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Dhirubhai Ambani
Institute of Information and Communication Technology

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Project Management Document

Topic : Expense Management System like Splitwise

Project Title:- SplitEasy

Guide TA :- Pinak Gajera

Group Number : 11

Student Name	Student ID
Ayush Bhalani	201901048
Anish Parekh	201901058
Neel Patel	201901068
Jay Makwana	201901104
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Date: 29-04-2022

Version 3.0

1. Activity List

Sr. No.	Activity	Estimated time(in days)	Estimated start date and end date
1	Formulation of the Document	4	8-03-2022 to 15-03-2022
2	Desiging a solution (Documentation)	5	17-03-2022 to 26-03-2022
3	Relevant Learning	23	27-03-2022 to 01-05-2022
4	Coding and Unit testing	13	01-04-2022 to 17-04-2022
5	Documentation	7	17-04-2022 to 20-04-2022
6	Testing	8	20-04-2022 to 30-04-2022
7	Reviews	4	25-04-2022 to 30-04-2022
8	Re-work and De-Bugging	5	28-04-2022 to 03-05-2022

2. Project Plan

Project Management Document (PMD)
Project Plan

2022

	04-03	11-03	18-03	25-03	01-04	08-04	15-04	22-04	29-04	04-05	

Formulation of the Document — All

Designing a Solution — Neel, Siddharth

Relevant Learning — All

Coding and Testing — Ayush, Jay

Documentation — Neel, Monil

Testing — Anish, Siddharth

Reviews — Ayush, Monil

Re-work and De-Bugging — Jay, Anish

3. Testing Strategy

3.1. Test Cases for requirements

Test Case ID	Test Case Objective	Test Data	Expected Result
TC_1	Test google OAuth, 2-step authentication	A valid username (Enter a valid username in real-time scenario)	The user should be successfully logged into the web app.
		An invalid Username or Password	The app should display an error message saying the username/password is invalid
		Correct Username and password	The system should be redirected to the OTP page
		Incorrect OTP is entered	The system should notify the user and display an error message saying the OTP is invalid
TC_2	Report for bugs in the UI if found any	The system UI and its functionalities (User using all the UI functions)	Minimal bugs expected
TC_3	Test if the user details entered are displayed correctly.	Valid user details and his/her profile picture.	The entered details should be displayed in the user profile section.
TC_4_1	Test the add expenses functionality	Add expenses with a new friend.	Here we are adding a new friend therefore friend list of current user should be updated and also new expense should be displayed.
		Add expenses with an existing friend.	Here we are adding an existing friend

			therefore the friend list of the current user should not be updated and expense should be added.
TC_4_2	Test the updated expense functionality	Add an expense with an existing friend.	If an expense with an already existing friend is added, the net amount with that friend should be updated without creating a new friend.
TC_4_3	Test the delete expenses functionality	Add a valid friend name and the expense id.	On clicking the delete expense button the entry of that particular expense should disappear from the activity page and also the net amount should also be updated accordingly.
TC_4_4	Test the UI working correctly after adding expenses.	Unsettled sum	Check that after updating the expense amount, the color of the amount should be red, green, or gray, depending upon the amount value.
TC_5	Check if all the transactions added (involving the current user), are displayed in the activity section	Add a valid transaction for a given logged-in user	All the expenses added should be displayed without fail in the activity section.
TC_6	Test the messaging system to verify that the messages are being successfully sent and received on both ends.	Send a message to another user	When a user pings his friend via messaging, a message should pop up in that friend's account.

TC_7	The app should redirect the user to the payments site when he/she scans the QR code for settling up an expense.	The user scans the QR code via his phone camera.	The user must be successfully redirected to the payments page.
TC_8	Test the support of adding expenses in multiple currencies	Adding an expense made by a user in any other currency than the Indian rupee.	The expense added by a user in a currency other than the Indian rupee must be converted to INR and then must be added in the net expense of the concerned user.
TC_9	Cross-check the output of the monthly expense chart with the expenses displayed in the activity section	A monthly expense chart of the user	The transactions mentioned in the monthly expense chart must also have appeared in the activity section of that user.
TC_10	The app should not crash if multiple user use it simultaneously (troubleshooting the web app server for multi-user support)	Multiple users logged into the web app simultaneously	The web app should respond to the user's requests seamlessly without any crashes.
TC_11	The app should be able to update user information as and when the users wants to	New User data	The web app should successfully update the data and display it or show error if the data entered is invalid.
TC_12	A new user should be able to register into the system	Minimum User information required to register (information should be valid)	The web app should successfully register the new user and the user should be able to login with the new password setup.

3.2. Test cases and expected result for Design

3.2.1. Scalability

The system should be able to support all the traffic for the maximum possible users online at the same time.

3.2.2. Security

Make sure that no one is able to hack into the website and manipulate its data.

3.2.3. Performance and reliability

The system should perform as per expectations and should be reliable to the users.

3.3. Test cases and expected result for Integration

3.3.1. UI integration testing

→ Color of the amount should be relevant, i.e, the negative amount should be appearing in red color and the surplus amount should appear in green color.
→ Settled up or zero balance amount should appear in gray color.
→ Users should easily log in through a google account.

3.3.2. Payment Gateway Integration testing

Ensure that the system is working properly with all the payment methods available to settle up

3.3.3. Backend Integration testing

Checked the ACID Properties.
→ Added expense should be visible immediately to the friend users. And it should be visible until the user decides to settle up.
→ The total transacted amount visible between user1 and user2 should be consistent i.e. the net amount on both sides should be coherent.
→ The net amount for both users when adding a new expense should be updated atomically for both users.

Tested the CRUD operations.
→ When inserting any new expense, the net amount for both the end-users should be updated accordingly.

→ When we add an expense list with a new friend then the
database of new users should be created.

3.4. Schedule and Person/s responsible

Test Case ID	Estimated time (in days)	Estimated Start date and End date	Person Responsible for testing
TC_1	1	20-04-2022	Anish, Jay
TC_2	3	20-04-2022 to 22-04-2022	Ayush, Monil, Siddharth
TC_3	2	21-04-2022 to 22-04-2022	Ayush, Jay
TC_4	4	23-04-2022 to 26-04-2022	Anish, Monil, Neel
TC_5	1	24-04-2022	Siddharth
TC_6	2	24-04-2022 to 25-04-2022	Neel, Anish
TC_7	1	26-04-2022	Ayush
TC_8	2	26-04-2022 to 27-04-2022	Jay, Siddharth
TC_9	2	27-04-2022 to 28-04-2022	Jay, Monil
TC_10	2	27-04-2022 to 28-04-2022	Anish, Siddharth

4. Any other special activities and an appropriate breakup with estimation, as recommended by the standard fixed.

Organizing a special meeting with the users and presenting the system to the users and taking feedback from them. The presentation should take about 10-15 minutes, and the feedback session should take up to 30 minutes.