Freshman Orienteering App
T-76.4115 Software Development Project, Autumn 2012
Group 11: Olkkonen, Harichandra, He, Huang, Saarelma, Udd, Vierros, Xiang

User Requirements Document

Team Freshmen

Version	Date	Author	Description
1.0	28.9.2012	Olkkonen	First draft
1.1	29.9.2012	Vierros	Updates to the main concepts and system overview
1.2	28.10.2012	Olkkonen	User stories

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Table of contents

1. Introduction

The goal of the Freshman Orienteering App project is to create a fun orienteering application for students, that enables them to store content created during the orienteering in a secure manner to content cloud. Orienteering route and checkpoints with tasks are set up by hosts, who accept/ grade the performed tasks. Checkpoints are revealed to the students on a map or by giving the students content as hints on how to find them. The application is designed for mobile devices and takes advantage of the location information available on the device.

This document defines the requirements for the system. It includes functional and non-functional requirements and constraints which must be considered by the development team. This document serves as a base for iteration planning and for test design. The table below lists all stakeholders in this project and why they should read this document.

Table 1: Intended audience of this document

Stakeholders	**Reasons for reading**
Customer, Mikko Pöri	Giving feedback, ensuring that requirements are documented correctly and prioritizing requirements.
System developers	System is developed based on the requirements defined in this document.
Testers	Tests are planned and validated based on the requirements.
Project management	Tracking the progress of the project, the document also serves as basis for the architecture of the software.
Mentor, Juhana Yrjölä	Commenting and giving feedback.

2. Business goals

Freshman Orienteering App
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The goal of the project is to produce a sample application using F-Secure Content Cloud JavaScript SDK (Software Development Kit). The application will serve as an example for the developer community on how to build applications that take advantage of the features of the Content Cloud.

After the project, the system may be used in a commercial context, but the scope of the project is to concentrate on building a fun application for event participants to use. In addition to having a sample application, the customer will find out how easy the Content Cloud SDK is to use and get feedback on the design of the SDK. Students using the system will have a way to store and share great moments.

3. Main domain concepts

The main domain concepts are presented in table 2.

Table 2. Main domain concepts

Concept	Description
Content Cloud	F-Secure's new cloud-based storage platform, that offers application developers a secure way to store customer data.
Participant	Someone who is participating the orienteering event and has logged into the system.
Organizer	Someone who creates events, defines checkpoints and gives tasks and finally grades them.
Authenticated user	A participant or organizer who had been authenticated by Facebook using Facebook authentication and authorization service (OAUTH 2.0).
Event	Series of checkpoints created by the organizer.
Checkpoint	A point-of-interest in the event with a specific location on the event map. A checkpoint may have a defined task for the participants.
Task	Task given by the organiser which is carried out by participants. The execution of the task must be documented by participants.
Attachment	Video, audio, still image or document file, which can be uploaded by participants to Content Cloud at a checkpoint as a submission to a task
Location	Coordinates (latitude, longitude) representing the position of a user or a checkpoint.
Visit	A registered check-in by a participant at a checkpoint.
Freshmen	An event for first-year-students at universities held at the beginning of

orienteering	every academic year (“Fuksisuunnistus” in Finnish).

4. System overview

The system has two main types of users: *event participants* and *event organizers*. Both types of users use the same application. If a user uses the application to create an event, he is regarded as an event organizer. If a user uses the application to enter an event, he is regarded as an event participant. All users are authenticated using Facebook authentication and authorization service.

Event organizers use the system to map out points-of-interest (checkpoints) for event participants. Event organizer can assign tasks to these checkpoints to drive participant interaction and engagement. The tasks can be used to crowdsource photos, videos or other documentation from the event. The task submission can be graded to create more game-like experience for the participants.

