FundFair

FundFair

BIT302 Software Engineering
Assignment 4

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Contents

Identification of problems and solutions

Problems

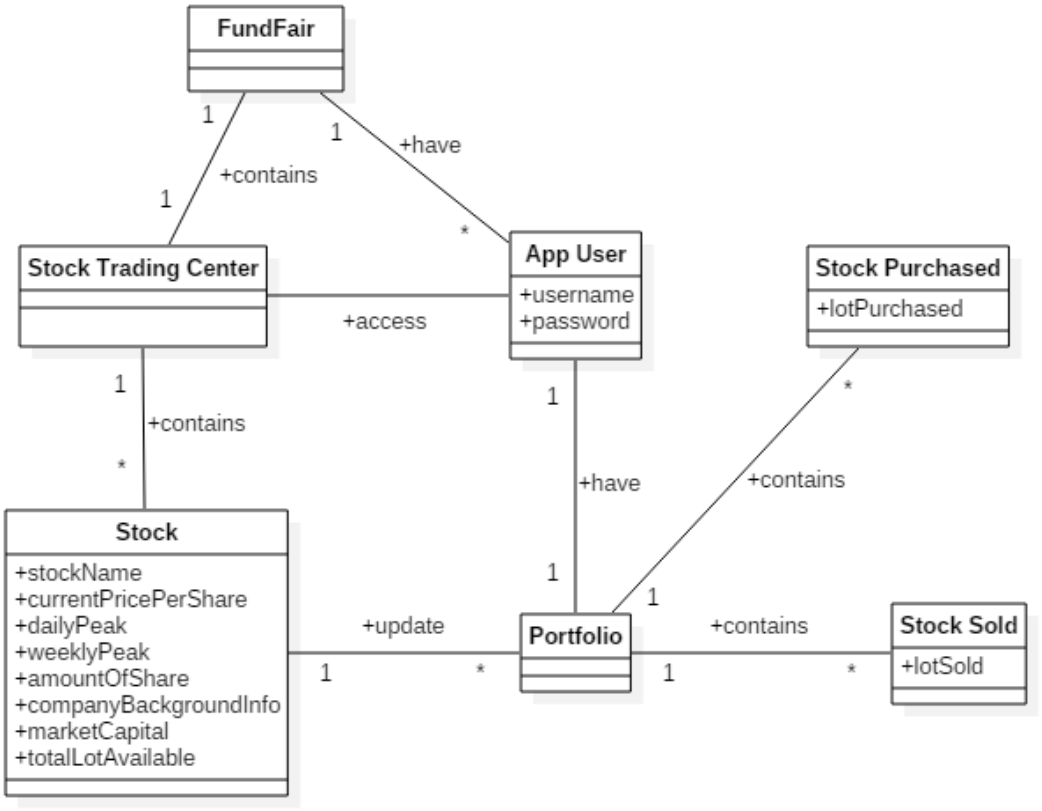
During iteration 1, we planned to complete 3 use cases: Login, Register and View Company and Stock Details. However, we only managed to complete Login and Register for iteration 1. We got an issue when we try to perform Login after we have done registration.

Solutions

We have solved the issue by using Firebase instead of the traditional way. Previously, we used MySQL and PHP to connect and update the registered users to the database. Thus, it needed some times to debug both side when there is any error occurs. After that we switched to the Firebase Authentication, it helps a lot by easing the process of coding for login and register. Firebase Authentication provides easy-to-use SDKs and backend services to authenticate users to the app. Authentication using password and other popular identity providers such as Facebook, Google and Twitter is also available. Using this method, password reset emails will also be handled and sent by the Firebase Authentication (Google Firebase, 2017). There are few other sign in methods available in Firebase Authentication. We are using Email providers as the sign in methods. Firebase is not only providing Authentication, there are many other features such as database, storage, hosting, functions, test lab, crash reporting and so on which will benefit our development process afterwards.

System Design

Design Class Diagram



Screen Shots

Updated Test Plan

Test Method Specification Evaluation

Test objectives

1) To gain confidence and provide information about the level of quality

2) To find defects which may create by developer during developing the software.

