our project from a sustainability point of view, our objectives. We started to work on the introduction of paper. In parallel we finished correcting the list of materials and continued to improve the 3D

modelling of the structure of our product and to make corrections on the report.

10th Week Report

This week the team worked on the 3D video with internal parts. We changed the design and considered amounts of the materials according to the applied changes. We improved power table and list of the materials. We corrected report for the next week. We have also improved the introduction in the research paper by putting there the main problem that we consider in our project. In this week we made festival map and we focused on application functionalities and used case analysis.

Meetings

1st Meeting (2021-03-04)

Agenda:

1. Presentation
2. Modus operandi
3. Project proposals
4. Electronic logbook (Wiki)

Minute:

Introduce here a brief report of the meeting.

Meeting took place on MS Teams platform (online meeting). Main purpose of the meeting was to get to know the projects and the way of working during the whole semester.

During the meeting we got to know:

- 20 topics of EPS project;

- as a group we need to choose TOP 3 projects;

- the topics need to be chosen till the end of the weekend;

- that there are many alternatives for dealing with the various projects (some of them were presented in the form of videos);

- that we should fill the general information about the group and report our every weekly on Wiki (Logbook).

2nd Meeting (2021-03-11)

Agenda:

1. Where is the crowd orchestration useful?
2. Tell our project ideas.
3. Listen to the teachers' perspective.
4. After listening teacher´s opinion decide what´s the best idea for the Project.
5. Define the necessary steps to carry out the Project.

Minute:

1. Choice of leader (Bruno).

2. Ideas for the places where crowd orchestration can be used.

The suggestion of the tutors was to focus on following aspects while picking the proper place where the crowd orchestration would be most useful:

-does it have an impact with and without pandemic;

-sustainability - removing the use of paper;

-ethics - people don’t want to be followed and observed;

-marketing aspects - in the future to be discussed with the tutor Luis.

3. Our tasks for the following week:

-improving our table with ideas with aspects mentioned above;

-read the articles about crowd orchestration and note down the ideas based on the articles;

-picking the best place for crowd orchestration usage;

-change the goal of the project on wiki;

-fulfilling state of the art on wiki (at the end it should contain the table);

-defining the project backblog, global sprint plan, initial sprint plan, gantt chart (deadlines in planning section on wiki)

Articles sent by the tutors:

https://www.cisco.com/c/en/us/solutions/collateral/data-center/artificial-intelligence-machine-learning/solution-overview-c22-744452.html#Benefits (sent by PG)

https://dl.acm.org/doi/pdf/10.1145/2957276.2957303 (sent by BM)

https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=8784096 (sent by BM)

https://doi.org/10.1111/1467-8659.00634 (sent by BM)

3rd Meeting (2021-03-18)

Agenda:

1. Discussion on our project ideas - examples of the devices (software + hardware): https://docs.google.com/spreadsheets/d/1MO2CIV-SNkWJjtBdUgrzwHiSpQSxQ2LgoSfFTaR3-h4/edit#gid=1791499583

2. Project Backlog, Global Sprint Plan, Initial Sprint Plan and Gantt Chart.

3. State of the art.

4. References.

5. Tasks to do during the following week.

Minute:

Leader: Maja

1. Is it possible to use phone/ tablet for our project? Yes, we can suppose that everybody has a smartphone now.

Improve the idea table by looking for products, objects, ideas that already exist and identifying the main characteristics of each idea.

Create different columns:

- communication

- type of data collected

- type of sensor used

- type of input

- type of function user is offered

- price

- range of operation

2. - Complete the Global sprint plan with the 13 weeks

- Create the Gantt chart for ressources+ update the Gantt Chart

- Pay attention to deadlines (sate of the art and Marketing have to be finished before april to discuss which type of software, sytem we are going to set up)

3. Advice for the state of the art:

- Include 1 or 2 definitions of “crowd orchestration” into the “introduction” part

- Analyse and list in a table (can be the google sheet with or ideas) the features (interactive or not, passive or active, context aware or not,...)

- Planner: it's okay, see with project Management teacher.

4. How to create a bibtext references with an unscientific PDF.

Use a model with:

- @gsma2016

- Author ({ { ...} }) (in the document or on the website)

- URL (in the link)

- title (in the document)

- urldate (in the middle of the link)

- year (document or link)

for example, here we want to creat a refnote for GSMA: **[1]**. We can add it inside a report part.

5.Tasks to do: the table (1), the Gantt Chart for ressources, choose which project we want to set up.

4th Meeting (2021-03-24)

Agenda:

1: Wiki problems;

2: Problem with references;

3: Extended research we did;

4: Present our project idea;

5: Blackbox.

Minute:

Important points and tasks from the meeting:

- set the problem we want to solve according to the crowd orchestration topic;

- improve the state of the art with the tables with already existing devices and improve the literature list;

- decide on the final idea of the product we want to (it should be connected with crowd orchestration

definition - current flow of people) and prepare the black box.

