Financial Ghost - Developer Guide

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1. Target user profile

- Fresh graduates that are responsible for bringing up their own children and for the care for their aging parents which is also known as the sandwich generation.

2. Value Proposition

- Make a program that can help to track their finances in the short term and long term all in one software and on the go.
- Able to track things such as income and expenditure, loans, goals and instalments.

Appendix A

User Stories

Priority Level	As a...	I want to...	So I can...
High	user	Have security and privacy	Protect my sensitive financial information
	user	Formulate a saving plan	Afford housing, cars or other big-ticket items
	Fresh Graduate	Make budget goals	Better plan for my future
	Fresh Graduate	Record my expenditure	Live within my own means as I work towards my financial goals
	user	Track my bank account	Know and manage my bank accounts conveniently
Medium	user	Track my progress towards my budget goals	Continue to work towards it over time
	Fresh Graduate	Record my debt	Make a more comprehensive financial plan and set budget goals to clear it
	Fresh Graduate	Record my investment portfolio	Account for passive income
Low	user	Calculate my disposable income	Make a better budget plan
	user	Plot the graph of the income and	Check the trend of the financial

		expenditure	issues directly and clearly
	Fresh Graduate	Be reminded to pay my bills	Pay them on time
	Fresh Graduate	Track my loans to others	Remember to claim from others what is owed to me

Use cases

A use case describes an interaction between the user and the system for a specific functionality of the system.

Use cases capture the **functional requirements** of a system.

Use Case 1
- System: Financial Ghosts(FG)
- Actor: User
- Use Case: Check account balance
     1. User opens the application
     2. UI prompts for PIN
     3. User enters PIN
     4. FG greets and prompts an action list
     5. User enters the command to check the current balance
     6. UI prompts the related information about the balance
     7. FG waits for the user's next command

     Use Case Ends.

- Extensions
     1. Incorrect PIN entered
          - FG displays an error message
          - Use Case continues at step 1
     2. The given command is invalid
          - FG displays an error message
          - Use Case continues at step 4

Use Case 2

- System: Financial Ghosts(FG)
- Actor: User
- Use Case: Record Finances
    1. User logs in the account
    2. UI prompts for PIN
    3. User enters PIN
    4. FG greets and prompts an action list
    5. User enters the command to declare the amount of money as income/expenditure
    6. UI prompts a "successfully recorded" message
    7. FG waits for the user's next command

    Use Case Ends.

- Extensions
    1. Incorrect PIN entered
        - FG displays error message
        - Use Case continues at step 1
    2. The given command is invalid
        - FG displays error message
        - Use Case continues at step 4
    3. The given income has invalid characters in it
        - FG displays error message
        - Use Case continues at step 5

Use Case 3

- System: Financial Ghosts(FG)
- Actor: User
- Use Case: View Financial Statistics
    1. User opens the application
    2. UI prompts for PIN
    3. User enters PIN
    4. FG greets and prompts an action list
    5. User enters the command to view the financial statistics
    6. UI displays the relevant statistics to the user
    7. FG waits for the user's next command

    Use Case Ends.

- Extensions
    1. Incorrect PIN entered

■ FG displays an error message
■ Use Case continues at step 1
2. The given command is invalid
■ FG displays an error message
■ Use Case continues at step 4

Use Case 4

- System: <u>Financial Ghosts(FG)</u>
- Actor: User
- Use Case: Set Financial Goals
    1. User opens the application
    2. UI prompts for PIN
    3. User enters PIN
    4. FG greets and prompts an action list
    5. User enters the command to add a financial goal into the system
    6. UI displays a "successfully added" message.
    7. FG waits for the user's next command

    Use Case Ends.

- Extensions
    1. Incorrect PIN entered
        ■ FG displays an error message
        ■ Use Case continues at step 1
    2. The given command is invalid
        ■ FG displays an error message
        ■ Use Case continues at step 4

Use Case 5

- System: <u>Financial Ghosts(FG)</u>
- Actor: User
- Use Case: Check Goal progress
    1. User opens the application
    2. UI prompts for PIN
    3. User enters PIN
    4. FG greets and prompts an action list
    5. User enters the command to get a progress report of the user's progress towards their goals
    6. UI displays a detailed description of the action.
    7. FG waits for the user's next command

Use Case Ends.

