Logbook

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

Weekly Report

1st Week Report

In the first week we got together as a team and discussed the various projects. To decide on the project each team member wrote down his first two choices. We all quickly agreed on the solar dehydrator.We started to do the research thing about the goal and functionalities of our product.

2nd Week Report

Firstly, we were gathering information concerning our project and than discussed all ideas. Secondly, we discussed our team identity. We did not estimate the leader. Instead of it the roles will be changing – each team member is going to be a leader of one or more meetings and to prepare notes at least once. Moreover, we debated the functionality and the design of our solar dehydrator. We started preparing the material list.

3rd Week Report

In this week all team members grew closer together after a long discussion and some disagreements, now everybody knows his task and we will work at our communication in the group. We have decided on a company name: The greengineers. We start to define our use cases as we decided some important things about our product,like we want to focus to use sustainable resources as much as possible. Therefore we do a lot of research about our product, other companies who are located in the same market like our company and possibilities how we manage it to use solar energy in a optimize way. With define our use cases we also start to think more detailed about our target group and try to find some segmentation criteria. Furthermore, we create the first design from our prototype. We all agree of the most important points about the function of our product.

4th Week Report

In this week we finished our use cases and upload them, besides we started to specify our material list and do some research for the prices and the shops where we could get them. We also divided the different tasks from the interim report and everybody starts with their tasks. We also did some brainstorming about the sustainability part of our project (social, environmental and economical aspects). Moreover, we had the time to do some research about the type of fruit and vegetables we want to dry and their respective properties (humidity, how much moisture should be extracted, at what temperature they should be dried for ideal results, etc.). We decided on using microfiber cloth to absorb the moisture that drips out of the fruit, although after today's meeting with the supervisors, we might rethink this solution.

5th Week Report

We decided to completely get rid of the absorber plate with microfiber cloth in our prototype, and also decided against using humidity absorbing materials like vegetable coal: After a meeting with Abel, we learnt about the behaviour of humidity in the air, and decided that our controlled air flow system with vents would reject the excess humidity out of the top vent of the dryer box. During this week, we also had a meeting with our client Paulo, to present to him our current prototype, and discuss it with him. We talked about the sensors we should use and decided, according to Paulo's advice, that we should use at least 2, if not 3, temperature sensors inside the dryer box. We also talked about integrating a small keyboard with 4 buttons, as an input of values (durations and temperature) for the LCD screen.

6th Week Report

During this week, we worked on the interim report, corrected the mistakes and completed the chapters that were not finished, all according to the feedback and comments we received from the supervisors, after the interim presentation. We also continued to work on the material list, made comparisons of specific components (comparing different possible batteries and sensors) and gave the links to the specific products we want to order. Our client Paulo pointed out to us that our electrical schematics were not completely correct, so we worked on changing the connections between the electrical components, so everything would fit.

7th Week Report

We made small, final corrections on the interim report (list of figures and tables, captions for the images). After the week's meeting with the supervisors, we also made final alterations to our material list (battery, prices of wood and PMMA, where to look for these materials). Finally, we started to think about the scientific paper, informed ourselves about the structure and contents that are required, and started to sum up some useful information.

8th Week Report

We built the cardboard prototype, in order to present the basic design and functionalities of the solar dehydrator.This week, we had the last project management class so we could finish this chapter of the report in terms of communication, risk, procurement and quality. We also had some special modules with guest teachers from Romania and Belgium to help us with the structuring and writing of the scientific paper (scientific writing) and we were taught some creative techniques. As a result of these classes, we started to write the scientific paper and finished the introduction and the state of the art chapter (materials and methods), and started to formulate the abstract. In “creative techniques”, we pointed out the pending issues in our project and started to think about solutions. In our case, the most important problem was where to place the electrical components and how to protect them. We drew several sketches that each proposed a solution. We then decided to put them in an extra box which will be on the outside of - but still connected to - the dryer box. We also drew storyboards to depict our use cases.

9th Week Report

Queima das Fitas!!!

10th Week Report

This week we continued to work on the deliverables: the scientific paper, the poster and the final video. We started to record and collect material for the video (taking some shots during the meeting with the supervisors and our own team meetings). We wrote the text we want to include in the poster. Once again, we changed the dimensions of the wood, the glass, the PMMA and the metal plate. Now we have the final dimensions. We also added some items to the material list, such as brushes and varnish. These materials will be ordered at the end of this week. It will then be possible to start building our prototype next week. Furthermore, we received the timetable for the workshop, had a chance to visit it and got a first impression of the tools and facilities that are provided there.

