Cairo University  
Faculty of Computers and Information



**CS251**

**Software Engineering I**

**Project Description**

**2016**

**Version 1.0**

**Project Team**

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**Introduction**

* In this project you will collect the requirements, design and implement a non-trivial software system. You will practice the concepts you learned during the course.
* Project 3 phases are: Requirements, Design, and implementation and testing.
* Your project customer (whom you can check requirements with) and coach is your TA.
* Computek Company will be interested also in this project, teams who will do a good work in this projects will be rewarded from this company.

**Project Logistics**

1. Students from the same lab will be divided into groups; each group is 3,4 members.
2. Your team will register their names with the TA and **you CANNOT change teams** after registration.
3. Academic honesty is assumed. All work submitted must be original and written by your team (Not copied from students, the net, outside sources). Plagiarism will be penalized.

* Soon, you will be our colleague and we will be proud of you.
* Professional conduct and practice is essential in your career.

**Project Phases:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Phase** | **Deliverables** | **Deadline** | **Mark** |
| Phase 1-a | Initial SRS Document | 5 Nov |  |
| Phase 1-b | Final SRS Document | 26 November |  |
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# Phase 1: SRS Document

* Project description is included at the end of this document.
  + TA will act as your product owner.
  + Your role is to understand the main features and requirements of the product.
  + Think about the missing details and discuss them with TA.
  + Ensure that you fully understand what the product owner needs.
  + Do not add any extra major features on your own. It is beyond the scope!

# Details

* Each team will read and understand the given project system description.
* Think with your team the functionalities in the project.
* Create a Use case diagram contain all use cases in the project.
* For each use case create a use case table that describe this use case and its flow of event.
* **REMEMBER THAT USE CASE REPRESENTS A USER GOAL. SO YOUR USE CASES SHOULD REPRESENT A MEANINGFUL GOALS FOR THE USERS.**
* List **all the functionality** in the project with a number from 1-5 that express the complexity of the functionality. 1 is easy and 5 is complex.
* Make sure to think in any **missing details**, further sub-features and discuss with the TA if needed.
* You should determine the related non functional requirements and explain them. We expect at least **2 x team size** non functional requirements.
* Use case diagram and any further points in the template should also be filled.
* Any documents should be uploaded to any online repository (like github, bitbucket or git lab) using GIT version control system.

# Project overview

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.

One of the examples of this idea is “BrainRush” <http://www.brainrush.com/>

Students can play simple games in brain rush and these games will make students understand new educational concept. Also teachers can sign up in this website and create their own games. Brain rush contains 4 categories of games each category has specific rules and teacher can create any game belongs to one of these categories.

So there are 3 main components in this project

## 1- Students

Each student should have an account in the website. The student account will contain student’s basic information like name, age, gender, …., etc. Also it should contain students achievements (Scores he/she get in each game)

Students also can rate any game (interesting, normal, boring) and write comments for each game.

## 2- Teacher

Each teacher should have an account in the website. The teacher account will contain teacher’s basic information like name, age, gender, …, etc. Teacher can try any game in the website and also can create any new game. Teacher also should be able to edit or remove and game he/she created it before. And also teacher should be able to respond on students comments for games created by him/her.

## 3- Games

Games will be played by one student and will be created by teacher. Each game should belong to one category. Game’s category may be “Match pictures”, “Multiple Choices game”, “Run code game”

In BrainRush there are games like “Multi-digit addition”, “How many syllables”, “GreekGods” these games classified as multiple choices game.

We want also to add coding games to help students understand basic programming concepts. Please take a look to these websites

<https://codecombat.com/>

<https://www.codingame.com/>

<https://hourofcode.com/eg>

## Opportunities:

Computek company will be interested in this project. So teams who will be able to do a good work in this project will be rewarded from Computek. Project phases will be mainly 3 phases

## 1- Requirements gathering and analysis

The expected output from this phase is a detailed requirements list and use cases for the requirements. The best 3 teams in this phase will be rewarded from Computek. The first team will attend a one-month training in Computek.

## 2- Software design

The expected output from this phase is class diagram design, sequence diagram design. The best 3 teams in this phase will be rewarded from Computek. The first team will attend three months training in Computek.

## 3- Implementation

The expected output from this phase is a working web application according to the best requirements and the best design. The best 3 teams will in this phase will be rewarded from Computek. The company will study the best implementation and if this implementation is promising the company will market for this project and this team will have a share in this project.

# Policy Regarding Plagiarism:

**Students have collective ownership and responsibility of their project. Any violation of academic honesty will have severe consequences and punishment for ALL team members.**

1. تشجع الكلية على مناقشة الأفكار و تبادل المعلومات و مناقشات الطلاب حيث يعتبر هذا جوهريا لعملية تعليمية سليمة
2. ساعد زملاءك على قدر ما تستطيع و حل لهم مشاكلهم فى الكود و لكن تبادل الحلول غير مقبول و يعتبر غشا.
3. أى حل يتشابه مع أى حل آخر بدرجة تقطع بأنهما منقولان من نفس المصدر سيعتبر أن صاحبيهما قد قاما بالغش.
4. قد توجد على النت برامج مشابهة لما نكتبه هنا أى نسخ من على النت يعتبر غشا يحاسب عليه صاحبه.
5. إذا لم تكن متأكدا أن فعلا ما يعد غشا فلتسأل المعيد أو أستاذ المادة.
6. فى حالة ثبوت الغش سيأخذ الطالب سالب درجة المسألة ، و فى حالة تكرار الغش سيرسب الطالب فى المقرر.