



# GiftCase

# GiftCase

Project Plan

Version 1.08

## Revision History

<b>Date</b>	<b>Version</b>	<b>Description</b>	<b>Author</b>
2014-11-10	1.01	Initial draft	Damir Tomić
2014-11-10	1.02	Initial version	Gijs Bos
2014-11-10	1.03	Project risks <ul style="list-style-type: none"><li>- Completion of the section "Organization of the team and separation of responsibilities"</li><li>- Completion of the section "Tracking of the work"</li></ul>	Aleksandra Salikiryaki
2014-11-11	1.04	Modifications to the existing documentation	Damir Tomić
2014-11-14	1.05	Modified documentation <ul style="list-style-type: none"><li>- Change font-style from 1998 to 2014</li><li>- Fixed table of contents</li><li>- Fixed layout</li><li>- Revised introduction</li></ul>	Gijs Bos
2014-11-20	1.06	Added planned deliverables and milestones	Gijs Bos
2014-11-27	1.07	Added time plan and Gantt chart	Gijs Bos
2014-12-06	1.08	Added quality assurance, pair programming	Gijs Bos

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# 1 Introduction

## 1.1 Purpose of this document

The purpose of the document is to present the reader with an overview about the GiftCase project. The aim of the document is to familiarize the reader with the goals of the project and the approaches used in order to achieve the project goals. The topics that will be covered are:

- The background of the project that has led to its initiation
- The stakeholders involved in this project
- How we intend to accomplish the goals
- What is to be delivered
- Communication
- Tasks distribution
- Identification of risks and proposed solutions

The document will be revised if changes are made to the initial project plan, please refer to the "Revision history section".

## 1.2 Intended Audience

The intended audience is:

- Team members
- The customer
- Project supervisors
- Anyone who wants to get familiar with the project

The purpose of the document is to build a common understanding of the project and the plan for its realization among all stakeholders.

## 1.3 Scope

## 1.4 Definitions and acronyms

### 1.4.1 Definitions

Keyword	Definition
GiftCase	The name of the project
User	The user of the GiftCase application
Back-end	Application which is used to provide the functionality communicated with databases and other information sources.

Front-end	Application which is used by the clients. It presents the functionality provided by the back-end
Mobile application	An application which is targeted to be executed on a mobile device
SCRUM	The development methodology used
SCRUM Master	Person responsible for guiding the SCRUM process and ensuring that all team members follow it without any obstacles.
Sprint	Cycle in SCRUM development that aims at achieving a certain set of tasks within a predetermined time-span
Story point	A measure for complexity of a story

#### 1.4.2 Acronyms and abbreviations

Acronyms or abbreviations	Definitions
FER	Faculty of Electrical Engineering and Computing, University of Zagreb
MDH	Mälardalen Högskola, Sweden
Telco	Telecommunication operator

#### 1.5 References

Documentation about the project, provided by the client:

<https://drive.google.com/file/d/0B0kZhRbIOZy6bEI0U1hCMVZnaEVvQVgwRU5nRU43X01JNk53/view?usp=sharing>

<https://drive.google.com/file/d/0B0kZhRbIOZy6Sm14OTA3LW5iYUE/view?usp=sharing>

[http://www.fer.unizg.hr/\\_download/repository/GiftCase.pdf](http://www.fer.unizg.hr/_download/repository/GiftCase.pdf)

Information about Front-end and Back-end:

[http://en.wikipedia.org/wiki/Front\\_and\\_back\\_ends](http://en.wikipedia.org/wiki/Front_and_back_ends)

## 2 Background

### 2.1 Overview

The GiftCase project is initiated by Ericsson Nikola Tesla, located in Croatia. The goal of the project is the develop a mobile application, which will provide the users the ability to send personalized gifts to their contacts. After sending a gift, the target contacts will receive a notification either through the GiftCase application or through email (if the target contact is not a GiftCase user). The application will also keep the users informed about different events related to their contacts, for which the user might want to send a gift, for example, birthdays. The application will collect information from several sources. These sources of data include social networks (Facebook, LinkedIn) and Telecommunication operators (Telcos) from which information about the user`s contacts and their related events will be collected. The application will provide the users with product recommendations based on people`s preferences collected also from the social networks. Concrete products, which the user can buy and send to his contacts will be taken from content providers (Amazon, eBay).