Event participants use the system to find points-of-interest at the event. These checkpoints are shown on a map of the event. The checkpoints may be intended to be gone through in a predetermined order or explored unordered as determined by the event organizer. Participants check-in at the checkpoints (visit) and if the checkpoint has a task associated with it, they will get a description of the task. The tasks include documenting the engagement at the checkpoint, either as a photo, video or written document. The task submission is uploaded to the Content Cloud and shared with the event organizer. Event participants may receive feedback on the submission as points awarded by the event organizer.

Freshman Orienteering App
T-76.4115 Software Development Project, Autumn 2012
Group 11: Olkkonen, Harichandra, He, Huang, Saarelma, Udd, Vierros, Xiang

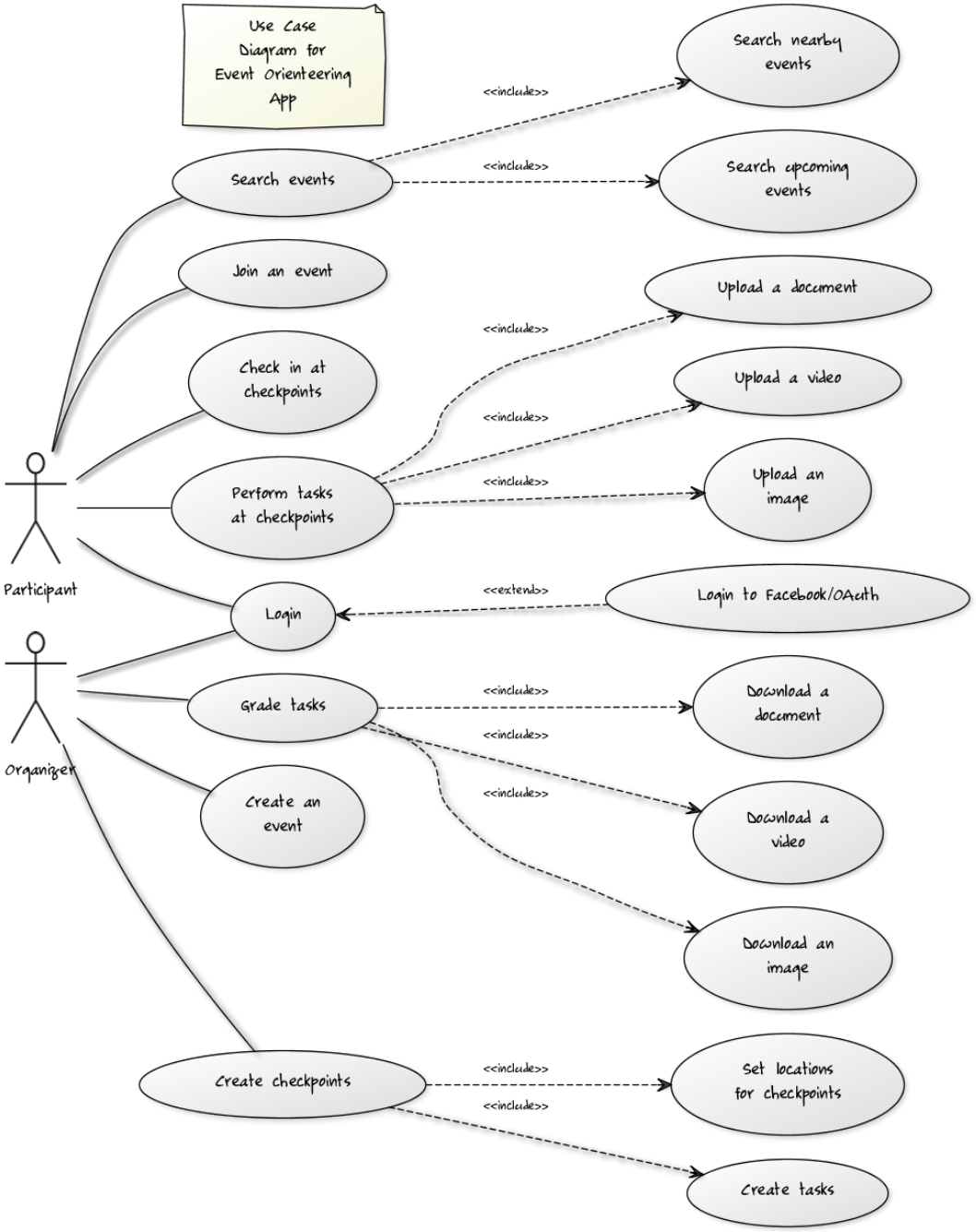

Image 1: A UML diagram describing the use cases of the system. (http://yuml.me/46809ff4)

