

Software Report

EvenUp

Group 5

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Abstract

This report summarizes the final deliverables of the EvenUp project, covering team contributions, test executions, implemented use cases, code metrics, and UI snapshots.

1 Team Contributions

Member	Contribution
Anshika Gupta	SRS, SD, SA, Integration testing, backend development, database designing, project management, final report
Yash Patel	SRS, SRR, SDR, Unit testing, backend development and testing, final report
Monish Asawa	SRS, SA, SRA, System testing, frontend development, API integration, UI testing
Anirudh Saikrishnan	SRR, SD, SA, SDR, Unit testing, backend development, UI testing

2 Test Execution Results

From our Test Plan, we executed the following key test cases:

2.1 Unit Testing

Test case	Test case details	Result
GetUserCredentials	Valid credentials: Username: "yash patel", Password: "Secure@123"	Pass
GetUserCredentials	Empty password: Username: "yashP", Password: ""	Pass
GetUserCredentials	Maximum length exceeded: Username: ≥ 256 -character string, Password: "password"	Pass
GetExpenseData	Valid expense: GroupID: 5, Amount: 1000, PaidBy: UserA: 1000, Involved: UserA: 500, UserB: 500	Pass
GetExpenseData	Negative amount: Amount: -500	Pass
GetExpenseData	Sum mismatch: PaidBy: UserA: 600, Involved: UserA: 200, UserB: 300	Pass
GetExpenseData	Non-member user: Involved: UserC (not in group)	Pass
GetExpenseData	Complex network: Expense1: Payer: A, Amount: 1000, Participants: A, B; Expense2: Payer: B, Amount: 1000, Participants: B, C	Pass
GetExpenseData	Floating-point values: Balances: A:-333.33, B:+333.33	Pass
GetAnalysis	Monthly analysis: DateRange: 'Last Month'	Pass
GetAnalysis	Empty dataset: No expenses in date range	Pass
GetAnalysis	Multi-category: Expenses in Food(3), Travel(5), Others(2)	Pass
DeleteGroup	Valid deletion: GroupID: gr-15 (no debts)	Pass
DeleteGroup	Pending debts: GroupID: gr-22 (unsettled 500)	Pass
DeleteGroup	Non-admin user trying to delete group: Regular user tries to delete	Pass
UpdateGroup	DB constraint violation: Invalid UserID in owes dict	Pass
DeleteGroup	Valid deletion: GroupID: group 42 (exists)	Pass
DeleteGroup	Non-existent group: GroupID: group 999	Pass

Test case	Test case details	Result
ExpenseSettlement	Successful Initiation of Settlement: Payer: "User A", Payee: "User B", Amount: "500 Rs"	Pass
ExpenseSettlement	Settlement Confirmation by Payee: Payer: "User A", Payee: "User B", Amount: "500 Rs"	Pass
ExpenseSettlement	Settlement Rejection by Payee: Payer: "User A", Payee: "User B", Amount: "500 Rs"	Pass
ExpenseNotification	Normal Case – Expense successfully inserted and notification sent: Group ID: "group 123", Expense: "Dinner Bill - 1000 Rs"	Pass
DatabaseError	Database Insertion Fails: Group ID: "group 123", Expense: "Dinner Bill - 1000 Rs"	Pass(All changes roll back)

2.2 Integration Testing

Test case	Test case details	Result
GetSignUpData → CreateUserAccount	Successful Account Creation	Pass
GetSignUpData → CreateUserAccount	User already exists	Pass
AddExpense → OptimizeSettlements	Normal Case	Pass
AddExpense → OptimizeSettlements	Database Insertion Fails for Expense Record	Pass
DeleteGroup → DeleteGroupRecord	Normal Case – Group deletion when no pending expenses	Pass
DeleteGroup → DeleteGroupRecord	Group Deletion Attempt when outstanding balances still present	Pass
DeleteGroup → DeleteGroupRecord	Database Failure during group deletion	Pass
SettleUp → StoreSettlementRecord	Successful Initiation of Settlement	Pass
SettleUp → StoreSettlementRecord	Settlement Confirmation by Payee	Pass

