

TEST PLAN OUTLINE (IEEE 829 FORMAT)

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IEEE TEST PLAN TEMPLATE

1 TEST PLAN IDENTIFIER

This is the only test plan for this project (Trading Web Application). So we do not need version number as well as test plan identifier.

2 REFERENCES

Documents that is referenced include:

- Project Plan

The one plan which include all the functional feature of our project.

- Software Requirements specifications

SRS contains all the list of requirement that our project has address.

- High Level design document

Design of User interface.

- Detail design document

Architectural design, Level relation Diagram(Block diagrams), ER Diagrams etc.

- Development and Test process.

For testing purpose, python's selenium library is used for automation testing. And manual testing is also be performed. All testing statistics is maintained in a text file.

- IEEE 829 Template

Template is needed to create an structural and universally accepted test plan.

3 INTRODUCTION

- Set Objectives

In trading software, user able to create it's own account by providing the bank details, personal details. Once the account is created user can see the available stocks, their dynamic prices and place a order of buy or sell of MIS or delivery as per the requirement. User finds a Window of all orders that user has just placed from the beginning.

Order can be in three states as pending, executed and failed. Once the user's order is executed according to the type of the order user can find it inside the holding and position tabs. From this tabs user can place a order of sell directly.

In addition to this user can reset their password in case if he/she forgot the password.

- Scope and achieved goals

Scope of project or testing includes Login phase, register phase, Order history window, Market Watch, profile, order placement window, Positions, holdings, forgot password.

- Resources

As a part of academic project, resources we have is our network connections, personal computers, and all open source languages, all open source software or application (For meeting, testing etc).

4 TEST ITEMS (FUNCTIONS)

- List of systems and subsystem which we have tested

- Login Credentials
- Registration Process
- Database Verification and Validation (Here database is mysql)
- PHP Verification and Validation
- HTML and CSS Verification and Validation
- Business logic of buy and sell (in form of trigger, event, functions, procedure, JavaScript, php)
- Profile
- Market Watch
- Forgot Password (PHP Mailer)

5 SOFTWARE RISK ISSUES

Risk Area we can say in our project is in the client and server mechanism. Because till now software is developed based on fuzzy logic of price change and clearing market orders, clearing stock orders, clearing sell orders etc. Because we have not used any stock API. To enhance the learning experience we have create own stocks, prices, market, events. So change that needed in the project is fetching data from API instead of database.

6 FEATURES TO BE TESTED

All listed feature here are different from mentioned in TEST ITEM. All feature listed in Test Items is from a developer point of view and all feature listed in features to be tested is from user point of view.

List of feature to be tested : Login feature, Registration feature, forgot password feature, Order of Buy, Order of Sell, Profile, Market Watch and Sell from positions and holdings.

All listed feature are tested in two ways either through manual testing and automation testing.

7 FEATURES NOT TO BE TESTED

List of feature not to be tested :

- PHPMailer and SMTP is directly used without testing. It is assumed that it have no error and it serve it's purpose without any problem.
- Bootstrap for CSS is not tested, it's classes is directly been used.
- Inbuilt Functions of mysql, PHP.
- Local host configuration of Wamp server and it's services.

8 APPROACH (STRATEGY)

- Testing of fundamental feature is done every time whenever any changes or new functionality is incorporated. Fundamental features like sell and buy logic. So Testing Fundamental feature is on the top of our priority then secondary testing features (Market Watch, forgot password, CSS).
- Input and Output of Testing process is mentioned in detailed in the test case document. All cases are considered i.e all scenario is considered.
- Testing is done by keeping flow of user process in the mind and tested step by step. Testing is divided into two parts.

1) Manual Testing

2) Automation Testing

In Manual Testing we as a user input all test data and done the testing. We manually start the events of market. After inputting the test data we observe the results and compared it with the expected results. And analyse the error or problem if we have any.

In Automation Testing we as user just run the code which was written in python. The code will automatically start the browser and go to the login page of our web application. Enter the specified the login credential in the code. Do the login and go into the order window and place the order. Similarly with registration process and forgot password. In this whole process after performing a action statistics is maintained like amount of time required to load the web element. Front end time to get loaded and back end time to complete the response. Using the automation testing we have benefit of finding the exact timing unlike the manual testing.

9 ITEM PASS/FAIL CRITERIA

For login phase if the user is available in the database or in other words user must have register before doing login. Any dirty data entry (invalid username or

password) should lead to alert named as “Invalid Username or Password”. Keeping Field empty also should lead to alert.

For Register phase all details that are compulsory must be filled.

After successful login user can place a order of buy or sell. While putting the order of buying a stock fund must be deducted based on the desired stock he want to buy from existing funds. While putting order of sell fund must be added based current/latest market price of that stock.

