

California State University Long Beach
Department of Computer Engineering and Computer Science

CECS 491A Software Engineering Project I

Project Plan

Group D

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Overview

Project Scope

Zapato is a high-end, shoe market platform which tends to customers through its android application. The application will provide a platform for people to be able to sell their footwear to other people, at a price that they determine. Other users are able to buy the footwear sold by other people.

The software will include activities such as viewing products, user login, etc. The user will navigate through the activities using icons that are placed on the screen.

CORE:

- Functional and technical oriented platform SYSTEM FOR BUYING AND SELLING will be built.
- Make it simple to use
- Customers need to see change every certain time frame to feel that the service is not a standstill, so we need plan product cosmetics, features, security change cycle.
- Calculate or come up with reasonable pricing strategy for subscription or service usage fees (Premium/Basic service, etc.)

Android App

- Support Android 5.0-8.0 (development target 2017-2018)
- Android Studio IntelliJ IDE
- Java Threading
- Android background services
- Android material design compliance to Android 5.0 Lollipop
- TCP socket for content handling
- UDP socket for messaging
- Sockets latch to FIREBASE server ip and port address
- JSON based HTTP dataset transfer

Server infrastructure:

- FIREBASE database service or independent Linux LAMP server
- Restful Service (JSON & XML & HTML protocol & Socket, standardization (or most popular paradigm now))
- Distributed computing/parallelism/server thread pool/thread handling
- AI/smart data storing algorithm
- AI/data analytics

Major Software Functions

Online Marketplace

The Zapato android application will provide a platform for users to browse, buy, or sell footwear. Zapato is an open market made to let buyers bid for prices and sellers set their prices.

User Authentication

In order for the user to place their shoes for sale or to buy shoes, the user will have to make an account with a username and a password of the user's choice. There will also be a confirmation email, so there will be no accounts made without an email that may cause a problem in the future.

Databases

The android application will include a secured database that will collect the accounts of the users along with their usernames and passwords. Monetary information such as credit cards will also be stored, but this will be with the permission of the user.

Payment Transactions

Our platform will allow users to pay each other for the products they buy and sell. Securing customer information will be a top priority, and successfully merging different types of payment methods will also be an important part of this function.

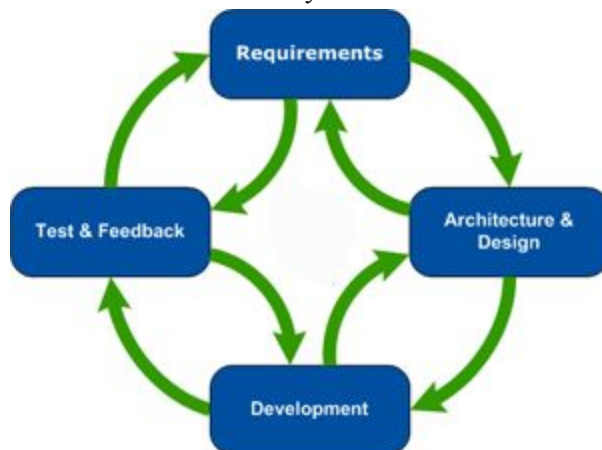
Performance/Behavior Issues

Zapato will be compatible with mobile devices running Android 5.0 Lollipop or later.

Management and Technical Constraints

Zapato is estimated to be delivered in **May of 2018**.

Our team will be using the Prescriptive model, *Agile*, to develop the Zapato project. We will rely on specifying requirements before continuing with design, architecture, and testing. With this model, we can adapt to any changes within the Android ecosystem.



- Agile model

Staff Organization

Role

All team members are responsible to collaborate.

Role	Team Leader
Member	<i>Agustin Barajas</i>
Description	Provides general guidance and project management for the team. Responsible for much of the required documentation.

Role	Lead Database Manager
Member	<i>Zhipeng Mei</i>
Description	Primary designer and programmer for the Firebase database. Responsible for much of the required documentation.

Role	Lead UI Developer
Member	<i>Jimmy Nguyen</i>
Description	Lead Designer for the User Interface. Responsible for much of the required documentation.

Role	Lead Software Architect
Member	<i>An Jin Gang</i>
Description	Controls and dictates the standards for tools and platforms used within the software. Responsible for much of the required documentation.

Role	Programmer
Member	<i>Yixuan leng</i>
Description	General computer programmer that will divide work between the Database and UI sections of the project. Responsible for much of the required documentation.

Role	Programmer
Member	<i>Benjamin Castillo</i>
Description	General computer programmer that will divide work between the UI and Software sections of the project. Responsible for much of the required documentation.

Role	Programmer
Member	<i>Nhi Nguyen</i>
Description	General computer programmer that will divide work between the Database and Software sections of the project. Responsible for much of the required documentation.

Risk Management

Project risk

Major risks we have determined for this software are as follows:

- Failed functioned application
- Server crash
- Late delivery
- Unsecured testing network
- Collision codes in GitHub
- High reservation space for database
- Glitch graphics in GUI
- Poor comments in code
- Merging code within expected planned date
- Conflicted input of ideas
- Failed meeting on expected planned date

Risk Table

Impact Values:

- 1 – Severe
- 2 – Critical
- 3 – Negligible
- 4 – Non-important

Risk	Category	Probability	Impact
Failed functioned app	Progression	70%	1
Server crash	Database	50%	1
Late Delivery	Business	40%	1
Unsecured testing network	Security	20%	1
Bluescreen of Death	Kernel	1%	1
Collision codes in GitHub	Cooperation	40%	2
High reservation space for database	Database	30%	2
Glitch graphics in GUI	GUI	30%	2
Poor comments in code	Cooperation	60%	3
Merging code within expected planned date	Cooperation	40%	3
Conflicted input of ideas	Cooperation	20%	3
Failed meeting on expected planned date	Cooperation	50%	4

Project Estimates

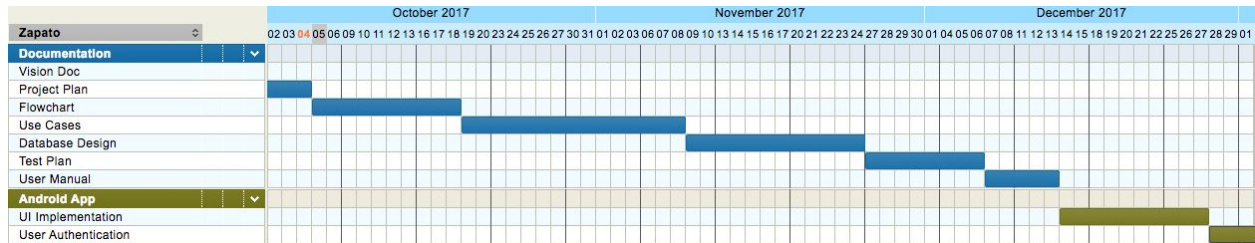
Estimated Date of Completion: May 2018

1. Vision Document Sep. 25, 2017
The document which outlines the purpose of this project and what is hoped to be achieved.
2. Project Plan Oct. 4, 2017
The document which gives a concrete plan of completion for the project.
3. Flowchart/UML Oct. 18, 2017
A diagram that helps visualize the relationships between classes.
4. Use Cases Nov. 1, 2017
A list which explains actions between all actors and the system.
5. Database Design Doc Nov. 8, 2017
The document contains table, attributes, relationships, constraints and trigger.
6. Test Plan Nov. 20, 2017
A plan which tests case-by-case whether or not all functions are working properly.
7. User Manual/UI Layout Nov. 27, 2017
A technical communication document intended to give assistance to people using a Zapato application.
8. Presentation Dec. 6, 2017
Present the documentation to the panel.
9. UI Implementation Dec. 27, 2017
Roughly implement the entire workflow of application's user interface.
10. User Authentication Jan. 11, 2018
Implement the Login/Create account UI, connect the app to Firebase Database, send verification email or mobile number.

Project Resources:

1. Required Staffs:
 - Android developers
 - Database architects
 - Software programmers
2. Required Hardwares:
 - 7 programming-capable computers
 - Android phones
3. Required Softwares:
 - Windows or OS X Operating System (total 7 Licenses)
 - Android Studio IDE (7 Licenses)
 - Firebase Cloud Database (1 License)
 - MySQL (1 License)

Project Timeline



List of deliverables

Documentations:	Code:
<ul style="list-style-type: none"> • Vision Doc • Project Plan • Flowchart • User Cases • Test Plan • User Manual 	<ul style="list-style-type: none"> • Android Application