- Extensions
    1. Incorrect PIN entered
        - FG displays an error message
        - Use Case continues at step 1
    2. The given command is invalid
        - FG displays an error message
        - Use Case continues at step 4

Use Case 6

- System: <u>Financial Ghosts(FG)</u>
- Actor: User
- Use Case: get recommended savings to reach set goals
    1. User opens the application
    2. UI prompts for PIN
    3. User enters PIN
    4. FG greets and prompts an action list
    5. User enters the command to get the recommended saving amount to reach their set goals.
    6. UI displays the recommended saving amount as well as the current goal saving amount.
    7. UI displays a "successfully added" message.
    8. FG waits for the user's next command

    Use Case Ends.

- Extensions
    1. Incorrect PIN entered
        - FG displays an error message
        - Use Case continues at step 1
    2. The given command is invalid
        - FG displays an error message
        - Use Case continues at step 4

Use Case 7

- System: <u>Financial Ghosts(FG)</u>
- Actor: User
- Use Case: Record Outstanding Loans
    1. User opens the application

2. UI prompts for PIN
3. User enters PIN
4. FG greets and prompts an action list
5. User enters the command to settle a loan that has been taken/given out from/to another party.
6. FG clears the loan settled and adds to expenditure/income depending on loan being taken/given out from/to another party
7. UI displays a "loan settled" message.
8. FG waits for the user's next command

   Use Case Ends.

- Extensions
  1. Incorrect PIN entered
     - FG displays an error message
     - Use Case continues at step 1
  2. The given command is invalid
     - FG displays an error message
     - Use Case continues at step 4

Use Case 8

- System: Financial Ghosts(FG)
- Actor: User
- Use Case: Settle Outstanding Loans
  1. User opens the application
  2. UI prompts for PIN
  3. User enters PIN
  4. FG greets and prompts an action list
  5. User enters the command to add a loan that has been taken/given out from/to another party.
  6. UI displays a "successfully added" message.
  7. FG waits for the user's next command

   Use Case Ends.

- Extensions
  1. Incorrect PIN entered
     - FG displays an error message
     - Use Case continues at step 1
  2. The given command is invalid
     - FG displays an error message

■ Use Case continues at step 4

Use Case 9

- System: <u>Financial Ghosts(FG)</u>
- Actor: User
- Use Case: Record Installments
    1. User opens the application
    2. UI prompts for PIN
    3. User enters PIN
    4. FG greets and prompts an action list
    5. User enters the command to add an instalment into the system.
    6. UI displays a "successfully added" message.
    7. FG waits for the user's next command

    Use Case Ends.

- Extensions
    1. Incorrect PIN entered
        ■ FG displays an error message
        ■ Use Case continues at step 1
    2. The given command is invalid
        ■ FG displays an error message
        ■ Use Case continues at step 4

    3. Auto Deductions

        ■ Monthly deductions occurs at specific date
        ■ Use Case continues at step 1

Use Case 10

- System: <u>Financial Ghosts(FG)</u>
- Actor: User
- Use Case: Archive Financial Statements
    1. User opens the application
    2. UI prompts for PIN
    3. User enters PIN
    4. FG greets and prompts an action list
    5. User enters the command to archive a specified month's financial statements.
    6. UI displays a "successfully archived" message.
    7. FG waits for the user's next command

Use Case Ends.

- Extensions
    1. Incorrect PIN entered
        - FG displays an error message
        - Use Case continues at step 1
    2. The given command is invalid
        - FG displays an error message
        - Use Case continues at step 4
    3. FG fails to write to the archive
        - FG displays an error message

Use Case Ends.

Use Case 11

- System: Financial Ghosts(FG)
- Actor: User
- Use Case: Provides Assistance to the User
    1. User opens the application
    2. UI prompts for PIN
    3. User enters PIN
    4. FG greets and prompts an action list
    5. User enters the command to get a detailed description of specified action.
    6. UI displays a detailed description of the action.
    7. FG waits for the user's next command

Use Case Ends.

- Extensions
    1. Incorrect PIN entered
        - FG displays an error message
        - Use Case continues at step 1
    2. The given command is invalid
        - FG displays an error message
        - Use Case continues at step 4

Use Case 12

- System: Financial Ghosts(FG)
- Actor: User
- Use Case: Search for items
    1. User opens the application

2. UI prompts for PIN
3. User enters PIN
4. FG greets and prompts an action list
5. User enters the command to get search for an item using a keyword by specifying the desired field of search.
6. UI displays a list of the search results.
7. FG waits for the user's next command

Use Case Ends.

