 Cairo University  
Faculty of Computers and Information



**CS251**

**Software Engineering I**

**Game-based Educational Platform**

**Software Requirements Specifications**

Abdelaziz Mahmoud CS\_3

Abdallah Abdelazim CS\_2

Mohammed Amged CS\_3

Fatma Elsayed CS\_3

November, 2016

Contents

[Team 3](#_Toc402452669)

[Document Purpose and Audience 3](#_Toc402452670)

[Introduction 3](#_Toc402452671)

[Software Purpose 3](#_Toc402452672)

[Software Scope 4](#_Toc402452673)

[Definitions, acronyms, and abbreviations 4](#_Toc402452674)

[Requirements 4](#_Toc402452675)

[Functional Requirements 4](#_Toc402452676)

[Non Functional Requirements 4](#_Toc402452677)

[System Models 5](#_Toc402452678)

[Use Case Model 5](#_Toc402452679)

[Use Case Tables 5](#_Toc402452680)

[Ownership Report 6](#_Toc402452681)

[Policy Regarding Plagiarism: 6](#_Toc402452682)

# Team

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **Name** | **Email** | **Mobile** |
| 20140169 | Abdelaziz Mahmoud Abdelaziz | zizomody2511@gmail.com | 01063930937 |
| 20140219 | Mohamed Amged Hamed | popop9933@yahoo.com | 01006093286 |
| 20140203 | Fatma Elsayed | Elsayedfatoma@yahoo.com | 01205867520 |
| 20140170 | Abdallah Abdelazim Abdallah | Abdallah.abdelazim@hotmail.com | 01110095611 |

# 

# Document Purpose and Audience

**What is this document?**

* **This document is a requirements elicitation for an educational website where a teacher can log in and create a game in a field and the student will be also able to log in and play and learn from this games**

**The targeted audience**

* **The client**
* **The Project manager**
* **The Developers**

# Introduction

## Software Purpose

## The project will be a game-based 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 subjects like science, technology and math.

## Software Scope

* The Project will consist of creating a web application where students can learn while they are playing simple games that were created by expert teachers from all over the globe. Any teacher can register an account and immediately start creating a game with ease. The website will be a platform providing numerous templates for teachers to choose the appropriate one, build their games and publish them on our application for students to play and learn. The Project will be completed by the end of the year 2016. The application will include an easy-to-use interface, simple games, login page for current users and registration page for new users to create account, easy to use game builder to help the teachers with creating games, games on the application will be created for educational purpose, games will be played by one student (Single player) and Each game should belong to one category.

## Definitions, acronyms, and abbreviations

|  |  |
| --- | --- |
| **requirements elicitation** | * collecting the requirements of a software form the user |
| **UI** | * User Interface |

# 

# Requirements

## Functional Requirements

**teacher:**

create game -> he chooses field and type of game then create game

can play -> can test his game

edit or remove game -> make change in his game or delete it

replay to comment -> send feedback to student and answer question

**student**

login -> sing in or sing up

have list of games, Score -> have profile and list if games he joins in it

fun rate -> gave game (interesting, normal, boring)

fun write comment to game -> send question to teacher

choose game -> choose game to play it

can play -> play game

see his feedback -> see the replay from teacher

logout and save any change -> out from website and save any change

## Non Functional Requirements

* Price

The site is completely free

* Security

The account of the user is protected and can be retrieved if there was a hacking situation and the user need a password in order to get to his data

* Stability

The number of the website visitors will be checked regularly to see if the number keep getting up the servers of the site will be updated

* Performance

Manage the page load time to make sure it’s fast for the user

* Safety

Any content that it’s uploaded to the site is reviewed in order to make sure that the content is save for all users