In forgot Password feature, User must be a valid user then and only then OTP is sends to it's registered email ID. And if the OTP is incorrect the user must get a alert of invalid OTP. And If the OTP is correct the user must get a message of OTP is verified. In this case user must enter ID first before requesting for the OTP.

User must get an alert of Order of Buy failed due to insufficient funds while placing order that he/she is not capable of. Similarly User must get an alert of Sell order due to invalid stock size when he was placing a sell order of more stocks then he holds.

10 SUSPENSION CRITERIA AND RESUMPTION REQUIREMENTS

Any kind of error in Fundamental features due to introduction of secondary feature leads to suspension of secondary feature and roll back to previous state. Once the secondary feature become friendly to the fundamental feature it is introduce.

For example introducing the market watch interrupts the business logic of buying and selling then the market watch feature will go in the pause mode. Until we find the exact problem behind this. Once we figure the problem we again resume the market feature and try to integrate with our whole system.

11 TEST DELIVERABLES

Test Deliverable includes the flow of testing process of trading web application. After performing automation testing statistic is maintained inside a text file. Test cases, Test design specification, tools used for testings like selenium for automation testing. System test plan.

One thing that is not a test deliverable is the software itself that is listed under test items and is delivered by development.

12 REMAINING TEST TASKS

Since we have covered all basic feature of trading and feature build on the top of this feature needs to be tested. Styling can be improved. Since this test plan represent the complete view of completion of basic features. There would not be much test tasks would be remain.

13 ENVIRONMENTAL NEEDS

Web application can be operated in window or Linux. With 2 GB ram or more, must have mysql and wampserver into the machine. To input the data basic hardware devices required keyboard and mouse.

To execute and perform function web browser is essential. While developing the project the source code is open with visual studio code because it uses the colour fonts to identify normal text and code snippet of all languages. To do the testing of quality it is recommended to use python's selenium library because it can access the web-elements very easily.

14 STAFFING AND TRAINING NEEDS

Testing is done by the group member which are developer as well as tester. While designing the feature thorough testing is done and also be tested when the feature is integrated with other features. Testing is like cumulative when one feature is design previous all feature tested once to check whether the new feature has introduced any bugs or not.

Apart from testing and developing the web application everyone has done the documentation of the document. Since it is the academic project everyone needs to go through each and every process of the software engineering.

15 RESPONSIBILITIES

Since one of our team member named "Kevin" is having the experience of using various software and web application of trading so he knows the business logic of the trading process so there's no lack of domain knowledge.

Apart from this every member is aware of software engineering process so there's no one like who know everything. Through sharing of ideas and their understanding about the subject with each other we comes to an appropriate conclusion. So it is decentralized decision system.

List of roles and responsibilities in developing software features

Shreyash and nisarg : Login Phase

Kevin and Mihir : Buy and Sell Business Logic Implementation

Krushna and Dhara : Profile and forgot password

Gaurav : Market watch and register

List of roles and responsibilities in documentation

Mihir : Test plan

Kevin : Test and unit cases

Dhara and Krushna : desgin document

Shreyash and Nisarg : Coding standards and Meeting documentation

Gaurav - Market watch and register

List of roles and responsibilities in Testing
Manual Testing : All team members
Automation Testing : Mihir

16 SCHEDULE

Instead of specifying the absolute dates, we are mentioning the relative dates because if there's some delay in the delivery of first feature our absolute date become useless for the second feature. So sharing the relative dates will keep the flow clear and easy to understand.

At first we have started the login phase in php, mysql and html. Once the coding is done we have perform the manual testing on it by taking different test cases in mind.

Once login phase becomes clear, we have developed registration feature and done testing on both then we have created order window which displays the orders which user has placed. Then position, holdings and order placement window in order respectively. All testing is done once the feature's coding gets completed. And at the end we have forgot password functionality and do the testing of that.

Once all above feature is implemented and tested thoroughly. We have performed automation testing to get the estimation of time required by each and every feature in the web application.

17 PLANNING RISKS AND CONTINGENCIES

Project able to handle many users at a time since we are not depended on API. But if you use to implement this application with API then the risk comes. Because working with API limits User requests, amount of data that we can fetch from server of the API provider.

Since project uses data from database. So change of data format is not the case unlike the API Data. Right now we have not encrypted our database or provided any restriction to the database so it is one of risk factor we need to look upon onto.

In password field we have not protected the web-element. Because automated software can read the password and show to the intruder. Since we have used the post method instead of get method in the php our password is not displayed on the url.

18 APPROVALS

Team members/Developer team/Testing team has approved

Gaurav Parmar :-

G Parmar

Shreyash Prajapati :-

Smp.

Mihir Kanjaria :-

Mihir

Krushna Shah:-

Km

Kevin Kukadiya :-

Kevin

Nisarg Gandhi :-

Nisarg Gandhi

Dhara Vora :-

Dhara H. Vora