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 the option to choose the project we wanted to do. We chose for the Endangered insect breeder because we thought everyone in the team could make a big impact on the project. We've heard that no one else had this as their first topic, so it will probably be this project. Therefore we already had some discussions about how we would build this project.

Furthermore, we filled in the Jira with the milestones and learned the basics.

When the project is definite, then we can make more progress.

2nd Week Report

Week two started of with the design thinking course. This course helped to define the problem statement, a customer target and a first design draft. To get an idea of these topics, a brainstorming session was organised. This was done in an organised way with an agenda. The ideas that flew from the brainstorming session were introduced in the project meeting on Thursday. The teachers provided some helpful insights about these ideas.

3nd Week Report

In the third week the blackbox and the first design draft had to be finished. This went very well and with some feedback from the teacher, it was further optimised. Furthermore, the beetles have been received. This allows testing to be done already to breed the beetles efficiently. Already this gives an instructive picture about the life cycles of these insects.

4th Week Report

The fourth week began with finishing up the logo and the flyer for the Communication class. The design squad worked very efficiently with the logo and the look of it was finalized to be the product name “Scarabreed” connected to the illustration of a beetle. The first version of the flyer was also presented in class and later modified after getting feedback from the teacher and rest of the class. This week we also had to list all the materials for the product prototype, their cost, possible supplier, and dimensions and summarize them on a table in Wiki. This list was the initial first draft of materials and not the final one. After this we were able to remake the previous Blackbox diagram with more technical terms.

5th Week Report

In the fifth week, a cardboard model of the insect breeder was made. This gives a 1-to-1 representation of the product. This was further presented to the teachers who gave good feedback. Furthermore, the structural and technical drawinfs were updated and presented in the weekly meeting. This also received good feedback.

During this week, each team member continued working on the assignments in Jira so that the interim report could be as complete as possible.

6th Week Report

Week 6 was all about the interim report. The team tried to do as many tasks as possible to get as much feedback as possible. During this week there was good communication with the teammates regarding the deadline. Also, a beginning was made for the interim presentation.

7th Week Report

Week 7 was all about the interim presentation. On Tuesday we came together to divide all of the parts in the presentation. On Wednesday the group went to school to practise and made sure texts were well aligned. On Thursday the presentation was held and team 4 received great feedback from the teachers. The new sprint was discussed and the team went on to work on their tasks. Next week the regular meetings take place again.

8th Week Report

We started off the eight week with a group meeting via Teams since class was postponed and we had planned to do the weekly check-up with deadlines and tasks. The meeting went perfectly, and everyone got a heads up about upcoming deadlines and what they needed to do.

For this week we had deadlines for the 3D Model Video and the refined list of materials and their possible suppliers. The 3D Model Video of our product took alot of hard work but it was all worth it in the end.

The technical squad worked on updating the list of materials for the prototype and adjusted the suppliers to Portuguese ones.

The team also chose a business scandal to present for ‘Ethics & Deontology’ class next week. The ethical business scandal that was chosen was the ‘BP Deepwater Horizon Oil Spill’ since it also affected the ecosystems which relates to our topic as Scarabreed.

The team picture was also taken this week.

9th Week Report

This week, we didn’t have a lot of classes. However, on Tuesday, we presented our business scandal

for Ethics & Deontology class and finalized the final list of materials and components. On Wednesday we had the weekly meeting with the EPS teachers, discussed the list of materials and got feedback.

10th Week Report

Week 10 was less busy because there was only 1 day of class. On this day, the project backlog was filled and the vacation week was planned. During the student week break a lot needs to happen to finalize the report.

11th Week Report

In week 11, we got our minds back to the project after our week-long student break. This week we didn’t have a lot of classes and could focus on refining the black box diagram, life cycle analysis, SOTA and the packaging solution. The packaging solution had a deadline on Tuesday, the packaging is very well planned with a “second life”, by using a pair of scissors. On Thursday we had the weekly meeting with the teachers and got feedback and answers to a lot of our questions. We also received the materials for the prototype this week.

12th Week Report

In the 12th week we worked on the tasks (SOTA, blackbox etc.) that got feedback from the teachers in the previous week. This week we also received feedback about the SOTA chapters being sufficient, which we now have edited with more detailed information. For the weekly meeting with the teachers, we presented the FEM Calculation, the feedback received was that there needs to be more stress points (Z, Y and X-plane) taken into consideration for the product structure. During this meeting we also discussed the materials for the prototype. During Marketing class, we got positive feedback about the updated SWOT-analysis and the positioning diagram, the teacher also said that we need to define the price range that our product lays within.