### 2.2 Project Scope

The scope of the project includes development of a front-end mobile application which should support at least the Android operating system. The mobile application will be used by the end clients to access event notification, gift recommendation, gift selection and sending services. These services will be realized as part of the application back-end. It will communicate with various sources of data in order to extract information about the user`s contacts, upcoming events, people`s preferences and possible gifts. The application back-end will consist of:

- Core part which will be responsible for integration of the information coming from different sources (social networks, Telcos and content providers), answering the requests of the mobile application and sending notifications to the mobile application;
- Recommendation engine, which will handle the personalization of the gifts - it will filter products extracted from the content providers based on the user`s preferences extracted from the social networks.
- The application back-end will provide a REST API for communication with the client.

### 2.3 Project assumptions

- The logging in the application will be realized through Facebook.
- The application will communicate with the REST API-s of different sources of data.
- The payment for gifts will not be realized as part of the developed application. The services provided from the content providers will be used. However, for the goals of the developed application, a simulation of the payment will be sufficient.

- The application will not be integrated with real Telcos. Simulation of the services provided by Telcos need to be realized.
- The gifts that are proposed and might be bought are only electronic.
- The following categories of gifts should be handled:
  - Media (music, video)
  - Telco - prepaid vouchers, other offers
  - Event tickets

## **2.4 Project Constraints**

- The project must be completed within 2 - 3 months.
- The application needs to be integrated with the following social networks - Facebook, LinkedIn.
- The application needs to be integrated with the following content providers - eBay, Amazon. The list is non exhaustive.
- The application needs to be integrated with Telcos.

## **2.5 Project scope statement**

### **2.5.1. Included**

#### **Application**

Android application

#### **Application back-end**

Recommender service, content provider service, core service (user registration, client requests executor, integration with the other two services (recommender, content provider).

### **2.5.2. Excluded**

#### **Updates and upgrades**

After the application has been deployed, our project team will cease to exist and updates or upgrades are no longer provided.

#### **Product marketing**

Product marketing or promotion is not included.

#### **Product maintenance**

This is not included.

#### **Multilingual**

This is not included.

## 3 Stakeholders

### 3.1 Customer

The customer for the GiftCase application is Ericsson Nikola Tesla with a representative:  
Marin Orlić  
Email: marin.orlic@ericsson.com

### 3.2 Application users

The users who will use the application and buy and send gifts.

### 3.3 Supervisors

The project has two supervisors from both FER and MDH universities.

The local supervisor from Croatia is:

Igor Čavrak

Email: igor.cavrak@fer.hr

The remote supervisor from Sweden is:

**Juraj Feljan**

Email: juraj.feljan@mdh.se

### 3.3 Project group

Team member	Role	Email	University
Vlatko Klabučar	Product Owner / Back-end Developer	vlatko.klabucar@fer.hr	FER
Giulio Cattivera	System Architect / Front-end Developer	giulio988@hotmail.com	MDH
Ana Stepić	System Architect / Back-end Developer	ana.stepic@hotmail.com	FER
Damir Tomic	Back-end Developer	damir.tomic@fer.hr	FER
Aleksandra Salikiryaki	Front-end Developer	asi13004@student.mdh.se	MDH
Gijsbrecht Henrik Bos	Front-end Developer	gbs440@student.vu.nl	MDH

## 4 Development process

The development process which will guide the realization of the project and the actual development of the GiftCase application will be SCRUM.



The project will start with initialization phase in which the requirements for the application will be gathered and synchronized with the client. The requirements will be presented in the form of user stories and gathered in a product backlog. Priority will be assigned to each requirement, in order to guide the planning of the work. Through analysis of the requirements, initial architecture of the system will be developed. The main logical parts realizing the application functionality will be identified and concrete responsibilities for each of them will be defined. All these artifacts will be documented. In order to guide the development process, detailed tasks will be identified and added to the product backlog.

The goal of the next phases will be the implementation of the application according to the predefined requirements and architecture. Changes will be made to the later in case of problems or inconsistencies with the client's needs. The development will be guided by the SCRUM process. The work will be divided in three sprints.

At the beginning of each sprint, a planning meeting will be conducted in order to identify which tasks will be included in the current sprint. The complexity of each task will be estimated in terms of story points, which reflect the number of man-days needed to complete a task. This procedure will be done in a discussion among all team members. The choice of tasks for certain sprint will be made depending on the priorities of the tasks and the story points. The goal is to have a complete functionality at the end of each sprint.