* Accessibility

The user can access the site form any device that is connected to the internet

* Usability

The site is easy to use and the use must be at least 10 years old

* Platform

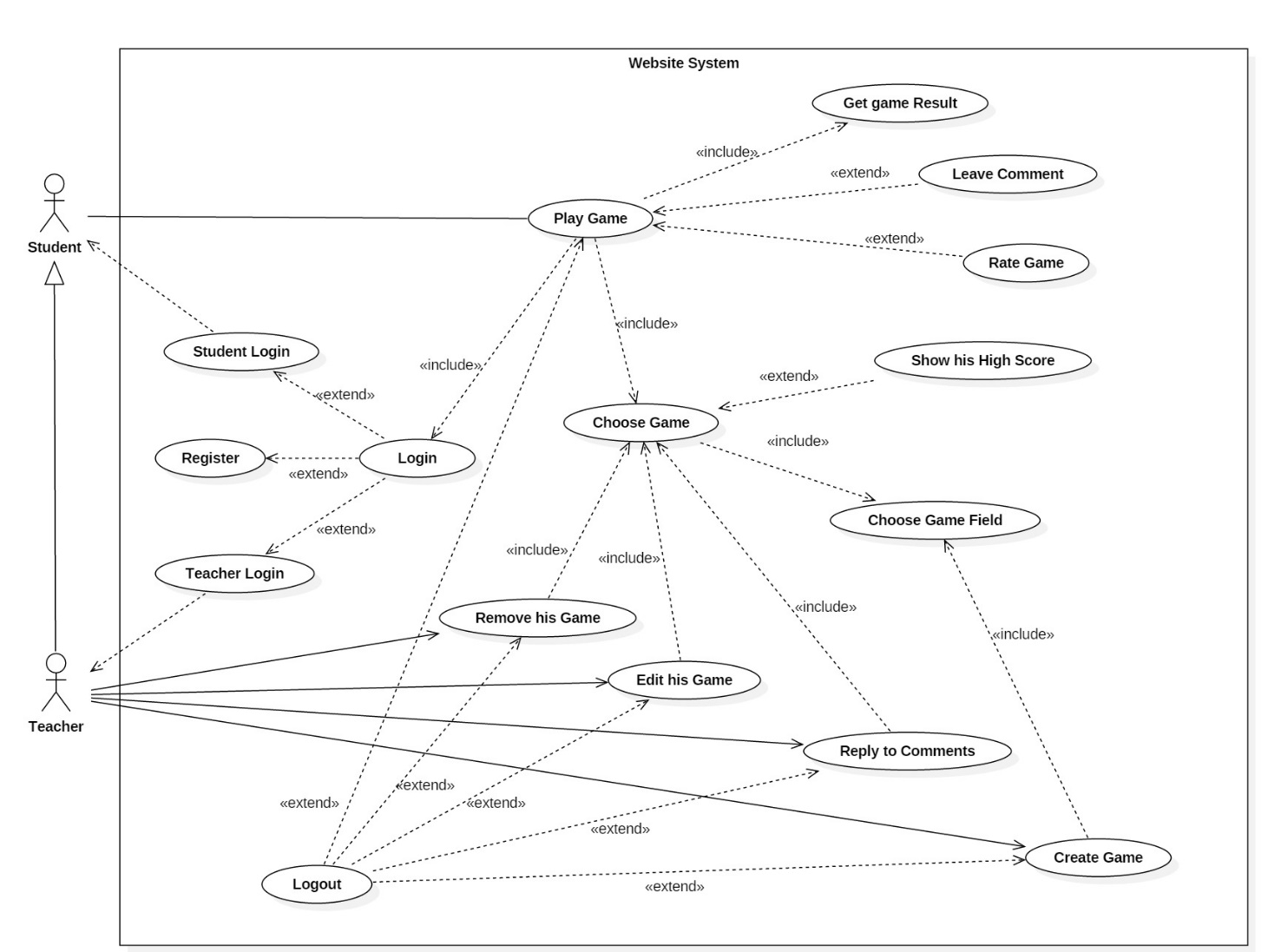
There is no app to access to the serves only the website

* Privacy

Any information about the user is private and can’t be accessed without the user permission

# System Models

## Use Case Model



## Use Case Tables

|  |  |  |
| --- | --- | --- |
| Use Case ID: | 1 | |
| Use Case Name: | Login | |
| Actors: | Student, Teacher. | |
| Pre-conditions: | User has registered an account and he is not logged in. | |
| Post-conditions: | None. | |
| Flow of events: | **User Action** | **System Action** |
| 1- The user Presses “Login” button |  |
|  | 2- System opens a new page split into two parts. One for the user to login as Student and one for the user to login as Teacher. |
| 3- User Select the login form corresponding to the type of his account.  4-User enters his username and password. |  |
|  | 5- System Verify username and password. |
| Exceptions: | **User Action** | **System Action** |
| 1- User Enter username and Password. |  |
|  | 2-username does not exist or password is wrong.  3- System rejects the Login  4-System demands the user to enter correct username and password |
| Includes: | Login as Student , Login as Teacher | |
| Notes and Issues: |  | |

|  |  |  |
| --- | --- | --- |
| Use Case ID: | 2 | |
| Use Case Name: | Register | |
| Actors: | Student, Teacher | |
| Pre-conditions: | User is not logged in. | |
| Post-conditions: | None. | |
| Flow of events: | **User Action** | **System Action** |
| 1-User Selects to register an account.  2-User selects the type of his account (student or teacher). |  |
|  | 2- System opens a new page.  3-System prompts the user to enter some information about himself such as name, age, gender, country.  4-System prompts the user to choose a proper username and password. |
| 3- User Enters his name, age, gender, country.  4-User chooses and enters a username and password. |  |
|  | 4- System verifies the username and password. |
| Exceptions: | **User Action** | **System Action** |
| 1- User chooses a username and Password. |  |
|  | 2- username is already taken.  3- System asks the user to choose another username. |
| Includes: |  | |
| Notes and Issues: |  | |

