Cairo University  
Faculty of Computers and Information



**CS251**

**Software Engineering II**

E-Comm

Software Requirements Specifications

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# Team

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **Name** | **Email** | **Mobile** |
| 20146006 | Hussein Khaled | [husseinkk96@gmail.com](mailto:husseinkk96@gmail.com) | 01122555215 |
| 20146019 | Abdallah Ahmed | [abdallah.se95@gmail.com](mailto:abdallah.se95@gmail.com) | 01096276749 |
| 20146007 | Rana Mohamed | rana.mohamed.97@hotmail.com | 01111273318 |
| 20146016 | Ismail Sherif | [moly\_meme@hotmail.com](mailto:moly_meme@hotmail.com) | 01156596754 |

# Document Purpose and Audience

* **Expected Audience : Faculty Administration, Faculty Staff and Students**

# Introduction

## Software Purpose

* **It is a web application which provides a reliable environment for students and faculty staff (Doctors & Teacher assistants) and allows them to communicate.**

## Software Scope

* **Registration System**
* **Notification System**
* **Rating System**
* **Attendance System**
* **Grading System**
* **Offering System**
* **Hub Menu**

## Definitions, acronyms, and abbreviations

* **X 🡪 Companies and organizations**

# 

# Requirements

## Functional Requirements

* Users (Admin, Students, Teachers and X) could sign in the web application
* Users (Admin, Students, Teachers and X) could sign out the web application
* Users (Admin, Students, Teachers and X) could manage notifications by viewing or clearing notifications
* Admin user could add any type of users (Admin, Students, Teachers and X)
* Admin user could remove any type of users (Admin, Students, Teachers and X)
* Admin user could manage courses ( View courses, Register courses, Drop courses, Assign courses, Add courses, Delete courses)
* Admin user could manage users (Admin, Students, Teachers and X) by adding or deleting them
* Admin user and Teachers could manage grades by viewing, editing and adding grades
* Admin user should add final and Teachers should add other grades
* System should notify students with exams, assignments and schedule timing
* System should notify doctors and teacher assistants with their lectures and sections schedule
* System should notify any user (Admin, Students, Teachers and X) with incoming messages
* Students would rate teachers
* System should calculate grades and GPA
* X would offer students with courses and internships
* Students could manage courses by registering, viewing and dropping courses

## Non Functional Requirements

* **Security**
  + **Access permissions for application data**
  + **Password requirements: length (8 characters), characters (Upper case, Lower case and Numbers)**
* **Performance**
  + **Access time: 5 secs**
  + **Processing time: 5 secs**
  + **Withdraw operation will be done within 20 second**
* **Capacity** 
  + **Year-on-year growth 50% +**
  + **Storage: Hostage size -> 5 GB**
* **Maintenance**
  + **Holidays: Summer Time**
* **Scalability**

# 

# System Models

## Use Case Model

## 

## 

## Use Case Tables

|  |  |  |
| --- | --- | --- |
| Use Case ID: | 1 | |
| Use Case Name: | Sign in | |
| Actors: | Students – Teachers – Administrators – X | |
| Pre-conditions: | User Starts app | |
| Post-conditions: | User directed to his page | |
| Flow of events: | **User Action** | **System Action** |
| 1- User Enter Username and password |  |
|  | 2- System Verifies user data  3- System checks for username and password in DB  4- DB confirms username and password  5- System directs the user to his hub menu |
| Exceptions: | **User Action** | **System Action** |
| 1- User enters invalid username or password |  |
|  | 2- System check username and password  3- DB system searches for username and password  4- DB confirms that username or password is invalid  5- System sends a message for the user that username or password is invalid |

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| --- | --- | --- |
| Use Case ID: | 2 | |
| Use Case Name: | Sign out | |
| Actors: | Students –Administrators – Teachers – X | |
| Pre-conditions: | User is logged in | |
| Post-conditions: | User directed to startup page | |
| Flow of events: | User Action | System Action |
| 1- User press sign out button |  |
|  | 2- System direct user to startup page |

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| --- | --- | --- |
| Use Case ID: | 3 | |
| Use Case Name: | View courses | |
| Actors: | Students – Administrators – Teachers | |
| Pre-conditions: | User is logged in | |
| Post-conditions: | Courses viewed to the user | |
| Flow of events: | User Action | System Action |
| 1-User press view courses button |  |
|  | 2- System sends user ID to DB system  3- DB system retrieves only courses accessed by user ID  4- DB system sends all courses to main system  5- System shows courses to the user |

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| --- | --- | --- |
| Use Case ID: | 4 | |
| Use Case Name: | Assign courses | |
| Actors: | Administrators | |
| Pre-conditions: | Admin is logged in | |
| Post-conditions: | Admin assigns the courses to doctors and TAs. | |
| Flow of events: | User Action | System Action |
| 1- Admin press assign courses button |  |
|  | 2- System view courses |
|  | 3- Admin user chooses the course  4- Admin user enters Teacher ID |  |
|  |  | 5- DB system searches for the teacher ID  6- DB system updates teacher ID of the course with the new ID |
| Exceptions: | User Action | System Action |
| 1. Admin user enters an unexciting teacher ID |  |
|  |  | 2- DB system searches for the teacher ID  3- DB system doesn’t find the teacher ID  4- DB system confirms that the teacher ID doesn’t exist  5- System sends a message to the admin user that the teacher is invalid |

