



IT314 Software Engineering Non-Functional Testing

Project: Canteen Automation System

Prepared by
Team No. 29 | Group 5

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Under the guidance of
Prof. Tiwari and
Teaching Assistant Meet Sir

1. Security Testing

Authentication and Authorization: We employ JWT authentication to control user access to all paths, ensuring that only authenticated users can view internal details by logging into the system.

Data Encryption: Passwords are encrypted using bcrypt with 10 salt rounds, enhancing security. As database administrators, we are unable to view users' passwords due to the encryption.

Session Management: Cookies are utilised for effective session management, allowing users to re-login within 24 hours of their initial login, even after closing the browser.

2. Usability Testing

Usability testing is a pivotal aspect of our automated canteen web app's development, emphasising how effortlessly users can navigate and interact with the system. Our goal is to ensure a seamless experience, and this extends to the simplicity of the user interface and design. The app is thoughtfully crafted with a user-centric approach, providing an easy-to-use platform that enhances user satisfaction.

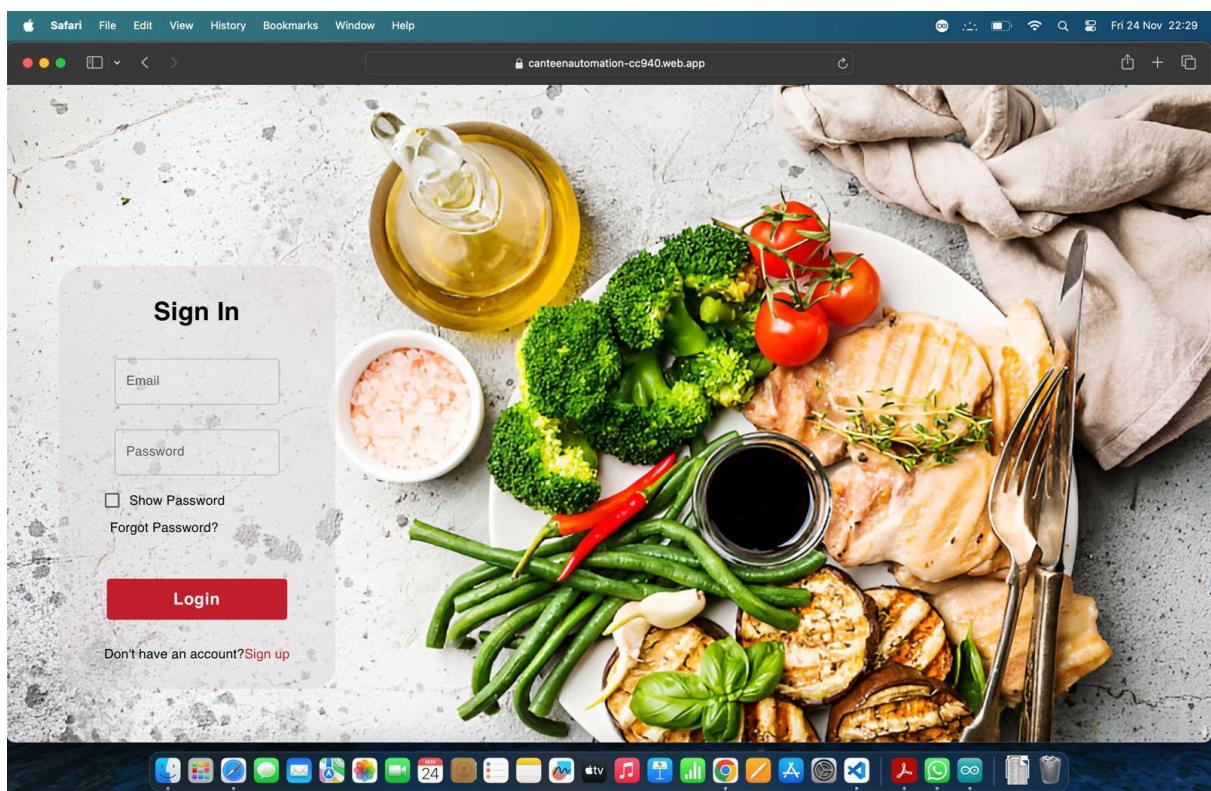
For an intuitive and straightforward user experience, we have incorporated a simple and user-friendly UI design. The cart functionality is deliberately kept uncomplicated, allowing users to effortlessly add and manage their selected items. The streamlined design promotes an efficient ordering process, ensuring that users can easily find, select, and place their orders without unnecessary complexities.