|  |  |
| --- | --- |
| Use case ID | 3 |
| Use case name | Choose game field |
| Actors | Teacher ,Student |
| Pre-conditions | The user must be logged in |
| Post-conditions | Choose game field |
| Flow of events | |  |  | | --- | --- | | User Actions | System Actions | | 1.the teacher ,student log in |  | |  | 2.the website verify user data | |  | 3.the website will show the fields | | 4.the teacher , student chooses the field |  | |
| Exceptions | |  |  | | --- | --- | | User Actions | System Actions | | 1.the teacher log in |  | |  | 2.password or username not valid | |
| Includes | Login |
| Notes and issues |  |

|  |  |
| --- | --- |
| Use case ID | 4 |
| Use case name | Choose game |
| Actors | Teacher ,student |
| Pre-conditions | The user must be logged in and choose field |
| Post-conditions | Choose game |
| Flow of events | |  |  | | --- | --- | | User Actions | System Actions | | 1.the teacher, student log in |  | |  | 2.the website verify user data | |  | 3-.the website will show the fields | | 4-choose game field |  | |  | 5-the website will show the games | | 6-choose the game |  | |
| Exceptions | |  |  | | --- | --- | | User Actions | System Actions | | 1.the teacher log in |  | |  | 2.password or username not valid | |  | 3-field is not found | |
| Includes | Login, Choose game field |
| Notes and issues | There must be a field to choose game |

|  |  |
| --- | --- |
| Use case ID | 5 |
| Use case name | Play game |
| Actors | Student |
| Pre-conditions | Choose game |
| Post-conditions | See his new score |
| Flow of events | |  |  | | --- | --- | | User Actions | System Actions | | 1.student log in |  | |  | 2.the website verify user data | |  | 3.the website will show the fields | | 4.the student chooses the field |  | |  | 5- the website show games | | 6-the student choose game |  | |  | 7-the website show options in game | | 8- the student choose play game when he finished |  | |  | Return his score and save changes  And add the game to list for student and his new score | |
| Exceptions | |  |  | | --- | --- | | User Actions | System Actions | | 1.the Student log in |  | |  | 2.password or username not valid | |  | 3 field or game not found | |
| Includes | Login ,choose field ,choose game |
| Notes and issues | if the game fails the check test it will not be saved |

|  |  |
| --- | --- |
| Use case ID | 6 |
| Use case name | Get result |
| Actors | student |
| Pre-conditions | Choose game |
| Post-conditions | Get game result |
| Flow of events | |  |  | | --- | --- | | User Actions | System Actions | | 1.the student log in |  | |  | 2.the website verify user data | |  | 3-.the website will show the fields | | 4-student choose field |  | |  | 5- the website will show the games | | 6- student choose game |  | |  | 7- the website show options in game | | 8- choose get high score |  | |  | 9-Return his high score | |
| Exceptions | |  |  | | --- | --- | | User Actions | System Actions | | 1.the teacher log in |  | |  | 2.password or username not valid | |  | 3-field is not found | |  | 4- game not found | |
| Includes | Login, Choose game ,get game result |
| Notes and issues |  |

|  |  |
| --- | --- |
| Use case ID | 7 |
| Use case name | Create a game |
| Actors | Teacher |
| Pre-conditions | The user must be logged in and choose the game field |
| Post-conditions | The game is saved on the site and on the teachers profile |
| Flow of events | |  |  | | --- | --- | | User Actions | System Actions | | 1.the teacher log in |  | |  | 2.the website verify user data | | 3.the teacher go to his profile and choose the create game option |  | |  | 4.the website will show the choose game field option | | 5.the teacher chooses the field |  | |  | 6.the website give the teacher the tools and templates to create the game | | 7.the teacher finishes the game and save it |  | |  | 8.the website check the game and save it to be played | |
| Exceptions | |  |  | | --- | --- | | User Actions | System Actions | | 1.the teacher log in |  | |  | 2.password or username not valid | |
| Includes | Login, Choose game field |
| Notes and issues | If the game fails the check test it will not be saved |

|  |  |
| --- | --- |
| Use case ID | 8 |
| Use case name | Edit his game |
| Actors | Teacher |
| Pre-conditions | The user must be logged in and the game is created and he choose it and its field |
| Post-conditions | The new version of the game is saved on the site and on the teachers profile |
| Flow of events | |  |  | | --- | --- | | User Actions | System Actions | | 1.the teacher log in |  | |  | 2.the website verify user data | | 3.the teacher go to his profile and choose the game he wants to edit |  | |  | 4.the website will show the game options (Edit, Delete) | | 5.the teacher choose edit game |  | |  | 6.the website give the teacher the tools and templates to edit the game | | 7.the teacher finishes the editing of the game and save it |  | |  | 8.the website check the game and save it to be played | |
| Exceptions | |  |  | | --- | --- | | User Actions | System Actions | | 1.the teacher log in |  | |  | 2.password or username not valid | | 3.teacher search for a game in his profile |  | |  | 4.game is not found | |
| Includes | Login, Choose game ,choose game field |
| Notes and issues | There must be a game in order to edit it |