Test case	Test case details	Result
SettleUp → StoreSettlementRecord	Settlement Rejection by Payee	Pass
InsertExpenseRecord → SendEmailNotification	Normal Case – Expense successfully inserted	Pass
InsertExpenseRecord → SendEmailNotification	Database Insertion Fails	Pass

2.3 System Testing

Description	Result
Sign Up with valid details	Pass
Sign Up with existing username	Pass
Sign Up with any empty fields	Pass
Login with correct credentials and registered email is verified	Pass
Login with incorrect password	Pass
Login with unregistered username	Pass
Login before verifying registered email	Pass
Login with empty fields	Pass
Admin of the group deletes group with no outstanding balance and no intermediate transactions	Pass
Delete group with outstanding balance	Pass
Delete group with intermediate transactions left	Pass
Non-admin user trying to delete group	Pass
Exit group such that user does not have any outstanding balances in the group or intermediate transactions in the group	Pass
User exits group with outstanding balances in the group	Pass
User exits group with intermediate transactions present	Pass
Add valid expense with equal split	Pass
Add valid expense with custom split	Pass
Add expense with custom split such that the sum of the splits is not equal to the amount entered	Pass

Add expense with zero amount	Pass
Add expense with self only (no other members)	Pass
Payer settles up from group balances page	Pass
Payer settles up from friends page	Pass
Payee settles up from intermediate transactions page	Pass
Payee rejects from intermediate transactions page	Pass
View analysis with valid duration filter	Pass
View analysis where no expenses exist in selected duration	Pass
User enters valid invite code to join a group	Pass
User enters invalid invite code	Pass
User tries to join a group they are already a part of	Pass

3 Use Case Implementation Status

Use Cases	Implemented
Sign Up	Yes
Login	Yes
Logout	Yes
Forget Password	Yes
Reset Password	Yes
Create a Private Split	Yes
Create Group	Yes
Delete Group/ Private Split	Yes
Join group	Yes
Exit from Group	Yes
Add Expense in Group	Yes
Edit Expense	Yes
Delete Expense	Yes
Settle Up	Yes
Give Reminder	Yes
Confirm Expense Submission in OTS Group	Yes
View Balances	Yes
View Expenditures Analysis	Yes
Show All Personal Transactions	Yes
Night Mode	Yes

4 Code Metrics

- Total lines of code: 5311
- Total number of modules: 52

4.1 Module-wise Lines of Code

Module Name	Lines of Code
main	25
db	32
CreateUserAccount	122
LoginUser	82
LogoutUser	17
ResetPassword	78
GetUserProfile	31
VerifyEmailHandler	48
randomDigits	10
ForgotPasswordHandler	27
ConfirmOtpHandler	26
ForgotResetPasswordHandler	29
GetBalances	107
SettleBalanceHandler	194
RemindUserHandler	128
autoDetectTag	40
AddExpenseHandler	349
OptimiseBalances	93
DeleteExpenseHandler	263
respond	7
GetExpenseDetails	144
GetExpenses	167
EditExpenseHandler	284
GetFriendsPageRecords	58
SettleUpFriendsPage	101

Module Name	Lines of Code
RemindFriendsPage	149
GetGroups	80
GetGroupDetails	68
GetMembers	58
ExitGroupProcedure	73
ExitGroup	160
SelectAnotherAdmin	136
DeleteGroup	203
ConfirmOtsParticipationHandler	190
GetUserDetails	32
CreateGroup	111
CreatePrivateSplit	125
JoinGroup	110
GetTransactionHistory	72
GetAnalysis	95
SendGroupReminder	73
GetInTransitTransactions	80
InTransitAcceptHandler	143
InTransitRejectHandler	135
GetCompletedTransactionsHandler	65
AuthMiddleware	39
SendMail	21
ServeWS	13
WritePump	31
ReadPump	17
Broadcast	5
NotifyRefresh	7

5 UI Screenshots

Below are selected screenshots of UI:









