Requirements Document

Version: R1

Group 16

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Content

Version history

Who	What	When
Mounika Kaithi, Lakshmi sri Rupa Kurukuri , Reshad Qurishi, Erik Bengtsson , Axel Hertzberg, Steppe Schoolkate, Mati Jensen	R1: Goal and scope, Business case and stakeholder map, Core functionality, Performance requirements, Quality requirements, Constraint, Functional Requirements, Data requirements	17-09-2023

High-level description

This high-level description aims to provide a scope of the project, context, and key ideas.

Goal and scope

The goal of the application is to create a platform that provides a clear overview of all activities for students on Chalmers and GU campuses, thus giving organizers access to a larger audience and making it easier for students to participate. The activities can range from official welcome activities to pub crawls and sports events etc.

The scope of the platform will be the two biggest universities in Gothenburg, *Chalmers University of Technology* and *The University of Gothenburg*.

The context diagram seen in Figure 1 shows the context of the activity system. Most of the users of the system are within the domain of the University and interact directly with the activity system. Students view and mark attendance for events, organizers manage events, and the university serves an administrator role, giving access to organizers on request. Students can also be in direct contact with the organizer outside of our system. Last, external organizers exist, who are organizers who exist outside the university domain.

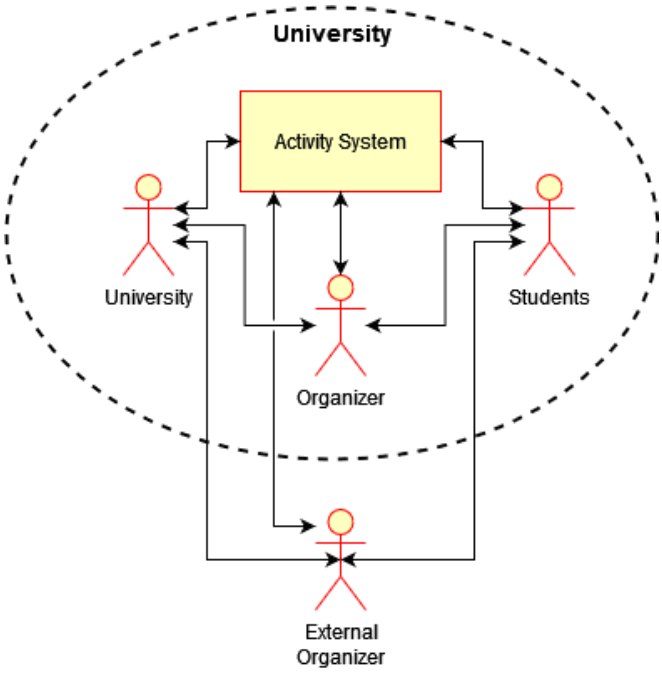

Figure 1: A simplified context diagram of the Activity System. We abstract away from the fact that there are two universities here.

Business case and stakeholder map

This section will include the stakeholders for the platform we are creating, but also the goal domain tracing and the business goals.

Business Goals

Business Goal 1 (University)

Make the university more attractive to students. The platform should enhance student engagement on campus activities, which will eventually increase the satisfaction index and even attract more students. It can also give an advantage over other universities in the higher education sector.

Kano Model in Figure 2, a graphical representation of a product's requirement can be a good tool to describe the value that the platform adds to the owner.

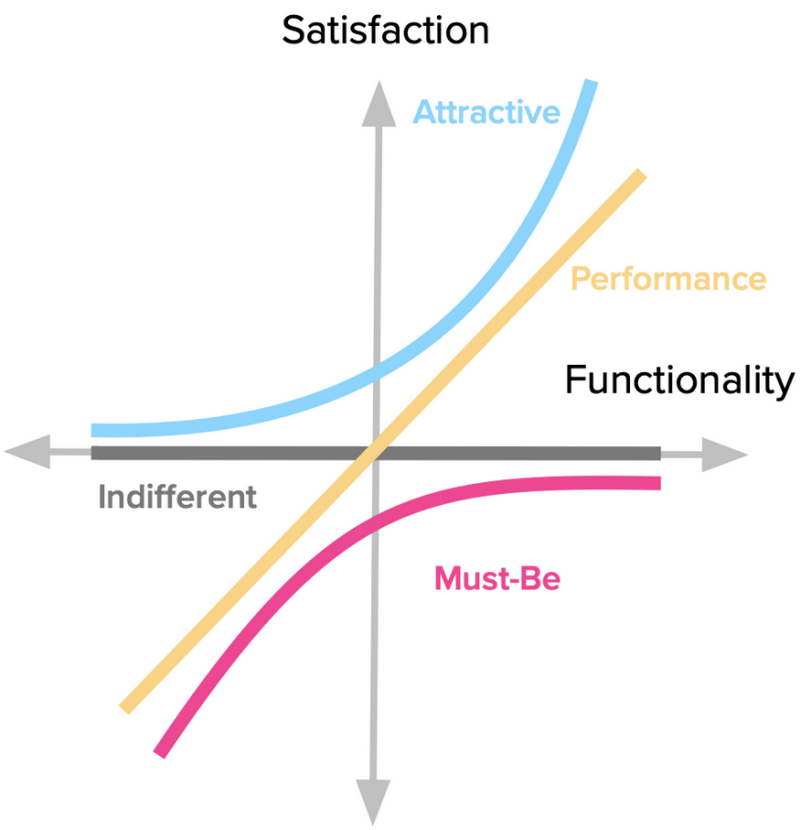

Figure 2 - Kano Model. Red curve illustrates the basic expectations(must have) functionality a product should have, blue curve illustrates the unexpected functionality that if exist, create excitement. The yellow curve shows the effect of both factors on user experience.

Increased student engagement in activities on campus which the platform intends to do is illustrated as an attractive feature in the above model(blue curve). Thereby enhancing the overall university experience for students and prospective applicants by implementing attractive features that the Kano Model illustrates, in other words, by launching this platform, the university exceeds expectations and creates a unique competitive advantage in this sector and attracting more students. This is the primary business goal that this platform would achieve.

Business Goal 2 (Students):

Simplify finding and attending student activities. The platform simplifies the organization and overview of campus activities for students. By aggregating activities onto a single platform, the amount of energy and time required of students to be informed about all activities decreases. This leads to an increase in student satisfaction by not missing activities that they would rather attend.
An existing of an application that might have had a similar business goal of simplifying being a student could be bench marked from “Campus Maps”, an application which students use to find places on campus.

Business Goal 3 (Student organizations):

Make it easy for student organizations to reach almost all students for their activities. The primary objective is to improve communication and reach for organizers by consolidating their communication efforts onto a single platform. This platform will enable organizers to effectively reach their target audience while minimizing the time spent managing multiple communication channels. Additionally, by centralizing activity information, organizers will gain a comprehensive view of participation.

Goal Domain Tracing

Here we map each business goal to a factor that is fulfilling it.

	Exposing Information	Common source of information	Student Engagement	New Friend groups	Existence of student groups
University (BG1)	*	*	*		*
Students (BG2)			*	*	
Student organization (BG3)	*	*			*

Stakeholders

One of the problems that faces this project is collaboration and separation between Gothenburg University and Chalmers. We have chosen to separate all the university-related stakeholders, as they are separate entities and we plan to elicit requirements from them separately, as there may be different requirements between GU and Chalmers. If it turns out from further requirements elicitations for further releases that their requirements are similar, we will combine them.

Name	Relationship	Representative	Power
Chalmers	Provider		High
Gothenburg University	Provider		High
Student Organizations	Potential organizer		High
External Organizations	Potential organizer		Low
Local Chalmers students	Potential user		Mid
Local GU students	Potential user		Mid
International Chalmers Students	Potential user		Mid
International GU Students	Potential user		Mid

Note that we keep representatives blank for now. We plan on finding representatives for the next release.

University: Chalmers and/or the University of Gothenburg will serve as the administrative users of the platform and also act as the product owners from our development perspective. They are very important as they are likely the only source of funding for the project.

Student Organizations: Student organizations are the organizations, such as student unions and student clubs. These organizations provide all content on the application by posting events. For this reason, it is important to meet all the needs of the organizers, as the application relies on participation from most student organizations to be useful.

External Organizations: Companies with no direct connection to the university. This could be a company hosting an event for the students at the university, such as a career fair or a talk with free food.

Local Chalmers students and GU students: The local students of Chalmers and the University of Gothenburg are the majority group of users. Chalmers and GU students are separated as they may have different needs based on their different experiences of events. Students have less power, as they are forced to use the platforms that the university and student organizations use.

International Chalmers students and GU students: The international students of Chalmers and the University of Gothenburg are users who may be new to the universities and Sweden. For this reason, they may have additional needs compared to the local students.