3) Prevent defects

3) To verify functions requirement and design are align with the specification and design description

4) To make sure the results meet the functional requirements.

5) To ensure all component work follow the function description.

Test Strategies

Test Technique	Schedule	Aim
Unit Testing	After the section of code had been completed individually	• Easier for us to find out error from code in the small parts • To provide flexibility when come to coding part especially change code • To ensure all individual parts of code are correct before merging them together.
Integration Testing	After merging the component that have same function	• To confirm that different module still able to cope together in one and no error. • To ensure transition to others page correctly
System Testing	After the whole application is completed	• To make sure FundFair application able to meet both functional and non-functional requirement

Test Case

Unit Testing

Unit Test Plan
Test Case-1.0 Unit Testing -1
Validate whether user can buy stock when cash not enough
Test Case-1.1 Description
To test if the total price of share is more than the cash that user owns.
Test Case -1.2 Source Code

```
$sql = "select * from users where username='$username' and password='$password'";

$check = mysqli_fetch_array(mysqli_query($con,$sql));

if(isset($check)){
echo "success";
}else{
echo "Invalid Username or Password";
}

}else{
echo " password length require 6-10 digit”text displayed ";
}
```

Test Case-1.3 Test Data

Number of Test	Number of Lot User Entered
1	2
2	99999

Test Case-1.4 Expected Result

Number of Test	Result
1	“Transaction Successful” text displayed
2	“Not Enough Cash” text displayed

Test Case-1.5 Test Outcome

Number of Test	Result

1	“Transaction Successful” text displayed
2	“Not Enough Cash” text displayed

Test Case-1.6 Remark

The buy stock validation work as expected.

Unit Test Plan

Test Case-2.0 Unit Testing-2

Validate whether user cash amount will be deducted after buy stock

Test Case-2.1 Description

To validate the amount of cash user owned will be deducted after purchase the stock.

Test Case-2.2 Source Code

```
public void changed() {
    if (username.getText().equals("")) || (password.getText().equals(“”)){
      loginButton.setEnabled(false);
    }
    else {
      loginButton.setEnabled(true);
   }

 }
```

Test Case-2.3 Test Data

Number of Test	Number of Lot User Entered to Buy
1	-
2	-

Test Case-2.4 Expected Result

Number of Test	Result
1	Cash Amount become
2	Cash Amount become.

Test Case-2.5 Test Outcome

Number of Test	Result
1	100,000
2	-

Test Case-2.6 Remark

The Amount of Current Cash deducted and displayed correctly after user buy a stock.

Unit Test Plan

Test Case-3.0 Unit Testing -3

Validate whether user cash amount will be added after buy stock

Test Case-3.1 Description

To validate the amount of cash user owned will be added after purchase the stock.

Test Case -3.2 Source Code

```
$sql = "select * from users where username='$username' and password='$password'";

$check = mysqli_fetch_array(mysqli_query($con,$sql));

if(isset($check)){
echo "success";
}else{
echo "Invalid Username or Password";
}

}else{
echo " password length require 6-10 digit”text displayed ";
}
```

