Process report

TEAM META

The team

Team leader:

- Name: Veselin Slavchev
- Student number: 2812630
- E-mail: v.slavchev@student.fontys.nl

Secretary:

- Name: Yasen Georgiev
- Student number: 2738465
- E-mail: y.georgiev@student.fontys.nl

Quality manager:

- Name: Ivan Stoilchev
- Student number: 2833360
- E-mail: i.stoilchev@student.fontys.nl

Chairman:

- Name: Ivailo Hristov
- Student number: 2910101
- E-mail : i.hristov@student.fontys.nl

Preface

This document will introduce you to our work: what have everybody done, what were our plans, what did we achieve, what problems did we meet. In the process report the agendas and the minutes for every week, the project plan, report of the interview with the client, an individual reflection for every group member can be found.

Interview report

On the meeting with the client we asked him a lot of different type of questions. Those questions helped us to understand really good what exactly we are expected to do.

Those are the things which we asked the client on the first meeting:

- Project plan versus setup document
- Meetings each week - showing progress, ask more questions
- Making agendas and minutes of the meetings for every week
- Contact details of the client
- Budget
- Deadline
- Payment references
- Design of the website
- User ID
- Advertisements
- Interactive park map
- Regionalization (languages of the website)
- Twitter
- Operating system
- Cyber security

Individual reflection

Veselin Slavchev:

I learnt to communicate and organize tasks with team-mates, give careful criticism and give deserved praise. I always thought that the most important part of working on a project is to know the technology and have the skills that would produce the result, but I realized that the most crucial part is to be human. Being good to others, treating others with respect, helping and asking for help, being humble and eager to learn, keeping a positive outlook and having fun is much more important than having skills. Also not focusing on the end result, but enjoying the process and doing the best you can in the moment proved to

reduce stress, increase motivation and lead to success.

The project was exceptionally good: there were some uncertainties that required thought, a lot of technical decisions asked for inspecting the positive/negative sides of different choices, balancing of the workload among team-mates and choosing the best person for the job; those are some examples of challenges that only a well-thought project could throw at us.

I definitely learnt many things about working with others and in my next projects I will make sure to reinforce trust between team members, encourage helping and caring for others, and make group meetings more frequent. Like I said above: even if we are not capable or skilled enough to tackle a challenge, by being human towards each other we can learn, help, improve and work as a whole to achieve success.

Yasen Georgiev:

First of all, I learnt how to make a good research on a specific topic. I learnt a lot about connecting a MySQL database with a C# application, how to write well-designed and good-looking documents. The most important thing that I learnt is about the group work. You have to communicate with the other members of the group, you have to help them if they need, you have to ask for help if you need, you have to be tolerant and positive. And last but not least, I learnt that you have to finish your tasks on time.

I think that our project is really good. Sometimes we had some big struggles and problems but we always found the best solutions for them. When we realized that we may not be able to use QR codes for our project we did not give up on the idea but we found a solution. That makes our project a kind of unique. Moreover, I think that our project is really good because we did our best and we worked on it with pleasure.

For my future projects I will work harder, help the others more and keep on learning new more challenging things.

Ivan Stoilchev:

What did I learn? I learnt how to connect MySQL with C#, I learnt a lot of cool things about web development and programing.

In my opinion the project is really good, because we gave the best of us. Also we used a unique QR code system. But the best part of the project was the communication between the group members. We develop our communication skills and the most important thing is that it was fun.

For the next project, first of all I will be always on time. I will try to do more of the work and I will be more concentrated on the project.

Ivailo Hristov:

What I learnt: I don't like bureaucracy?
Why is it a good/bad project for me: Some practice with skills I already had, not much more.

What I'd do better next project: I'd improve the GUI a lot and use more Python.

Peer-reviews

Veselin Slavchev:

Item	Yasen	Ivaylo	Veselin	Ivan
Working for process (making agendas, minutes, being chairman, make logs, etc.)	20	20	40	20
Working on the project plan	85	5	5	5
Working on the database	30	10	60	0
Working on the static part of the website (html, css)	10	70	0	20
Working on the dynamic part of the website (php, Ajax)	10	30	50	10
Working on the C# programs	80	0	20	0
Working on the set-up-report	20	0	80	0

Item	Yasen	Ivaylo	Veselin	Ivan
Be present at meetings (and be on time)	10	10	10	10
Comes with new ideas, initiatives, proposals	8	8	8	8
Is involved in the project	10	10	10	10
A deal is a deal: work will be fulfilled and on time	10	9	9	9
Works hard on the project	10	10	10	9
His/her work is of good quality	10	8	10	9

Yasen Georgiev:

Item	Yasen	Ivaylo	Veselin	Ivan
Working for process (making agendas, minutes, being chairman, make logs, etc.)	30	10	50	10
Working on the project plan	50	10	30	10
Working on the database	40	10	50	0
Working on the static part of the website (html, css)	0	60	0	40
Working on the dynamic part of the website (php, Ajax)	0	40	50	10
Working on the C# programs	60	0	40	0
Working on the set-up-report	30	0	70	0

Item	Yasen	Ivaylo	Veselin	Ivan
Be present at meetings (and be on time)	10	8	10	10
Comes with new ideas, initiatives, proposals	8	8	8	8

Item				
Is involved in the project	10	10	10	10
A deal is a deal: work will be fulfilled and on time	10	8	10	8
Works hard on the project	10	10	10	10
His/her work is of good quality	9	8	10	8

Ivan Stoilchev:

Item	Yasen	Ivaylo	Veselin	Ivan
Working for process (making agendas, minutes, being chairman, make logs, etc.)	20	0	80	0
Working on the project plan	10	0	90	0
Working on the database	25	25	25	25
Working on the static part of the website (html, css)	0	60	0	40
Working on the dynamic part of the website (php, Ajax)	0	40	40	20
Working on the C# programs	25	25	25	25
Working on the set-up-report	10	10	60	10

Item	Yasen	Ivaylo	Veselin	Ivan
Be present at meetings (and be on time)	10	10	10	10
Comes with new ideas, initiatives, proposals	7	6	10	7
Is involved in the project	8	7	10	7
A deal is a deal: work will be fulfilled and on time	9	8	10	6
Works hard on the project	7	7	10	7
His/her work is of good quality	9	9	10	9

Ivailo Hristov:

Item	Yasen	Ivaylo	Veselin	Ivan
Working for process (making agendas, minutes, being chairman, make logs, etc.)	20	0	80	0
Working on the project plan	10	0	90	0
Working on the database	25	25	25	25
Working on the static part of the website (html, css)	0	60	0	40
Working on the dynamic part of the website (php, Ajax)	0	10	70	20
Working on the C# programs	25	25	25	25
Working on the set-up-report	10	10	60	10

Item	Yasen	Ivaylo	Veselin	Ivan

Be present at meetings (and be on time)	10	10	10	10
Comes with new ideas, initiatives, proposals	7	4	10	7
Is involved in the project	8	7	10	7
A deal is a deal: work will be fulfilled and on time	10	10	10	10
Works hard on the project	10	7	10	7
His/her work is of good quality	9	9	10	9

Agendas

Week 1, 23.02.2016

1. First group meeting
    - Deciding who will be the project leader
2. First meeting with the client
    - Asking him different questions

Week 2, 01.03.2016

1. Research
    - Methodologies
    - Codes for identification
    - QR codes
    - Safely storing passwords
2. Methodology
    - Differences, pros and cons
    - Ideas, why do they fit our case?
    - Values of the methodology
    - How to make it work for our project
3. Learning
    - PHP
    - Password storing, hashing, salting

Week 3, 08.03.2016

1. Design of the site
    - Sitemap
    - Wireframes
    - Visual design
2. Oracle vs. MySQL
3. Learning
    - PayPal API

- PHP connection with MySQL
4. Work done
    - Secure password storing
5. Project plan

Week 4, 15.03.2016

1. Website
    - HTML
    - CSS
2. Successful PHP connection to MySQL
3. C# applications
    - GUI design
    - Basic functionalities
4. Database
    - Strip diagram

Week 5, 22.03.2016

1. Working on the setup document
2. Website
    - JavaScript
3. Log file parsing program design

Week 6, 29.03.2016

1. Setup document
2. Fixed strip diagram

Week 8, 26.04.2016

1. Questions about PayPal API
2. Connecting the applications with the database

Week 10, 17.05.2016

1. PayPal API
2. Status Inspection App

Week 11, 24.05.2016

1. Databases created
2. Bug fixes on the website
3. Twitter feed
4. QR code verification
5. Finished PayPal API

Week 12, 31.05.2016

1. Working on the applications
2. Android application that reads the QR code
3. Results

Week 13, 07.06.2016

1. Finishing all the applications
2. Fixing the Android application
3. Website
    - Friend camp spots
4. Results

Week 14, 14.06.2016

1. Website
    - Final touches
2. Applications
    - UI theme
    - Refactoring
    - Seeking and fixing bugs
3. Documentation

