Personal Budget tracker

ENSE 375 Project

Integration Testing

Integration testing generally focuses on testing modules interaction with each other. As per the requirements, we'll focus on testing a subset of modules interacting with each other with a sequence diagram to illustrate comprehensive testing.

Units used for Integration testing:

1. BudgetController
2. BudgetView
3. BudgetModel

Integration Points:

1. BudgetController & BudgetView
    a. Integration point: Controller calls view.setInputs(), getMessages() etc.
    b. Integration Type: UI & Controller
    c. View collects input and displays output controller handles flow
2. BudgetController & BudgetModel
    a. Integration point: Controller calls model.addFinancialEntry(), deleteEntry().
    b. Integration Type: Control & Business logic
    c. Controller assigns data operation to model
3. BudgetModel & Database
    a. Integration point: Model uses DB to execute SQL queries
    b. Integration type: Business logic & external system
    c. Model interacts with the data access layer.

Test Suites:

1. BudgetController & BudgetView Integration
    a. Verify user input
2. BudgetController & BudgetModel Integration
    a. Verify data operation assignment
3. BudgetModel & Database Integration
    a. Verify that data has been stored properly

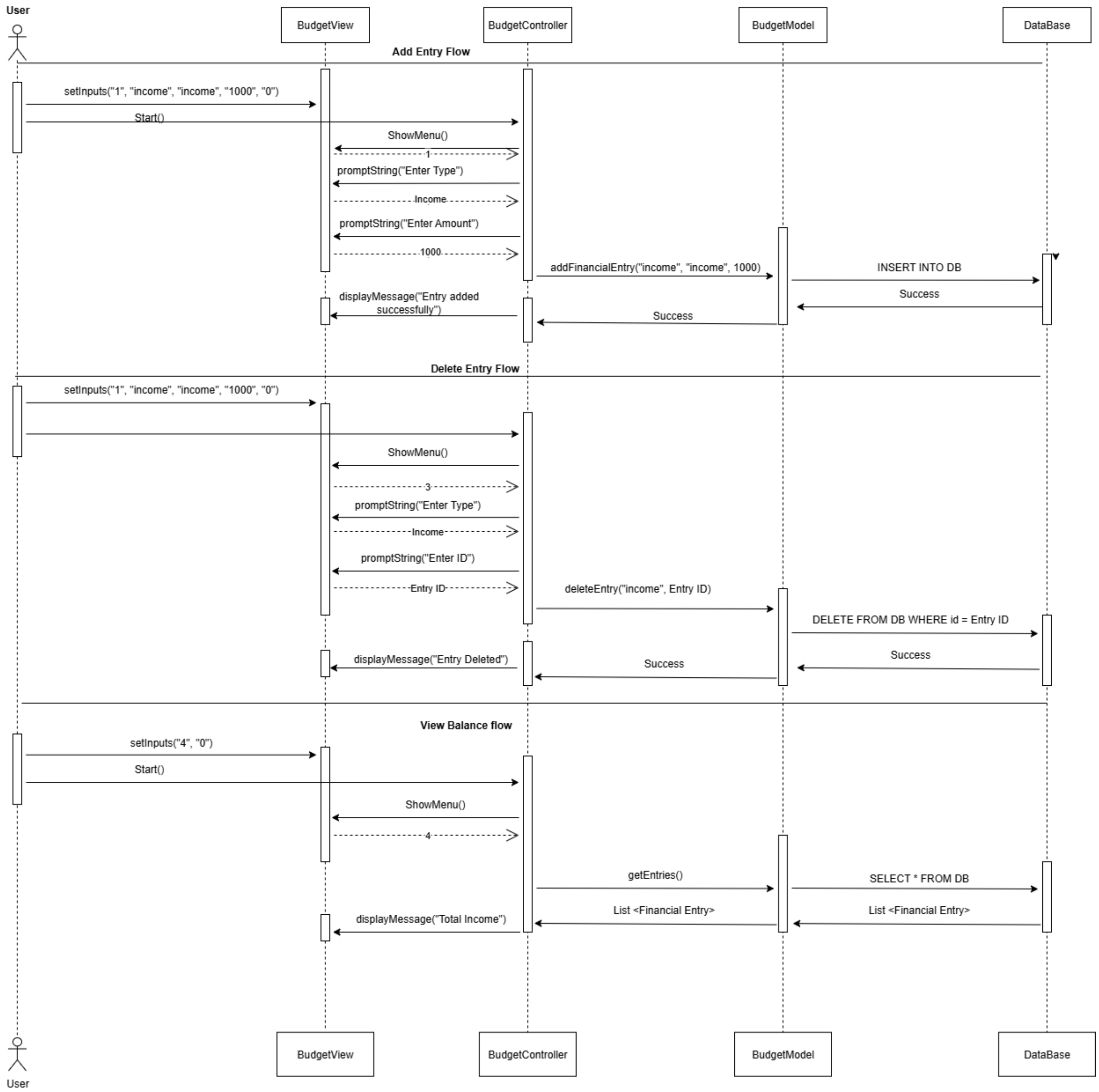
User
BudgetView
BudgetController
BudgetModel
DataBase
Add Entry Flow
setInputs("1", "income", "income", "1000", "0")
Start()
ShowMenu()
1
promptString("Enter Type")
Income
promptString("Enter Amount")
1000
addFinancialEntry("income", "income", 1000)
INSERT INTO DB
Success
displayMessage("Entry added successfully")
Success
Delete Entry Flow
setInputs("1", "income", "income", "1000", "0")
ShowMenu()
3
promptString("Enter Type")
Income
promptString("Enter ID")
Entry ID
deleteEntry("income", Entry ID)
DELETE FROM DB WHERE id = Entry ID
Success
displayMessage("Entry Deleted")
Success
View Balance flow
setInputs("4", "0")
Start()
ShowMenu()
4
getEntries()
SELECT * FROM DB
List <Financial Entry>
displayMessage("Total Income")
List <Financial Entry>
BudgetView
BudgetController
BudgetModel
DataBase
User

Diagram: Integration Testing

Functions used for integration testing:

1. public void controllerAndViewIntegration(); UI-Controller integration and view message outputs tested here.
2. public void controllerAndModelIntegration(); Controller to business logic connection validated here.
3. public void modelAndDBIntegration(); Model and database interaction tested here.

For detailed implementation of tests visit IntegrationTest.java file.