Test Case-3.3 Test Data

Number of Test	Number of Lot User Entered to Sell
1	2
2	99999

Test Case-3.4 Expected Result

Number of Test	Result
1	Cash Amount become
2	Cash Amount become

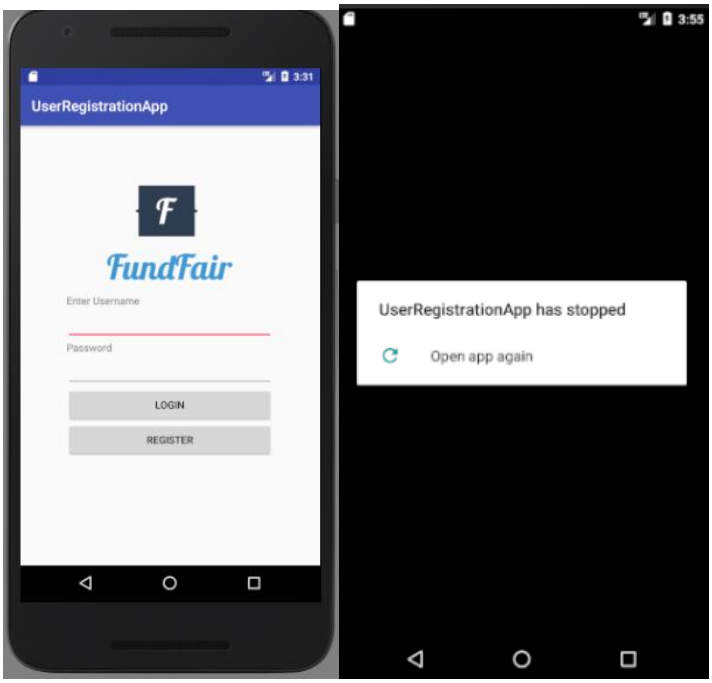
Test Case-3.5 Test Outcome

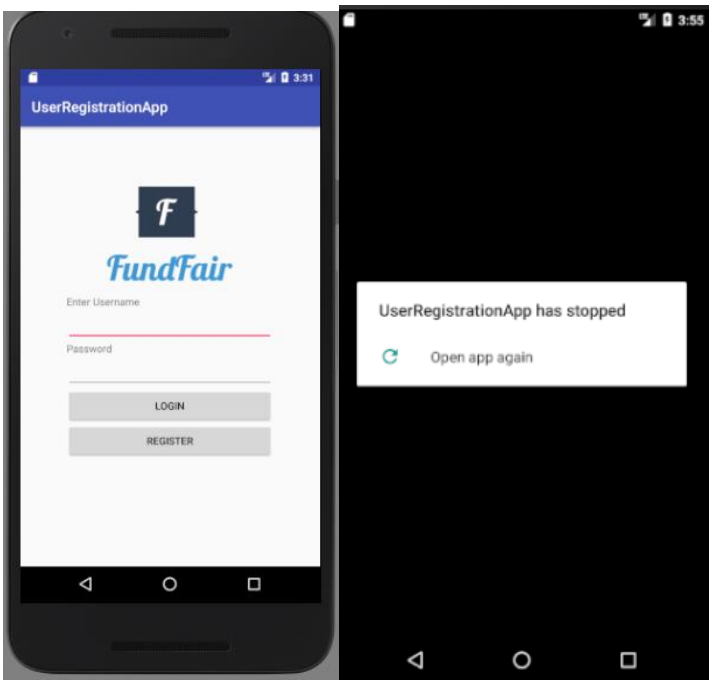
Number of Test	Result
1	Cash Amount become
2	Cash Amount become