5th Meeting (2021-03-31)

Agenda:

1: State of the art and chosen product;

2: Black Box;

3: System Schematics & Structural Drawings and do the cardboard scale model of the structure;

4: Tasks to do for the following days.

Minute:

Important points and tasks from the meeting:

- State of art´s references;

- Improvement of the idea of the project;

6th Meeting (2021-04-08)

Agenda:

1: Doubts in State of Art (Conclusion);

2: System Schematics, Structural Drawings & users story

3: discussion about material list and the quantity

4: main point to focus on next week

Minute:

Important points and tasks from the meeting:

-think of the whole user story;

-define a case study in the implamantation of the system

-add more information on our report

7th Meeting (2021-04-15)

Agenda:

1: Leader of the meeting (Bruno);

2: Discussion of the project idea;

3: Discussion of the interim report and discussion about what we can improve in each chapter;

4: Drawings and internal structure;

5: List of materials.

Minute:

Important points and tasks from the meeting:

- General advices about the product

8th Meeting (2021-04-29)

Agenda:

1: 3D model.

2: Changed system - improved black box and PIN diagram.

3: State of the art - statistics about the mobile phone users.

3: List of materials - internal elements.

4: List of materials - external elements, 3D printing.

4: Research paper (what is it about) and following deliverables (video, leaflet).

5: Project development - functionalities (what is it about, what should be included).

Minute:

- Create a table with the list of components and analyze the “critical” case for each. Give the current (A), the voltage (V) and then calculate the power (W) and the electricity requirement (kW.h) Add up the powers to get a figure corresponding to the final product.
- Indicate where the connection to power our product is located. (if it is a USB cable, take into consideration that users may think it is to charge their phone).

- For the batteries, if a version with solar panels exists, choose it first.
- Look at how to connect the scanner and the pillar
- For the final list of materials, make sure to specify the price and the quantities, put the units at the top of the column and remove them elsewhere, be careful with the numbers, write them well according to the English model.
- Make the 3D video and finalize the cardboard model.
- Start thinking about a reusable packaging (in the festival for example).
- We consider the blackbox diagram 2 (be careful to change the direction of one of the arrows).
- Pin diagram to review: connect only these 4 points: VCC, GND, SDA, SCK (attention, currently the ground is connected with VCC=short circuit).
- PLA or ABS ? see on " dowire ".
- Mediamarket: look at the price of 3D printing.
- 3D printing: define the dimensions, create the plans, pay attention to the thickness, the pressure. (for the scanner) Divide the object in 4 parts to be printed separately.
- Paper (about 10 pages): this is a synthetic version of the report with the most important points. In the intro we want to see: why this subject, who we are, what problem we are going to solve and "plan" which indicates what we are going to deal with next. Then "Background studies" (state of the art), marketing, sustainability, deontology, "design development", "experiments and results", "conclusion", "references". ⇒ use "overleaf" on Teams
- Functionalities: from check-in to check-out, explain what the user can do with our product, what information he can receive

9th Meeting (2021-05-06)

Agenda:

1. Leaflet - 2 versions
2. Materials, 3D printing, PLA vs ABS, smaller prototype, dimensions type of connections.
3. 3D video.
4. Power table and list of components.
5. Batteries - solar battery, USB charging.
6. Reusable packaging.
7. Research paper - introduction.
8. Fnctionalities
9. Refined report for next Saturday

Minute:

Conclusions and further tasks:

- PLA is better for 3D printing, but in case of printing small objects; internal connectors of the system can be printed with 3D printer;

- aluminum lowers signal in WiFi and NFC, so internal part cannot be surrounded by aluminum - change the design and consider amounts of the materials according to the applied changes;
- 3D video for next week (with internal parts)
- internal system should consist of: USB solar charger (5V), ESP32 (with USB and battery connector), battery (LiPo 3.7 V); NFC module - on this basis change power table and list of the materials; check max current);
- introduction should include what is the main problem that we consider in our project;
- corrected report for next week;
- focus on application functionalities and use case analysis (actors and activities).

10th Meeting (2021-05-12)

Agenda:

1. 3D video- internal parts
2. Power table
3. Reusable packaging
4. Research paper-improved introduction
5. Festival map
6. Research paper - Abstract and Sustainability

Minute:

- Add captions to the 3D video
- Find out the ideal density of scanners
- Provide the 3D printing drawing
- Calculate how much alluminium is needed for the body parts

11th Meeting (2021-05-20)

Agenda:

- Final 3D design and final dimensions
- Where to buy Aluminum?
- File .stl for 3D printer
- Glues/connectors
- Festival map
- List of materials

Minute:

- The material which will be used is wood;

- Changes of the dimensions of the prototype;

- Possibility of painting the wood in white;

- Check the price of aluminium (https://www.polylanema.pt/)

- According to changing the material of prototype of the dimensions of the body to wooden one and receiving the components from Pedro, send to Benedita Malheiro the new user interface box dimensions to order plex;

- Think about the way how the device will stand on the ground, to make the device stable (f.e. put weight in the base; every angle should have an aluminium support; how thick the internal walls are);

- Put the angle brackets in the list of materials;

- Set the real price of the device (internal parts already on the list of the materials; real prices of aluminum and PLA and 3D printing need to be put on the list) and determine the sale price of the device;

- Packaging project;

- Continue writing research paper (project development, state of the art, methods etc.);

- Festival map: if the scanners are placed in pairs (back to back) how many scanners will be placed on the zone borders.