In our canteen system, users will find that the interface is designed to be both visually appealing and functionally straightforward. The cart feature, in particular, is optimised for simplicity, allowing users to effortlessly add, remove, or modify their selections. This user-friendly design extends to every aspect of the app, making it accessible and enjoyable for all users.

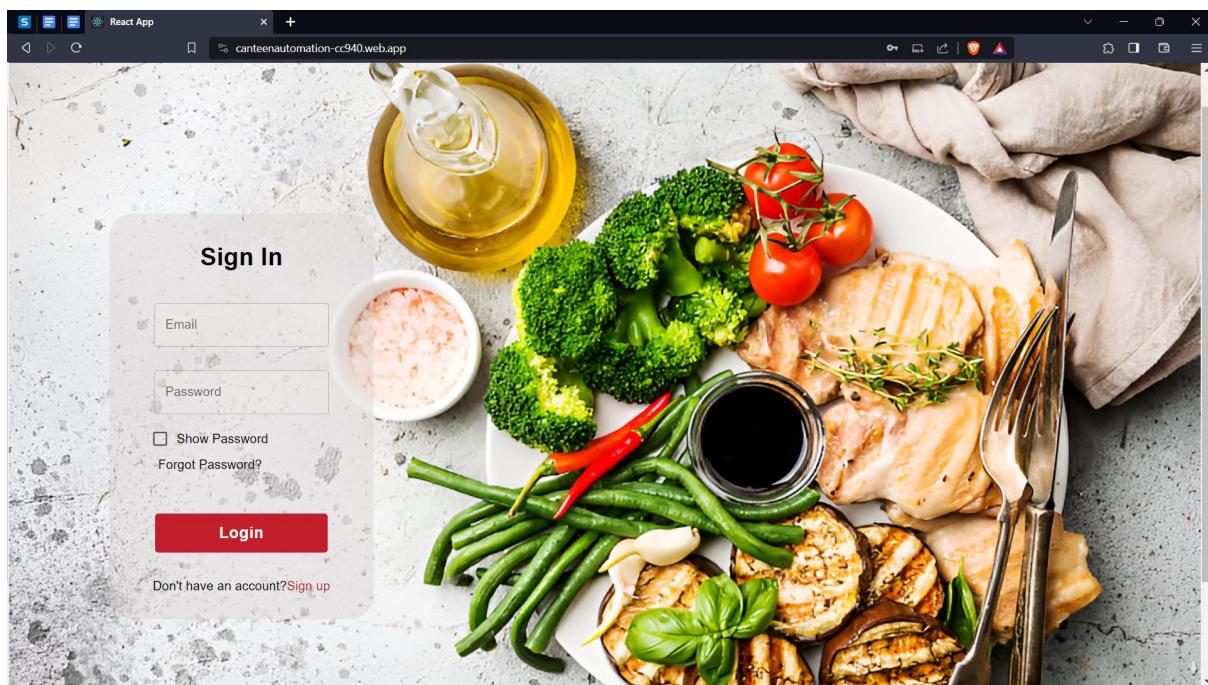
3. Compatibility Testing

We have taken measures to guarantee that the portal is compatible with the most recent web browsers, including Safari, Chrome, and Brave.

