Pune Institute of Computer Technology
Department of Computer Engineering
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SOFTWARE TESTING AND QUALITY ASSURANCE

MINI PROJECT REPORT ON

La Piccola Italia Restaurant Website

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1 OBJECTIVE

- Learn to identify the bugs using Selenium WebDriver and IDE.
- Generate test reports encompassing exploratory testing.

2 PROBLEM STATEMENT

Create a small web-based application by selecting relevant system environment / platform and programming languages. Narrate concise Test Plan consisting features to be tested and bug taxonomy. Narrate scripts in order to perform regression tests. Identify the bugs using Selenium WebDriver and IDE and generate test reports encompassing explanatory testing.

3 OUTCOME

We are able to efficiently use Automation Tools like Selenium Web Driver and IDE for Web Testing.

4 REQUIREMENTS

PC with Intel Core i5, 8 GB RAM, PHP 7.4,12 MySQL 8.0.12 as database, HTML, CSS and JavaScript for Frontend, Selenium IDE 3.17.0, Selenium standalone server 3.141.59, Chrome Web Driver – Version 86.0.4240

5 THEORY

5. 1 PROJECT INTRODUCTION

The project is an online web application for a restaurant called La Piccola Italia. Customers can register and login to view the menu, place orders or even book tables for a given date. The user can experience table booking and food ordering facilities while sitting at home. Details about franchise are also displayed with different branches and history. Our aim is to provide a website that will offer easy and convenient ordering of food. The pages this website offers along with their descriptions is given below.

1. Entry Page: This is the entry point to our website and has the option to login in and sign up.
2. Login Page: Here the registered user can sign-in and enter the main section of the La Piccola Italia website.
3. Register Page: A new user can create his/her account here.
4. Home Page: After logging in, this page will be visible to the user, wherein he /she can choose to view the menu, order, book a table or checkout.
5. Menu Page: this page contains the menu for restaurant.
6. Order Page: User can place an order after viewing the menu by selecting the dishes provided by the restaurant along with their quantity.
7. Book Table Page: User can book a table by selecting the number of people, date and time.
8. About Us Page: This page offers information regarding the website as well as the physical location of the restaurant.
9. Checkout Page: This is the exit point of the website.

5.2 SELENIUM

Selenium is a free (open source) automated testing suite for web applications across different browsers and platforms. Selenium is a free (open source) automated testing suite for web applications across different browsers and platforms, mainly used for Functional and Regression Test Automation.

Selenium Integrated Development Environment (IDE) is a browser plugin that lets testers to record their actions as they follow the workflow that they need to test.

Selenium Web Driver is the successor to Selenium RC which sends commands directly to the browser and retrieves results.

5.3 REGRESSION TESTING

It is a type of testing used to confirm that a recent program or code change has not adversely affected existing features. It is a full or partial selection of already executed test cases which are re-executed to ensure existing functionalities work fine. This testing is done to make sure that new code changes should not have side effects of the existing functionalities.

It will be performed to check the functions of the application with different data inputs. The testing is carried out by feeding the input and validates the output from the application. The test will be performed according to scripts, which are stored in Test Package.

5.4 EXPLORATORY TESTING

It is a type of software testing where Test cases are not created in advance, but testers check system on the fly. They may note down ideas about what to test before execution. The focus of exploratory testing is more on testing as a “thinking” activity. It is widely used in Agile models and is all about discovery, investigation, and learning. It emphasises personal freedom and responsibility of the individual tester.

The purpose of this test is to make sure critical defects are removed before the next levels of testing can start. It is carried out in the application with selenium test scripts.

