# Computer Science Program

3rd Semester 2015

**Semester Project**

**Implementation of Mobile App “Think Tank”**

|  |  |
| --- | --- |
| **The report has been prepared by :** | **Supervisor:** |
| Alexandru Draghi |  |
| Ionut Danci Bumbea | Gianna Bellé |
| Leonard Hirja | Date of submission: |
| Richard Retezi | 14-12-2015 |
|  |  |



# Table of Content

[1. Introduction 5](#_Toc421008958)

[2. Idea Generation 6](#_Toc421008964)

[2.1 POCA Mobile App 7](#_Toc421008965)

[2.2 User Stories 7](#_Toc421008965)

[3 From Idea to Materialization 7](#_Toc421008966)

[3.1 Meeting the Requirements 7](#_Toc421008967)

[3.2 Agile Development 20](#_Toc421008982)

[3.3 Choice of method 20](#_Toc421008982)

[4 Project Planning 23](#_Toc421008986)

[5 Quality Assurance 40](#_Toc421008999)

[6 Designing the Application 42](#_Toc421009004)

[7 Conclusion 42](#_Toc421009005)

[8. References 43](#_Toc421009006)

[9. Appendices 43](#_Toc421009007)

1. Introduction

Selecting a project that fits the requirements is not hard. There are tons of examples and samples on the internet for any kind of task. Selecting a project that is somewhat original, fresh, interesting and challenging is another story. Group 2 decided to go for the latter.

The main requirements for this semester were to code in C#, to have a client/server connection, high complexity, concurrency, and to use some kind of security measures. Regarding to the system development and design, group 2 had to come up with an idea that can satisfy the above mentioned criteria, create user stories and story cards, design the architecture and interface of the software, plan the whole project, decide on the methodology, the group work and on the schedule.

In the following part the birth of the core idea – inception- is being detailed, as well as how Group 3 managed to develop a project from that single idea.

2. Idea Generation

At the start an idea for the project was needed. The members of Group 2 started to write down ideas on different sheets of papers. After everyone had written down at least 4-5 ideas individually, these ideas were evaluated.

There was one single rule: There are no rules. Group 2 let its imagination fly.

Some ideas were very distant from each other, while others were relatively similar. The ideas were grouped together according to similar thematic and/or platform. After the grouping, each idea was anonymously evaluated. Some of them were discarded instantly, some were kept for future possible consideration or for reserve, while some made the best candidates for the project. A short list was created and in the end, one idea was selected for the project as a common agreement.

In the next section, a short description of the selected idea is presented.

2.1 POCA Mobile Application

The idea was simple: There are lots of young professionals, scattered in the world, who are really interested and/or good in a given area of study and there is a matter they would like to discuss with people with the similar interests. Using modern technology, it would be really nice if they had an app that can find people who share the same passion and provide a field for them to be able to contact and communicate to each other. Using a mobile application they could search through different predefined “passions” and find people of the same interest within their area of living or even anywhere else around the world. When a user finds a person with the same interest he/she can send a request for contact and that person can accept the request. Then, a match is being established and they can start discussing the topics they’d like via chat. In case of multiple people want to discuss a matter, a group chat is possible. This idea can help lots of people who need a platform to share their thoughts and ideas with others who could be interested in the topic.

In the following section an example of a User Stories is shown as example.

2.2 User story

Persona:

Name: Martin Cartridge

Age: 25

Location: Bristol, UK

Occupation: Entrepreneur

Motto: “You cannot know if it’s a failure until you’ve tried”

Story card:

AS A young professional I WANT TO find others with the same area of interests SO I CAN discuss establishing a start-up company with them.

User Story:

Martin has recently graduated from University and started working in a multinational company. He’s not satisfied with his current position. He’s thinking about launching a start-up company. He has heard about this new app – POCA – from a friend of his. On his way back on the train, he decides to give it a try. He quickly registers by filling some personal information (name, age, location, etc.). He selects 3 of the predefined passions: Entrepreneurship, Economics and IT. He then enters the main page. Martin then searches for people who are also interested in Entrepreneurship. Martin would like to see how many people are interested in this area close to his city, Bristol. He can only find a limited amount of persons – 2 – in his city. Martin then tries to widen the search to see how many people are interested in this Passion in England. He can find significantly more people – 45 --, to connect with. He also tries out a worldwide search to check possible future connections from other countries and he finds – 1700 – users. Martin then chooses 4 persons he could sympathize with and sends a connection request. Martin then waits for his request to be accepted by the other users. After Martin has arrived home, he checks POCA again and sees that 2 users have accepted his request. He writes them a short message, using chat mode. He manages to start a conversation with one of them about how to start a small business.

3. From Idea to Materialization

In this section the process of creating a real-life project from an idea is presented. Now tiat Group 2 has defined the idea, planning could be started. The first order of business was to check the requirements for the project and align it with the idea.

3.1 Meeting the requirements

The requirements for this project are to use C# programming language, to have a high complexity program, which is able to handle Concurrency, have a database connection and most importantly, to have a client-server connection. The project also has to focus on technology requirements (IT Security measures, protocols, architecture, etc.), and to have a web client that connects to a web server. Most projects are using a website to make the connection, but our idea indicates a mobile application. For the reason that we have to use C#, our platform has to be a Windows Phone that runs on Windows 10 Operating System, which is connected to the WCF (Windows Communications Framework). We need to have a web server connection, therefore we also have to make a sample website for our idea and have a two-sided connection. A Dedicated Client – the mobile app – and the Web Client (sample website). More about the architecture can be read in the Technology Report.

3.2 Agile Development

At the start of the project Group 2 had to decide what Development methodology to take: Waterfall or Agile. The project indicates multiple uncertainties, and the group lacks of several key information at the start of the project, therefore a dynamic, flexible approach is needed in order to carefully plan the program. Agile Development is a great way to that, because it lets the members of the group to give a quick, efficient response to unknown occurrences.