The tasks will further be distributed among the team members in a way that prevents the dependencies in the work as much as possible. For example tasks which realize one functionality and have sequential dependency will be assigned to one person. Furthermore, the development of the front-end and back-end application will be separated between the team members in MDH and FER in order to allow easier communication among the members, more specifically, MDH will realize the front-end application and FER will realize the back-end application.

During the sprint each team member is supposed to develop the assigned functionality and unit test it. At the end of the sprint, the developed components will be integrated and a test will be made of the complete functionality. If necessary, additional test meetings will be organized for all team members from FER and MDH in order to ensure the integrity of the front-end and back-end applications. Acceptance testing of the application functionalities will be held against the validation criteria for each story. Regular meetings with the client will be held in order to present him the realized functionality, gather feedback and adjust the requirements, design, time plan if necessary.

At the end of each sprint, a reflection meeting will be held in order to see the difference in the estimated complexity and the real time that was needed to complete the each story. This information will be used in order to make better estimates in the next sprint.

## 5 Organization and communication

### 5.1 Roles and responsibilities

The roles and responsibilities in the team are as follows:

- SCRUM master - will be responsible for the organization of the project team. His/her tasks include: monitoring that the SCRUM process is followed, task definition, resolution of problems with various nature. The SCRUM master role will be rotated bi-weekly, in order to give all the members experience in leading the SCRUM process.
- Product owner - will be the main responsible for communicating with the customer, arranging meetings and discussing the questions and concerns of the development team.
- System architect - will be responsible for development of the architecture of the whole application. He/she will gather and communicate the ideas of the team and draw final decisions.
- Front-end developers - will be the main responsible for the development of the mobile application part of the project.
- Back-end developers will be the main responsible for the Back-end part of the application and the Engine for gift proposal.

The responsible people for the status documents that need to be produced are as follows:

- Aleksandra Salikiryaki will be responsible to make the Minutes of meeting document, which will summarize the most important decisions made on each meeting.
- Giulio Cattivera will be responsible to make the Weekly report document, which will summarize the achievements through the week and will outline the planned activities for the next week.

### 5.2 Meetings and communication flow

As the selected development process is SCRUM there is a certain person responsible for communication with the customer, i.e. the product owner. All questions that need to be directed to the client will be discussed among the team members and presented to the product owner.

As the role of the SCRUM master is to take care of the following of the process, any problems and questions related to SCRUM process will be directed to him/her.

The team will have regular meetings, at least three times a week during the initiating phase of the project in order to build basic understanding of the project goals and

### 5.3 Communication tools

- Skype for videoconferencing

- Kanbanize for SCRUM related activities
- GitHub for source control
- Slack for asynchronous text communication
- Google drive for writing documents as a group

## **5.4 Tracking of the work**

In order to keep track of the work during the week and the decisions which have been taken on meetings the following two documents will be created:

Minutes of meeting: This document will contain information about the members which have been present on the meeting, the date and time in which the meeting has been held, also about the location of the meeting. The most important things that have been discussed will be written. The most important decisions which have been taken will also be recorded. The document will be beneficial for informing the team members which have not been present on certain meeting about the status of the work and the taken decisions. The document will also be beneficial for tracing the fulfillment of the obligations of the team members.

Weekly reports: This document will keep track of the project status. It will provide traceability of the planned and executed activities. The document will contain the following information:

- Overview of the state of the project and whether the planned deliverables have been produced on the defined milestones;
- A detailed explanation of the tasks which have been executed during the week with the time which each tasks has consumed; a comparison is made with the time planned for task in the document created for the previous week; thus the time planning can be adjusted, until the team starts to make correct predictions;
- Activities planned for the next week with the time which they will consume according to the team members;
- Actions list, which defines concrete actions which will be help in order to execute the planned activities;
- Comments, which will describe eventual reasons for not meeting the planned deadlines and other problems met during the week;
- A list with milestones and whether they have been met or delayed and if they have been delayed with how much days; this, again, will help to the team members to correct their estimation;
- Time which each member of the team has spent on the project.