Core functionality

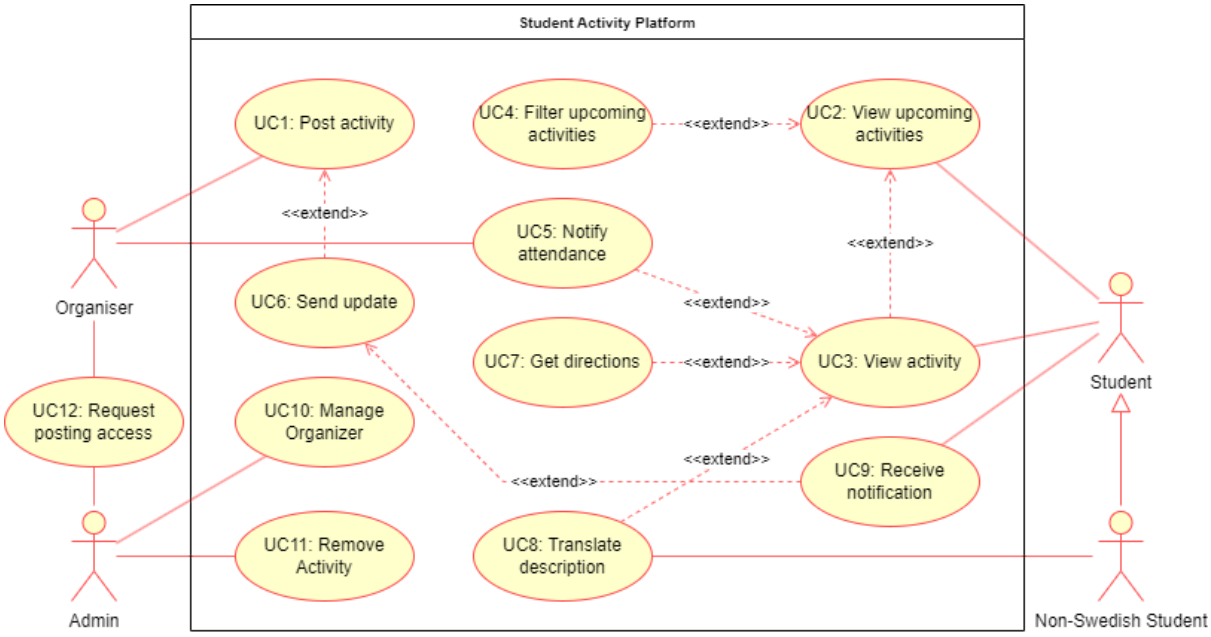

Figure 3: Use case diagram for Student Activity Platform.

The use case diagram in Figure 3 presents the primary use cases of the system for each of the actors. The use cases within the diagram are further explained with a short description below.

UC1 Post Activity: This case is the primary reason for organizers to use the platform. They can post an activity to the system that is then available to the users. They can attach information to the activity such as a description and date/time.

UC2 View upcoming activities: This case gives students access to an overview of all the upcoming activities they can attend. When the user accesses this overview they can choose an activity to see more details on (See UC3).

UC3 View activity: This case lets students read information about an activity. This information is added to the activity as part of UC1.

UC4 Filter upcoming activities: This case gives students the possibility to filter the overview of activities.

UC5 Notify attendance: This case lets a student notify the organizer of an activity that the student will attend. The student initiates this action.

UC6 Send update: The purpose of this case is to allow organizers to update information about their posted activity. This action can be the trigger for UC9 to occur.

UC7 Get directions: This case gives students directions on how to get to an activity.

UC8 Translate description: This case is for non-Swedish-speaking students who need translated instructions when the organizer supplied the activity information in Swedish.

UC9 Receive notification: This case allows students to receive notifications from activities when updates are sent by organizers (UC6).

UC10 Manage organization: This case is for the Admin to manage the organizer to get the correct access (post access, getting extended from UC12).

UC11 Remove Activity: This case is for the Admin to remove an activity.

UC12 Request posting access: This case is about the admin who needs to give the correct access to the organizer to post and manage the specific activities. This action happens between the actors outside the system.

Performance Requirements, Specific Quality Requirements, Constraints

In this section the systems nonfunctional requirements are outlined. These will be further specified in later sections.

QR1: Performance Requirement

The most important factor for performance would be the response time of the page for the users. The page should load without lagging and the database shouldn't be sluggish.

QR2: Specific Quality Requirement

With respect to quality requirements, security is an important aspect. We need to make sure that the database cannot be hacked easily, and that no user information should leak out from the database.