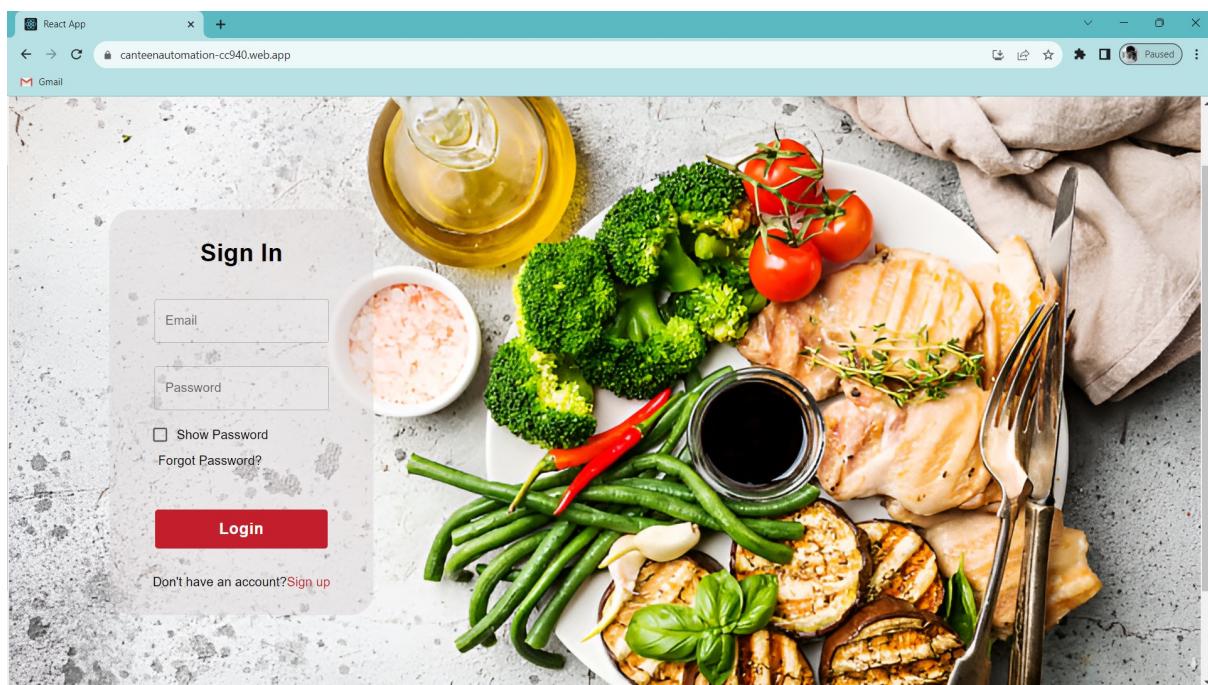
Safari :