11th Week Report

We finish the poster and presented to the supervisors during the weekly meeting. But because of a missunderstandig we did a scientific poster although it should be done more in an adversting way. So we change it, delete most of he text and also change the pictures. Moreover we started to write the User Manual and finished the first part of the paper as the state of art and the introduction. The Marketing Mix and the last part of Project Management are discussed with the teachers during the last clases. Therefore the team improve and change these parts that the report should be ready with only a few minor exceptions.

12th Week Report

In this week we got the money for buying the missing matrials. We went to Leroy Merlin in the Parque Nascente to get them but this shop did not have the correct size of our chosen wheels so we have to go to the shop in Gaia. We also continued with the paper and finish the User Manual and made antoher poster because the new one still included to much text.

Meetings

1st Meeting (2015-02-26)

Agenda:

1. Presentation
2. Modus operandi
3. Project proposals
4. Electronic Logbook

Minute:

During the kick off meeting complete list of projects was discussed. All students presented themselves and had an opportunity to meet supervisors. Moreover, entire necessary tools were presented (wiki, Google calendar).

2nd Meeting (2015-03-05)

Agenda:

1. Introduction to the aims of team project
2. Assignment of particular roles for each member of the team
3. Our strength and weaknesses as a team and as individuals
4. Our group identity
5. Short description of the process in which solar dehydrator is going to be constructed
6. Project objectives and expectations
7. questions concerning the project
8. Concept of team work-meetings
9. Contact person

Minute:

As far as second meeting is concerned,the most important obligations for the next weeks were examined with supervisors. Furthermore, some of the deadlines were discussed. We had also opportunity to ask previously prepared questions.

3rd Meeting (2015-03-12)

Agenda:

1. How long should be the interim report?
2. We’d like to know about the dependency of the sun in our solar dehydrator. Do we have to give any kind os solution if there’s no sun at some point of the process?
3. Porto is not such a good place to offer this kind of products, so do we have to focus our product in other countries?
4. Can we use a thermostat or do we have to build one?
5. We’d like to know about the dependency of the sun in our solar dehydrator. Do we have to give any kind of solution if there’s no sun at some point of the process?
6. How are we supposed to deal with the lack of sunlight and high humidity levels of Porto during the tests?
7. How accurate has to be the final prototype?
8. The cardboard prototype has something to do with functionality or its just to have an idea of the proportions?
9. For the marketing plan, could we offer some services for our product like programming some kind of customer service or have a look if everything is OK?
10. We have to offer any kind of additional services to difference our company towards the

competition or its just about the product itself?
11. Do we have to provide any kind of calculation?

Minute:

1. The interim report must specify in detail the requirements, technical and functional, and use cases of the product.
2. It's not mandatory focusing the project in extreme solutions, just take advantage in our range of chances.
3. This option can be considered, but Portugal is a good point towards the project.
4. A thermostat can be bought if it is the best solution.
5. An external power supply can be used, the team decides the limitations of the product.
6. The project has to show that is exploiting as much as possible.
7. The final prototype should be as accurate as possible.
8. It's all about proportions in order to realize physically if accords with the project needs.
9. Customer service has to be contemplated, but not in much detail.
10. It's such a good idea.
11. Calculations has to be provided, but not in terms of mechanical calculations for example.

4th Meeting (2015-03-19)

Agenda:

Further discussion concerning the list of materials and components (initial presentation of our material list and their cost)

- If we don’t have even built the cardboard prototype how are we supposed to ask for quantities in our materials list?
- Bolts, screws and such pieces cannot be listed or measured right now, since they are part of the final design. Do we have to list them until the 27th of March or will they be provided later, once we finish the final design?
- Is the deadline for the material list just to ensure we get the most important components: Can we order something after the deadline, if we still have some money to spend?
- Do all the materials have to be provided by ISEP or can we buy them ourselves if we find the right shop in Porto and bring back the receipts?
- Should we order more material (wood and PMMA) than we actually need for the product, to have some in stock in case we have a problem or difficulties with the construction?
- (Do we have to manufacture the final prototype in the same way it is supposed to be done in a production line or can we use a different method, if we justify our method in the interim report?)
- Is it better to buy platinum temperature sensors or casual temperature sensors? Should we buy a combined temperature and humidity sensor or two separate sensors?

