**Cairo University**

**Faculty of Computers and Information**

# CS251

# Software Engineering I

## Project Name : LBSN

## Software Requirements Specifications

## Team Names

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CS251: Phase 1 – IAAA
Project: <LBSN>

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# Project: <LBSN>

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## 1. Team

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## 2. Document Purpose and Audience

- **This document describes the software requirements for Location-Based social (LBSN) networking It is intended for developer and of this system**
- **This document is directed towards the teacher assistant of this course –software engineering-to read it .**

## 3. Introduction

### 3.1 Software Purpose

- **The purpose of this document is to gather every possible detail to know the necessary requirements in order to create location based social network. We aim to reduce the gap between individuals and between social relationship so easy for the users to communicate. Also provide recommended and high rating places for a user by others .**

### 3.2 Software Scope

- **The software will facilitate the communication process and choose the appropriate and recommended places for the user . There is a messaging system to communicate easily with friends and you can find out the latest updates to their check-in and that's provide for any user . But the premium user only can follow-up the brands that he interested in . Also any user will be notified if there any action from his friends like messaging and notify from the brands whish he will follow. The new users can select their favorite tastes**

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from bunch of choices and once he open the application the user can choose place from list of places recommended according to nearby places and places with high rate from user's friends .

## Definitions, acronyms, and abbreviations

| | |
|---|---|
| Social Network | is a platform to build social network or social relation among people who share similar interests, activities, backgrounds or real-life connections. A social network service consists of a representation of each user (often a profile) |
| GPS | is a space-based navigation system that provides location and time information in all weather conditions, anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites |
| Tastes | The food types which the place owner add to the list |

## 4. Requirements

### 4.1    Functional Requirements

**4.1.1      Introduction :**

This subsection contains the requirements for the location based social network. These requirements are organized by the features of each component in the system.

**4.1.2      User :**

- Should be able to register to the system and log in it

- Should be able to restore his forgotten password

- Should be able to check in the place he is in and be able to write something with his check in

- Should be able to add each other as a friends and both of them can see check in of each other in home page place list

- Should be able to rate the places and save specific place into places list to be able to get information about this place at any time

- Should be able to extract directions from their positions to the place position (may be using 3rd party extension like google maps)

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- Should be able to send a text message to another user

- Should be able to create group conversation like group conversation

- could add tastes to their profiles

- New users are presented with a list of words and phrases describing recognized tastes and they may select the ones that appeal to them.

- Users can change their tastes at any time, and can add and remove items from their profile.

- Should receive a notification

- Should be able to search in the list of place

- User are two types

  - Normal user : can do all the functions except he can only check in the registered places

  - Premium user : can do all the functions in and can register a new place to the places DB , he can create new brands and can "follow" any company brand and receive special expert tips from them

### 4.1.3   Messaging system

- Allow users to send messages to each other

- Allow users to create group conversations

### 4.1.4   Brands

- It is only available for premium users

- It allow companies to create pages of tips

- It allow users to follow it to receive special experts tips from them

- Should have list of tips for some places

- Should have facebook and twiter links for this company

- It's owner could text users with new available places

### 4.1.5   Tastes

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- Each place in the system has a defined list of "tastes"

- Place owner could add tastes to his place

### 4.1.6 Notifications

- Should be send when something meaningful happened in the social network

### 4.1.7 Lists
- List of places will show when the app is opened
- The list will be sorted to one of many strategies like nearby places or places suggested by a friend
- There will be a search list which will be also sorted

## 4.2 Non Functional Requirements

### 4.2.1 Usability :

- Simple to use ,there is no complexity in this LBSN just when opening the system ,the user will find what he/she needs from the word or the symbol of the word to guide the user .

### 4.2.2 Reliability :

- This LBSN is safe for the users , the system has to save the information from the users and updated daily in the database and the users can edit these information whenever they want to reflect most recent changes .

### 4.2.3 performance :

- Short response time : Time which this LBSN should be loaded must be less than 10 seconds , after all it depends on the speed of the internet the user use.

### 4.2.4 hardware :

- This LBSN have to be run within internet connection ,the hardware interface should be Ethernet cross cable or modem or WAN-LAN.

### 4.2.5 Availability :

- The LBSN should be available at all times , meaning that the user can access the system using a web browser whenever he/she wants.

