



INTERNSHIP REPORT

ANAS AHMED

2001

REPORT OF INTERNSHIP DONE AT INFUSE CONSULTING

SUBMITTED BY

ANAS AHMED

2001

UNDER THE GUIDANCE OF

MR. SUBODH BORKAR

(Head of Product Development, useMango, Infuse Consulting)

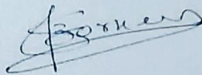
2nd June 2023

INTERNSHIP CERTIFICATE

This is to certify that **Anas Ahmed**, Roll No. 2001, currently pursuing the 6th Semester of the MCA program in the Computer Science and Technology discipline at Goa Business School, Goa University, has been actively engaged as an intern with our organization since January 9th, 2023. During his internship, he has consistently displayed exemplary performance by successfully accomplishing assigned tasks and other related responsibilities.

Anas exhibits a strong sense of self-motivation and requires minimal supervision to effectively complete his assigned tasks. He has demonstrated remarkable aptitude for swiftly acquiring the required domain knowledge and mastering the necessary technologies. His rapid learning pace has greatly contributed to the overall productivity and successful delivery of the team.

Yours Sincerely,



Subodh Borkar,
Head of Product Development - useMango

GOA UNIVERSITY



GOA BUSINESS SCHOOL

CERTIFICATE OF EVALUATION

This is to certify that Mr. ANAS AHMED has been evaluated for the project work titled "**Report of Internship done at Infuse Consulting**" in partial fulfilment for the award of the degree in Master of Computer Application.

Examiner 1

Examiner 2

Place: Goa University

^{14th}
Date: June 2023

Dean, Goa Business School

Acknowledgement

The internship opportunity I had with Infuse was a great chance for learning and professional development, especially to have so many wonderful people leading me throughout this period. The internship wouldn't be complete without expressing my gratitude and appreciation to all the people who made it possible.

I would like to thank Mr. Nalin Parbhu (CEO/CTO, Infuse Consulting) for giving me the opportunity to intern at Infuse.

My sincerest gratitude to Mr. Subodh Borkar (Head of Product Development useMango, Infuse Consulting) for being my mentor and giving me necessary advice and guidance. I choose this moment to acknowledge his contribution gratefully.

My great appreciation to Mr. Piyush Sharma (Product Engineer, Infuse Consulting) who in spite of being extraordinarily busy with his duties, took time out to hear, guide and keep me on the correct path and allowing me to carry out my tasks during the internship.

I thank all the faculty and staff at the MCA, Goa University for their constant encouragement and support during the entire course work.

I would like to thank my family and friends for all the love, support and encouragement they provided me during this internship which will never be forgotten.

Finally, I would like to express my gratitude towards the Infuse family, especially my seniors Delroy Martins, Imtiyaz Khan, Vinay Prabhu, Joyrel Vaz, Rochelle Martins, Minaxi Patil, Onkar Parshekar, Preshly Fernandes who were always ready to help me and guide me. Also, I would like to thank my internship colleagues for helping me to learn new things and always supporting me during this period.

I perceive this opportunity as a big milestone in my career development. I will strive to use gained skills and knowledge in the best possible way, and I will continue to work on their improvement.

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Introduction

This report is a short description of my full-time on-site internship at Infuse.

I joined as an Team Intern at Infuse Consulting on 9th January 2023 and have been here since then. This report contains necessary information about the organization, the projects I worked on and the other tasks I completed in this internship period.

In the chapters that will follow, I will talk about the company, the work here, the culture, etc. Then, I shall elaborate on the projects I worked on, a brief information about the projects, the modules I built and the tasks I completed in those modules.

This report highlights my learning experience and my contributions to the organization as an intern. This will describe the knowledge that I gained by successfully completing the tasks that were assigned to me.

I'll also discuss the tools and technologies that were used, as well as the timeframe for my internship. Finally, I'll talk about my experience and how it has helped me grow both personally and professionally.

Company Profile



About Infuse Consulting

Infuse Consulting is an international company and leverages strategic consulting partners as well as its technology partners to deliver the best solution.

Recognized as the leading provider of Test Automation and Lifecycle Transformation Services for successful, ambitious organizations, Infuse Consulting is headquartered in the UK and since 2002 has helped more than 500 businesses get the most out of their Software Delivery Teams.

Infuse Consulting works hard in the fields of Test Automation and DevOps to reliably deliver several clear benefits for organizations seeking assistance with their Software Delivery.

