Cairo University  
Faculty of Computers and Information



**CS251**

**Software Engineering I**

Online Educational Games

Software Requirements Specifications

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# Team

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# Document Purpose and Audience

* **Educational document to learn concepts of many categories .**
* **Students and teachers will read this document.**

# Introduction

## Software Purpose

* **The project will be a gaming educational platform. This platform will help students to understand basic educational concepts while they will be playing simple games. These concepts will be related to categories like science, technology and math.**

## Software Scope

* **This project will be a web application .**
* **It will be categories for education only like (science , math , programming and technology) .**
* **Teachers and students will be able to use this application and they should have an account to login .**
* **Student can play , rate and comment on the game .**
* **Teacher can play , create a game and respond .**

## Definitions, acronyms, and abbreviations

# No abbreviations in this project description .

# Requirements

## Functional Requirements

* **User**

1. **SignUP :-**

* **he will enter his e.mail**
* **he will enter his username.**
* **He will enter his password.**
* **He will enter his age.**

1. **Login:-**

* **enter his user name and password.**

**3) he will be able to show his information like (name , age and score)**

**4)After logging in he will be able to select the category that he wants to play like (science , math , programming , technology )**

**5) he will able to pause the game and he also will be able to end the game after finishing playing .**

* **Student**
* **1) he will be able to rate the game from ( 1 to 5 ).**
* **2)he will be able to write a Comment.**
* **Teacher**

1. **he will able to create a game**

* **he choose the category of the game**
* **in each category he will create the game that will be suitable to each level of student that will be play.**
* **Create GUI for each level.**
* **He determine the start and end state for each category.**

1. **he will able to edit the game he created.**

* **He select the category .**
* **He edit GUI of category.**
* **He edit the level of each category.**

1. **he will able to remove the game he created.**

* **He select the category .**
* **He remove the game of the category**

1. **he also will be able to respond on student comment .**

* **he will see the comments of the game**
* **he will respond on each comment.**

## Non Functional Requirements

|  |  |
| --- | --- |
|  | **Details** |
| **Performance** | * **The time of the game loading will be fast.** |
| **Scalability** | * **The System should be able to support up to 500 game players.** |
| **Usability** | * **The system should has clear information to facilitate the user operations .** * **The system should be attractive to user to spend more time playing** |
| **Reliability** | * **The system must be available to each user.** * **The system must be not down.** |
| **Security** | * **The system will be encrypt the data entered.** * **The system will close the account automatically when the user doesn't make any actions withdraw 20 minutes .** |
| **Maintainability** | * **The system will be updated every month and new versions will be available** * **The system will be able to fix any debugs during this month .** |

# 

# System Models

## Use Case Model

## C:\Users\SIR.DELL\Desktop\Capture34.PNG

## Use Case Tables

|  |  |  |
| --- | --- | --- |
| Use Case ID: | 1 | |
| Use Case Name: | Sign Up | |
| Actors: | User(Teacher,Student) | |
| Pre-conditions: | Open the website | |
| Post-conditions: | Account created and Logged in to the website | |
| Flow of events: | **User Action** | **System Action** |
| 1- Enter information details (Name , Age , E-mail and Gender) |  |
|  | 2- System check this information . |
|  | 3- Save this info. Into the database . |
|  | 4- System create account to user. |
| Exceptions: | **User Action** | **System Action** |
| 1- User Enter information details |  |
|  | 2- system went down.  3- System rejects informations. |
| Includes: | - User must have an internet connection | |
| Notes and Issues: | --- | |

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| --- | --- | --- |
| Use Case ID: | 2 | |
| Use Case Name: | Login | |
| Actors: | User(Teacher,Student) | |
| Pre-conditions: | * Signed Up * Already have an account | |
| Post-conditions: | * View the home page. * Start the game. | |
| Flow of events: | **User Action** | **System Action** |
| 1- Enter Username and Password. |  |
|  | 2- System check this Username and Password . |
|  | 3- User login to the website |  |
| Exceptions: | **User Action** | **System Action** |
| 1- User Enter Username or password incorrectly. |  |
|  | 2- system went down. |
| Includes: | - User already have an account | |
| Notes and Issues: | --- | |

|  |  |  |
| --- | --- | --- |
| Use Case ID: | 3 | |
| Use Case Name: | Select category | |
| Actors: | User(Teacher,Student) | |
| Pre-conditions: | Logged in to the site | |
| Post-conditions: | Start the game | |
| Flow of events: | **User Action** | **System Action** |
| 1- User selects the category. |  |
|  | 2- System enter user to category he selected. |
|  | 3- user ready to play game. |  |
| Exceptions: | **User Action** | **System Action** |
| 1- User choose wrong category. |  |
|  | 2- system went down. |
| Includes: | - User already have an account  -User shoud logged in website | |
| Notes and Issues: | --- | |

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| --- | --- | --- |
| Use Case ID: | 4 | |
| Use Case Name: | Play game | |
| Actors: | User(Teacher,Student) | |
| Pre-conditions: | * Login * Select category | |
| Post-conditions: | * Playing the game * Rate and comment | |
| Flow of events: | **User Action** | **System Action** |
| 1- Click to start game |  |
|  | 2- System open the game to the user |
|  | 3-User playing the game |  |
|  |  | 4- System update score. |
| Exceptions: | **User Action** | **System Action** |
| 1-User leave the game along time. |  |
|  | 2- system logged user out |
|  | 3- User wants to change the category during the game. |  |
| Includes: | -User should choose the category | |
| Notes and Issues: | --- | |