6 TEST PLAN

6.1 TEST CASES

TEST SCENARIO	PRE-CONDITION	TEST DATA	EXPECTED RESULT	ACTUAL RESULT	BUGS	STATUS
Register New User	None	Full name, Email ID, Password, username, address, phone no.	Registered new user successfully Login to continue	Registered new user successfully Login to continue	None	Pass
Register New User with existing user details	There is at least one registered user	Name, Email ID, Password, username, address, phone number	Username already exists warning, user is not registered	Username already exists warning, user is not registered	Register button can be clicked while warning exists	Fail
Login with correct details	There is at least one registered user	Username and password	Logged in successfully click here to continue	Logged in successfully click here to continue	None	Pass
Login with incorrect details	There is at least one registered user	Username and password	Login not permitted, max 3 attempts to login before refresh	Login not permitted, attempts exhausted, 404 error	Login attempts run into negative numbers	Fail
Book A Table	User is logged in	Number of people, date, time	Booking details added to database, displayed on the website	Booking details added to database, displayed on the website	None	Pass
Order Home Delivery	User is logged in	Item names, quantities	Display total amount, itemised bill when final bill is requested	Displays total amount and itemised bill when final bill is requested	None	Pass
Checkout	User is logged in	None	Logs user out	Logs user out	None	Pass

6.2 BUG TAXONOMY

Bug taxonomies help in providing fast and effective feedback so that they can easily identify possible reasons for failure of the software. Using bug taxonomy, a large number of potential bugs can be grouped into a few categories. Whenever a new bug is reported, using bug taxonomy, a tester can easily analyse and put that bug into any of these categories.

RISK	PROBABILITY	IMPACT	MITIGATION PLAN
Data Bugs User sensitive data loss.	High	High	Delete current user specific cookie data after logout. User should be able to update only his/her data
Functionality Bugs Buttons fail to access proper data.	Medium	High	Check the connection to the database. Ensure proper functional working through unit tests.
Coding Bugs Database connection failure.	Medium	Critical	Ensure proper JDBC connectors are present and database login details are accurate.
Interface Bugs Faulty GUI and navigations.	Medium	Low	Make UI responsive. Display proper error messages.
Integration & System Bugs Improper system setup.	Low	Medium	Make sure that ports required for selenium server and apache server are free.
Test and Test Design Bugs Unsuccessful testing of functionalities due to non availability of independent testing environment	Medium	High	Due to non availability of the environment, the schedule gets impacted and will lead to delayed start of Test execution.
Test and Test Design Bugs Delayed Testing Due to new issues.	Medium	High	PHP export option is not available for newer versions of Selenium IDE, so convert to Java and run tests in a designated test project to explore the web application functionality.

6.3 TEST EXECUTION STRATEGY

Entry and Exit Criteria:

The entry criteria refers to the desirable conditions in order to start test execution, in this project, it is starting the php server and hosting the php web pages on Chrome browser.