Infuse is a Gold Partner of Micro Focus and Oracle, and has a partner network including CA, Microsoft, AWS and SAP.

Infuse prides itself on its ability to provide innovative solutions, especially in test automation. They have been automating mobile testing since 2003 and developed a functional scriptless test automation tool, useMango™.



What is useMango?

- Easy to use Test Automation Tool.
- Designed so non-technical individuals can build robust automation scripts.
- Flexible framework functionality that can be adapted to match your testing ability.
- Avoids the costs of engineering your own high maintenance frameworks.
- You can use useMango to create automated tests for web and packaged applications such as Oracle and SAP.

What are the key benefits of using useMango?

- Component based test building removes the need for technical developers.
- Reduce months of manual testing into minutes.
- Fast ROI, allowing you to focus on business-critical issues.
- Increase confidence in your continuous delivery output with automated end to end testing.
- Enable Continuous Delivery by adding automated end-to-end testing of your build pipelines

About useMango

With useMango tests are quicker and more efficient, saving businesses time and money. With useMango you can build a test by selecting from 200+ pre-built components, just add data and it is ready to run. If you have problems with forms, or complicated pages useMango provides an easy solution, you can activate the useMango scanner to scan your application, with a single click, this will identify all the testable objects on any UI and create a new component. If you need to create a custom component, useMango provides you the means to do so. A software tester can complement the useMango generated scripts with custom code, using in-built frameworks made with Ruby, VBScript, Python etc.

Other Key Features

- Works on modern web & desktop applications.
- Codeless test tool & framework.
- Extended to support Package Applications SAP (GUI and Web Variants), Oracle E-Business, Oracle Fusion.
- Ensure application quality with fast and frequent testing.
- Test processes from end-to-end across multiple platforms and technologies.
- Business users and manual testers can automate tests without coding.
- Easily keep hundreds of tests up to date as your application changes over time.
- Expand the scope of your testing with data-driven tests.
- Meet exceptional automation requirements with simple scripted components.
- A scalable cloud-based test service which meets your growing needs.
- Get automated test outcomes directly in your continuous integration pipelines.
- Integrates with your modern continuous integration tooling.

Product – UseMango

Overview

UseMango is a windows application which has several different architectural structures, from the server to website and common libraries that contain shared code. UseMango is maintained and developed by the Infuse team and has customers worldwide.

Tools and Technologies

C#



C# is a general-purpose, modern and object-oriented programming language. It was developed by Microsoft led by Anders Hejlsberg and his team within the .Net initiative.



.NET framework

The .NET Framework is a software framework developed by Microsoft that runs primarily on Microsoft Windows. It includes a large class library called Framework Class Library and provides language interoperability across several programming languages.



WPF

Windows Presentation Foundation is a UI framework that creates desktop client applications. WPF uses the Extensible Application Markup Language (XAML) to provide a declarative model for application programming.



Ruby

Ruby is an interpreted, high-level, general-purpose programming language. It was designed and developed in the mid-1990s by Yukihiro "Matz" Matsumoto in Japan.



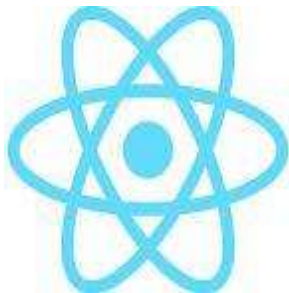
Python

Python is an interpreted, object-oriented, high-level programming language with dynamic semantics. Its built-in data structures, combined with dynamic typing and dynamic binding, make it very attractive for Rapid Application Development, as well as for use as a scripting language.



JavaScript

JavaScript is a lightweight, interpreted, object-oriented language with first-class functions, and is best known as the scripting language for Web pages, but it's used in many non-browser environments as well.



React JS

React is a free and open-source front-end JavaScript library for building user interfaces based on UI components. It is maintained by Meta (formerly Facebook). Although React is a library, it is widely used in web development. React makes it painless to create interactive UIs.



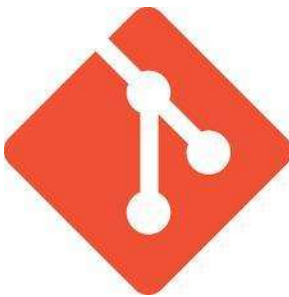
AWS

Amazon Web Services is a subsidiary of Amazon providing on-demand cloud computing platforms and APIs to individuals, companies, and governments, on a metered pay-as-you-go basis.