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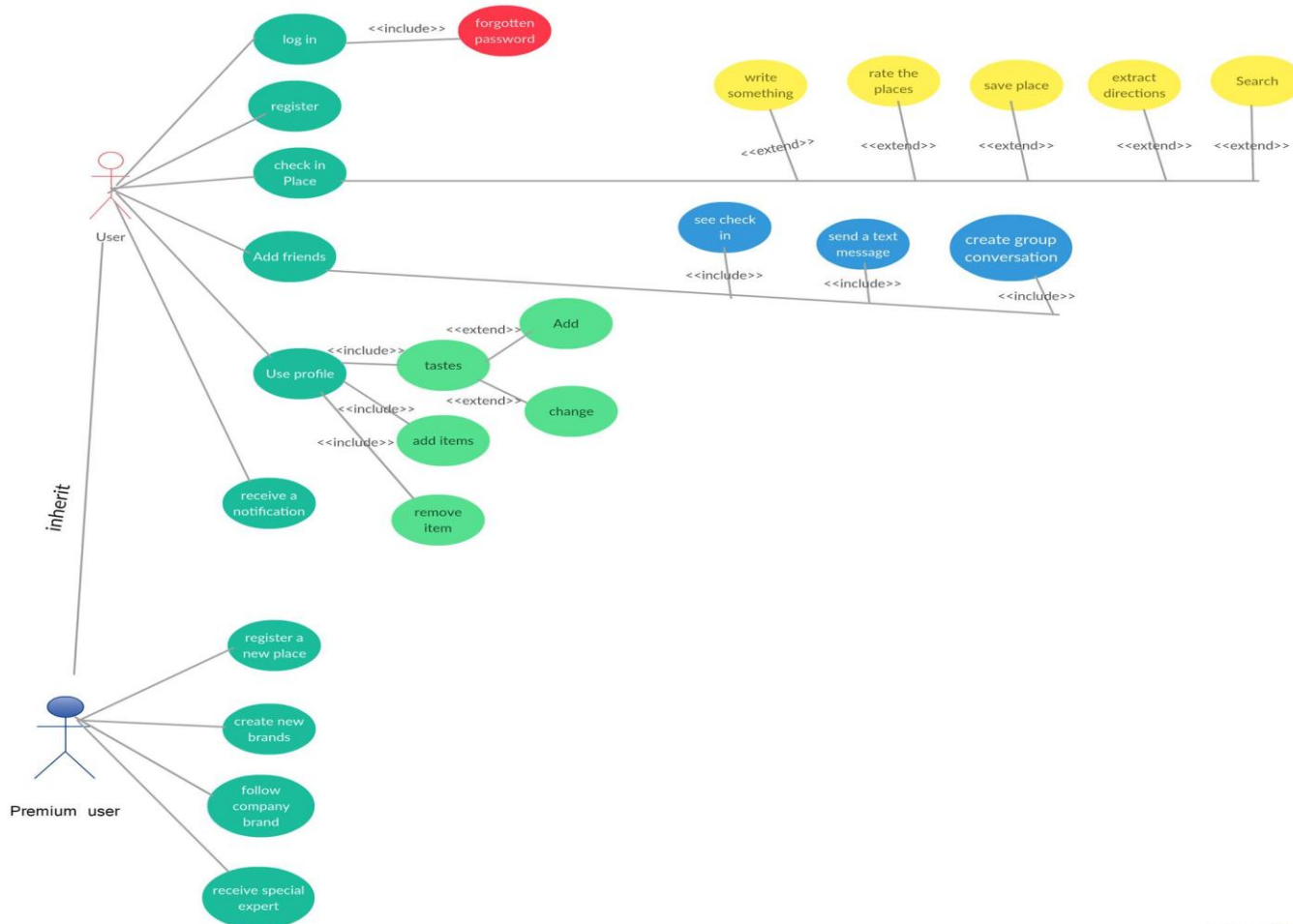
**4.2.6 Implementation :**

- **This LBSN must be implemented using Java programming language .**

**4.2.7 Security :**

- The LBSN must be secure. while logging into the system using another device different from the original device , the LBSN will text the user's email or mobile to give him/her a code to continue the logging operation. There is a question which the user answered during registering , when the user forget the password he/she can reset the password after answering the question to prevent the attackers from stealing the accounts .

## 5. System Models

### 5.1 Use case model

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### 5.2 use case tables

| Use Case ID: | 1 | |
|---|---|---|
| Use Case Name: | Log in | |
| Actors: | User | |
| Pre-conditions: | Must Sign up in the application | |
| Post-conditions: | The home page for the application will appear | |
| Flow of events: | **User Action** | **System Action** |
| | 1- User opens the application | |
| | | 2- System application GUI will appear |
| | 3-User enters user name & password | |
| | | 4-System makes sure that the user name & password are correct |
| Exceptions: | 1- User Enters wrong user name or password<br>2- User forgot his password | 1- System finds out there is no data for this user<br>2- System send the password to the user if he/she forgot |

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| Use Case ID: | 2 | |
| --- | --- | --- |
| Use Case Name: | Register | |
| Actors: | User | |
| Pre-conditions: | Must download the application | |
| Post-conditions: | Must install the application if it's needed | |
| Flow of events: | **User Action** | **System Action** |
| | 1-if this is new user he must register so as to deal with the application | |
| | | 2-the system will show the user the page of registration to fill the fields |
| | 3- User enters the required information to register as user name , password , E-mail…… | |
| | | 4- System adds new user to the database |
| Exceptions: | User doesn't fill the required information | System finds the entered e-mail in it's database and can't add this e-mail again. |

