The lab work is structured as a BDD (Behaviour Driven Development) of a software system that we will refer to as the Photo Gallery app. The software specs of this software system are attached herewith. The software system should be composed of an Android app written in java, a web app written using HTML, JavaScript, Java/Servlet and a Relational Database such as Oracle. Apache Tomcat would be utilized as the backend for the mobile and web app.

Agile-XP-BDD recommends short sprints aided by CI & Deployment. Accordingly the development is proposed to be split across the following sprints.

You may lose marks if feature creep is noticed (i.e. adding more features than expected in that sprint).

In addition to submitting the code at the end of each sprint, each team is expected to demo the work that was accomplished during the sprint.

Sprint I (Due Jan 27st)

- As a team, establish naming conventions for resources as well as java code.
- Create a Git repository for the project that everyone in the team will use i.e. pull/push/merge. Come up with a branching structure of the Git.
- Incorporate Continuous Integration and Testing (i.e. automatic running of UI and Unit tests) by integrating Jenkins to Git.

  You should also consider deploying the Android app to Google Play and the server side to AWS.

  Also study Agile Project Management environments such as Jira and Visual Studio Online, although use of these tools for the project management purposes is not required

Produce 1st release of the software system. This release is mainly an Android app that

- allows user to take photos and stores these on a file system folder,
- automatically tags each captured photo with the current timestamp,
- [1 mark] allows user to add and/or edit a caption to the photo, and
- [1 marks] supports time as well as caption based search of the photos and ability to view these photos.

  The GUI should be based on what we decide in the class. Additionally, automated UI Tests for the add/edit caption as well as time/location based search functionality of the app should be developed using Espresso (preferrably before the development of these features starts as per BDD) [2 marks].

Sprint II (Due Feb 17th)

Produce 2nd release of the software system. This release adds following features to the Android app:

- using the onboard GPS system, automatic location tagging of captured photos
- [1 mark] location based search
- [1 mark] uploading of photos to social media sites

Additionally, refactor the code during this sprint by creating support packages containing utility classes and writing their unit tests [2 marks]. Add automation of location based search [1 mark].

Sprint III (Due March 9th)

Develop a Tomcat/Servlet based web service and app that:

- [1 mark] allows users to upload photos from Android App to the server.
- [2 marks] supports time, caption and location based search of the photos and ability to view these photos through a browser.
- [1 mark] Integrate a relational database to the server for better management of photos.
- [2 marks] allows user to also upload photos from their desktops to the server with time, location and caption tags.