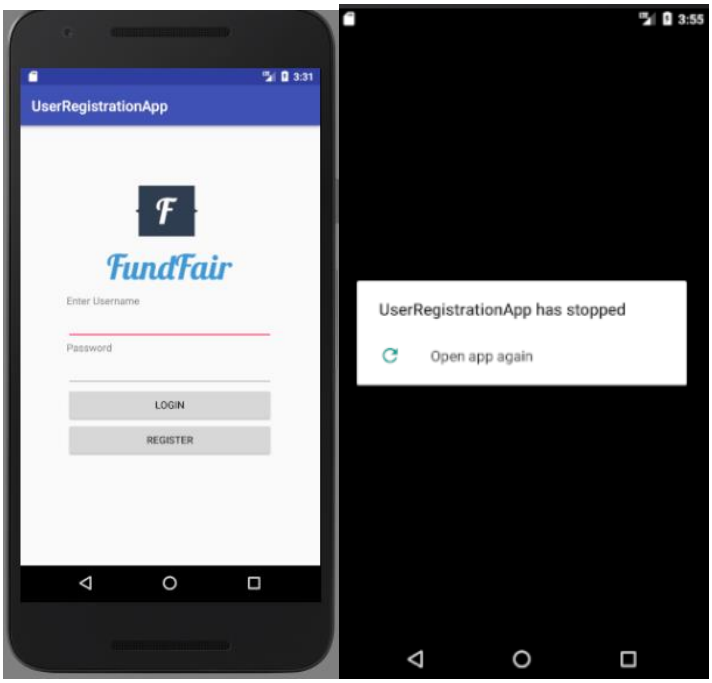
Test Case-3.6 Remark

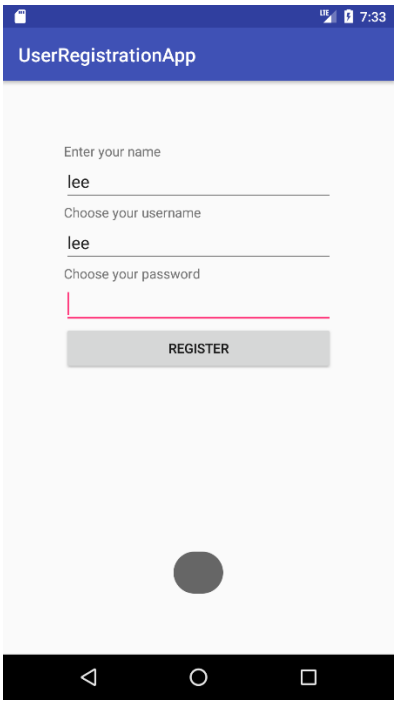
The Amount of Current Cash added and displayed correctly after user sell a stock.

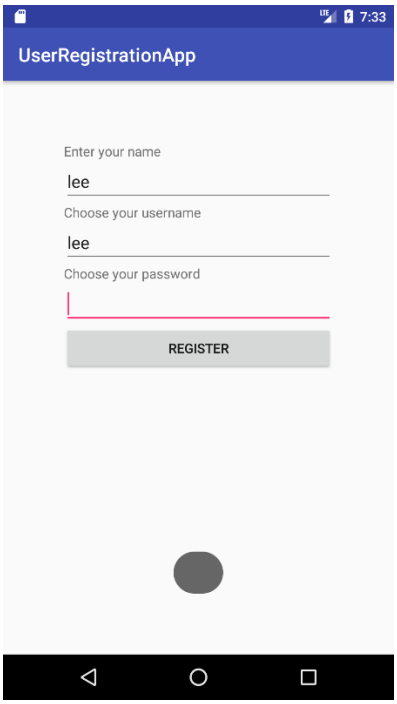
Integration Test Plan

Integration Test Plan
Test Case--4.0 Integration Testing-1
Lead to trading centre when trading centre button is clicked
Test Case--4.1 Description
To test whether will be directed lead to the trading centre when clicked the trading centre button.
Test Case--4.2 Diagram

Test Case--4.3 Test Data
Trading Centre button is clicked
Test Case--4.4 Expected Result
Direct lead to Trading Centre
Test Case--4.5 Test Outcome
Direct lead to Trading Centre
Test Case--4.6 Remark
Successful lead to Trading Centre Screen

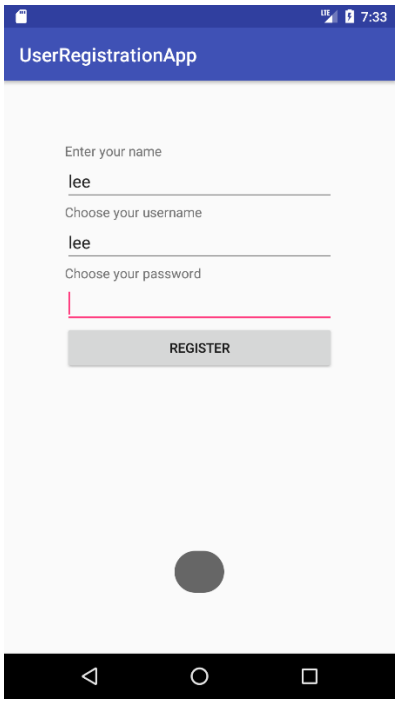
Integration Test Plan
Test Case--5.0 Integration Testing-2
Lead to Portfolio when Portfolio Button is clicked.
Test Case--5.1 Description
To test whether will be directed lead to the portfolio when clicked the portfolio button.
Test Case--5.2 Diagram