13th Week Report

Week 13 was about finishing the overleaf file. Here the technical structures and software still needed to be described. This was the main priority. Also, a start has been made on manufacturing the prototype. There is still a full day needed to finalize but good progress has already been made.

Meetings

1st Meeting (2024-02-22)

Agenda:

1. Presentation
2. Modus operandi

3. Project proposals
4. Electronic logbook (Wiki)

Minute:

In this meeting, we filled in the wiki with basic information also we're using Teams as our lead method where we could find documents. We updated the Gira with the deadlines and filled a couple of stories into the backlog. We had some talks about how we want to build the insect breeder.

2nd Meeting (2024-02-29)

Agenda:

1. Questions to teachers:
    1. Key decisions regarding define phase
    2. Expectations regarding breeding insects, is it ethical?
    3. Can we use electronics brought from home?
    4. What technical engineering possibilities doe we have? (Thomas)
2. Communications presentations, is it complete?
3. Teamrole summary

Minute:

These are the minutes from the meeting:

1. Questions:
    1. The goal is to improve the biodiversity of insects. Our clients are organisations. Breeding space for more spicies++, research, state-of-the-art ethical and market realms. Everything must be justified. Modules++
    2. It is not possible for domestic breeding. Only proffesionals. Crickets we can use.
    3. Prototyping we must do analysis. The university will provide the electropnics
    4. CNC 3D printing, solder stations. Prototype 100 euro.
2. Communications presentation is complete, Cedric presents.
3. Teamroles summary

Cedric SH shaper Jennifer CW Implementer Julius CH coordinator Kristof RI Resource investigator Marion PL Plant Thomas TW

Additional stuff:

1. Philosophy go do something new plz.
2. Isep will try find insects.
3. Sustainable and ethical prototype.
4. First milestone types of solutions, structural.
5. System diagrams, very basic. Only block box diagram.
6. Beetles will be held at home we can have them at home.

3rd Meeting (2024-03-07)

Agenda:

1. Questions to teachers:
    1. Which Beetle species can you give us? Which material (box, substrates, temperature/humidity controler) can you furnish? Can you furnish us insects or their food?
2. Research
    1. Scientist contact
    2. Research online
3. Logo ideas – name of the brand (Marion)
4. Structural Drafts (Cedric)
5. Black box (Jennifer)
6. Gantt chart - Jira (Julius)
7. Global Sprint Plan (Julius)

Minute:

1. “Tenebrius“ new beetle species, no need to spend budget on bugs and food. After class, we could receive the bugs already.
2. Research has been done and the scientist is contacted
3. Scarabreed name and logo are good, if there is already music band that sells music then we cannot use the name.
4. Teachers like design, well thought out. This product is used for domestic use.
5. More mindmap than blackbox, blackbox is only about functionality → user interface, mechanical, electrical.
6. Functional test has to start earlier because of receiving beetles. What is the Bill of Material (BOM)? → need to answer this first then the functional test of the product.
7. Ask projectmanagement teacher.

Additional information about State of the art:

- What has already been done? What has done well? And what has done bad. What could we do better? How can we differentiate from other companies?
- How can we set the beetles free
- How do we take care of the beetles
- Who are our competitors, what is our niche market
- References

4th Meeting (2024-03-14)

Agenda:

1. Questions to teachers:
    1. Approval of list of materials. Does it need a justification?
    2. References in wiki. How does it work?
    3. Do we need to do all sub paragraphs? (Thomas)
    4. Logo

    5. Detailed schematics
    6. Cardboard
    7. Activities
2. Research
    1. Scientist contact

Minute:

1.
a. For now, it's ok, but write an explanation in the Wiki that it is just a first draft, different from the final product material list.
- We need to specify the components e.g. glass in squaremeter, space before the units, it must be written so that someone that doesn't know anything about the product can easily understand the information on the lists.
- The suppliers need to be in Portugal. We will receive a list of suppliers (from last year) from the teachers via email.
- Should be placed under 'Deliverables'.
- Material list is only for the prototype.

b. There is a helpful link under 'Report', end of the page, under chapter 8.2. Future Development.
c. For the deadline it just has to be "almost done", get feedback from the teachers, talk with the teacher from Marketing class.
d. -
e. Make the Detailed Schematics only for the project prototype, it must be possible to give the schematics to someone that doesn't have any knowledge about the product.
f. We will receive cardboard and tools for it immediately.
g. Put a basic description of accomplished project activities under 'Activities' in Wiki.

