**Cairo University  
Faculty of Computers and Information**

**CS251**

**Software Engineering I**

Game for all

Software Design

Juniors

Month & Year

**Team**

|  |  |  |  |
| --- | --- | --- | --- |
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**Document Purpose and Audience**

**This is a document for educational site that help student to learn with easy way**

**Audience:**

* **CEO**
* **PM**

**GitLab:**

<https://gitlab.com/SamehMohamed/software.git>

**System Models**

* **Class diagrams**



|  |  |  |
| --- | --- | --- |
| **Class ID** | **Class Name** | **Description & Responsibility** |
| 1 | Type | Which specify game type, and generalize types of game (TFQusition and MCQ) to make teacher select the type of his game that he wants to create new game or to make player choose what the type of the game he wants to play. |
| 2 | TFQuestion | Inherent from type, which contain the data of true false question. |
| 3 | MCQQuestion | Inherent from type, which contain the data of multi choice question. |
| 4 | Category | Which contain list of types to teacher to select the type of his game that he wants to create new game and choose type. |
| 5 | Game | Contain category and type of game to be created by teacher or played by user (student or teacher). |
| 6 | Teacher | Inherent from user and this user who can create new game. |
| 7 | Student | Inherent from user and this user who can play games and have achievement. |
| 8 | User | Which have two types of user (student, teacher) and have the information of all user (name, gender, e-mail, password, age). |
| 9 | Interface | It is interface of the website which connect process between user and system, show (registration, login) forms, show messages, loading game for user to play and show the teacher the steps for creating new game. |
| 10 | Controller | Which connect process between Interface and Model package. |
| 11 | Database Connection | Establish connection between database and system. |
| 12 | Student Database | It’s the database of all student which have all information about every student (name, age, email, password, username, gender) |
| 13 | Teacher Database | It’s the database of all teacher which have all information about every teacher (name, age, email, password, username, gender, school name, school address). |
| 14 | Game Database | Which contain all games, types and categories of game, it response for retrieve and save game data, and save all achievement for every student in every game he played. |

**Important Algorithm**

Not Know yet if we use a complex algorithm or not.

**II. Sequence diagram**

* Play Game Sequence diagram



* Create Game Sequence diagram3. Registration Sequence diagram

**Class - Sequence Usage Table**

|  |  |  |
| --- | --- | --- |
| Class Name | **Sequence Diagrams** | **Overall used methods** |
| Type | 1,2 | GetTypeName():String |
| TFQuestion | 1, 2 | GetAnswer():boolsean  SetAnswer(boolean answer):Void  GetQuestion():String |
| MCQQuestion | 1, 2 | Use all Setters to save all answers.  Use all getters to load all answers.  GetQuestion():String |
| Category | 1, 2 | GetCategoryName ()  GetAllTypes () |
| Game | 1, 2 | Create game():boolean  Play Game () : boolean |
| Teacher | 1, 2,3 | Use all Setters to save data Teacher in registration  Use all Getters to login to create game to create or play game  SetSchoolName()  SetSchoolAddress() |
| Student | 1,3 | Use all Setters to registration  Use all Getters in login to load Student data to play a game  setAchievement(int achievement):void  getAchievement():int |
| User | 1, 2, 3 | Use all Setters to save data user in registration  Use all Getters to login (to create or play game for teacher ) or (play game for student) |
| Interface | 1, 2, 3 | LoadRegestrationform(),  Showmessege()  loadLoginForm ()  loadCategories ()  loadTypes ()  ShowListtOfGames()  ShowFeedback()  GetSystem():System  GetUser():User  SetUser(User user):void |
| Controller | 1, 2, 3 | ConnectionToDataBase()  DisConnectionToDataBase()  SaveStudnetData(Student student):boolean  LoadStudnetData():Student  LoadStudentAchievment (String username):int  CheackValidStudnet(String username,String password)boolean  CheackPrimaryKey(String username)boolean  SaveTeacherData(Teacher teacher):boolean  LoadTeacherData():Teacher  CheackValidTeacher(String username,String password)boolean  CheackPrimaryKey(String username)boolean  SaveGameData():boolean  loadGameData():Game  LoadGameCategory()ArrayList<Category>  LoadGametype()ArrayList<type>  GetCategoryID(String name):int  GetTypeID(String name):int  SaveTeacherGameData(String username,String gameName):boolean  LoadGameData(String catName,String typeName):ArrayList<Game>  LoadMCQQuestion(String GameName,int level):ArrayList<MCQQuestion>  LoadMCQQuestionlevel(String GameName):int  SaveMCQQuestion(String GameName,iMCQQuestion mcqQuestion):boolean  GetGameID(String Name):int  SaveTFQuestion(TFQuestion Question ,String GameName):boolean  LoadTFQuestion(String GameName,int Level):ArrayList<TFQuestion>  UpdateStudentGameData(String UserName,String GameName, int Rate , String comment, int achievement):boolean  LoadStudentAchievement(String UserName, String GameName):int  SaveStudentAchievement(String UserName, String GameName):boolean |
| Database Connection | 1,2,3 | ConnectionToDataBase()  DisConnectionToDataBase() |
| Student Database | 1,3 | SaveStudnetData(Student student):boolean  LoadStudnetData():Student  LoadStudentAchievment (String username):int  CheackValidStudnet(String username,String password)boolean  CheackPrimaryKey(String username)boolean |
| Teacher Database | 1,2,3 | SaveTeacherData(Teacher teacher):boolean  LoadTeacherData():Teacher  CheackValidTeacher(String username,String password)boolean  CheackPrimaryKey(String username)boolean |
| Game Database | 1,2 | SaveGameData():boolean  loadGameData():Game  LoadGameCategory()ArrayList<Category>  LoadGametype()ArrayList<type>  GetCategoryID(String name):int  GetTypeID(String name):int  SaveTeacherGameData(String username,String gameName):boolean  LoadGameData(String catName,String typeName):ArrayList<Game>  LoadMCQQuestion(String GameName,int level):ArrayList<MCQQuestion>  LoadMCQQuestionlevel(String GameName):int  SaveMCQQuestion(String GameName,iMCQQuestion mcqQuestion):boolean  GetGameID(String Name):int  SaveTFQuestion(TFQuestion Question ,String GameName):boolean  LoadTFQuestion(String GameName,int Level):ArrayList<TFQuestion>  UpdateStudentGameData(String UserName,String GameName, int Rate , String comment, int achievement):boolean  LoadStudentAchievement(String UserName, String GameName):int  SaveStudentAchievement(String UserName, String GameName):boolean |

**Ownership Report**

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| --- | --- |
| **Item** | **Owners** |
| All team work together in this Phase | *Sameh, Emam, Roaya, Ehab* |
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