Postman

Postman is an API platform for building and using APIs. Postman simplifies each step of the API lifecycle and streamlines collaboration so you can create better APIs—faster



Git

Git is a distributed version-control system for tracking changes in source code during software development. It is designed for coordinating work among programmers, but it can be used to track changes in any set of files.



MongoDB

MongoDB is a non-relational document database that provides support for JSON-like storage. The MongoDB database has a flexible data model that enables you to store unstructured data.

My Contributions

The early stage of the internship was about learning about the useMango product, various technologies used in the company and getting accustomed to the domain of the product. The first few weeks were a training period, where we had to learn about various topics. Task was assigned to explore the useMango app, to explore its features, write tests, execute the tests, view the results and a review session wherein all that was learnt was shared among other interns and feedback was given by the mentor.

After the introduction to useMango, the next task assigned was to identify bugs and provide suggestions for improvement. This involved actively exploring the platform, testing its various features, and documenting any issues encountered. I diligently investigated different functionalities, workflows, and user interfaces to identify any potential glitches, errors, or areas that could be enhanced. Throughout the process, I meticulously documented each bug, including steps to reproduce it and any relevant details.

Additionally, I focused on providing constructive suggestions to improve useMango. Based on my experience and understanding of the platform, I brainstormed ideas for enhancing its usability, functionality, and overall user experience. These suggestions encompassed areas such as user interface improvements, streamlining processes, introducing additional features, and enhancing the platform's performance and stability.

By actively engaging in bug identification and providing valuable suggestions for improvement, I contributed to the ongoing development and refinement of useMango. This task allowed me to not only familiarize myself with the platform in greater detail but also contribute to its continuous enhancement and optimization.

Following the bug identification and suggestion phase, the next task assigned was to perform a Ruby upgrade for existing components within the system. This task involved updating the Ruby programming language to its latest version while ensuring compatibility with the existing components and dependencies.

To accomplish this task, I first conducted a thorough analysis of the current system's components and their dependencies. I identified the specific components that required an upgrade and assessed any potential compatibility issues or breaking changes associated with the Ruby upgrade.

Careful testing was conducted after the upgrade to ensure the components continued to function as expected. I executed comprehensive test cases and performed regression testing to identify and resolve any issues that may have arisen due to the Ruby upgrade.

Throughout the process, I maintained effective communication with the development team and stakeholders, providing regular updates on the progress and any challenges encountered. Collaboration and coordination were essential to ensure a smooth transition and minimize any disruptions to the system's functionality.

By successfully upgrading the existing components to the latest Ruby version, I contributed to maintaining a secure and up-to-date system while taking advantage of the latest features and performance improvements offered by the Ruby programming language.

After the completion of the Ruby upgrade task, my next assignment involved working on a client project for Solent University. In this role, my responsibilities included writing test steps, performing regression testing, and implementing automation testing.

To begin, I collaborated with the development team and project stakeholders to gain a comprehensive understanding of the requirements and functionalities of the Solent University project. Based on this knowledge, I developed detailed test steps and test cases to ensure thorough coverage of the application's features and functionalities.

During the regression testing phase, I executed a series of tests to verify that the existing functionalities of the application were functioning as expected after any recent changes or updates. This involved running previously executed test cases and comparing the results to the expected outcomes, identifying any inconsistencies or regressions, and reporting them to the development team for resolution.

In addition to manual regression testing, I also focused on implementing automation testing for the Solent University project. This involved utilizing appropriate automation testing frameworks and tools to create scripts and test suites that automated repetitive and time-consuming test cases. By automating these tests, I improved efficiency and ensured consistent and reliable results across multiple test executions.

Throughout the testing process, I maintained detailed documentation of test results, identified issues, and provided clear and concise reports to the project stakeholders. I worked closely with the development team to address any identified defects and to validate the fixes implemented.

By diligently performing test steps, conducting regression testing, and incorporating automation where applicable, I contributed to the overall quality and stability of the Solent University project. My efforts aimed to ensure that the application met the client's requirements and provided a seamless user experience for the end-users.