2. Research
a. -

5th Meeting (2024-03-21)

Agenda:

1. Questions to teachers:
    1. Interim Presentation (Thomas)
2. Research
    1. Short update (Cedric)
3. Cardboard Scale Model (Julius)
4. Structural Drawings (Cedric)
5. Technical Drawings (Cedric/ Julius)

Minute:

1. Question teachers:
    1. Update on work that we've done, 15 minutes. Teacher communication helps us. State of

the art, marketing, ethics, sustainability, project development.
2. Research:
    1. Put the book into references. Implement it in state-of-the-art.
3. Cardboard scale model
4. Structural drawings (combined minutes with cardboard scale model)
    1. All modules will have their electronics because it's possible to have more species next to each other.
    2. How do we solve the problem of flying species?
    3. Why a door? It's easier to have a cleaning floor instead of a door. Like a drawer that catches the dirty bits.
    4. Maybe easier to make the electronics connect if you put more breeders next to each other.
    5. The final prototype can cost as much as we want.
    6. Instead of doors maybe implement a glove where it is possible to clean everything.
5. Technical drawings
    1. Fan connection is not directly to the microprocessor.
    2. There were no relais found. Feedback to implement this more.
    3. No use of htm11 (humidity) to much difference. (Use slides about sensors).
    4. Conclusion: think about sensors, wire schematics and heating light.

6th Meeting (2024-04-04)

Agenda:

1. Questions to teachers:
    1. When we get the feedback for the Report?
    2. How are the grades are being determined?
2. Electrical plans and questions (Krzysztof)
3. Breeding update (Marion)
4. Specific deliverables for the presentation (Marion/ Thomas)

Minute:

- We will get feedback before and after meeting.
- Unordered List ItemWhole report should be presented project management, project, state of the art,
- Sunday report, Thursday presentation. Talk about the most important things in the presentation, also the product development
- Grades: Self and peer assessment.
- Inform guys that are not working right.
- All the links for list Must be Portuguese.
- Power converter we have to change.
- Merge of the materials.
- More current for Fan

7th Meeting (2024-04-11)

No meeting due to interim report presentation.

Feedback from teachers after the presentation:

- Have a second thought about the sequence of the slides
- Slide must have numbers
- Too much text in slides
- Talk about the functionalities of our product

Feedback on the report:

- State of art needs more competitors
- References need to be fixed
- How do we ensure welfare for beetles in cages?

8th Meeting (2024-04-18)

Agenda:

1. Feedback Interim Report (Thomas)
2. 3D Model video (Cedric)
3. Material list (Krzyzstof, Julius)
4. Leaflet (Marion)
5. Packaging (Marion)

Minute:

1. Delete the introduction part (so 4.1). More weaknesses and threats. SOTA means state of the art.
2. Answers 3D model:
    1. Ordered List ItemIts missing: insects, functionalities, show components, include app/ controlling. Show different components in the assembly, how everything folds into place. More colour.
    2. Beginning of music with letters was good. Rest of the music teachers didn’t like it.
3. Answers material list:
    1. Downscaling is possible.
    2. Teachers have fans, RGB strips, humidity, temperature sensor, power resistors for heat. Ask Manuel about feasibility (mail or Teams).
    3. Building place LSA LAB (robotic lab).
    4. Make sure that space in technical room is big enough for the components.
    5. Look at spelling.
    6. Two types of material list: need to have an estimated cost for product because we need to be competitive > must match marketing strategy. Budget for prototype to know how expansive it is.
    7. Power budget is also needed.
    8. Check schematics with PDF teacher!
4. Answer leaflet:
    1. Use more colours to the video
    2. Use consistent image, everywhere same colours

3. Ready as soon as possible
4. Use logo instead of door handles (or just the beetle)
5. Show more beetles (also on flyer).
6. Most important functionalities should be provided (leaflet has more information)
7. Bring for closing session leaflet, flyer, poster and device.

5. Answers packaging:
    1. Think about second life for package. Not only for safety of the product but also more.
    2. Recyclability isn't enough. Just look if the beetles can use it in the vivarium.
    3. How is our product being very sustainable?