|  |  |
| --- | --- |
| Use case ID | 9 |
| Use case name | remove a game |
| Actors | Teacher |
| Pre-conditions | The user must be logged in and the game is created and he choose it and choose its field |
| Post-conditions | The game is removed from site and the teachers profile |
| Flow of events | |  |  | | --- | --- | | User Actions | System Actions | | 1.the teacher log in |  | |  | 2.the website verify user data | | 3.the teacher go to his profile and choose the game he wants to remove |  | |  | 4.the website will show the choose game field option(Edit, Delete) | | 5.the teacher chooses remove game |  | |  | 6.the website give the teacher a massage to the teacher to confirm the operation | | 7.the teacher confirm the operation |  | |  | 8.the website remove the game | |
| Exceptions | |  |  | | --- | --- | | User Actions | System Actions | | 1.the teacher log in |  | |  | 2.password or username not valid | | 3.teacher search for a game in his profile |  | |  | 4.game is not found | |
| Includes | Login, Choose game, choose game field |
| Notes and issues | There must be a game in order to delete it |

|  |  |
| --- | --- |
| Use case ID | 10 |
| Use case name | reply to a comment |
| Actors | Teacher |
| Pre-conditions | The user must be logged in and choose the game and its field and a comment is written on the games |
| Post-conditions | The add reply will be add to the existing comment |
| Flow of events | |  |  | | --- | --- | | User Actions | System Actions | | 1.the teacher log in |  | |  | 2.the website verify user data | | 3.the teacher go to his profile and choose a game that someone commented on it |  | |  | 4.the website will show the choose the reply option under the comment | | 5.the teacher chooses reply and write his reply |  | |  | 6.the website will save his reply | |
| Exceptions | |  |  | | --- | --- | | User Actions | System Actions | | 1.the teacher log in |  | |  | 2.password or username not valid | | 3.teacher search for a game in his profile |  | |  | 4.game has no comments | |
| Includes | Login, Choose game , choose game filed |
| Notes and issues | There must be a comment on a game in order to reply to it |

|  |  |
| --- | --- |
| Use case ID | 11 |
| Use case name | Leave comment |
| Actors | student |
| Pre-conditions | Choose game |
| Post-conditions | Leave comment |
| Flow of events | |  |  | | --- | --- | | User Actions | System Actions | | 1.the student log in |  | |  | 2.the website verify user data | |  | 3-.the website will show the fields | | 4-student choose field |  | |  | 5- the website will show the games | | 6- student choose game |  | |  | 7- the website show options in game | | 10- write a comment |  | |  | 11-the website show the comment and save change | |
| Exceptions | |  |  | | --- | --- | | User Actions | System Actions | | 1.the student log in |  | |  | 2.password or username not valid | |  | 3-field is not found | |  | 4- game not found | |
| Includes | Login, Choose game ,get game result ,leave comment |
| Notes and issues |  |

|  |  |
| --- | --- |
| Use case ID | 12 |
| Use case name | Rate |
| Actors | student |
| Pre-conditions | Choose game |
| Post-conditions | Add rate |
| Flow of events | |  |  | | --- | --- | | User Actions | System Actions | | 1.the student log in |  | |  | 2.the website verify user data | |  | 3-.the website will show the fields | | 4-student choose field |  | |  | 5- the website will show the games | | 6- student choose game |  | |  | 7- the website show options in game | | 10- add rate |  | |  | 11-the website show the rate and save change | |
| Exceptions | |  |  | | --- | --- | | User Actions | System Actions | | 1.the student log in |  | |  | 2.password or username not valid | |  | 3-field is not found | |  | 4- game not found | |
| Includes | Login, Choose game ,get game result ,leave comment |
| Notes and issues |  |

**GitHub Repo**

[**https://github.com/Abdallah-Abdelazim/Game-based-Educational-Platform**](https://github.com/Abdallah-Abdelazim/Game-based-Educational-Platform)

# Ownership Report

|  |  |
| --- | --- |
| **Item** | **Owners** |
| Use Case Diagram | *Abdallah Abdelazim/Abdelaziz Mahmoud* |
| Software purpose and scope | *Abdallah Abdelazim* |
| Document Purpose and Audience | *Mohammed Amged* |
| Functional and Nonfunctional Requirements | *Abdelaziz Mahmoud/Fatma Elsayed/Mohammed Amged* |
| Use Cases Tables | *All team.* |