Project timeline/Project diary

January 2023

- Week 1
 - Formal Orientation and onboarding process.
 - Introduction to useMango.
 - Exploring features of useMango.
 - Automated a test using the product.
 - Environment and tools set up for development.
- Week 2
 - Introduction to Programming With Ruby
 - Ruby Program Exercises
 - Introduction to HTML, CSS, JS & DOM
 - Exercises
 - Introduction to Automation
 - Introduction to Selenium
 - Selenium Exercise
 - Introduction to Git & source code management
 - Exercises
 - Introduction to Containerization and Docker
 - Exercises
- Week 3
 - Workshop introduction + Sample solution
 - Workshop: Build a basic containerized testing framework for a practice website
 - Demo of work shop
 - CI & CD pipelines (with Jenkins)
 - Exercises
 - Workshop: CI & CD
 - Programming in Python
 - Exercises

February 2023

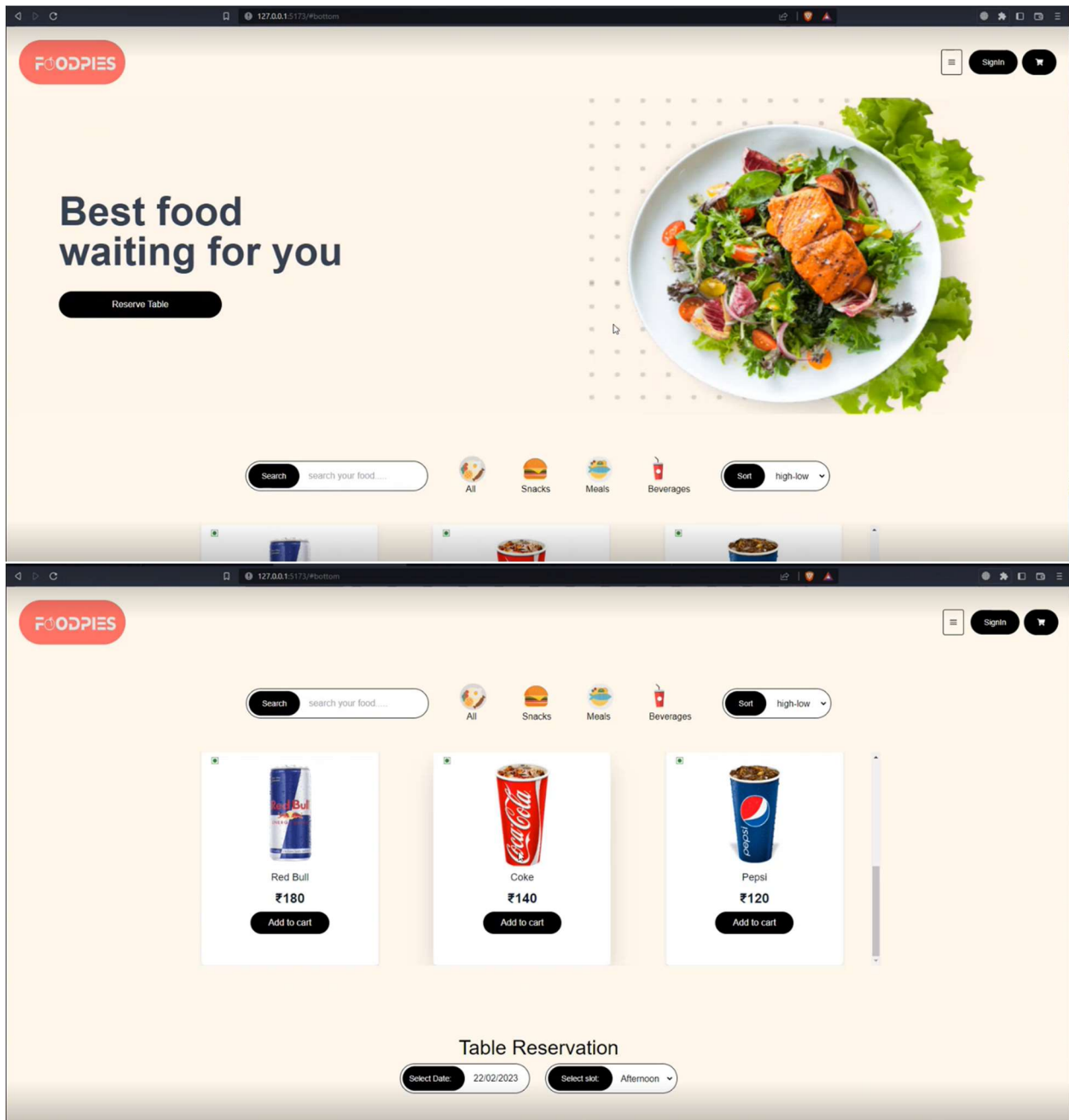
- **Week 4**
 - Introduction to Webservice architecture
 - Python Webservice Framework
 - Exercises
 - Workshop: Build WebService
 - Workshop: WebService Unit Testing + API Testing