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| Use Case ID: | 5 | |
| Use Case Name: | Write comment | |
| Actors: | User(Student) | |
| Pre-conditions: | End game | |
| Post-conditions: | Comment will be written | |
| Flow of events: | **User Action** | **System Action** |
| 1- write the comment |  |
|  | 2- System save the comment |
|  |  | 3- system will show the comment to all users |
|  | 4- User wants to edit the comment |  |
| Exceptions: | **User Action** | **System Action** |
| 1- write comment incorrectly |  |
|  | 2- system went down. |
|  |  | 3- system will not save the comment |
| Includes: | -User should ended the game | |
| Notes and Issues: | --- | |

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| --- | --- | --- |
| Use Case ID: | 6 | |
| Use Case Name: | Rate the game | |
| Actors: | User(Student) | |
| Pre-conditions: | End game | |
| Post-conditions: | The game will be rated | |
| Flow of events: | **User Action** | **System Action** |
| 1- user will rate the game |  |
|  | 2- System saves this rate |
|  |  | 3-System update all r |
|  |  | 4- system will show this rate to all users |
| Exceptions: | **User Action** | **System Action** |
| 1- User do not rate the game. |  |
|  | 2- system went down. |
|  |  | 3- system don’t save the rate. |
| Includes: | -User should end the game | |
| Notes and Issues: | --- | |

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| Use Case ID: | 7 | |
| Use Case Name: | Respond on student comment | |
| Actors: | User(teacher) | |
| Pre-conditions: | Write comment | |
| Post-conditions: | Respond of teacher will be submited | |
| Flow of events: | **User Action** | **System Action** |
| 1- user will reply on student`s comment |  |
|  | 2- System saves this respond |
|  |  | 3- system will show this respond to all users |
|  | 4-User edit the respond. |  |
|  |  | 5-System update the comment. |
| Exceptions: | **User Action** | **System Action** |
| 1. User reply on another comment |  |
| 1. User do not reply to comment |  |
|  | 3- system went down. |
|  |  | 4- system don’t save the respond. |
| Includes: | - Student should leave a comment | |
| Notes and Issues: | --- | |

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| Use Case ID: | 8 | |
| Use Case Name: | Show information | |
| Actors: | User(Student,Teacher) | |
| Pre-conditions: | * Log in * Play the game | |
| Post-conditions: | The information will be shown to the user | |
| Flow of events: | **User Action** | **System Action** |
| 1- user click to show information |  |
|  | 2- System display the information |
|  | 3- user edit his information |  |
|  |  | 4- system saves the new informations |
| Exceptions: | **User Action** | **System Action** |
| No exception |  |
|  | 2- system went down. |
|  |  | 3- system don’t save the new information |
| Includes: | - User should logged in | |
| Notes and Issues: | --- | |

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| --- | --- | --- |
| Use Case ID: | 9 | |
| Use Case Name: | Craete game | |
| Actors: | User(teacher) | |
| Pre-conditions: | Log in | |
| Post-conditions: | The game will be created | |
| Flow of events: | **User Action** | **System Action** |
| 1- user select category |  |
| 2-User select level of game |  |
| 3-User create GUI |  |
|  | 4- System creates the game |
|  |  | 5- system will show this game to all users |
| Exceptions: | **User Action** | **System Action** |
| 1- User create the game and not select the category |  |
|  | 2- system went down. |
|  |  | 3- system don’t save the game. |
| Includes: | - The user should be logged in | |
| Notes and Issues: | --- | |

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| --- | --- | --- |
| Use Case ID: | 10 | |
| Use Case Name: | Edit | |
| Actors: | User(Teacher) | |
| Pre-conditions: | * login * Create game | |
| Post-conditions: | The game will be edited | |
| Flow of events: | **User Action** | **System Action** |
| 1- user will select the game |  |
| 2- user edit the flow of events of this game |  |
|  | 3- System saves this edit |
|  |  | 5- system will display the edited game to all users |
| Exceptions: | **User Action** | **System Action** |
| 1- No Exeptions |  |
|  | 2- system went down. |
| Includes: | -The user should logged in  -The Teacher should create the game | |
| Notes and Issues: | --- | |

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| Use Case ID: | 11 | |
| Use Case Name: | Remove | |
| Actors: | User(Teacher) | |
| Pre-conditions: | * login * Create game | |
| Post-conditions: | The game will be removed | |
| Flow of events: | **User Action** | **System Action** |
| 1- user will select the game. |  |
| 2-User remove this game. |  |
|  | 3- System will remove the game |
|  |  | 4- system will be updated |
| Exceptions: | **User Action** | **System Action** |
| 1- No exeptions |  |
|  | 2- system went down. |
| Includes: | -The user should logged in  -The Teacher should create the game | |
| Notes and Issues: | --- | |

# Ownership Report

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| --- | --- |
| **Item** | **Owners** |
| Ahmed Mohamed El-Sayed | *Purpose , scope and use case tables* |
| Eslam Hassan Ali | *Use case modelsand use case tables* |
| Mohamed Sayed El-Naggar | *Functional requirements and use case tables* |
| Amr Kamal El-Deen | *Non functional requirements and use case tables* |

Githup link:  [https://github.com/amrkamal123/SW\_project](%20https:/github.com/amrkamal123/SW_project)