5. User groups

Table 3. Users of the system

User group	Description	Number of users	Importance of the group
Participants	Students participating in the orienteering event	Hundreds of users	High
Organizers	Senior students who create the orienteering event	Tens of users	High
Developer Community	Developers who create applications taking advantage of the Content Cloud	Unknown	High

6. Functional requirements

The functional requirements for the system are presented as user stories in appendix 1. The user stories follow the client's Definition of ready format. Mockups were used to support the user stories. A few user stories are presented in a more compact format in the table below.Test cases haven't been defined in detail in this iteration.

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ID	Requirement	Prioritization viewpoints			Status	Related test cases
		Importance for customer (must, essential, conditional)	**Impact to architecture (high, medium, low)**	**Development effort (high, medium, low)**	<e.g. proposed, approved, implemented, tested>	
F1	Log into application	Must	high	medium	implemented	<test case IDs>
F2	Enrol in event	Must	high	medium	approved	
F3	See event area	Must	high	medium	approved	

7. Non-functional requirements

Non-functional requirements were discussed with the client and are listed in the table below.

ID	Requirement	Prioritization viewpoints			Related use cases	Related test cases
		Importance for customer	**Impact to architecture**	**Development effort**		
N1	The application is published under the Apache License, Version 2.0 and should only contain components that adhere to the license	medium	low	low		
N2	Ease of use	essential	medium	medium		
N3	Security: Application must ensure that each user's information does not get disclosed against the application's security settings	essential	high	medium		
N4	Privacy: content compromising privacy should not be shared through the application	essential	medium	high		

8. Constraints

ID	Constraint	Related test cases
C1	The application should work on mobile internet connection (3G)	<test case IDs>
C2	All user submitted content should be stored in CAN (F-Secure Content Anywhere Network)	
C3	User authentication should be handled using Facebook API	

Freshman Orienteering App
T-76.4115 Software Development Project, Autumn 2012
Group 11: Olkkonen, Harichandra, He, Huang, Saarelma, Udd, Vierros, Xiang
Appendix 1. User stories

1. **As a user/organizer I want to login to the service**

2. **As an organizer I want to create an event**
    - **2.1 As an organizer I want to create groups**
    - **2.2 As an organizer I want to send out invites**
    - **2.3 As an organizer I want to create checkpoints**
        - **2.3.2 As an organizer I want to create tasks**
        - **2.3.3 As an organizer I want to give the tasks descriptions**
        - **2.3.4 As an organizer I want to mark locations of the checkpoints**
        - 2.3.5 As an organizer I want to assign personnel to the checkpoint (extended)
        - 2.3.6 As an organizer I want to give a hint on the next checkpoint (extended)
        - 2.3.7 As an organizer I want to give time limits to checkpoints (extended)
    - **2.4 As an organizer I want to overview the submitted content**
    - **2.5 As an organizer I want to grade tasks**
    - 2.6 As an organizer I want to display a scoreboard (extended)
    - 2.7 As an organizer I want to kick out a group (extended)
    - 2.8 As an event organizer I link my event to Facebook event (extended)
    - 2.9 As an organizer I want to give time limit to the event (extended)
    - 2.10 As an organizer I want to create a final multimedia show of the event (extremely extended...)