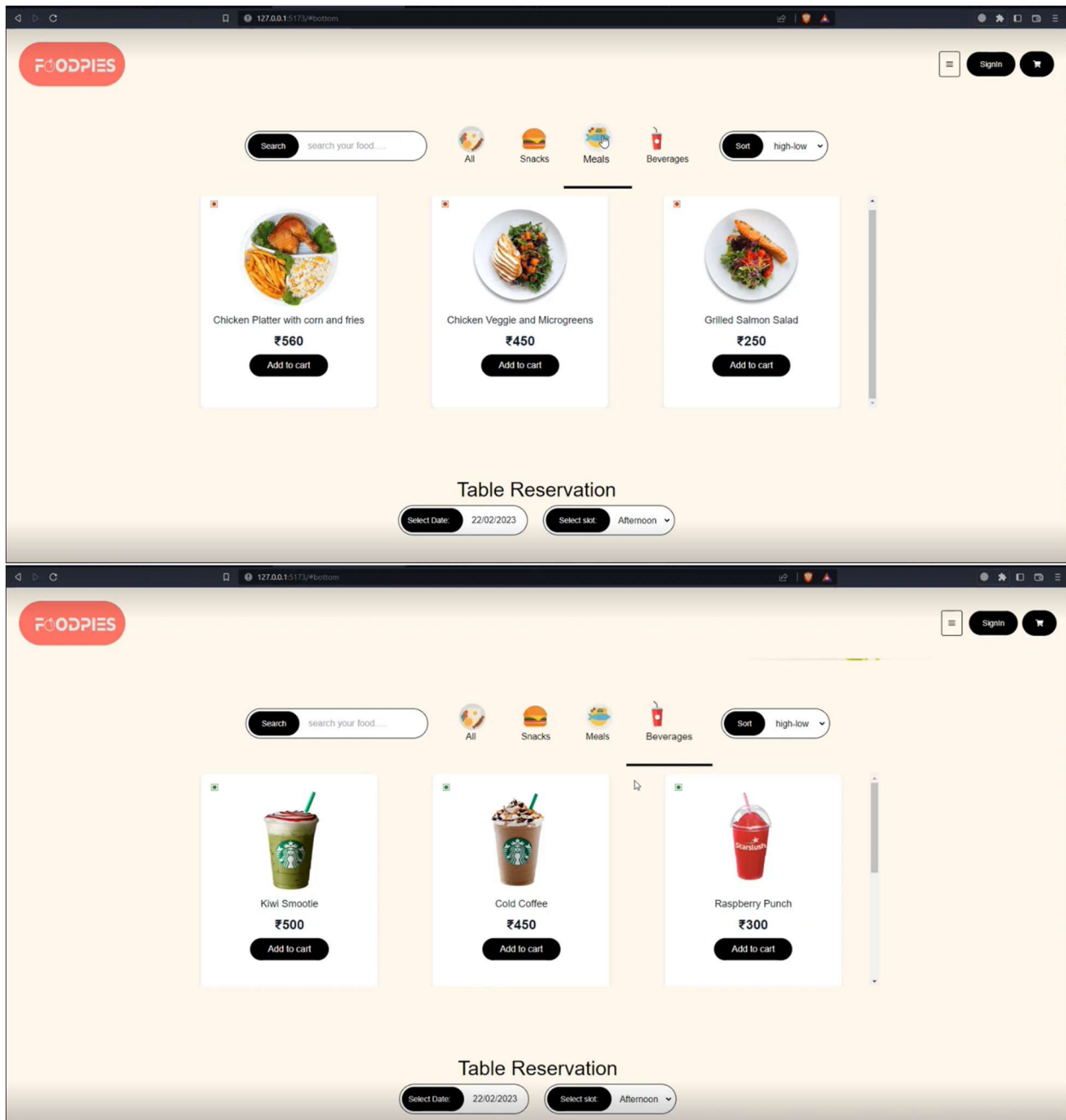
- **Week 5**
 - Workshop:
Involves the use of entire set of skills learned so far. For a given a problem statement expected to design, develop and test solution. This was under the guidance of team mentors.
 - Workshop review + fixes

