**CSE 3310 – Fundamentals of Software Engineering**

**Spring 2018 – Term Project**

Term Project Objective:

Practice general Software Engineering life cycles of Specification, Design, Implementation and Testing via programming an Android application. This class will be utilizing a Plan-driven Software Engineering approach and not an agile methodology.

Project Requirements:

* Please pick one of the following Android projects (in the next pages) as your term project. We will use Project I as the default project for the class to practice Software Engineering practices. Your software should be an android application that runs on the Google Android platform. This means, with your instructions, we (i.e. class GTA and I) should be able to run your code on the standard Android emulator that we have installed on our machines. We will provide some basic training android down the road.
* You may select any development tool or environment however you must develop the project yourself. It is not enough to just copy and paste a project from somewhere else. This does not mean you cannot reuse any existing code. Many software engineering products build on some existing code. But it is important that you clearly document which parts are yours and which parts you reuse from another source. If in doubt, please run it by me and GTA first!
* You must provide the necessary software required to run/test your application.
* Project will be completed in teams, no individual work is accepted. All team members are expected to put equal time in handling the allocated tasks. In case of any friction or miscommunication, please inform me and GTA immediately. I will conduct a peer-review later in the semester to evaluate all team members’ equal participation.
* No copyright violations for any part of “reused” code, if any.
* Provide appropriate references when using other people’s work.
* All team members must take part in presenting a portion of your project. Presentation times are specified in the class schedule.
* The class GTA’s primary responsibility is helping you with your project. You can visit him during his office hours. All contact information is available in the class syllabus.

**Required Progress & delivery:** Your project will be delivered in 4 increments as listed below (via hardcopy and/or presentations):

* 1. UML diagrams: Due 2/22/2018 in class (hard copy)
  2. SRA document (UML + detailed requirements): Due 3/22/2018; Submit hardcopy of SRA in class. (note: Design and implementation should begin right after the midterm, there will an android training right after midterm)
  3. Test Plan Doc. + Peer review: Due 4/12/2018 in class (hard copies)
  4. Final product demo and course binder: Due 5/3/2018 (Final product: i.e. Project demo, source code, test plan and external documentation also referred to as user manual. Details of what to hand in will be provided in class later). Team presentations will take place during the last two weeks of the class. All students must present a portion of their project (i.e. UML, Requirements, and Test plan and project demo). Refer to class schedule for presentation schedule and details.

**Assumptions:**

* Assume all users over the age of 18
* Assume all users are active students
* Ignore any legal issue unless you decide to make profit from your project by selling it
* Ignore any TAX issues
* Ignore any vacation and social and health insurance costs
* Ignore Post project maintenance issues

**General comments:**

* All team members must participate equally in all stages of the project. A peer review will be conducted to validate equal participation.
* All members must participate in presenting a segment of their project.
* Establish a weekly meeting with your team members. Typically a one-hour session is sufficient at the start. Make sure all members can attend and are committed to this.
* Select a facilitator for each of the 4 increments. Typical duties of a facilitator are: organizing meetings, coordinating efforts among team members, communicate with the course instructor or the class GTAs, etc. Please note, you do not have to select a team facilitator, it just makes communication easier. One suggestion is to rotate the facilitator role per each increment of delivery, there are four of you and 4 increments.
* Research online for existing products to help you deliver a better project. You can get ideas but cannot copy other people’s work.
* Please avoid any inappropriate words, pictures, actions while developing this product especially if you plan to propose your own android project.
* Please utilize the class GTA for any aspects of this project.
* Bonus: 5 points for the best class project, 3 points for the second best project

**Project 1: University Bazaar System (UBS)**

Develop an android application to help university students exchange information, form organizations/clubs, and buy/sell/trade goods. The system should minimally include:

1. Students must register before they can use the system. University ID can be used as member Id.
2. Members must login to use the system after initial registration.
3. System should have an appealing entry screen.
4. System should allow members to form specific organizations or clubs (e.g. chess club, math club, European students club, etc.).
5. System should allow for buy/sell/lend/exchange of merchandise (e.g. books, house hold items such as TVs, furniture, etc.).
6. System should allow for sending messages to all or a subgroup of members (e.g. Free Pizza at 12 in Nedderman Hall 100, free movie showing in the student center, a great restaurant just opened next door, chess club tournament begins next week, etc.)
7. Exchange information about any topic, of course appropriate and within legal boundaries of a university setting such as: job postings, company hiring, class information, tutoring service, attending graduate programs, conference information, job fairs, subleasing apartments, sharing rides, etc. (anything goes)
8. {optional} System should provide advertising space (e.g. Local subway store offers specials or coupons to members). This could be a source of revenue from the app.

**Project 2: Your choice!**

Develop an android application of your choice assuming:

1. It is user and family friendly (i.e. no foul language, no violence, unacceptable pictures or comments, or generally questionable contents). This is particularly applicable if you decide to develop a game. If unclear, please run it by me and GTA first.
2. You have until the beginning of the next lecture to inform me if you are planning to use a different project than the project listed above. To propose a new project, please:
   * Prepare a short description of your project and the intended functionality similar to the project description above (1 page max)
   * All of your team members must agree to take part in this project
   * This product cannot be part of your day-to-day work or used for other classes without careful consideration of all relevant details.
   * You need my exclusive agreement before you can pick it as the term project. E-mail it to me and copy our GTA on or before the start of the next lecture.
3. After reviewing your proposed project, I will inform you if you can proceed with that project or not. I generally watch for the following items in an application:
   * Good graphics (i.e. avoid simple tables or non-graphic games)
   * Good AI
   * It is user/family/university friendly (see#1 above)
   * You cannot propose an application that the exact one already exists as a web or Mobile application

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**Android: Resources and references you might find helpful:**

Getting started with Android Programming: [http://developer.android.com/training/index.html](https://owa.uta.edu/owa/khalili@exchange.uta.edu/redir.aspx?C=C8fxhHVKgku4BTPh902LJWQAlpqDfdBIok2DXEA_2SaPvQRj-iTSBbdDU9oXW-nbu9CJK5QLMDo.&URL=http%3a%2f%2fdeveloper.android.com%2ftraining%2findex.html)

Android SDK: <http://developer.android.com/sdk/index.html>

Android Development Tools (ADT): <http://developer.android.com/tools/sdk/eclipse-adt.html>

Android Development Tutorial: [http://www.vogella.com/articles/Android/article.html](https://owa.uta.edu/owa/khalili@exchange.uta.edu/redir.aspx?C=C8fxhHVKgku4BTPh902LJWQAlpqDfdBIok2DXEA_2SaPvQRj-iTSBbdDU9oXW-nbu9CJK5QLMDo.&URL=http%3a%2f%2fwww.vogella.com%2farticles%2fAndroid%2farticle.html)

Android Studio Download: <http://developer.android.com/tools/studio/index.html>

Eclipse Downloads: <http://www.eclipse.org/downloads/>