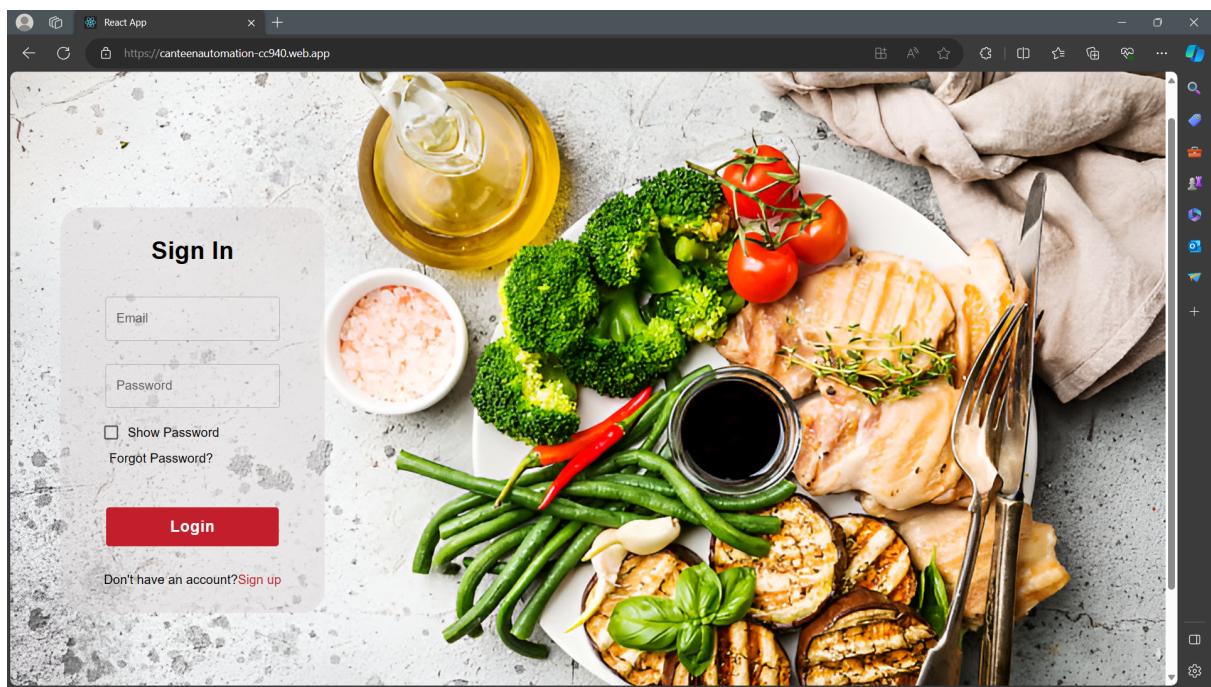
Brave :



Chrome :



Microsoft Edge :

