Multipurpose Urban Sensing Equipment

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Project Summary

Multipurpose Urban Sensing Equipment

A multipurpose Urban Sensing Equipment is based on an object that has multiple purposes that include something that senses something in order to improve or make people aware of something in their environment. In the end, the object/concept should improve the quality of life, the city and her environment, this could be on long-term but also right at that moment. To give an example of something that already exists but is in our line of search: * Speed signs that indicate if people drive to fast by showing a red (sad) smiley or a green (happy) smiley when people are under/at the speed limit. The whole point about this object is that makes people think about the consequences when they see the sign and probably slow down a bit in order to maintain the law and rules that are invented for traffic situations.

Team 3 has the opportunity to improve peoples lives by making something that maybe improves the feeling of security or even makes people interact with each other. The area is so wide that the team came up with different focus points and areas to make sure we look for similar ideas and come up with something that the team all finds interesting working on.

All team members are doing a semester abroad which makes it really interesting to combine different cultures and studies together. Apart from combining all strengths we also get trained in several different courses that are related on the 'engineering' subjects that we choose. The different classes that improve our knowledge on doing the project are: * Sustainability & * Project Management * Marketing & Communication * Teambuilding * Portuguese (Teambuilding and adapting to a new culture)

- **About:** Improving life of the local/tourist people or focus on what is best for the environment - **Focus points:** Sustainability, Power saving and Efficiency

Areas where team 3 is looking into

- Smart garbage disposal - **Air pollution (how to decrease the pollution)** - Public transport (how to make it easier and reduce the waiting time) - Light up the city (street lights, power saving) - Green engineering (focus on the implementation of more green and sustainable) - Interaction/meeting people (nowadays everyone is on their phone to stay connected, maybe come up with something that gives people the chance to interact and maybe even meet new people)

Problem that could be improved (area: Air pollution (how to decrease the pollution))

People are not aware of the air pollution and do not know how to protect themselves against it. As smartphone are now being the most important thing in our life, it’s now difficult to find an object saying information that we are used to see in our smartphone

Technical requirements:

- Arduino knowledge - Design and development - Marketing/Ethics - Sustainable development knowledge

Plan

A billboard where you can find a map with the air pollution of different areas Display a map of city park's. For each park shown in map will have different colour. For example green good, yellow is okay and red is bad. These colours will display air pollution. Give some others information about the weather but also some advise like : "How can I reduce my footprint ?"

How can you we accomplish this project with multiple studies?

The project group exist of 5 persons with different backgrounds and studies, we will make sure that everyone in the team can be a part on this project. In a company you would always work together with different expertices to get the best results, this is the same for Team 3. We all will combine our specialities in different studies and subjects to gain knowledge from eachother and also get the best result according to the project.

The different studies that we do and an example of how to split the tasks:

Electric engineer – Arduino code writing and making sure the set up works for a concept. Mechanical Engineer – Assist the electric engineer and concept building + calculations Environmental Engineer – Sustainable energy (usage of solar panels for example) Engineering and Management – Bridge between the product and the market (Target audience) Industrial Product Design – From idea to concept (overview) Design of the product

What do we need to realize a working product/concept?

- The project requirements are:

1. ... (*specify here your project requirements*);
2. Comply with the following EU Directives:
    1. Machine Directive (2006/42/CE 2006-05-17);
    2. Electromagnetic Compatibility Directive (2004/108/EC 2004 12 15);
    3. Low Voltage Directive (2014/35/EU 2016-04-20);
    4. Radio Equipment Directive (2014/53/EU 2014-04-16);
    5. Restriction of Hazardous Substances (ROHS) in Electrical and Electronic Equipment Directive (2002/95/EC 2003-01-27);
3. Mandatory adoption and use of the International System of Units (The NIST International Guide for the use of the International System of Units)
4. Use open source software and technologies.

Participants

Institution: Instituto Superior de Engenharia do Porto

Team No.: 3

Students:

- Student 1 Mostafa Farrag
- Student 2 Wouter Smit
- Student 3 Maria Bagiami
- Student 4 Damien Cordeiro
- Student 5 Maarten van der Most

Panel of Supervisors:

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Client:

- Client Name, email, etc.

Contents

Project Planning: Deadlines, Tasks, Gantt chart, Task allocation

Logbook: Weekly Report, Meetings, Activities

Report: Report

Deliverables: Links to all deliverables

Contact / Team members

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Utilities

- DokuWiki Syntax
- Videos on how to use DokuWiki

Acknowledgements

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