



Dhirubhai Ambani
Institute of Information and Communication Technology

IT314: SOFTWARE ENGINEERING

Project Detail Document

Topic : Expense Management System like Splitwise

Project Title:- SplitEasy

Guide TA :- Pinak Gajera

Group Number : 11

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Version 1.0

1. Objective of the project

In our daily life, we have to keep track of our expenses and keep a note of the amount we owe to our friends/relatives or the amount they owe us. For example, When we go on a trip or for dinner in a group, then usually it is convenient that only one person pays for the bill. Manually keeping track of these expenses will be inefficient, time-consuming, and error-prone. Errors made in manually maintaining the expenses could end up consuming a large amount of time, figuring out the error. So, we need a tool that will keep track of our expenses, which is the main motivation behind developing the system.

This project is meant to offer a shared expenses solution that is faster, easier, and more convenient than manually calculating and handling expenses.

The objective of this project is to make shared living and travel easier by providing neutral advice, fair judgment, and simplified expense sharing through web-based tools, calculators, and blog content like you see here.

And so we built SplitEasy – our humble attempt to solve the problem of managing travel and other shared expenses. We hope you enjoy what we have to offer, and we look forward to improving SplitEasy in the months and years to come.

2. Functionalities

2.1. Users can add or settle expenses, either in the group or with an individual person

The expenses made could be in groups or pairs, so the user should be able to add expenses conveniently in both cases

2.2. Support of “Transactions in Multiple Currency”

The expenses made could be in any currency as the user could be living in any country, the user should be able to add the expenses in any currency they prefer.

2.3. Monthly expense report

The user should be able to keep track of all the expenses made during the month and should be able to see the net cash flow during the month in the form of an expense report.

2.4. Users can ping their friends

The user should be able to remind their friends of the pending settlements or any other expenses made. Having a simple messaging system can help the users with this.

2.5. Set profile feature

Users should be able to set up their profiles and personalize them as well. This makes the UI look more personal and friendly, and improves the overall user experience.

2.6. Intuitive and Easy User Interface

The users could be anyone with a little technological background, so the system must be intuitive and easy to use.

2.7. User Sign-up and welcome page

The user should be able to make an account in the system and verify their identity easily.

2.8. Transaction Activity Log

Users should be able to keep track of all the expenses added by them or their friends.

2.9. 2 step authentication

Security is of the utmost priority as it is an application related to finances and hence there should be a feature to make the process easy.

3. Deliverables

3.1. Milestones:

First two-week milestones:

- 3.1.1.** Project Proposal
- 3.1.2.** PDD versions
- 3.1.3.** Wireframe of the system

Getting ready the basic design of the system and creating the basic look of the website.

- 3.1.4.** DFD of the system
- 3.1.5.** Designing the Interface

Building a user-friendly interface, which is suitable for all ranges of users

Future milestones:

- 3.1.6.** Implementing the login page and 2FA (Two-factor authentication)

Implementing a user-friendly login page (with options to login with Facebook and google) and having an option to set up two-step authentication, verification of email, and phone number.

- 3.1.7.** Implementing the Dashboard and Navigation Bar
- 3.1.8.** Designing the backend and coding

Implementing the basic set of functionalities on the prototype.

3.1.9. Testing and prototype presentation to the user

Testing the system and presenting the basic working prototype to the users and taking feedback and improving upon it.

3.1.10. Working on the feedback and Beta testing the application

Implementing the improvements suggested by the users and improvising on the UI/UX and reducing the response time.

3.1.11. Deployment and release of the first version of the product

3.1.12. Taking user feedback and improving upon the current system

3.2. List of Final deliverables:

3.2.1. Weekly Status Reports

3.2.2. Complete documentation

3.2.3. Report for Audit

3.2.4. User Guide

3.2.5. Final web app

4. Estimated Total Time (Unit: hours)

Work	Expected Time(in Hrs)
Research related to the system	4
Project Proposal	3
PDD and WSR	5
Wireframe of System	4
DFD of the system	5

Implementing the login page and 2FA (Two-factor authentication)	5
Designing the backend and coding	12
Testing and prototype presentation to the user	6
Working on the feedback and Beta testing the application	3
Deployment and release the first version of the product	4
Taking user feedback and improving upon the current system	3

5. Hardware and Software Requirements

5.1. Hardware Requirements:

5.1.1. PC/Laptop Requirements:

Processor should contain at least 2 cores and should be of 1.2GHz

Minimum of 3GB of RAM

At Least 500MB free disk space

Should contain GPS module in order to track the national currency of the user

Display with minimum resolution of 1024 x 768

5.1.2. Mobile/Tablet Requirements:

Minimum 1.5GB of RAM

(Optional) A camera should be available to scan the QR code of a friend inorder to settle payments directly from a web app.

Should contain GPS module in order to track the national currency of the user

Display with minimum resolution of 1024 x 768

5.2. Software requirements:

The web application should be compatible with most of the browsers like Chrome, Opera, Firefox, Safari and Microsoft Edge.

Stable Internet connection with ping less than 200ms and bandwidth greater than 50 KBps (400 kbps)

6. Technology/Architecture

HTML, CSS, Javascript, ReactJS, Firebase data storage and authentication.

7. Standards to be followed

The variable names should be signifying their use. Camel case should be used in every variable and function names. Git repository should be kept up to date by every member so that a previous version could be recovered in case of system failure.