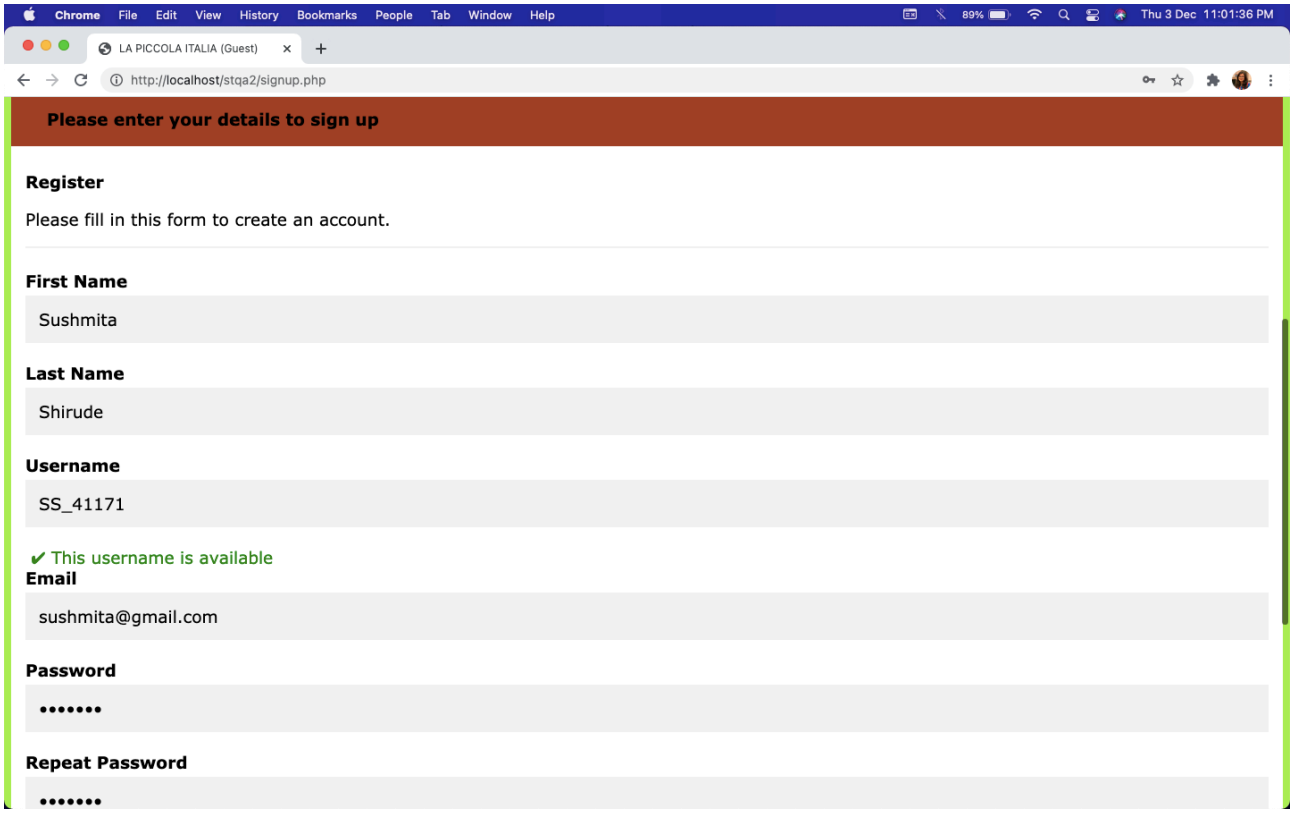
The exit criteria are the desirable conditions that need to be met in order to proceed with the implementation. Test Report successfully captured, at least 85% test cases passed, and no major defect.

Validation and Defect Management:

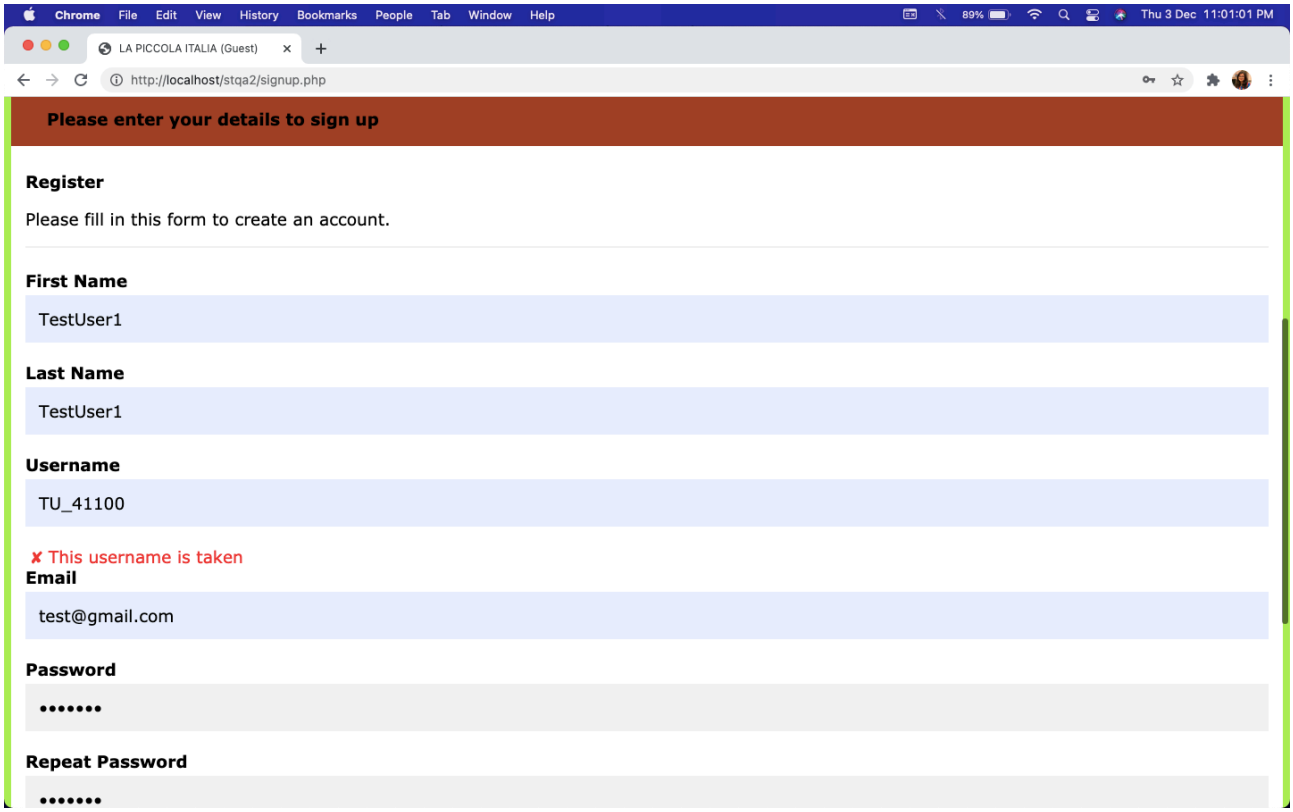
It is expected that the testers execute all the scripts in each of the cycles described. However it is recognised that the testers could also do additional testing if they identify a possible gap in the scripts.