Minutes

Week 1, 23.02.2016

Date: 23.02.2016
Time: 11:25 am
Location: Open area, floor 2, building R1
Chairman: Veselin Slavchev
Secretary: Yasen Georgiev
Attendees:
Ivan Stoilchev

Ivaylo Hristov
Yasen Georgiev
Veselin Slavchev

Absent: none

Agenda:

1. First group meeting
   - deciding who will be the project leader
2. First meeting with the client
   -asking him different questions

Motions:

1. First group meeting:

   On the first group meeting we decided that the most appropriate leader for our group will be Veselin Slavchev. We also decided how we will split the tasks and who will be responsible for the different parts.

2. Meeting with the client:

   On our first meeting with the client we asked him a lot of different questions about the event, the applications and the website. We tried to understand well what we exactly have to do. Moreover, we asked about his expectations about the final result.

Plan actions for next week:

1. Research about methodologies
2. Research about different ways of codes for verification
3. Safely storing passwords
4. Learning PHP

Prepared by: Yasen Georgiev   Approved by: Veselin Slavchev

Week 2, 01.03.2016

Date: 01.03.2016
Time: 11:25 am
Location: Open area, floor 2, building R1
Chairman: Yasen Georgiev
Secretary: Ivan Stoilchev
Attendees:
Ivan Stoilchev
Ivaylo Hristov
Yasen Georgiev
Veselin Slavchev

Absent: none

Agenda:

    1. Research
        - Methodologies
        - Codes for identification
        - QR codes
        - Safely storing passwords
    2. Methodology
        - Differences, pros and cons
        - Ideas, why do they fit our case?
        - Values of the methodology
        - How to make it work for our project
    3. Learning
        - PHP
        - Password storing, hashing, salting

Motions:

1. We decided to adopt the Lean methodology:

    We are learning about technologies like CSS, PHP and using MySQL for practical work, so playing with the code and practicing is important before we can have some confidence with them. This is important for a team of students and for following Lean. As a result of our uncertainty we would like to delay making decisions, as we believe that an early, but misinformed decision is worse than a late, but more educated one. We will also strive to deliver features more frequently and work in shorter iterations. Fast delivery leads to faster feedback and more precise actions, all of this should result in better learning, communication and more team energy. Another important aspect of Lean is the lack of strong micromanagement; instead each member of the team is responsible for their contributions to the project and individuals are freer to choose on what to work. This way the individual feels more motivated and is of greater importance to the end result.

2. After a research we decided to use QR codes for identification:

    QR codes are really easy to use, they also have large range of use. Everybody can make such a code because it is really easy to be generated. The QR codes are cost-effective, this means that the creating of the code does not cost anything. We can use these codes with our smartphones and that saves a paper. By using QR codes the process of transferring information is really quick. The QR codes are small in size and are trackable. The cons are: not everyone finds them attention-grabbing, potential for over usage, need of QR code reader.

    Comparison between QR codes and line barcodes:

    The standard line barcodes are one-dimensional, can be read only horizontally and can store a limited amount of data (up to 20 numerical digits). QR codes are two-

dimensional, can be read horizontally and vertically and can store more than 4 000 characters of information.

QR codes vs. RFID (radio frequency identification):

It is easier and cheaper to get QR codes. QR codes are web oriented and more flexible. For the RFID a database is needed for the technology to be effective, without a proper database there is nothing for the RFID scanners to decode. A QR code does not need access to any database in order to decode and provide the user with relevant information. When people buy something they have to be notified if the device is RFID capable or contains a transmitting RFID chip. The QR code is visible on any surface that it is printed on. For the RFID a special expensive piece of scanning equipment is needed. If we want to scan a QR code we can just use our smartphones.