- Extensions
    1. Incorrect PIN entered
        - FG displays an error message
        - Use Case continues at step 1
    2. The given command is invalid
        - FG displays an error message
        - Use Case continues at step 4

Use Case 13

System: Financial Ghosts(FG)
- Actor: User
- Use Case: Check Installments
    1. User opens the application
    2. UI prompts for PIN
    3. User enters PIN
    4. FG greets and prompts an action list
    5. User enters the command to check the instalments that are in the system.
    6. UI displays all of User's instalments to the output.
    7. FG waits for the user's next command.

Use Case Ends.

- Extensions
    1. Incorrect PIN entered
        - FG displays an error message
        - Use Case continues at step 1
    2. The given command is invalid
        - FG displays an error message
        - Use Case continues at step 4

Use Case 14

- System: <u>Financial Ghosts(FG)</u>
- Actor: User
- Use Case: Pay Outstanding Bills
    1. User opens the application
    2. UI prompts for PIN
    3. User enters PIN
    4. FG greets and reminds user of outstanding bills due in the coming week or sooner/overdue
    5. User keys in bills that he/she has already paid.
    6. FG removes reminder for the bill.

    Use Case Ends.

- Extensions
    1. The given command is invalid
        - FG displays an error message
        - Use Case continues at step 4

Use Case 15

- System: <u>Financial Ghosts(FG)</u>
- Actor: User
- Use Case: Create a bank account tracker
    1. User opens the application
    2. UI prompts for PIN
    3. User enters PIN
    4. FG greets and prompts an action list
    5. User enters the command to create a bank account tracker
    6. UI displays a "successfully recorded" message.
    7. FG waits for the user's next command

    Use Case Ends.

- Extensions
    1. Incorrect PIN entered
        - FG displays an error message
        - Use Case continues at step 1

2. The given command is invalid
    ■ FG displays an error message
    ■ Use Case continues at step 4
3. FG fails to write to the archive
    ■ FG displays an error message

Use Case Ends.

Use Case 16

- System: Financial Ghosts(FG)
- Actor: User
- Use Case: Input add commands in stages
    1. User opens the application
    2. UI prompts for PIN
    3. User enters PIN
    4. FG greets and prompts an action list
    5. User enters the type of add command to their accounts
    6. UI prompts the user for the next data to add for the respective command with proper syntax guide until all data required is inputted
    7. UI displays a "successfully recorded" message.
    8. FG waits for the user's next command

Use Case Ends.

- Extensions
    1. Incorrect PIN entered
        ■ FG displays an error message
        ■ Use Case continues at step 1
    2. The given command is invalid
        ■ FG displays an error message
        ■ Use Case continues at step 4
    3. The given input for add command data is invalid
        ■ FG displays an error message
        ■ Use Case continues at step 6

Use Case Ends.

Use Case 17

- System: Financial Ghosts(FG)
- Actor: User
- Use Case: Undo previous command

1. User opens the application
2. UI prompts for PIN
3. User enters PIN
4. FG greets and prompts an action list
5. User enters a command affecting their account's database
6. User enters the undo command to revert database before the command in Step 5 was implemented
7. UI displays a message describing which command was undone
8. FG waits for the user's next command

Use Case Ends.

- Extensions
    1. Incorrect PIN entered
        - FG displays error message
        - Use Case continues at step 1
    2. User inputs undo command when no previous commands affecting database were made in that session
        - FG displays error message

Use Case Ends.

Non-functional requirements:

Non-functional requirements specify the constraints under which system is developed and operated.
We may have to spend an extra effort in digging NFRs out as early as possible because,

1. Resolution or size of the GUI
2. Information on budget and expenditure should be saved to local hard disk so they can be loaded when the user checks it in another session
3. Being able to load a particular user's information when he/she logs in to the application.
4. Information on local hard disk should only be accessible and editable through the application itself such that users cannot circumvent the app's security
5. Testability of the app

6. Parsing the relevant information from the user's input to process the commands properly
7. Handling invalid inputs and other potential errors

Glossary

FG - Financial Ghost: The name of our application

UI - User Interface: Things that the user will interact while using the application