# Introduction

We intend on creating a social media application for our Software Engineering Project. This app would allow people to partner up with others in the same vicinity for chores, games, lunch, carpooling etc.

## Project Scope

The app would prompt the user asking what does he/she want company for and at what time, any other preferences will also be considered. The available users will be displayed on to the screen. The user could then send a request to any selected candidate for the meet up.

## Major Software Functions

* UX/UI Design and Implementation of menus and commands
* Database Backend functionality from cloud
* Scaling up for multiple institutions/organizations

## Required Tools

* We intend to use JavaScript over a browser for our App. We may also use APIs for Python such as Jango, sqlalchemy, or flask.

## Performance/Behavior Issues

* We have to make sure the user updates are real-time.

## Management and Technical Constraints

* Lack of training with several APIs for backend development or integration..
* Limited knowledge about Javascript/HTML.

# 2.0 Project Estimates

All project estimates are taken from our judgement of our previous working habits.

## 2.1 Historical Data Used for Estimates

Previously, Anas Masood has worked on Functional Data Structures Project which took a total of 15-20 hours. It involved learning new theory and a newly learnt language called Haskell.

Shariq has worked on a project on Database and Functional Data Structures.

Hammad has worked on a project on compression in FDS which took a total of 15-20 hours. It involved learning a new technique and implementing it on a functional language.

Lalarukh has also worked on 2 Object Oriented Programming projects which took approximately 15-20 hours.

## 2.2 Estimation Techniques Applied and Results

Rough student estimation accounting for optimism usually shown by programmers is used as an estimation technique. Learning a new technique and language requires more time than usual and hence the longer time in the beginning. Once this learning is complete, the basic app is simple to implement.

### 2.2.3 Estimated Time Required for Project

The estimated time projected for the project to finish is a total of 120 man hours. Out of these 30-40 hours would be taken up by learning new techniques and concepts. These are total hours for four group members.

The design stage would take 10-15 man hours. Database backend would take 25 man hours and would also need a cloud server. Companion tracking and displaying would take 20 man hours.

## 2.3 Reconciled Estimate

The reconciled estimate is 120 Man hours and $100 roughly for tea, coffee, and paying for a cloud server.

# 3.0 Risk Management

Following is a commentary of the possible risks in our project.

## 3.1 Project Risks

1. A group member’s relatives or the group member themselves may come under the ‘red bus’.
2. Other projects and course requirements may take more time than expected.
3. Electricity issues in a member’s house may hinder a deliverable deadline.
4. Some group members are prone to be more ‘busy’ than the others.
5. The App may be created by someone else and may have a copyright claim.

## 3.3 Overview of Risk Mitigation, Monitoring, Management

The risks would be mitigated by having regular bi-weekly meetings to see how well each group members are doing and if they have other deadlines to meet. The meeting would also discuss expectations from each member. Furthermore, we plan to do the work for the application only on campus so the other risks are mitigated. Working together in one place would also drastically reduce communication time

# 4.0 Project Schedule

This section presents an overview of project tasks and the output of a project scheduling tool.

## 4.1 Project task set

We are planning to follow the agile approach using a combination of extreme programming, and iterative approach. We would create small portions of the app in an agile method and integrate them using an extreme programming approach.

## 4.2 Functional decomposition

Milestone 1 (March 27)

UX and UI of App including pages/screens, forms, and buttons/commands with their icons

Milestone 2 (April 14)

Coded functionality of map integration and complaint registration. May not include displaying complaints on the map.

Milestone 3 (May 17)

Code and a final, tested version of the app with display and rating of each utility and a combined rating.

# 5.0 Staff Organization

We have given the following roles for our teams.

## 5.1 Team structure

* Syed Shariq Ali: Team Lead, Database Developer.
* Anas Masood: Primary Developer/Programmer.
* Hammad Siddiqui: UI/UX Designer.
* Lalarukh Abbas: Secondary Developer and Tester.

## 5.2 Management reporting and communication

We intend on having two standup meetings a week to communicate and be on the same page. We also intend to work together in a library room to have highest communication, and minimize risks.

# 6.0 Tracking and Control Mechanisms

Most of the tracking and control would be done by the Team Lead who would check if the group members are meeting their deadline. Our professor, Dr. Rahim Hasnani would also be assisting in tracking team performance.