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| --- | --- | --- |
| Use Case ID: | 5 | |
| Use Case Name: | Add courses | |
| Actors: | Admin user | |
| Pre-conditions: | Admin is logged in | |
| Post-conditions: | Admin add course(s) to the faculty | |
| Flow of events: | User Action | System Action |
| 1- Admin press add course button |  |
|  | 1. System allow admin to enter the course name and ID 2. DB system add the new course name and ID in the database |
| Exceptions: | User Action | System Action |
| 1. Admin enters an exist course name or ID |  |
|  | 1. DB system founds that the course name or ID is already exist. 2. System sends a message to the admin user that the course is already exist. |
|  | 1. Admin user enters course name in the course ID slot |  |
|  |  | 1. System checks course name and ID data types 2. System sends a message to the admin user that data entered incorrectly |

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| --- | --- | --- |
| Use Case ID: | 6 | |
| Use Case Name: | Register course | |
| Actors: | Students – Admin user | |
| Pre-conditions: | User is logged in | |
| Post-conditions: | User register course | |
| Flow of events: | User Action | System Action |
| 1- User press register course button |  |
|  | 2- System view available courses |
| 3- User choose the course and the student |  |
|  | 1. System checks type of user 2. if user is admin system asks for student id |
| 1. Admin enters student id |  |
| Exceptions: | User Action | System Action |
| 1. User exceeds number of hours (18 hour) |  |
|  | 1. System send warning message |

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| --- | --- | --- |
| Use Case ID: | 7 | |
| Use Case Name: | Drop course | |
| Actors: | Administrators - Student | |
| Pre-conditions: | User is logged in | |
| Post-conditions: | User Drops course(s) | |
| Flow of events: | User Action | System Action |
| 1- User press drop course button |  |
|  | 2- System view courses registered or assigned to doctors and TAs |
|  | 3-Admin cancel the course(s) |  |
| Exceptions: | User Action | System Action |
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| --- | --- | --- |
| Use Case ID: | 8 | |
| Use Case Name: | Add user | |
| Actors: | Administrators | |
| Pre-conditions: | Admin is logged in | |
| Post-conditions: | Admin added user(s) | |
| Flow of events: | User Action | System Action |
| 1- Admin press add user button |  |
|  | 2- System direct admin to add user page |
|  | 3- Admin add user |  |
| Exceptions: | User Action | System Action |
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| --- | --- | --- |
| Use Case ID: | 9 | |
| Use Case Name: | Remove user | |
| Actors: | Administrators | |
| Pre-conditions: | Admin is logged in | |
| Post-conditions: | Admin remove user(s) | |
| Flow of events: | User Action | System Action |
| 1- User press remove user button |  |
|  | 2- System direct admin to users page |
|  | 3-Admin choose the user(s) to remove |  |
| Exceptions: | User Action | System Action |
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| --- | --- | --- |
| Use Case ID: | 10 | |
| Use Case Name: | View grades | |
| Actors: | Administrators – Student- Teachers | |
| Pre-conditions: | User is logged in | |
| Post-conditions: | Grades are viewed | |
| Flow of events: | User Action | System Action |
| 1- User press view grades button |  |
|  | 2- System view grades to the user |
| Exceptions: | User Action | System Action |
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| --- | --- | --- |
| Use Case ID: | 11 | |
| Use Case Name: | Edit grades | |
| Actors: | Administrators - Teachers | |
| Pre-conditions: | User is logged in | |
| Post-conditions: | User edited the grades | |
| Flow of events: | User Action | System Action |
| 1- User press edit grade button |  |
|  | 2- System view grades to the user |
|  | 3-User edit the grades |  |
| Exceptions: | User Action | System Action |
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| --- | --- | --- |
| Use Case ID: | 13 | |
| Use Case Name: | Add grades | |
| Actors: | Administrators - Teachers | |
| Pre-conditions: | User is logged in | |
| Post-conditions: | User added the grades | |
| Flow of events: | User Action | System Action |
| 1- User press add grade button |  |
|  | 2- System view the courses |
|  | 3-User choose the course to add grades in |  |
| Exceptions: | User Action | System Action |
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| --- | --- | --- |
| Use Case ID: | 14 | |
| Use Case Name: | View notification | |
| Actors: | Administrators – Teachers - Student | |
| Pre-conditions: | User is logged in | |
| Post-conditions: | Notifications are viewed | |
| Flow of events: | User Action | System Action |
| 1- User press view notification button |  |
|  | 2- System view notifications to the user |
| Exceptions: | User Action | System Action |
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| --- | --- | --- |
| Use Case ID: | 15 | |
| Use Case Name: | Clear Notifications | |
| Actors: | Administrators – Teachers - Student | |
| Pre-conditions: | View Notifications | |
| Post-conditions: | View Notifications | |
| Flow of events: | User Action | System Action |
| 1- User press clear notifications |  |
|  | 2- System clear the notifications selected by the user from the database |
| Exceptions: | User Action | System Action |
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| --- | --- | --- |
|  | 15 | |
| Use Case Name: | Edit grades | |
| Actors: | Administrators - Teachers | |
| Pre-conditions: | User is logged in | |
| Post-conditions: | User edited the grades | |
| Flow of events: | User Action | System Action |
| 1- User press edit grade button |  |
|  | 2- System view grades to the user |
|  | 3-User edit the grades |  |
| Exceptions: | User Action | System Action |
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|  | 17 | |
| Use Case Name: | Rate teacher | |
| Actors: | Student | |
| Pre-conditions: | User open teacher page | |
| Post-conditions: | Teacher is rated | |
| Flow of events: | User Action | System Action |
| 1- User select stars he wish |  |
|  | 2- System calculate cumulative  3-System submit the new rate to the database |
|  |  |  |
| Exceptions: | User Action | System Action |
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Ownership Report

Remove the following notes and any red notes

For every item in this document, write the owners. If someone is owner of something, s/he understands it 100%

Team leader must verify the table with the team members.

|  |  |
| --- | --- |
| Item | Owners |
|  |  |
|  |  |