Interim presentation:

- How long should the presentation be? Is there a specific Structure to follow?
- Are there any basic points or guidelines to follow for the Marketing chapter of the interim report?
- Does the marketing report have to be worked out until point 4.7 in the interim report, or the whole marketing plan with the marketing mix? (The teacher said we should finish the marketing

mix until 30/4)
- Information about the 1st prototype: Dimensions? How detailed should it be? Should it be functional?

Minute:

During today's meeting, we discussed the list of materials and components we need for our product more thoroughly. We had the chance to show our first design draft to the supervisors and talk about the functionalities of the dehydrator. We discussed the the humidity issue, which we hadn't thought about yet in the group, and the supervisors gave us some examples of solutions and natural materials we could use, to extract some humidity from the air in the dryer box, such as vegetable coal. We were also invited to make comparison sheets regarding the materials and components and their properties (cedar wood or cork, platinum sensor or casual sensor, etc.), so the supervisors can advise us next week, about which choices to make. Finally, we got more information about certain deadlines, the interim report and the interim presentation.

5th Meeting (2015-03-26)

Agenda:

- Questions connected with the material list

- When can we expect to obtain Arduino? Is it possible to obtain it faster than other materials?
- From where can we acquire cedar wood and polymethyl methacrylate (PMMA)? (J. Pinto Leitão and Dagol)
- Can the university provide us with Liquid Cristal Display (LCD) display which was used during our crash course?

Minute:

Benedita gave us some links to portuguese companies, from which we could maybe order the wood and PMMA we need. We also talked about some components we require for our project, and if these specific components could be delivered directly by the university, such as the arduino and the LCD screen. We were also informed that there would be a workshop at our disposal (for 9 hours), with all the necessary tools, where we can build our dehydrator once the materials have arrived.

6th Meeting (2015-04-16)

Agenda:

- Which is the deadline of the interim report to be updated? (ASAP - all comments received till now should be included during the current week)
- In terms of the interim report, do we have to talk about different ways of food conservation? (in the state of the art include a review on food preservation and then focus on the details of your process)

- When are we expected to receive the cardboard to start prototyping? (go to the technicians of the Electrical Engineering Department and ask for cardboard)
- We were told that a sponsor for the Solar panel was going to be search. Is there any information about it? (provide the dimensions and type of panel)
- Can you provide us some references in terms of deadlines for the next weeks? (all project deadlines are specified in the planning section and detailed deadlines are defined by the team in the Gantt chart)

Minute:

We were told to finish the corrections of the interim report until the end of the week. We were informed about the workshops (creative techniques and scientific writing) would be held in two weeks. We were told to work on our material list, and that it would take about two and a half weeks until the components arrived at ISEP, from the moment they were ordered. We also spoke about the wires that we should/could use to connect the different components to each other. Finally, we need to decide on the dimensions the solar panel would need to have, before we can look for the specific product and think about ordering it.

7th Meeting (2015-04-23)

Agenda:

* General information about upcoming tasks and deliverables (scientific paper, video, etc.)

* Feedback about the material list

* Questions about cardboard prototype (deadline and where to get the cardboard)

Minute:

We were told where to find the template for the scientific paper, and that we will get more information about the structure and content next week, during workshops. We were advised to start writing the paper as soon as possible, even if it is due for the end of the semester. A video and a scientific poster also have to be delivered until the end of the semester, and we were informed that the concept, content and style of the video is “freestyle”, and that our team could chose the points to focus on (EPS experience, project work, end product…).

Otherwise, we were given some feedback about our material list: we should chose a different battery (9V or 12V, used with a DCDC converter/regulator, instead if a 5V or 7V battery, we should send a email to the companies who deliver wood and PMMA, in order to get some information about the prices. We should get the business card and tax number of the hardware shop, so we can directly buy the wheels for our dehydrator there.

Finally, we were told where to find the cardboard for the 1st prototype, and that we should present that prototype next meeting.

8th Meeting (2015-04-30)

Agenda:

* Presentation of the cardboard prototype

Minute:

We showed the supervisors our electronic schematics and were told that the connection to the arduino is not correct (missing a ground connection). We also talked about where to mount all the electronical parts and how to protect them (from heat, moisture, etc.). The legs were missing, these need to fit optimal to the heating tunnel. Moreover we need a on - off button which has to be outside to operate in an easy way, the display also has to be outside. We also have to think about the working system of the vents - do we need gears? How does our railing system will work? It is possible to connect the Buzzer with the ardroino. The most important point which we have to work out was to find the correct wires because these would be orderd one week later.