Kanbanize: This tool will be used for management of the user requirements in the form of stories and concrete tasks. The tool provides the possibility to prioritize the tasks and also to track the estimated time for each task. When a task is completed, the tool provides the possibility to each team member to make a comparison between the estimated and real time for the execution of certain task. After the first sprint, the team members will adjust their estimations according to the results. The team members will start to use the tool when the user stories are accepted by the client.

Slack: Until the real implementation starts and the tasks are entered into Kanbanize, the activities executed by the team members will be tracked in a channel in Slack in order to make it easier to fill the "Weekly report" document.

## 6 Planned deliverables and milestones

### 6.1 External

The following external milestones have been identified:

- Project plan, Design document, Requirements Document
- Alpha prototype
- Beta prototype
- Final product

These milestones are created in order to communicate our project goals towards the client. Each scrum sprint ends in an external milestone or deliverable.

### 6.2 Internal

The following internal milestones have been identified:

- Documentation:
  - Project Plan
  - Design document
  - Requirements document
- UI Implementation
- Rest mockup
- Backend
  - Rest interface
  - Content provider integration
  - Recommender system
- Frontend
  - UI Implementation
  - Graphical Interface design

Our internal milestones and deliverables consist of primary tasks that we intend to complete in order to deliver our external deliverables and milestones. An overview is provided in our Gantt chart presented in section seven.

### 6.3 Division of work

#### Communication

Given our distribution orientation, we decided that the Croatian side of the team would be a perfect candidate for communicating with the client. The communication is conducted by the product owner, and consists of several meetings with the client. We use several communication tools to expedite our communication. These include: Kanbanize for the backlog, skype for meetings, and slack for project developments and announcements.

#### Product owner

The product owner is concerned with the communication with the client and makes sure the requirements are communicated towards the team. His tasks is to make sure that the team is not bothered by the communication with the client.

### **Scrum master**

In order to maintain a flexible team, we rotate the role of scrum master among our team members. We will appoint a scrum master, which will take care of its tasks and after a certain time span, we vote for a new scrum master.

The tasks of the scrum master are as follows:

- Organize sprint meetings
- Make sure tasks are performed as planned
- Assist in team building and mediate team conflicts
- Communicate with the product owner
- Prepare the product backlog
- Plan scrum sprints

### **Backend and frontend development**

The team consists of a Croatian side and a Swedish side. We have split our efforts of working on both the backend and frontend by assigning it to a side.

The Croatian side is responsible for the backend development of the application. This includes taking care of the Rest interface, Content provider, and Recommendation engine.

The Swedish side is responsible for the frontend development of the application. This includes creating a graphical interface, and implementing the user interface.

Both teams are concerned with the putting together both the frontend and backend.