Check the bug taxonomy, identify reasons for failure. Focus on frequently occurring bugs and create tests for them and mention them in the bug taxonomy.

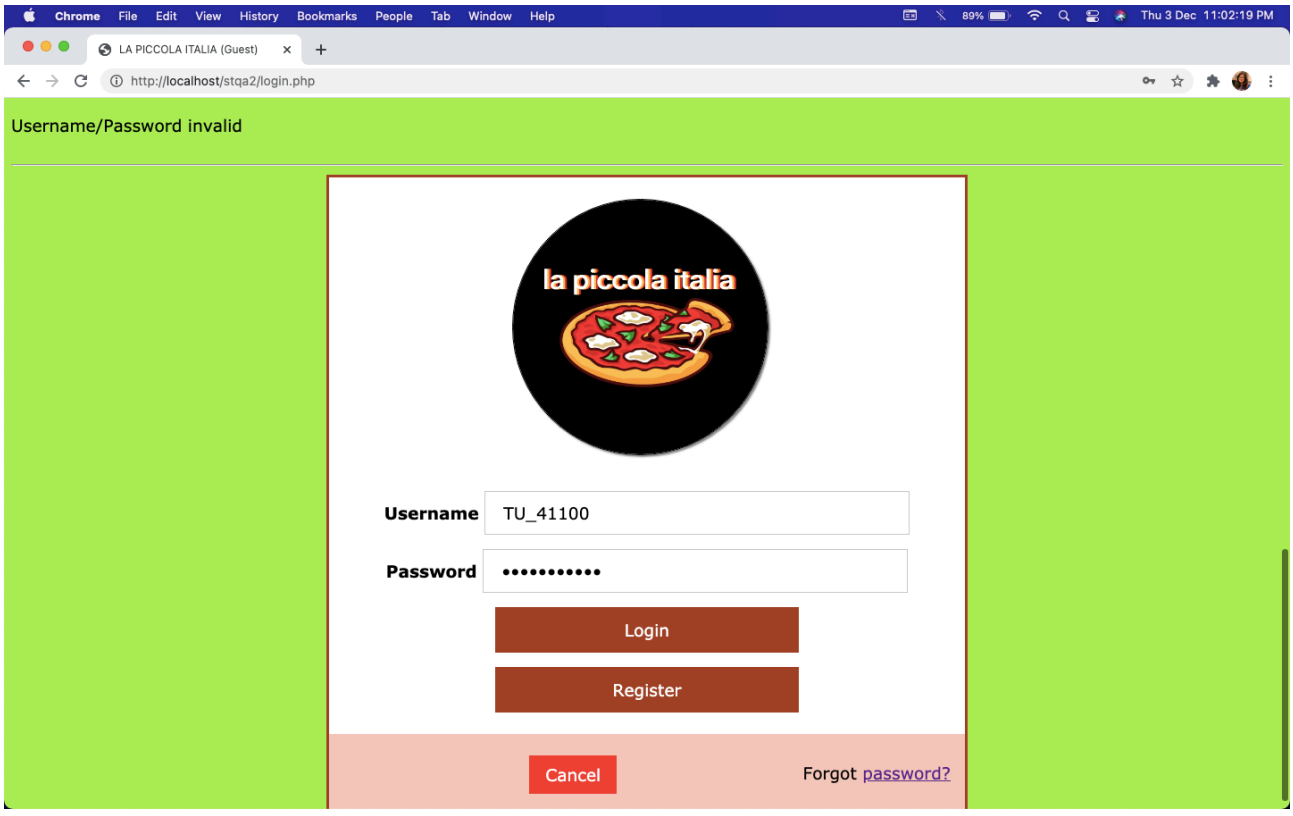
7 OUTPUT SCREENSHOTS