Other stuff:

- Scientific paper end of semester overleaf. End of may done for feedback. Report and overleaf both need to be filled in.
- Project meeting will be held on Wednesday on 24 April

9th Meeting (2024-04-24)

Agenda:

1. Feedback List of materials
2. State of the art check

Minute:

1. Feedback list of materials:
    1. (value + space + unit symbol) → 100(space)€ → 100 €
    2. In the links everything after "?" can be removed
    3. Scarabreed has to be written next to each other in alignment of columns.
    4. Every comma (,) has to be a dot (.) → 15,8 must be 15.8
    5. With the sealing write a footnote that we share with team 3
    6. We need to select a sensor which implemented in a breadboard. Use sensor Paula writing in TEAMS
    7. Check if MOSFET works
    8. Jumper wire instead of Jumping wire
2. State of the art (SOTA):
    1. Table 1 and Figure 1 have to be aligned
    2. Pictures from external sources have to be references (link behind figure 6). Create a new source.
    3. Conclusion SOTA has to be a table where different functionalities are discussed and what we will build. All the text of the SOTA has been concluded in the table what Scarabreed will do. It has to be like decision-making.
3. Regular Feedback:
    1. Table 11 works on numbers. Spaces between numbers. International system of units, ISU.
    2. Concept 7.3 needs to implement infographic → what is the concept we need to implement? Put in Image
    3. Put images side by side because they are related (project development) → only final design solution
    4. The power budget has to be implemented, and how much does it consume (both things →

product and prototype)

10th Meeting (2024-05-02)

Agenda:

1. Availability of materials
2. Deadline final report
3. Electrical circuit
4. Questions about packaging

Minute:

- Talin 24-27 conference someone should maybe go.
- Table at the end of state of the art (Look at team 5).
- Add buzzer, Update list of materials.
- Stress at the functional tests in CAD (FEM). The life cycle of each component.
- Table with functionalities that must be working with Pass/fail.
- Hardware: smart control Functionality. Only electronical part
- (SUS) Interface reference: calculating usability score.
- For packaging put in subsection images in good quality without background in PNG
- Two colors for two boxes in the package. BUT Marion’s Idea is good

11th Meeting (2024-05-16)

Agenda:

1. Blackbox
2. Life Cycle Analysis Questions
3. Packaging Solution
4. State of the Art Conclusion
5. Components / Functional Test
6. Fan circuit

Minute:

1. Blackbox: Mother-controller (not correct English?), it’s the same as main-controller, we can’t choose the fan speed only on or off, add humidity to “Temperature”.
2. Life Cycle Analysis: What are the requirements that we have on the suppliers of the resources that we use, what are our intentions with the manufacturing to make sure that the footprint is as small as possible (local suppliers = shorter transportation route). Already good in Wiki.
3. Packaging: All good, make sure to include a guide on how to use the vivarium. No border or colorful background in the images uploaded to the Wiki.
4. SOTA Conclusion: Good. Put the currency [€] in the top of the column next to “Price” in the table.
5. Components/Functional Test: We can buy the 9,49€ sealing tape ourselves. Write on Teams the

exact shape and measurements for the transparent glass plate and the regular plate. Talk to teacher Jorge about the timeslot when we can manufacture the prototype and use the mechanical area.
6. Other: We received the materials for the prototype, it is important to not cut any wires! Also do not mix up the components, keep it organized. Check if the fan works, if not, ask the teachers for another one.

12th Meeting (2024-05-23)

Agenda:

1. Feedback on FEM Calculation
2. Materials for the Prototype

Minute:

- Cedric presents FEM. Maybe more stress points? Kicking accident.

Fixing the points in horizontal directions. And another point on the plain.

- Invoice for materials. Shop is going to cut only plates. Email of Benedita is crucial.

13th Meeting (2024-05-29)

Agenda:

1. Technical drawings. Sufficient?
2. App
3. Overleaf feedback

Minute:

1. Technical drawings. Sufficient?
    1. Technical drawings are good
    2. 1st drawing shoud have more dimensions
    3. Dimensions should have 1 color
    4. The dimension should not have the .00 → 400.00 We are not able to make it .00. It should just be 400 mm
    5. Referencing to the parts in the text
2. App
    1. Teachers thought there would be an app.
    2. App hasn’t any constraint so its possible to just do a simple overview
3. Overleaf feedback
    1. Figure 1 and 2 next to eachother
    2. Abstract was changed

14th Meeting (2024-06-06)

1. Repaying money
2. Overleaf

Minute:

1. Money
    1. The money is settled.
2. Overleaf feedback
    1. Table with tests must be changed. Change “?” to pass and LED to pass.
    2. Overall the paper is almost ended.

15th Meeting (2024-06-13)

Agenda:

1. Questions about the Final Presentation
2. Refined 3D Model Video

Minute:

1. Thomas took a photo and sent it in the chat.
2. Feedback on 3D Model Video: Control panel put as position 1 or position 2, to make it clearer that the product doesn’t have two control panels. Try to shorten 3D Model video, if possible, ~20 seconds Include some beetles, make more colorful? Logo on device? Consider background changes?

Activities

Please register here all accomplished project activities

Start	End	Task	Description	Who