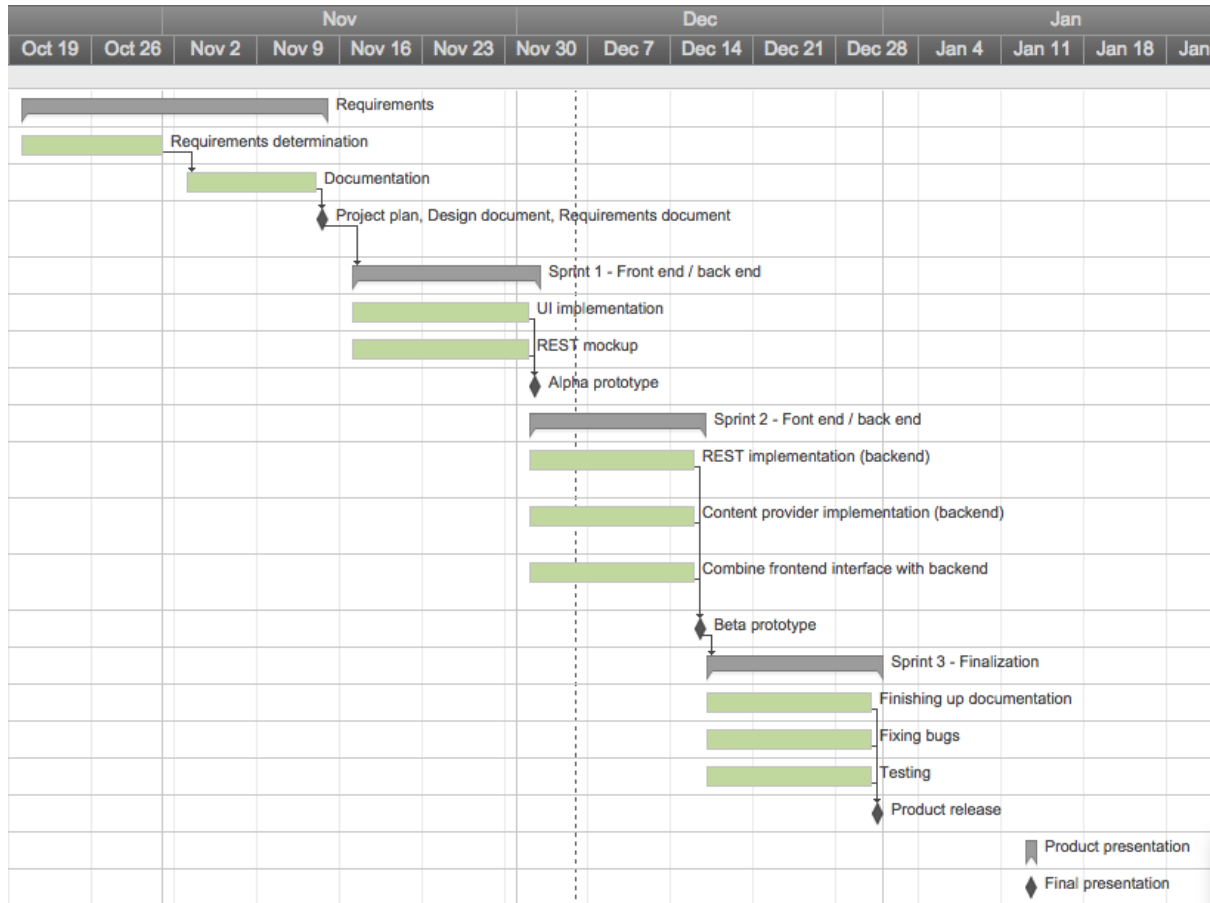
### **Presentations**

In order to update our client on the project status and our current project developments, we give several presentations. We intend to let everyone in the team speak on subjects that they are responsible of.

## **7 Time plan**

In order to complete our tasks in time, we decided a traditional Gantt chart would serve our needs in planning our milestones and deliverables. Our initial planning predicted that our scrum sprints would take three weeks. We decided to shorten the sprints in order to get more feedback from the client.

Currently our scrum sprints are two weeks in duration. The sprints are indicated in the Gantt chart.



## 8 Quality assurance

For quality assurance, we use an extreme programming methodology called pair programming. This method involves a revision round to check the code integrity.

The process of pair programming in scrum is as follows:

- Person A implements task X from the scrum backlog and marks it as “In progress”
- Person A finishes task X and moves the task from “In progress” to “Waiting for review”
- Person B implements task Y from the scrum backlog and marks it as “In progress”
- Person B finishes task Y and moves the task from “In progress” to “Waiting for review”
- Person A reviews task Y which was marked “Waiting for review” by Person B
- Person B reviews task X which was marked “Waiting for review” by Person A
- Person A marks task Y as complete
- Person B marks task X as complete

After each sprint cycle, we have a feedback meeting with the client to ensure we are on the right path. This evaluation meeting includes adding requirements to the backlog.

For the backend development we use Unit testing to test components of the system. We also use integration testing through mocked up client requests.

The frontend is evaluated after every sprint cycle and modified according to the specifications of the client.

## 9 Project risks

Dimension	Project Scope
Possibility	Very high
Description	The client is uncertain about the possibility to provide access to already developed components part the Engine for gift proposal.
Risks	The team will need to develop functionality and algorithms for gift proposal depending on the contact`s preferences.
Preventive Action	The team should research possibilities for realization of the Engine for gift proposal, like possible algorithms and strategies, which can be used.

**Table 1. Project risk: Risk concerning the project scope.**

Dimension	Requirements
Possibility	Medium
Description	There might be a misunderstanding regarding the requirements of the system.
Risks	<ol style="list-style-type: none"> <li>1. Incompatibilities between the components may arise if the ambiguities are not communicated correctly.</li> <li>2. The team might spend too much time in the process of analysing requirements if it has many ambiguities.</li> </ol>
Preventive Action	The project owner and if needed the whole team will have regular meetings with the client in order to clarify and agree upon the requirements.