3**. As a user I want to enroll to an event**
    - **3.1 As a user I want to join a group**
    - **3.2 As a user I want to see the event area**
    - **3.3 As a user I want to complete a checkpoint**
        - **3.3.1 As a user I want to check in at a checkpoint**
        - **3.3.2 As a user I want to upload my submission to a task**
        - **3.3.3 As a user I want view the progress of my upload**
    - 3.4. As a user I want to skip a checkpoint (extended)
    - 3.5. As a user I want to see all the material I have submitted (extended)
    - 3.6 As a user I want to flag content as private (extended)
    - 3.7. As a user I want to delete content (extended)
    - 3.8 As a user I want to share content (extended)
    - 3.9 As a user I want to see the route which I used during the course (extended)
    - 3.10 As a user I want to upload content during the event also outside checkpoints (extended)
    - 3.11 As a user I want to see where other groups are (extended)

Freshman Orienteering App
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As a user I want to login to the service

Preconditions: The user has a facebook account.
Acceptance Criteria: The user home screen is displayed in the client if login is successful.
Test Plan: Test with valid username and password as well as incorrect login info.
Documents: User manual
Architectural guidance: Login is handled by the CAN-interface
Issues:
Importance for Customer: Must
Importance for Architecture: high
Development Effort: high

As a user I want to enroll to an event

Preconditions: The user is logged in and has selected an event from a list.
Acceptance Criteria: The user is registered as an event participant in the system.
Test Plan: The user database should have a register for the event.
Documents: User manual
Architectural guidance:
Issues:
Importance for Customer: Must
Importance for Architecture: high
Development Effort: high

Freshman Orienteering App
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As a user I want to join a group

Preconditions: The user has registered to an event. There are either a group to join or the user has to create a group.
Acceptance Criteria: The user is part of a group.
Test Plan: The user table has a reference to the selected group.
Documents: User manual, test case, test log
Architectural guidance:
Issues:
Importance for Customer: Must
Importance for Architecture: high
Development Effort: high

As a user I want to see the event area

Preconditions: The user has registered to an event and joined a group.
Acceptance Criteria: The user is presented with a view of the event area and the checkpoints (if they aren't set as hidden).
Test Plan: All checkpoints are on the visible map area.
Documents: test case, test log
Architectural guidance: Use a map api to get the map, use a geolocation api to get the location of the device.
Issues:
Importance for Customer: Must
Importance for Architecture: medium

Freshman Orienteering App
T-76.4115 Software Development Project, Autumn 2012
Group 11: Olkkonen, Harichandra, He, Huang, Saarelma, Udd, Vierros, Xiang
Development Effort: medium

As a user I want to check in at a checkpoint

Preconditions: The user has to be within a predefined radius of the checkpoint.
Acceptance Criteria: The system has accepted and registered the check-in.
Test Plan: Test outside and inside the accepted radius.
Documents: user manual, test case, test log
Architectural guidance:
Issues:
Importance for Customer: Must
Importance for Architecture: high
Development Effort: high

Freshman Orienteering App
T-76.4115 Software Development Project, Autumn 2012
Group 11: Olkkonen, Harichandra, He, Huang, Saarelma, Udd, Vierros, Xiang

As a user I want to upload my submission to a task

Preconditions: The user has checked in to a checkpoint.
Acceptance Criteria: A submission of the task (a file) resides in the CAN.
Test Plan: Test with different file formats, e.g. video, text; Use broken files, big size files, small size file, and DRM protected files
Documents: user manual, test case, test log
Architectural guidance: Use CAN SDK to upload files, use partial file upload.
Issues:
Importance for Customer: Must
Importance for Architecture: high
Development Effort: high

As a user I want to view the progress of my upload

Preconditions: The user has selected a file to upload.
Acceptance Criteria: The current status of the submission is visible to the user.
Test Plan: Test with different file formats, e.g. video, text; Use broken files, big size files, small size file, and DRM protected files
Documents: user manual, test case, test log
Architectural guidance:
Issues:
Importance for Customer: Must
Importance for Architecture: low
Development Effort: medium