Test Case--5.3 Test Data
Portfolio button is clicked
Test Case--5.4 Expected Result
Direct lead to Portfolio Screen
Test Case--5.5 Test Outcome
Direct lead to Portfolio Screen
Test Case--5.6 Remark
Successful lead to Portfolio Screen

Integration Test Plan
Test Case--6.0 Integration Testing-3
Lead to Tutorial when Tutorial Button is clicked.
Test Case--6.1 Description
To test whether will be directed lead to the tutorial when clicked the tutorial button.
Test Case--6.2 Diagram

Test Case--6.3 Test Data
Tutorial button is clicked
Test Case--6.4 Expected Result
Direct lead to Tutorial Screen
Test Case--6.5 Test Outcome
Direct lead to Tutorial Screen
Test Case--6.6 Remark
Successful lead to Tutorial Screen

Integration Test Plan
Test Case--7.0 Integration Testing-4
Buy button in buy stock screen
Test Case--7.1 Description
To test whether the buy stock screen will able to displayed success message when clicked the buy button.
Test Case--7.2 Diagram

Test Case--7.3 Test Data
Buy button is clicked
Test Case--7.4 Expected Result
'successfully buy' displayed
Test Case--7.5 Test Outcome
'successfully buy' displayed
Test Case--7.6 Remark
Buy Button able to work as expected.

Integration Test Plan
Test Case--8.0 Integration Testing-5
Sell button in sell stock screen
Test Case--8.1 Description
To test whether the sell stock screen will able to displayed success message when clicked the sell button.
Test Case--8.2 Diagram

Test Case--8.3 Test Data
Sell button is clicked
Test Case--8.4 Expected Result
'successfully sell' displayed
Test Case--8.5 Test Outcome
'successfully sell' displayed
Test Case--8.6 Remark
Sell Button able to work as expected.

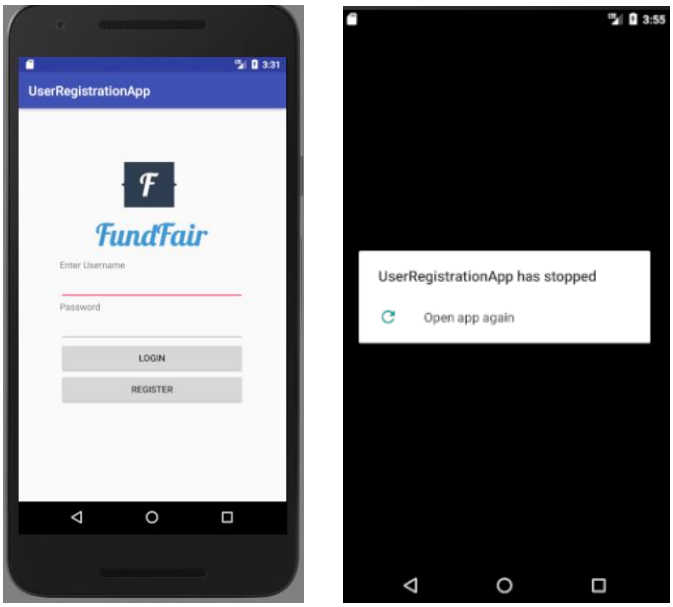
System Test Plan- Register

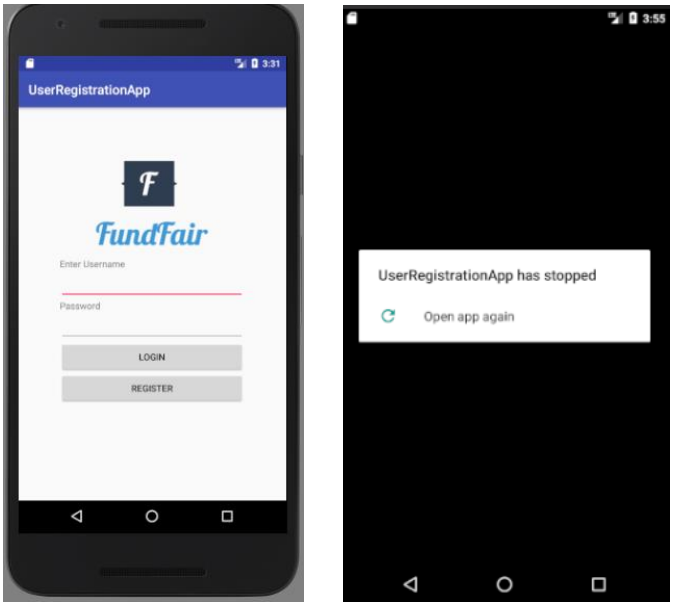
System Test Plan
Test Case-9.0 System Testing-1
View Stock
Test Case--9.1 Description
To test whether the user will be able to view stock when clicked on the stock button
Test Case--9.2 Diagram