**Table 2. Project risk: Miscommunication of the requirements.**

Dimension	Graphical User Interface
Possibility	Low
Description	The application should provide a GUI for the mobile application.
Risks	Problems with the vision of the client and the team members about the GUI might occur.
Preventive Action	The team members will create mock-ups of the GUI of the mobile application part of the system and will discuss them as early as possible.

**Table 3. Project risk: Lack of synchronization about the GUI.**

Dimension	Technologies and Tools
Possibility	Very high
Description	The client has a vision about the technologies which should be used for the development of the project. The client also proposes tools which can be used for the requirements analysis and automatic generation of parts of the implementation artifacts.
Risks	<ol style="list-style-type: none"> <li>1. There might be ambiguities between the visions of the client and the team members with regards to the used technologies, based on the experiences of both the client and the team members.</li> <li>2. The tools which are proposed by the client might not be delivered on time for the team to use them or they might be ineffective with regards to the team needs.</li> </ol>
Preventive Action	Continuous communication will be performed with the client in order to negotiate and reach a compromise with regards to the technologies and the usage of the proposed tools.

**Table 4. Project risk: Lack of consensus on the techniques and tools that will be used through the development.**

Dimension	Integration
Possibility	Medium



Description	The application needs to be integrated with some external systems like social networks, content providers and telecommunication operators.
Risks	<ol style="list-style-type: none"> <li>1. Problems in the integration might occur.</li> <li>2. Problems with the terms of usage of the 3rd party services.</li> <li>3. The 3rd party services might not provide all the required functionalities.</li> </ol>
Preventive Action	<ol style="list-style-type: none"> <li>1. The teams will plan to spend additional time on the integration with different systems in order to minimize the possibility of missed deadlines in case of problems.</li> <li>2. The team will spend some amount of time on research of the terms of usage and the provided functionalities of the different 3rd party services.</li> </ol>

**Table 5. Project risk: Problems with the 3rd party services with which the application should be integrate.**

Dimension	Team synchronization and collaboration
Possibility	High
Description	The members of the team are working from distant places and there might be problems in the communication based on the tools used for communication.
Risks	<ol style="list-style-type: none"> <li>1. Incompatibilities between components may happen if the ambiguities are not communicated correctly.</li> <li>2. The team might spend too much time analyzing the requirements if there are many ambiguities.</li> </ol>
Preventive Action	The project owner, and if needed, the whole team will have regular meetings with the client in order to clarify and agree upon the requirements.

**Table 6. Project risk: Problems with communication tools.**

Dimension	Team synchronization and collaboration
Possibility	High

Description	The members of the team are involved in other projects and courses and problems might occur in the synchronization of the work.
Risks	<ol style="list-style-type: none"> <li>1. One team member may need to wait for another if the functionalities they develop are dependent on each other.</li> <li>2. There might be meetings on which a member would not be present.</li> </ol>
Preventive Action	<ol style="list-style-type: none"> <li>1. The tasks will be split in a way, which makes as less as possible dependencies among them in order to prevent blocking of certain tasks.</li> <li>2. The dates and times for meetings will be arranged beforehand in order to allow the participation of each member.</li> </ol>

**Table 7. Project risk: Problems with the schedule of the team members.**

Dimension	Team synchronization and collaboration
Possibility	Medium
Description	Due to the cultural differences, the team members might have different understanding of the working process and organization of the work or other subjects.
Risks	Miscommunication and lack of collaboration might occur among the team members.
Preventive Action	All possible problems will be communicated on time in order to prevent conflicts.

**Table 8. Project risk: Cultural differences.**

Dimension	Process
Possibility	Medium
Description	The team members are experiencing the organization of a SCRUM process for the first time.
Risks	The predefined rules for the SCRUM process (like duration of a sprint) might not be suitable for the project.

Preventive Action	The team will be flexible with regards to the predefined rules. If a need for change is foreseen after the first sprint, corrections will be made to the rules.
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**Table 9. Project risk: Wrong configuration of the SCRUM process.**

Dimension	Process
Possibility	Medium
Description	The team members are new with regards to some of the parts of the application, which have to be developed.
Risks	Inaccurate estimates may be provided for the complexity of the tasks and the time that will be needed for their realization.
Preventive Action	After the first sprint, the planned with achieved results will be compared and measures will be taken in case there are differences.

**Table 10. Project risk: Wrong estimation of the complexity of the tasks.**