Cairo University   **Faculty of Computers and Information**

CS352 – Software Engineering II

Project Specifications

2015

Project Team

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كلا إن معى ربى سيهدين
لا تحزن إن الله معنا

Introduction

- This document states the project objectives
- It also describes its **three** different project phases
- This is an **ongoing document** that will keep growing with more details

Project Objectives

- Working in real life project
- Gaining experience in cloud computing models, We will use Google App Engine platform cloud (Paas model)
- Applying software engineering concepts
- Learning new design concepts and design patterns

Project Logistics

Read these instructions very carefully إقرأ هذه التعليمات بعناية بالغة من أجل نجاح مشروعك

1- Students from the same lab will be divided into groups; each group is 4 members
2- Project weight is 15 marks from the total course mark.
3- We will follow Agile software developing cycle (Scrum)
4- In Scrum there are 3 main roles. Product owner, scrum master and the team
5- Product owner will be your lab TA
6- Chief product owner whom you can also ask is TA Mohamed Samir
7- One member from each group will be the scrum master
8- The Scrum Master serves as a facilitator for both the Product Owner and the team.
9- The Scrum Master will work with product owner to make sure the product backlog is in a good shape
   Meetings between scrum master and product owner will be periodically (daily, weekly)
10- Each team will work in sprints, they will have a backlog requirements in each sprint

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Prepared by Eng. Mohamed Samir. Approved by Dr.Mohammad El-Ramly

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Project – 15 marks (5 marks x 3 phases)

11- We will use Google App Engine as a cloud model and JAX-RS to build Restful services

12- For frontend, each team will decide to use any environment, your frontend may be "Web" or "Android Mobile". You should follow MVC structure. For web, you may use Jersey technology for building MVC Web Applications.

13- See the staff members table above to know TAs

14- 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.
- الممارسات المهنية و الأخلاقية السليمة طريقك أولا لمرضاة الله و ثانيا للنجاح و التميز فى المهنة
- بالغش تخدع نفسك قبل أن تخدع غيرك

Project Phases:

Phase	Deliverables	Deadline	Mark
Phase 1-a	Understand code and requirements, create Github workspace	28 February	1
Phase 1-b	Use an agile planning board for creating and managing user stories (tasks), implement additional functionality, Create services for these functionalities.	7 March	2
Phase 1-c	Deploy on the social network engine on Google App Engine	14 March	2
Phase 2	Extend System with new requirements and applying design patterns	Not determined yet	
Phase 3	Testing and Review	Not determined yet	

Project Description

Social media sites have changed the way we interact with each other. Sites like Facebook, Twitter, LinkedIn, Vine and more make it simple to stay connected in people's lives. You can easily catch up with friends with their statuses, photos and videos they post. And social media is not just important for your personal life, it is also a great tool for businesses or anyone trying to develop their professional network or look for a job.

In this project we will build our own version of social network

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Project – 15 marks (5 marks x 3 phases)

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Main Components

Users

With this component you should be able to create and manage different type of users (for example: normal user, premium user which has advanced features, …) and maintain some important attributes for each user (e.g. name, email, gender, profile picture, …)

Groups

With this component you should be able to create and manage different types of groups (for example: public group, private groups, …) each group is managed by set of users (including the user who created the group).

Pages

Users may need to create a fan page for specific entity or product. It's the same idea as Facebook pages. With this component you should be able to create and manage user pages and maintain some important attributes (e.g. number of users who like a specific page)

Posts

Users may want to share their status in social network by writing posts, Posts is one of the building blocks of social media content. A post (in our social network) is defined as text content written by a specific user. Any other friend user can "like" this text content or share it on his/her personal page. A user can write post in his/her personal page or in a joined group. If a user owns a page, he can write a post in his/her page.

With this component you should be able to create and manage different types of posts (user post, page post, post written by premium users, etc.). Also you should maintain some important attributes for a post (number of likes, number of shares)

Hashtag

Users use hashtags to categorize the content of specific post. If a user wants to write a post about "education", he may put the word #education (# the symbol of hashtag) in the post to categorize this post as education post. If another user wants to read some posts about education, so user may request all posts containing #education phrase.

Project – 15 marks (5 marks x 3 phases)

With this component you should be able to manage all hashtags, get all posts containing specific hashtag and sort these posts according to post importance (for examples, posts written by sponsored users should be more important than posts written by normal users)

Messages

User can send message to another user(s) in his/her friends list.