Test Case-9.3 Test Data

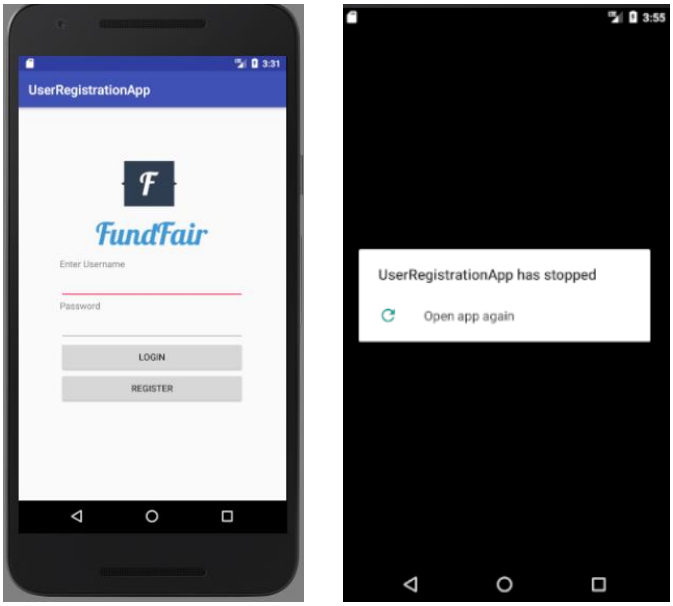
Test number	Stock Name
1	Ford Motor
2	Facebook

Test Case-9.4 Expected Result
Stock Details of Ford Motor and Facebook will be displayed
Test Case-9.5 Test Outcome
Stock Details of Ford Motor and Facebook will be displayed
Test Case-9.6 Remark

Stock Details displayed correctly.

System Test Plan
Test Case-10.0 System Testing-2
Buy Stock
Test Case-10.1 Description
To test whether the buy stock screen will able to displayed success message and will add the stock into user portfolio when clicked the buy button.
Test Case-10.2 Diagram

Test Case-10.3 Test Data
Select Amount of Lot and Buy button is clicked
Test Case-10.4 Expected Result
'successfully buy' displayed, the stock will add from portfolio and the cash will decrease.
Test Case-10.5 Test Outcome
'successfully buy' displayed, the stock will add from portfolio and the cash will decrease.
Test Case-10.6 Remark
Buy Stock able to works well.