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| Use Case ID: | 6 | |
|---|---|---|
| Use Case Name: | add friends | |
| Actors: | User | |
| Pre-conditions: | Two users log in the system | |
| Post-conditions: | Each user become in other friend list | |
| Flow of events: | **User Action** | **System Action** |
| | 1- first user send a friend request to second user | |
| | | 2- System send the request to the second user |
| | 3- second user accept | |
| | | 4- System add first user to second user friend list |
| Exceptions: | Second user refuse the request | won't do the addition |

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| Use Case ID: | 11 | |
|---|---|---|
| Use Case Name: | Send a text message | |
| Actors: | User | |
| Pre-conditions: | 1-The user must open the application<br><br>2-Must add the other user so as to send the message easily . | |
| Post-conditions: | The two users can chat together if the other user is available | |
| Flow of events: | **User Action** | **System Action** |
| | 1-User chooses the friend from the friends list . | |
| | | 2-the system will show a window for the two users only for them |
| | 3- the user write his message in this window | |
| | | 4- the system will reach the message to the other user |
| Exceptions: | User didn't add the other user to his friend list yet | |

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| Use Case ID: | 12 | |
|---|---|---|
| Use Case Name: | Create group conversation | |
| Actors: | User | |
| Pre-conditions: | 1- The user must log in to see the friends list<br><br>2- Select the users who want to chat with them . | |
| Post-conditions: | All the selected users can chat together in a new conversation | |
| Flow of events: | **User Action** | **System Action** |
| | 1-User chooses the friends from the friends list that he/she has. | |
| | | 2- the system makes the group conversation and create a new window for all selected users |
| | 3-then the user sends a message for all the selected friends | |
| | | 4-The system will reach the message to all friends . |
| Exceptions: | User must have added the selected user before making group conversation | |

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| Use Case ID: | 13 | |
|---|---|---|
| Use Case Name: | add tastes to normal user profile | |
| Actors: | User | |
| Pre-conditions: | User tastes list empty or have tastes | |
| Post-conditions: | A new taste added to user tastes list | |
| Flow of events: | **User Action** | **System Action** |
| | | 1-system display the taste to user |
| | 2-user choose one taste to add | |
| | | 3-system add the taste to his tastes list in his profile |

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| Use Case ID: | 14 | |
|---|---|---|
| Use Case Name: | Change their tastes | |
| Actors: | User | |
| Pre-conditions: | The user Log in and go to the tastes and see his list of tastes to change it and see also new tastes that he can add | |
| Post-conditions: | The new tastes will added to user list of tastes and the deleted tasted will not appear in list | |
| Flow of events: | **User Action** | **System Action** |
| | 1- choose  tastes | |
| | | 2- show new tastes and list of his tastes |
| | 3- change or add tastes | |
| | | 4 – update user  tastes list by adding the new choices and remove tastes that the user has changed . |
| Exceptions: | try to log in with no internet connection | The system asks the user to check out his internet connection |

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| Use Case ID: | 18 | |
|---|---|---|
| Use Case Name: | register a new place | |
| Actors: | Premium user | |
| Pre-conditions: | Premium user log in to the system | |
| Post-conditions: | New place is added to Places database | |
| Flow of events: | **User Action** | **System Action** |
| | 1-Premium user check in on a new place | |
| | | 2- System add the new place to places database |
| Exceptions: | In the case that a normal user registers a new place | The system can't register a new place for the normal user |

| Use Case ID: | 19 | |
|---|---|---|
| Use Case Name: | Create new Brand | |
| Actors: | Premium user | |
| Pre-conditions: | Must log in as a premium user | |
| Post-conditions: | Brand appear in his list of brands & other interested user start following the brand | |
| Flow of events: | **User Action** | **System Action** |
| | 1- create new brand | |
| | | 2- cheack if the user is premium |
| | | |
| Exceptions: | normal user try to create new brand | system does not accept that action |

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| Use Case ID: | 20 | |
|---|---|---|
| Use Case Name: | Follow any company brand | |
| Actors: | Premium user | |
| Pre-conditions: | Log in as any user and start searching about brands to follow them | |
| Post-conditions: | User See the new feeds of brand and get notification from the brand that user follow | |
| Flow of events: | **User Action** | **System Action** |
| | 1- follow brands | |
| | | 2- brands appear in new feed to user and get notifications |
| | | |
| Exceptions: | try to log in with no internet connection | The system asks the user to check out his internet connection |

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## 6. Ownership Report

| Item | Owners |
|------|--------|
| Use Case Model | Abdelrahman Mohammed Ibrahim |
| Introduction + use case tables for case IDS (14 ,19 ,20 ) | Ahmed Nasser Ali |
| Functional requirements + use case tables for case IDS (6 ,13 ,14) | Abdelrahman Maher Ahmed |
| Document Purpose and Audience  + Non Functional requirements + use case tables for case IDS (1 , 2 , 11 ,12 ) | *Islam Mohammed arafa* |

## 7. Github link

**https://github.com/Abdo-maher/LBSN**