Plan actions for next week:

1. Make visual design and wireframe of the website
2. Decide between Oracle and MySQL
3. Finish the project plan
4. Securing passwords

Prepared by: Yasen Georgiev   Approved by: Veselin Slavchev

Week 3, 08.03.2016

Date: 08.03.2016
Time: 11:25 am
Location: Open area, floor 2, building R1
Chairman: Ivan Stoilchev
Secretary: Ivaylo Hristov
Attendees:
Ivan Stoilchev
Ivaylo Hristov
Yasen Georgiev
Veselin Slavchev
Absent: none

Agenda:

1. Design of the site
   - Sitemap
   - Wireframes
   - Visual design
2. Oracle vs. MySQL
3. Learning

        - PayPal API

        - PHP connection with MySQL

    4. Work done

        - secure password storing

    5. Project plan

Motions:

1. Design of the site:

    All of us decided what should be the design of our site. We created some sitemaps and at the end chose the best one. Ivan Stoilchev and Yasen Georgiev created the wireframes.

2. We took a decision to use MySQL database instead of Oracle.

3. PayPal API and PHP connection with MySQL:

    Ivaylo Hristov starts researching and learning the PayPal API. The PHP connection with MySQL is given to Veselin Slavchev.

4. We achieved to secure the password storing.

5. Showing the final version of the project plan to our mentor.

Achieved in the past week:

1. Setup a test MySQL database
2. Researched codes for verification
3. Research password storing: hash functions and salting
4. Methodology research

Plan actions for next week:

1. Working on the website
2. PHP connection with MySQL
3. Working on the C# applications
4. Make the strip diagram of the databases

Prepared by: Yasen Georgiev   Approved by: Veselin Slavchev

Week 4, 15.03.2016

Date: 15.03.2016

Time: 11:25 am

Location: Open area, floor 2, building R1
Chairman: Veselin Slavchev
Secretary: Ivaylo Hristov
Attendees:
      Ivan Stoilchev
      Ivaylo Hristov
      Yasen Georgiev
      Veselin Slavchev
Absent: none

Agenda:

    1. Website
        - HTML
        - CSS
    2. Successful PHP connection to MySQL
    3. C# applications
        - GUI design
        - Basic functionalities
    4. Database
        - Strip diagram

Motions:

1. Website:
      HTML and CSS done by Ivaylo Hristov and Ivan Stoilchev. Presenting the website to the tutor.

2. We successfully connected the PHP to our MySQL database

3. Applications:
      Veselin Slavchev and Yasen Georgiev made the GUI design of the applications on paper and in the IDE (Visual Studio). Some basic functionalities added to the C# applications.

4. Strip diagram of the databases done by Yasen Georgiev.

Achieved in the past week:

1. Designing the website (sitemap, wireframes, visual design)
2. Choosing MySQL for our databases
3. Securing the passwords
4. Research on PayPal API and PHP
5. Finished project plan

Plan actions for next week:

1. Working on the setup document
2. Finishing the project plan
3. Working on the JavaScript of the site
4. Log file parsing program design

Prepared by: Yasen Georgiev   Approved by: Veselin Slavchev

Week 5, 22.03.2016

Date: 22.03.2016
Time: 11:25 am
Location: Open area, floor 2, building R1
Chairman: Veselin Slavchev
Secretary: Yasen Georgiev
Attendees:
   Ivan Stoilchev
   Ivaylo Hristov
   Yasen Georgiev
   Veselin Slavchev
Absent: none

Agenda:

1. Working on the setup document
2. Website
  - JavaScript
3. Log file parsing program design

Motions:

1. Setup document:
  Writing the most of the setup document. Asking the tutor some questions about what exactly should we include in it.

2. Website:
  Some JavaScript functionalities added to the website. Thinking about how we can improve the site and making it more user-friendly.

3. The log file parsing program made and showing it to the tutor.

Achieved in the past week:

1. HTML and CSS of the website
2. PHP connection to MySQL
3. GUI design and basic functionalities for the C# applications
4. Strip diagram

Plan actions for next week:

1. Finishing the setup document
2. Fixing the strip diagram

Prepared by: Yasen Georgiev   Approved by: Veselin Slavchev

Week 6, 29.03.2016

Date: 29.03.2016
Time: 11:25 am
Location: Open area, floor 2, building R1
Chairman: Yasen Georgiev
Secretary: Ivan Stoilchev
Attendees:
Ivan Stoilchev
Yasen Georgiev
Veselin Slavchev
Absent:
Ivaylo Hristov

Agenda:

1. Setup document
2. Fixed strip diagram

Motions:

1. Setup document is finished. Showing the final result to our mentor.

2. Strip diagram is fixed after problems with the minimum and maximum cardinalities.

Achieved in the past week:

1. Start working on the setup document
2. Some JavaScript functionalities to the website

3. Log file parsing program design

Plan actions for next week:

1. Questions about PayPal API
2. Connecting the applications with the database

Prepared by: Yasen Georgiev   Approved by: Veselin Slavchev

Week 8, 26.04.2016

Date: 26.04.2016
Time: 11:25 am
Location: Open area, floor 2, building R1
Chairman: Ivaylo Hristov
Secretary: Veselin Slavchev
Attendees:
      Ivan Stoilchev
      Ivaylo Hristov
      Veselin Slavchev
Absent:
      Yasen Georgiev

Agenda:

1. Questions about PayPal API
2. Connecting the applications with the database

Motions:

1. Some additional questions to the mentor about the PayPal API.

2. Successfully connecting the C# applications with the database using Cisco AnyConnect Secure Mobility Client.

Achieved in the past week:

1. Final version of the setup document
2. Fixed strip diagram

Plan actions for next week:

1. Working on the PayPal API
2. Working on the main C# application (Status Inspection App)

Prepared by: Yasen Georgiev   Approved by: Veselin Slavchev

Week 10, 17.05.2016

Date: 17.05.2016
Time: 11:25 am
Location: Open area, floor 2, building R1
Chairman: Veselin Slavchev
Secretary: Yasen Georgiev
Attendees:
      Yasen Georgiev
      Veselin Slavchev
Absent:
      Ivan Stoilchev
      Ivaylo Hristov

Agenda:

      1. PayPal API
      2. Status Inspection App

Motions:

1. Some more research on the PayPal API and started working on it.

2. Status Inspection App (main application) is finished and presented to the mentor.

Achieved in the past week:

1. Learning more about PayPal API
2. Connecting the applications with the database

Plan actions for next week:

1. Creating of all databases in MySQL and adding some strict constraints
2. Some bug fixes on the website
3. Adding a twitter feed to the website
4. Not giving up on our idea about QR code verification

5. Finishing the PayPal API

Prepared by: Yasen Georgiev   Approved by: Veselin Slavchev

Week 11, 24.05.2016

Date: 24.05.2016
Time: 11:25 am
Location: Open area, floor 2, building R1
Chairman: Ivan Stoilchev
Secretary: Ivaylo Hristov
Attendees:
       Ivan Stoilchev
       Ivaylo Hristov
       Yasen Georgiev
       Veselin Slavchev
Absent: none

Agenda:

1. Databases created
2. Bug fixes on the website
3. Twitter feed
4. QR code verification
5. Finished PayPal API

Motions:

1. All necessary databases created by Yasen Georgiev. Added some strict constraints to them.

2. Some minor bug fixes on the website. Making it more beautiful and flexible. Added one more html page in which a person can access only if he registers for the event. On that page the person can add his friends' emails.

3. Twitter feed added to the website by Ivan Stoilchev and Ivaylo Hristov.

4. Found a solution about the problem with QR code verification. Veselin Slavchev made a phone application with which we can scan the QR code, connect it with the database and get the information about the person.

5. Ivaylo Hristov finished the PayPal API. Testing it and showing it to the mentor.

Achieved in the past week:

1. Research and working on the PayPal API
2. Status Inspection App finished

Plan actions for next week:

1. Finish all the other left applications
2. Present the results to the mentor
3. Create an Android application that will read the QR code

Prepared by: Yasen Georgiev   Approved by: Veselin Slavchev

Week 12, 31.05.2016

Date: 31.05.2016
Time: 12:00 pm
Location: Open area, floor 2, building R1
Chairman: Veselin Slavchev
Secretary: Yasen Georgiev
Attendees:
      Ivan Stoilchev
      Ivaylo Hristov
      Yasen Georgiev
      Veselin Slavchev
Absent: none

Agenda:

1. Working on the applications
2. Android application that reads the QR code
3. Results

Motions:

1. Working on all the left applications and setting them to work.

2. Showing the achieved results to the mentor. Some questions if we can improve something.

3. Creating an Android application that reads the QR code

Achieved in the past week:

3. All databases created
4. Bug fixes on the website
5. Twitter feed
6. QR code verification
7. Ready PayPal API
8. Fix the Android application

Plan actions for next week:

4. Finish all the other left applications
5. Fixing the Android application
6. Friend camp spots on the website

Prepared by: Yasen Georgiev   Approved by: Veselin Slavchev

Week 13, 07.06.2016

Date: 07.06.2016
Time: 12:00 pm
Location: Open area, floor 2, building R1
Chairman: Yasen Georgiev
Secretary: Veselin Slavchev
Attendees:
      Ivan Stoilchev
      Ivaylo Hristov
      Yasen Georgiev
      Veselin Slavchev
Absent: none

Agenda:

1. Finishing all the applications
2. Fixed Android application
3. Results

Motions:

1. Completing all the applications and setting them to work.

2. Showing the achieved results to the mentor. Some questions if we can improve something.

3. The Android application that will read the QR code is fixed and works properly

Achieved in the past week:

9. Start working on the applications
10. Android application created

Plan actions for next week:

7. Final improvements on the website
8. Improving the applications
9. Finishing the documentation

Prepared by: Yasen Georgiev   Approved by: Veselin Slavchev

Week 14, 14.06.2016

Date: 14.06.2016
Time: 12:00 pm
Location: Open area, floor 2, building R1
Chairman: Yasen Georgiev
Secretary: Veselin Slavchev
Attendees:
      Ivan Stoilchev
      Ivaylo Hristov
      Yasen Georgiev
      Veselin Slavchev
Absent: none

Agenda:

1. Website
    - Final touches
2. Applications
    - UI theme
    - Refactoring
    - Seeking and fixing bugs
3. Documentation

Motions:

1. Final improvements on the website

2. Made the applications more user friendly with a new theme, refactoring and fixing some bugs

3. Finishing the documentation

Achieved in the past week:

1. Finishing all the applications
2. Showing the results
3. Fixing the Android application

Prepared by: Yasen Georgiev   Approved by: Veselin Slavchev

Project plan

Formal client

- Name: Mr. Stevens

The team

Team leader:

- Name: Veselin Slavchev
- Student number: 2812630
- E-mail: v.slavchev@student.fontys.nl

Secretary:

- Name: Yasen Georgiev
- Student number: 2738465
- E-mail: y.georgiev@student.fontys.nl

Quality manager:

- Name: Ivan Stoilchev
- Student number: 2833360
- E-mail: i.stoilchev@student.fontys.nl

Chairman:

- Name: Ivailo Hristov
- Student number: 2910101
- E-mail : i.hristov@student.fontys.nl

Current situation

The client needs a way to store information about people attending the event.
The client needs help with organizing everything IT-related in regards to an event he is hosting.

Problem description

They have not easy way to pay for drinks/food and activities. Entering the camp and the event grounds is slow and painful. Purchasing tickets for the event is very troublesome and uncomfortable.

Project goal

Creating a well-designed website, databases and applications for different staff-positions. Visitors should be able to pay without carrying cash. The website should be used for making a reservation easily and effortlessly. The databases should contain a real-time information for every visitor and their status.

Deliverables and non-deliverables

Our deliverables are going to be the following:
- Website for information and event registration
- Databases tracking information about the people attending the event and their money balance, purchases history and status
- Different applications for the different roles of the staff at the event

Our non-deliverables are going to be:
- Hardware
- Hosting of services
- Deployment of software and DB
- Organization of the event
- Teaching the staff to use the software

Plan

1. Create first version of website with HTML, CSS and JS;
2. Setup DB;
3. Improve website, so core features are available: registration, information;
4. Implement identification mechanism of people attending the event;
5. Create the staff applications and connect them to the DB;
6. Perform quality assessment of the applications and improve them accordingly;
7. Bring the website up to version 3 and add social media support;
8. QA the website and polish it;

Constraints

- Time constraint: We have a time limitation of 8 x 28 hours.
- The entire project is not going to take more than 7 months from the start of the project.
- We are limited to a maximum of 4 people working on the project.

Risks

- The final product could not be unique in the market. This will be discussed with the client at the first meeting when showing the research report.
    - Probability: very high
    - Impact:
      Minor, this problem is going to occur for sure, but resolving it is a matter of good marketing and having a high quality product. The impact of the problem to this project is minor, because if the product meets the agreed specifications and quality, the client will have a good quality product for a reasonable price.
    - Solution:
      Since we cannot influence rival companies, a possible solution could be adding some extra features to the device, or advising the client to invest in advertising, to make the product well known and preferred by users.