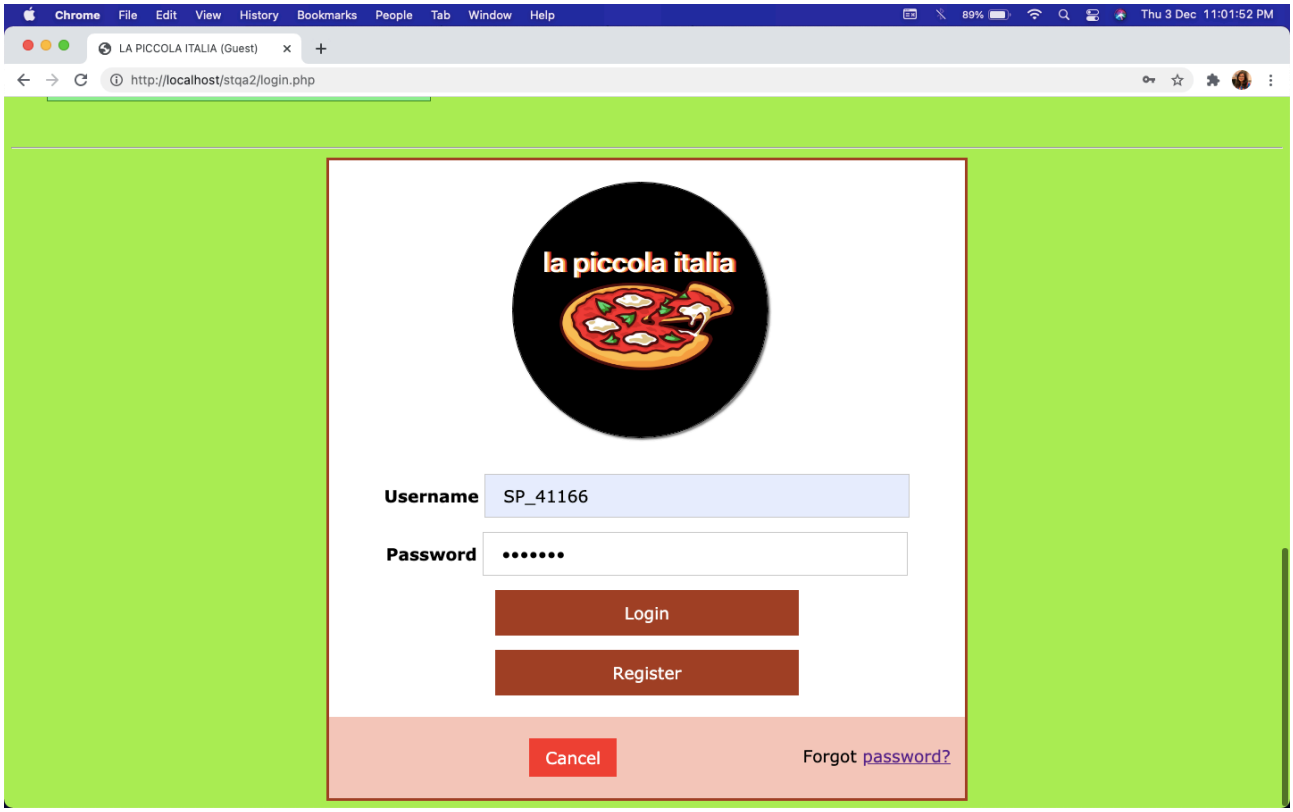
SUCCESSFUL REGISTRATION



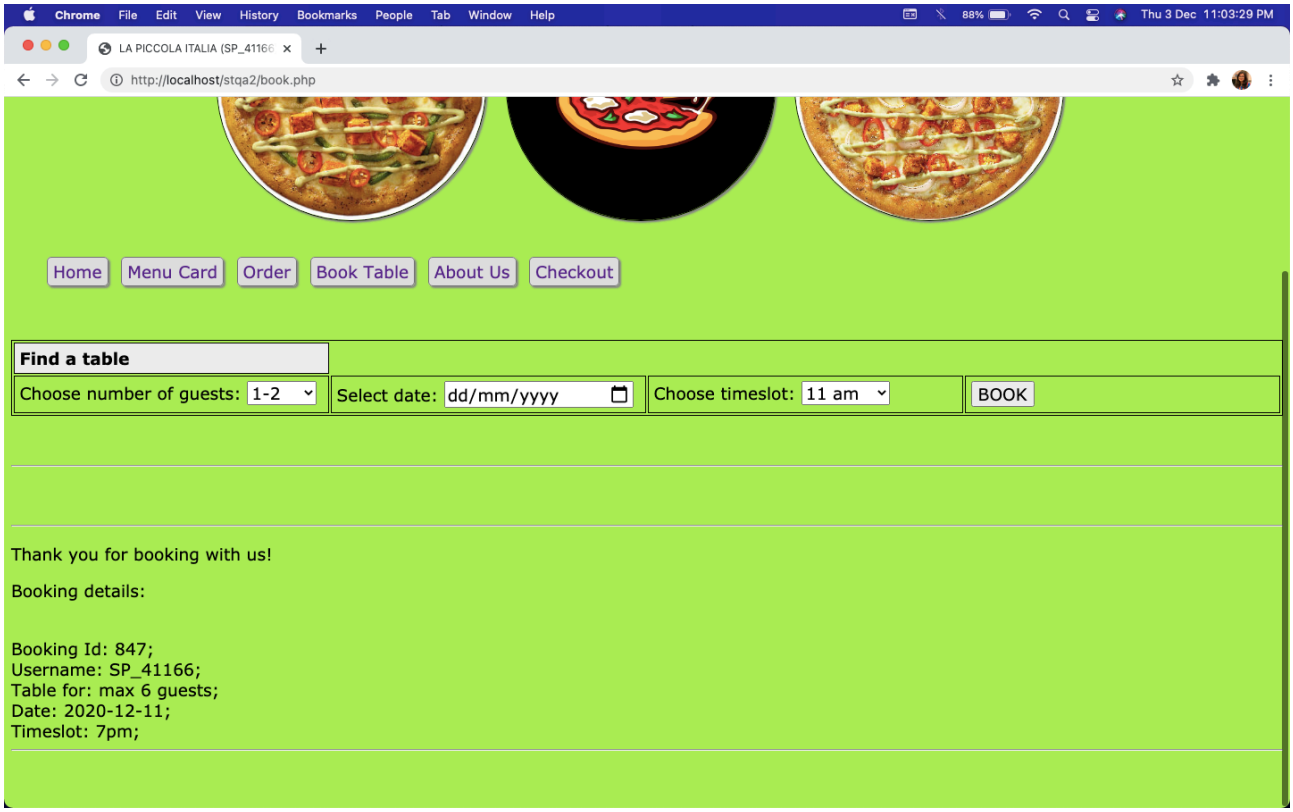
REGISTRATION FAIL



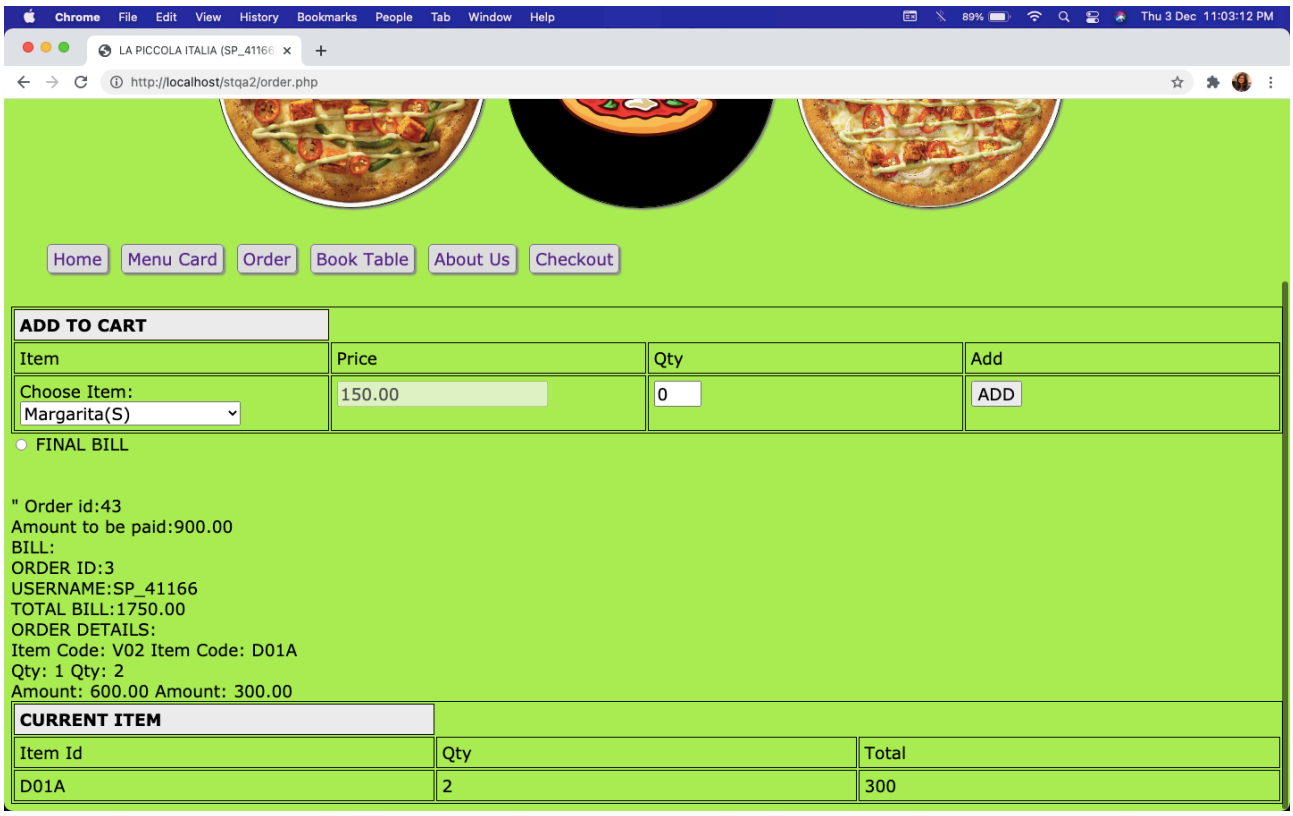
LOGIN FAIL



LOGIN SUCCESSFUL



SUCCESSFULLY BOOK TABLE

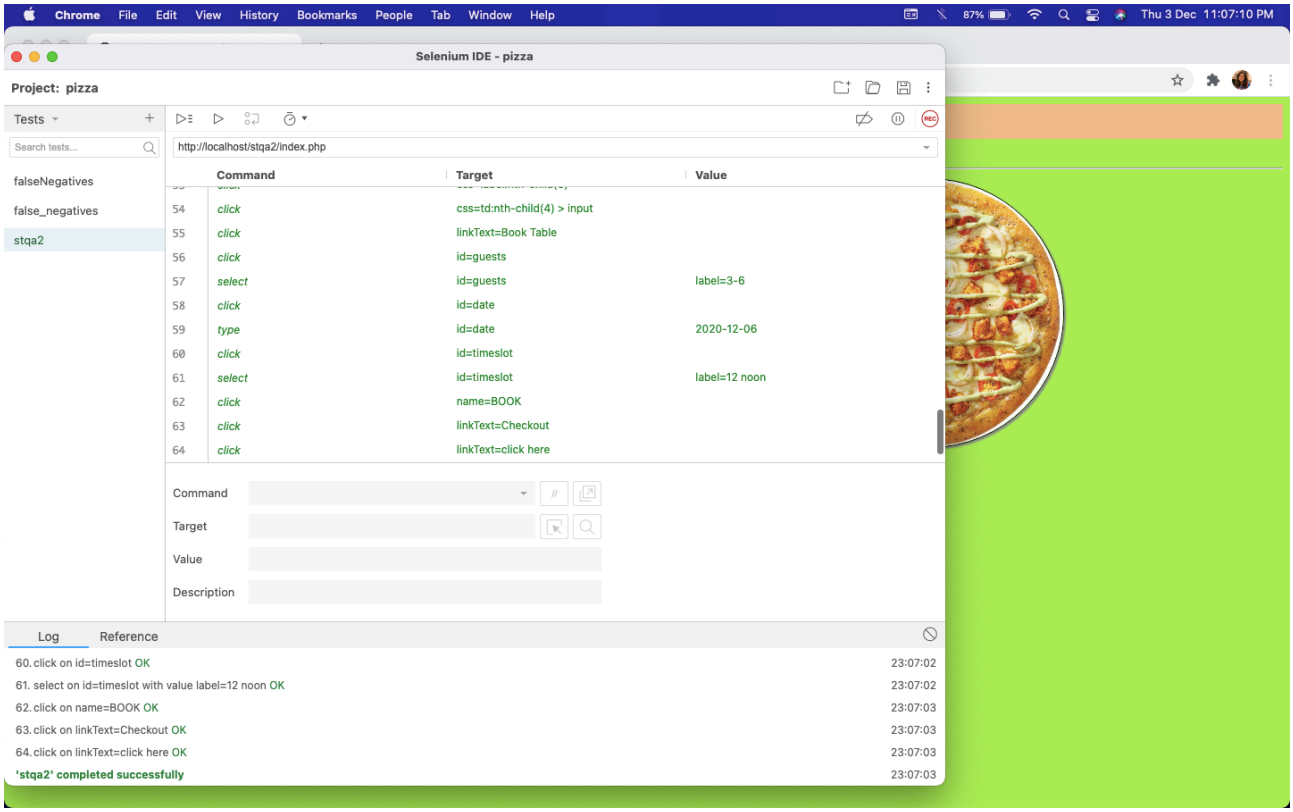


SUCCESSFULLY PLACE AN ORDER

SUCCESSFUL CHECKOUT

FIRST SCREEN

8 CODE SCREENSHOTS



SELENIUM IDE (GOOGLE CHROME) SUCCESSFULLY RUNS ALL TEST CASES (AUTOMATED)

9 TEST EXECUTION SUMMARY

EXECUTION STATUS	COMPLETED
PASSED TEST CASES	8
FAILED TEST CASES	2
PENDING TEST CASES	0
TEST CASES PLANNED	10

10 CONCLUSION

Successfully created a small web-application, formed a proper test plan, got familiar with Selenium IDE and used it to execute automated tests.