9th Meeting (2015-05-14)

Agenda:

* Which components have already been delivered? * What is the next step in the product development/construction?

Minute:

We were delivered the electronical components for our product (Arduino, power supply instead of battery, wires, temperature and humidity sensor, servo motors). We were told we still need to buy a USB cable (type B to A). We now have the necessary components to start coding with Arduino (connection with the servo motor and the sensor). We also talked about the metal mesh that we were planing to mount inside the heating tunnel and finally decided to get a black aluminum plate (0.8 mm thick) instead, which we will mount on the bottom surface of the tunnel, with an extra grid for protection against insects at the opening of the tunnel or at the vent. We were asked to look for wheels and find a specific provider. Finally, we were told to check the dimensions of the surfaces of wood and glass, and update the detailed dimensions of these materials on the Wiki (specific dimension of each plate).

10th Meeting (2015-05-21)

Agenda:

- Feedback on the report? What still needs to be corrected?

The feedback regarding chapter 3, 4, 5 and 6 is provided by António Pereira, Andreia Gama, Luís Castanheira and Francisco Vieira. We will provide you with feedback regarding chapter 7 and 8 as soon as they are finished. Regarding Chapter 1 and 2, there are still errors related with the proper usage of International System of units, the tables and figures are still not cross-referenced in the antecedent text, they are not automatically numbered, there is no review of related systems (identical existing systems) and no comparison (in the form of a table) between the related systems and your system.

- Deadline for video?

The deadline is posted in the planning section.

- How long does it take for the wood?

In the last meeting we informed you that it is impossible to buy materials using just the value of the area. We asked you to send us the length and width of the wood and PMMA you needed and, till now (2015-05-20 19:27), we did not receive that information.

- Should we count on a solar panel and battery or only work with external power source?

Minute:

During the meeting we obtained feedback concerning our latest corrections in report and were asked to improve previously mentioned errors, for example units, spelling mistakes, inappropriate punctuation et cetera. Moreover, supervisors made a closer look to chapter 7 and 8. Furthermore, dimensions of PMMA, glass and pine wood in order to construct the solar dehydrator were discussed and established . We were asked to check and compare the prices of these three things in Leroy Merlin and Aki and provide supervisors with the most convenient option. What is more, additional components connected with wood processing (varnish, wood glue, brush) were debated. Finally, the discussion concerning the solar panel took place which resulted in further examination of the circuit required for this module.

11th Meeting (2015-05-28)

Agenda:

- Explanation for automatic references and numbering?

Follow the example provide in the wiki template; further info is available on-line regarding the usage of refnotes, wrap and mathjax plugins.

- Presentation of the scientific poster/print?

It is a communication material rather than a scientific material. Upload PDF to the deliverables page, include the source (Word, LaTeX) and the PDF in the final CD and print it.

- News about pending materials (construction materials, brushes, varnish…)?
- User manual: approximate length and content: scientific explanations or simply use cases? print?

Minute:

The main concern during the meeting was discussion with supervisors about our poster in order to gain corrections and advices. Supervisors realized us that we have to put less text into our poster and it should focus more on main advantages to advertise our device rather than scientific description. Moreover, supervisors informed us about procedure of purchasing our materials in Leroy Merlin. What is more, 7mm plywood was suggested as a material for our solar dehydrator instead of pinewood. At the end of meeting final presentation and video were discussed and their essential requirements (length of video, length of presentation, main content).

12th Meeting (2015-06-04)

Agenda:

* Presentation of new poster (focusing more on the advertisement aspect)

* Last instructions for purchase of items at Leroy Merlin?

Minute:

The supervisors gave us a breefing how to buy the missing materials in Leroy Merlin as how to deal with the receipt and the tax numbers. Another point of this meeting was the new version of the poster, but its still has to much text and less pictures, so they want us to do antoher one. We will keep this version also but try to make a new one with another background and more pictures of fruit and vegetable. They also suggested to talk in the communication class about that and ask Ana for her meaning. The final presentation has to consist of the process of creating the prototype and everybody has to say something even there are just 10 to 15 slides.

13th Meeting (2015-06-11)

Agenda:

*Presentation of final poster

*Presentation of user manual

Minute:

Final feeback concerning our poster and user manual was given. The latest version of our poster was accepted. Moreover, supervisors made a comment on the content of our user manual, suggesting that we should remove few pictures and number the step by step list instead of putting hyphens. What is more, they advised us to rethink information that we included in the manual regarding time of dehydration process.

Activities

Please register here all project activities

Start	End	Task	Description	Who

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