Freshman Orienteering App
T-76.4115 Software Development Project, Autumn 2012
Group 11: Olkkonen, Harichandra, He, Huang, Saarelma, Udd, Vierros, Xiang

As an organizer I want to create events

Preconditions: The organizer is logged in.
Acceptance Criteria: The events list has a new entry.
Test Plan: Check the events database table for a new entry
Documents: User Manual
Architectural guidance:
Issues: Publish vs creating an event?
Importance for Customer: Must
Importance for Architecture: high
Development Effort: high

As an organizer I want to create groups

Preconditions: The organizer is logged in
Acceptance Criteria: The organizer can give name to group, set limit for participants
Test Plan: check for presence in database
Documents: user manual, test case, test log
Architectural guidance:
Issues: Should we allow both the participants and organizers create groups?
Importance for Customer: Must
Importance for Architecture: high
Development Effort: high

Freshman Orienteering App
T-76.4115 Software Development Project, Autumn 2012
Group 11: Olkkonen, Harichandra, He, Huang, Saarelma, Udd, Vierros, Xiang

As an organizer I want to send out invites

Preconditions: The organizer
Acceptance Criteria: The organizer can promote the event by sending out links.
Test Plan: Create an event. Use user interface to get a link to the event. Follow the link. Expect to be taken to the event front page
Documents: user manual, test case, test log
Architectural guidance: Events should have a url that can be used to get to the event front page.
Issues:
Importance for Customer: Must
Importance for Architecture: high
Development Effort: high

As an organizer I want to create checkpoints

Preconditions: The organizer has created an event
Acceptance Criteria: The organizer has pinpointed a location on the map, assigned a name for checkpoint
Test Plan: Check the waypoints table for an entry
Documents: user manual, test case, test log
Architectural guidance:
Issues:
Importance for Customer: Must
Importance for Architecture: high
Development Effort: high

As an organizer I want to create task

Preconditions: The organizer has created a checkpoint
Acceptance Criteria: The organizer can type in a description of the task.
Test Plan: test creating tasks using different file formats, broken files, large and small files, and DRM files
Documents: user manual, test case, test log,
Architectural guidance:
Issues:
Importance for Customer: Must
Importance for Architecture: high

Freshman Orienteering App
T-76.4115 Software Development Project, Autumn 2012
Group 11: Olkkonen, Harichandra, He, Huang, Saarelma, Udd, Vierros, Xiang
Development Effort: high

As an organizer I want to mark locations of the checkpoints

Preconditions: The organizer has
Acceptance Criteria: The organizer can double click on the map to set a location for the checkpoint.
Test Plan: test out the accuracy of pinpointing checkpoints for events, including going to the physical location as indicated by the application
Documents: user manual, test case, test log
Architectural guidance: Save the location in the database as longitude and latitude as a EPSG:4326 projection. This is the same format that the geolocation API provides.
Issues:
Importance for Customer: Must
Importance for Architecture: high
Development Effort: high

As an organizer I want to overview the submitted content

Preconditions: there must be submitted content in the content cloud
Acceptance Criteria: files in the content cloud can be viewed by the organizer
Test Plan: test the overview function with x number of submitted files in the content cloud and also with no content in the content cloud.
Documents: user manual, test case, test log
Architectural guidance: The participants upload files to organizers CAN account. Therefore, all content to be removed should be in organizers CAN account.
Issues:
Importance for Customer: Must
Importance for Architecture: medium

Freshman Orienteering App
T-76.4115 Software Development Project, Autumn 2012
Group 11: Olkkonen, Harichandra, He, Huang, Saarelma, Udd, Vierros, Xiang
Development Effort: high

As an organizer I want to grade tasks

Preconditions: there must be submitted tasks in the content cloud
Acceptance Criteria:
Test Plan: test grading submitted tasks and also when there are zero submitted tasks in the content cloud
Documents: user manual, test case, test log
Architectural guidance:
Issues:
Importance for Customer: Must
Important for Architecture: high
Development Effort: high