The application should be easily scalable and deployable, in order to make it easy for the universities to run the system.

In order to ensure that the students use the system, the usability for standard users viewing and attending is very important. Similarly, the usability for organizers is very important to ensure as many organizers as possible use the system.

QR3: Constraint

We expect to have a tight budget constraint for development and maintenance due to our plan to seek funding from the universities. The system also has to integrate into the universities' systems.

As with any other application in the EU, it must also be GDPR compliant.

User Requirements Specification

Our requirements right now are mostly based on creative elicitation. This is not sufficient, as we need to get in contact with the actual users of the system to ensure our requirements meet their needs, and will be a point of improvement for future releases.

Functional Requirements

The following requirements have been made from our initial creativity-based elicitation.

- **FR1:** Administrators can create organizer accounts for organizers (UC12)
- **FR2:** Administrators can remove organizer accounts (UC10)
- **FR3:** Administrators can delete any activity (UC11)
- **FR4:** Organizers can securely access their accounts through a login system (UC1)
- **FR5:** Organizers can add activities (UC1)
- **FR6:** Organizers can edit attributes of activities they have posted (UC1 / UC6)
- **FR7:** Organizers can delete activities that they organize (UC6)
- **FR8:** Organizers can see how many standard users plan to attend. (UC5?)
- **FR9:** Organizers must set a category/group (UC4)
- **FR10:** Anyone (or maybe just students?) can register as a standard user (UC2)
- **FR11:** Standard users can view all activities (UC2)
- **FR12:** Standard users can mark that they plan to attend an upcoming activity (UC5)
- **FR13:** Standard users can choose to receive notifications for activity changes (UC9)
- **FR14:** Standard users can choose to receive notifications for new activities (UC9)
- **FR15:** Standard users can choose to receive notifications for an upcoming activity they attend (UC9)
- **FR16:** Standard users can switch between Swedish and English (UC8)
- **FR17:** Standard users can view an automatically translated version of an activity (UC8)
- **FR18:** Standard users and Organizers can view a calendar of activities (UC2)
- **FR19:** Standard users and Organizers can filter activities on the calendar based on categories/groups (UC4)
- **FR20:** Standard users and Organizers can filter activities on the calendar based on activity attributes (UC4)

We mention groups and categories, however, we still need to figure out how categorizing activities should work. However, this is difficult without talking to the standard users and organizers. How do the organizers currently categorize activities? Which activities would the standard users like to filter out? Those questions will help us further specify how activities should be categorized. For now, we keep categorization and grouping vague because we simply don't know.

Data Requirements

User Data:
DR1: Information about users. Their names, contact details, and student IDs.
DR2: User roles, categorizing users into the roles of students and organizers.
DR3: User authentication data. Usernames and passwords, or other authentication methods.

Registration and Attendance Data:
DR4: Registration records, containing data on which users have registered for specific activities.
DR5: Attendance tracking data, indicating which users have marked attendance in each activity.

Activity Data:
DR6: Activity listings, including details of all available activities. These are names, descriptions, whether food is included, types (e.g., sports, cultural, academic), and accessibility information for students with disabilities.
DR7: Activity schedules, specifying the date, time, and duration of each activity.
DR8: Activity locations, providing information on where each activity takes place, including campus and venue details.
DR9: Organizer information. This is contact details and profiles of activity organizers.

We are considering making this into an ER diagram instead, to further specify the data.

Detailed Performance Requirements, Specific quality Requirements, Constraints

QR 1: Performance Requirements

Registration Processing: Registration and attendance tracking should occur in real-time, with updates reflected instantly.
Response Time: The system should respond to user interactions (e.g., activity searches, registrations) without any lag for optimal user experience.
Data Retrieval Speed: Data retrieval for activity listings and filters should be optimized even during peak usage.

QR 2: Specific Quality Requirements

Usability: The platform should be user-friendly, with clear navigation and intuitive interfaces to ensure ease of use for all user roles.
Security: User data, especially personal information, must be encrypted and stored securely to protect against data breaches. User authentication should follow best security practices.

QR 3: Constraints

Budget Constraints: Development, maintenance, and hosting costs should adhere to a predefined budget, considering the potential funding from the universities.
Compliance with Regulations: The platform must comply with all relevant data protection and privacy regulations (e.g., GDPR) and local laws.
Integration with Existing Systems: If applicable, the platform should seamlessly integrate with existing university systems or databases for user authentication and data sharing.