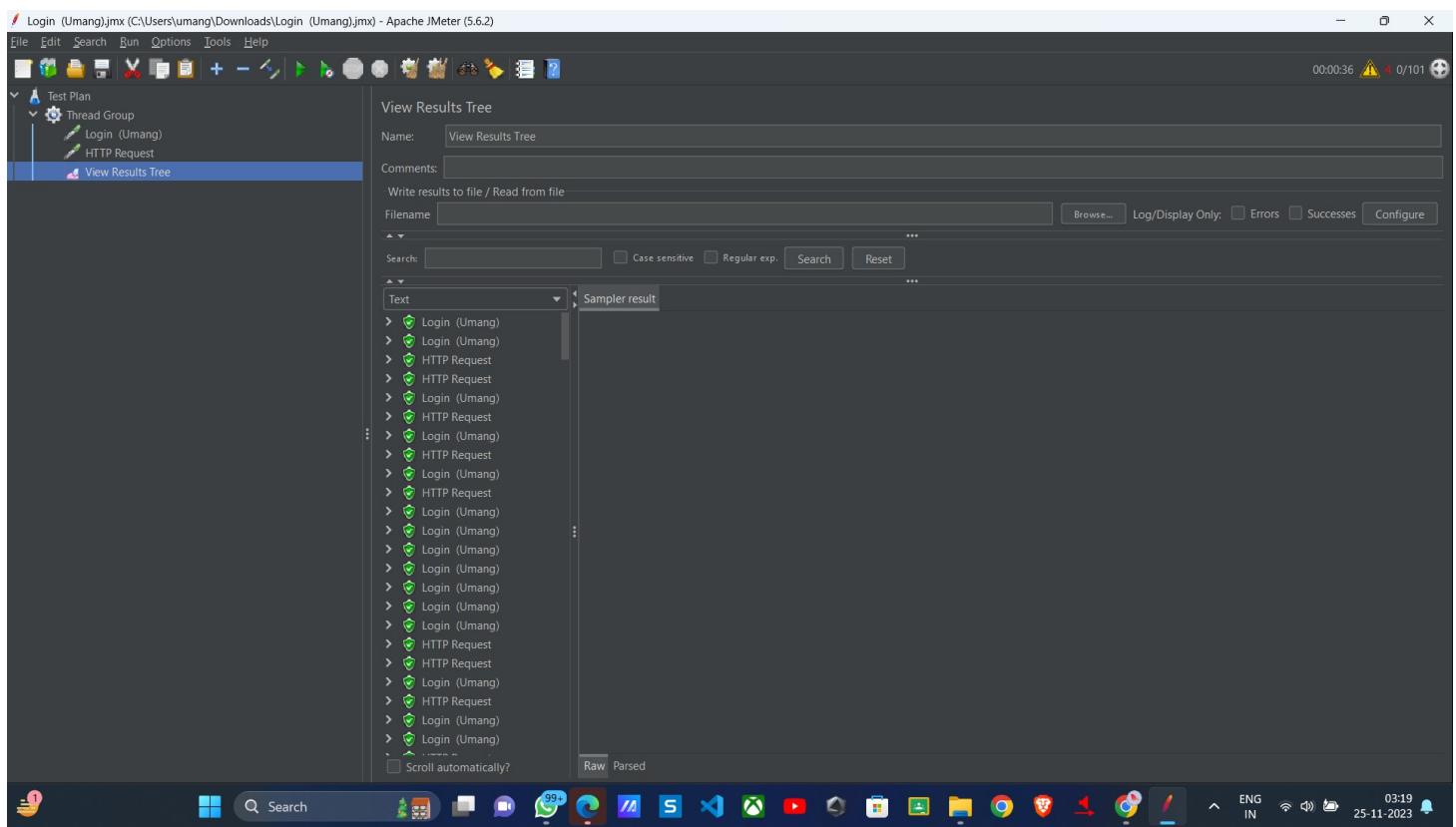


4. Load balanced Testing using Jmeter

We are performing Load balanced testing to check the effect of multiple thread concurrency on the website and different states of the website.

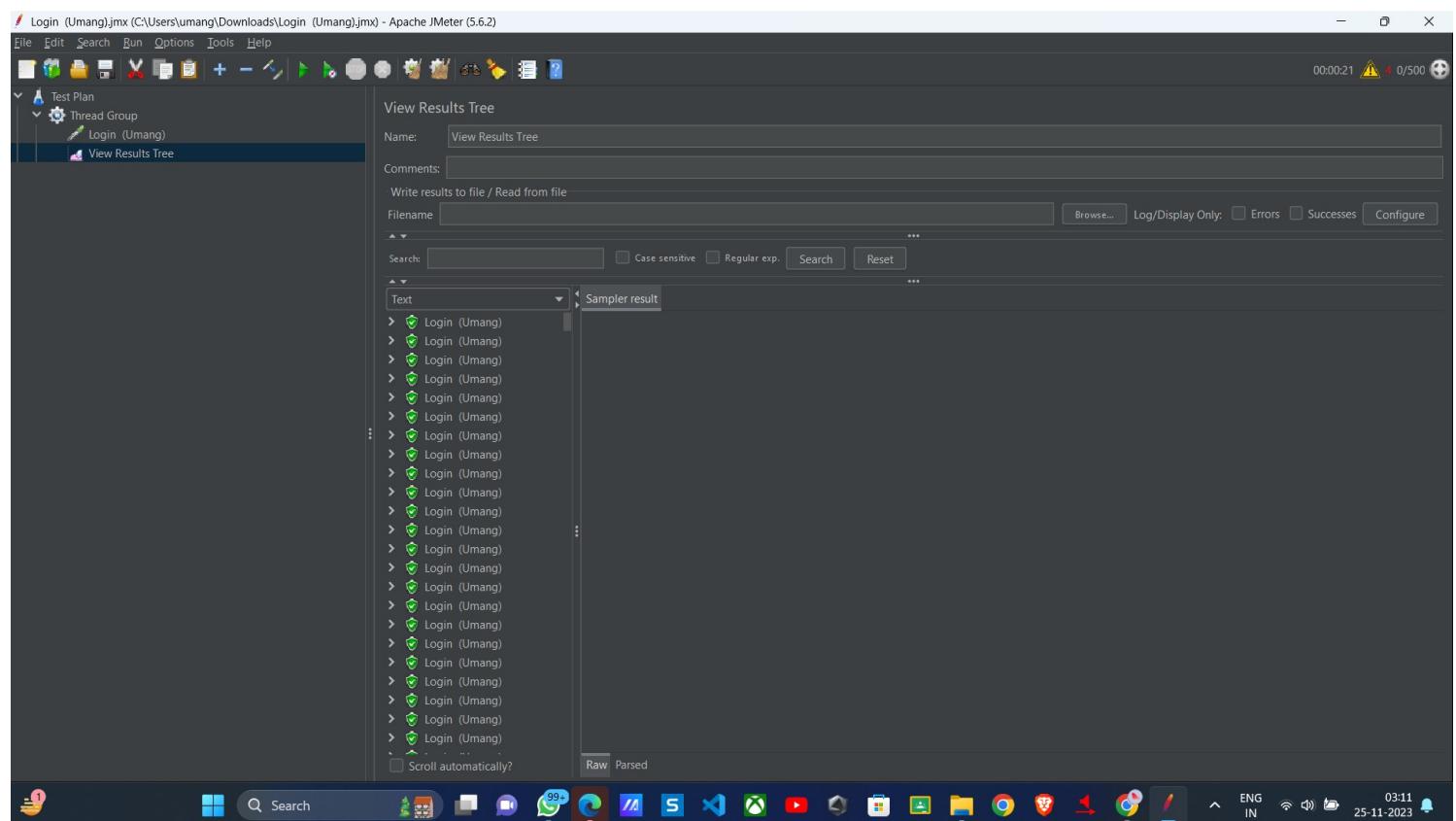
Case 1:

Here we have tried to test for 101 threads to check initial compatibility and it is working totally fine
Check status: passed.



Case 2 :

We have tried to run for 500 threads concurrency for the login page and it passed the testing which led us to multipage testing
Check states: passed



Case 3 :

We performed testing for the two web pages concurrently and tested for the 10 thread and all the test cases passed fully

The screenshot shows the Apache JMeter interface with a test plan named "Login (Umang).jmx". The "View Results Tree" listener is selected in the left sidebar. The results tree displays a list of samplers, mostly "Login (Umang)" and "Home (Umang)", each marked with a green checkmark indicating success. At the bottom of the results tree, there is a checkbox labeled "Scroll automatically?". Below the tree, a log panel shows several INFO-level log entries from the JMeter engine, detailing the start and finish of threads. The system tray at the bottom right shows the date and time as 25-11-2023 02:54.

```
993 2023-11-25 02:53:41,648 INFO o.a.j.t.JMeterThread: Thread finished: Thread Group 1-8
994 2023-11-25 02:53:41,727 INFO o.a.j.t.JMeterThread: Thread started: Thread Group 1-10
995 2023-11-25 02:53:41,743 INFO o.a.j.t.JMeterThread: Thread is done: Thread Group 1-9
996 2023-11-25 02:53:41,743 INFO o.a.j.t.JMeterThread: Thread finished: Thread Group 1-9
997 2023-11-25 02:53:41,854 INFO o.a.j.t.JMeterThread: Thread is done: Thread Group 1-10
998 2023-11-25 02:53:41,854 INFO o.a.j.t.JMeterThread: Thread finished: Thread Group 1-10
999 2023-11-25 02:53:41,854 INFO o.a.j.e.StandardMeterEngine: Notifying test listeners of end of test
1000 2023-11-25 02:53:41,854 INFO o.a.j.g.u.JMeterMenuBar: setRunning(false, *Local*)
1001
```