12th Meeting (2021-05-27)

Agenda:

1. External parts of the device: wooden Body, new interface dimensions, base of the body.
2. ESP32 configuration presentation.
3. Diode LED and NFC connection.
4. Festival map and application interface and functionalities.
5. Final price of the device production and sale price.
6. Packaging Project.
7. Improved leaflet.
8. Feedback about already written research paper sections.

Minute:

1. Try to put NFC with different distance from WiFi module to be sure that it works properly.
2. Final price: study the prices of the competition and take them into account in addition to the price of the materials. It also depends on what we choose to offer: selling the product or renting it at different festivals during the year?
3. Packaging: okay, but if we decide to rent, make sure it is solid and reusable without being damaged when opening or closing. So if you choose to rent, you don't need to propose a solution to reuse it backstage.
4. Buy the board to build the scanner (25x250x2600) which you can ask to cut for free to get 2 boards of 25x250x1300.
5. 2 small changes to the leaflet
6. research paper: group together “related product” and “related work”. Create a paragraph in “proposed solution” that summarises the background information that we have decided to use

for our final project. Put 2 images of the scanner with different angles of view.
7. We have the battery and some plywood.

13th Meeting (2021-06-02)

Agenda:

1. Back-end Program: elements of the final program, remote database.
2. Application interface.
3. Marketing: renting the scanners.
4. Wood cutting
5. User manual.

Minute:

We need to think about the solution for implementing any map of the festival in our application to make it universal for different events in various locations. There should be prepared different variants of renting the scanners according to the size of the festival surface (offer for 50 scanners, 100 scanners etc.). The meeting for wood cutting should be scheduled before going at the university. The team members are obliged to prepare manual for festival organizers and additional short instruction (in the form of sticker) to put on the device.

14th Meeting (2021-06-09)

Agenda:

1. Two-way communication NFC-smartphone.
2. Instruction for the user.
3. Redirecting to the map.
4. Cutting and gluing the wood. Brackets and metal elements needed.
5. References - Overleaf.
6. Paper
7. Poster
8. Final report and presentation with the research paper on 19/06.

Minute:

- Make 2 posters: one for users and one for organisers with more details. Edit sentences, add festival image and map.
- Connection Between phone and scanner: 2 scans
- Map: okay
- Get the brackets for the prototype

15th Meeting (2021-06-17)

Agenda:

1. Circuit
2. Prototype
3. Paper
4. Posters
5. manual+sticker

Minute:

Tasks for the next week:

- Make the team video
- Create stress simulations
- Glue the internal components of the concept
- Modify the size of the images
- Calculate the weight needed to support the scanner

Activities

Please register here all accomplished project activities

Start	End	Task	Description	Who
		Team Idendity	Work done in “Team Building” with the purpose of knowing each other better	Done by all
		Attitude Test	Work done in “Team Building”	Done individually and as a team
		Report First Week	Work done in “Team Building”	Done individually
		Journey Map	Work done in “Design Thinking”	Done by Bruno
		Empathy Map	Work done in “Design Thinking”	Done by Maja and Bleuenn
		Persona (User Profile) and Target Audience	Work done in “Design Thinking”	Done by all
		Brainstorming	Work done in “Design Thinking”	Done individually
		Eletrical Cars	Work done in “Energy and Sustainable Development”	Done by all
		Table with the ideas for devices	https://docs.google.com/spreadsheets/d/1MO2CIV-SNkWJjtBdUgrzwHiSpQSxQ2LgoSfFTaR3-h4/edit?usp=sharing	Done by all
		Project Presentation	Work done in “Communication”	Done by all
		Table with the extended research	https://docs.google.com/spreadsheets/d/1MO2CIV-SNkWJjtBdUgrzwHiSpQSxQ2LgoSfFTaR3-h4/edit#gid=1791499583	Done by all
		Sustainable hostel	Work done in “Sustainable Energy and Development”	Done by Ewa and Bleuenn
		State of the art	To be put on wiki	In progress (responsible: Maja and Bruno)

Start	End	Task	Description	Who
		Black Box	To be put on wiki	Done by Cristian and Bruno
		How to apply eco-efficiecy concept in our product	Energy and Sustainable´s homework	Done by Bruno

[1] Global System for Mobile Communications, 2016. *GSMA Smart Cities Guide: Crowd Management.*