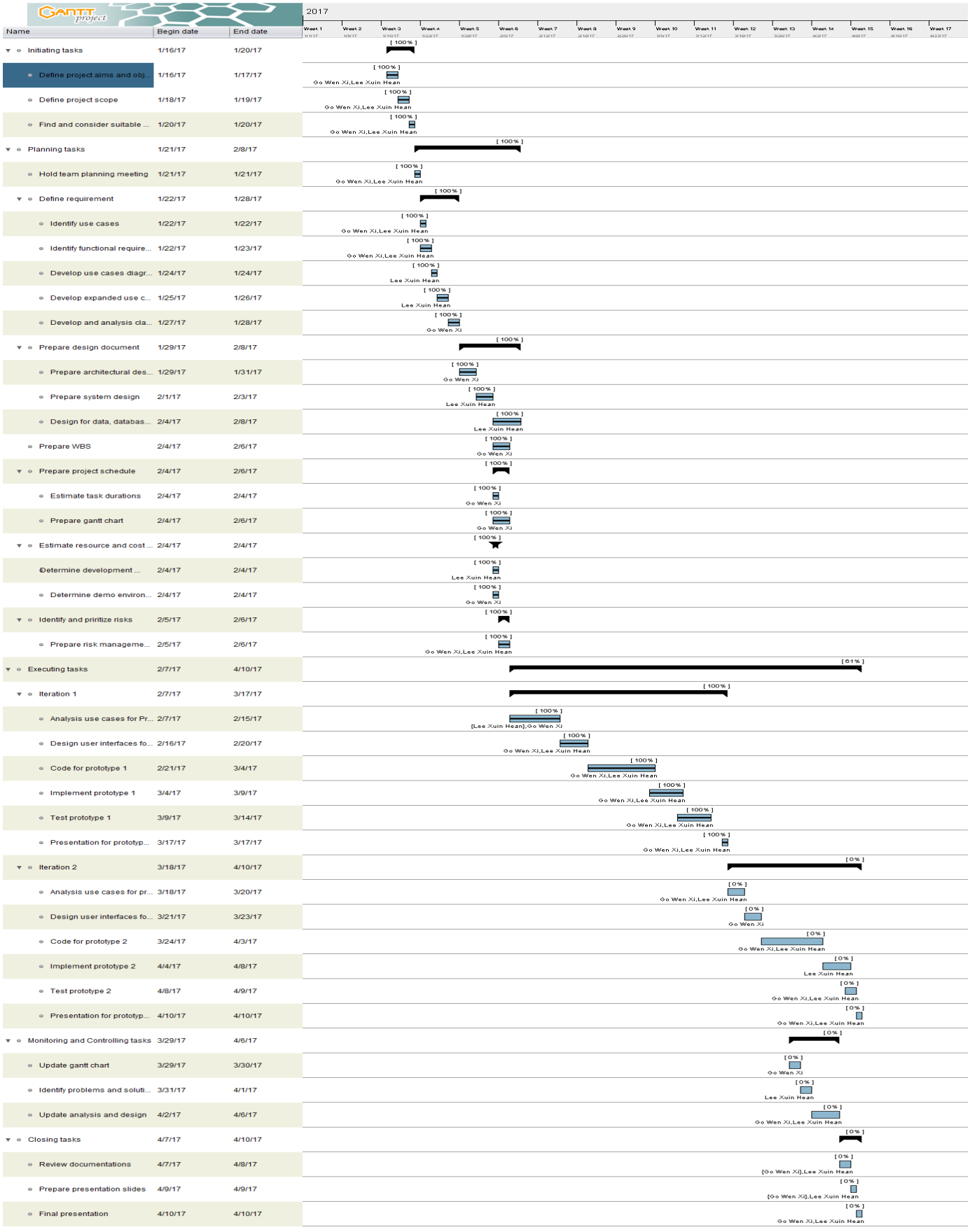
System Test Plan
Test Case-11.0 System Testing-3
Sell Stock
Test Case-11.1 Description
To test whether the sell stock screen will able to displayed success message and will add the stock into user portfolio when clicked the sell button.
Test Case-11.2 Diagram

Test Case-11.3 Test Data
Select Amount of Lot and Sell button is clicked
Test Case-11.4 Expected Result
'successfully sell' displayed, the stock will remove from portfolio and the cash will increase.
Test Case-11.5 Test Outcome
'successfully sell' displayed, the stock will remove from portfolio and the cash will increase.
Test Case-11.6 Remark
Sell Stock able to works well.

System Test Plan
Test Case-12.0 System Testing-4
View Portfolio
Test Case-12.1 Description
To test whether user can view portfolio and the stock that the user buy.
Test Case-12.2 Diagram

Test Case-12.3 Test Data
Portfolio button is clicked
Test Case-12.4 Expected Result
User Portfolio, current cash and the stock that bough will displayed
Test Case-12.5 Test Outcome
User Portfolio, current cash and the stock that bough will displayed
Test Case-12.6 Remark
View Portfolio able to works well.

Conclusion

Assignment 4

Updated Gantt Chart



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