Using this component, you should be able to create message from user to any other user(s), or get messages between 2 users, or get messages in specific message group (which contains more than 2 users)

Functional Requirements in phase1

ID	Function name	Description	Complexity
1	Signup – Create new User	User should create a new account with unique user name and has a password so that he can use the system.	5
2	Login	User must login to interact with the system. User will login to the system with username and password stored in system	5
3	Signout	User can sign out from the system anytime and leave the system in current time	4
4	Send Friend Request	User can send a friend request to another user in the system, this request will be pending request until the anther user accepts this request	4
5	Add Friend	User can accept any of the pending requests he receives, user can receive friend requests from the other users and if user accept a request then becomes a friend with the sender of this request	4

Existing system (code) achieves the first three requirements. You should extend the existing system to add requirements 3,4 and 5. See link for source code in reference.

Project – 15 marks (5 marks x 3 phases)

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Example of the current software Usage

Current system is web application uses Rest web services to make core functions, web application follow MVC architecture, also it uses google data stores to save data.

Login:

User should be able to login to the system; current system uses JAX-RS to make REST web services. In frontend, firstly users enters data then data redirects to goHome function in service class and this function will call login web service to check data and returns user data

LoginService: http://fci-swe-apps.appspot.com/rest/LoginService

Parmaters: uname, email

Type: POST

Content-type: x-www-urlencoded

SignUp:

User should be able to register in the system, current system uses JAX-RS to make REST web services. In frontend, firstly users enters data then data redirects to response function in service class and this function will call registration web service to insert data and returns true if data is inserted in data store correctly

LoginService: http://fci-swe-apps.appspot.com/rest/RegistrationService

Parmaters: uname, email, password

Type: POST

Content-type: x-www-urlencoded

Phase 1

- Given some requirements, design and implementation for some requirements, understand these requirements and current existing system, you should extend the implementation and design to achieve new requirements.

- Notes:
    - Your role is to understand the main features and requirements of the product and current existing system.
    - Talk with TA if there's anything not clear in requirements or in current existing system.

Details

- In phase1-a, each team will read and understand project description, then read and understand current requirements and design
- Read the current existing code for this project very well
- Create Github workspace for this project.
- **In phase 1-a your team will deliver github workspace and frontend environment (your frontend will be web or mobile i.e. Android)**
- **Read phase1-a template very well, you will submit this template**
- In phase1-b, use Trello (or Assembla) software to plan for agile processing
- Tasks will be assigned by scrum master to team members using Trello (or Assembla)
- Based on your understanding of current system, extend this implementation and design to add new requirements
- **Don't create new project to add these projects, just extend this project implementation. YOU MUST use the given implementation.**
- Your code should be documented and follow standard Java coding style
- **In phase 1-b you should deliver new implementation, and list of current Rest services in your system¸ also you will deliver meeting reports between team members and scrum master**
- In phase 1-c, you should create new project on google app engine deploy the new project on Google App Engine.
- **In phase 1-c, you should deliver working system (web application, android apk or any frontend running environment) and list of implemented services deployed on google app engine**

Phase 2

- In this phase we will work on new requirements for this project
- You should extend design and implementation to achieve these requirements

Project – 15 marks (5 marks x 3 phases)

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Phase 3

- The target of this phase is to review and the test implementation

Tools Used in The Project

GitHub

- Every team member must use bit Github account. Any careless behavior won't be accepted (e.g one team member upload data)
- It will be used for documents and code.
- Github history much show real utilization for the project. Any trial to work away of it and upload files in last moments won't be accepted.

Google App Engine and JAX-RS API

- **All team members must learn** this technology and TA may ask them about it.

Trello (or Assembla)

- You must organize all your tasks (user stories and deployment tasks and all other tasks in one of these tools and show evidences in using the tool for management.

Grading

Phase 1:

Phase1-a:

Github workpace (1 grade)

Remember you should develop and submit your frontend environment to this project

Phase1-b:

Doing functionalities (1.5 grade)

Send friend request service (0.5 grade)

Add friend service (0.5 grade)

Store data in google datastore (0.25 grade)

Coding style (0.25 grade)

Using Trello for scrum, put requirements backlog (0.25 grade)

Meeting reports between scrum master and team members (0.25 grade)

Phase 1-c:

Create Google App Engine project (0.5 grade)

Project – 15 marks (5 marks x 3 phases)

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Deploy this project on Google App Engine (1 grade)

List of implemented services (0.5 grade)

Phase 2:

Phase 3:

References

http://docs.oracle.com/javaee/6/tutorial/doc/giepu.html

http://www.vogella.com/tutorials/REST/article.html

https://jersey.java.net/documentation/latest/mvc.html

http://www.vogella.com/tutorials/GoogleAppEngineJava/article.html

https://cloud.google.com/appengine/docs/java/datastore/

https://trello.com/

https://www.assembla.com/home

Source Code Repository: https://github.com/mohamedsamir92/FCI-SWEII-SocialNetwork

Source Code(Android frontend) Repository: https://github.com/mohamedsamir92/FCI-SWEII-SocialNetwork-Android

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 فعلاً 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.