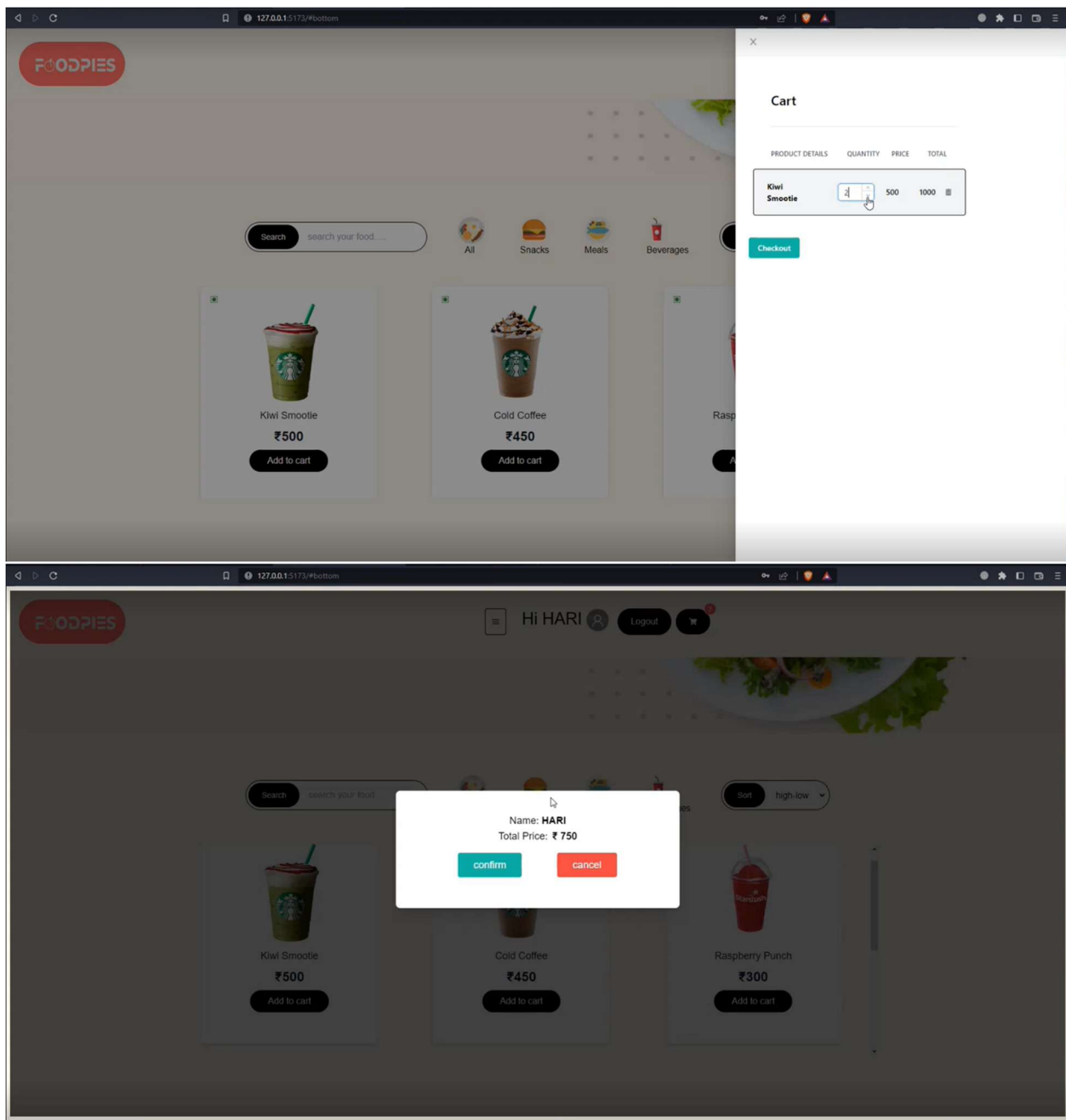
- **Week 6**
 - Introduction to AWS Services
 - Workshop project manual deployment to AWS
 - Infrastructure as Code
 - Workshop project automated deployment on AWS
 - Teams demo project To Head of Training

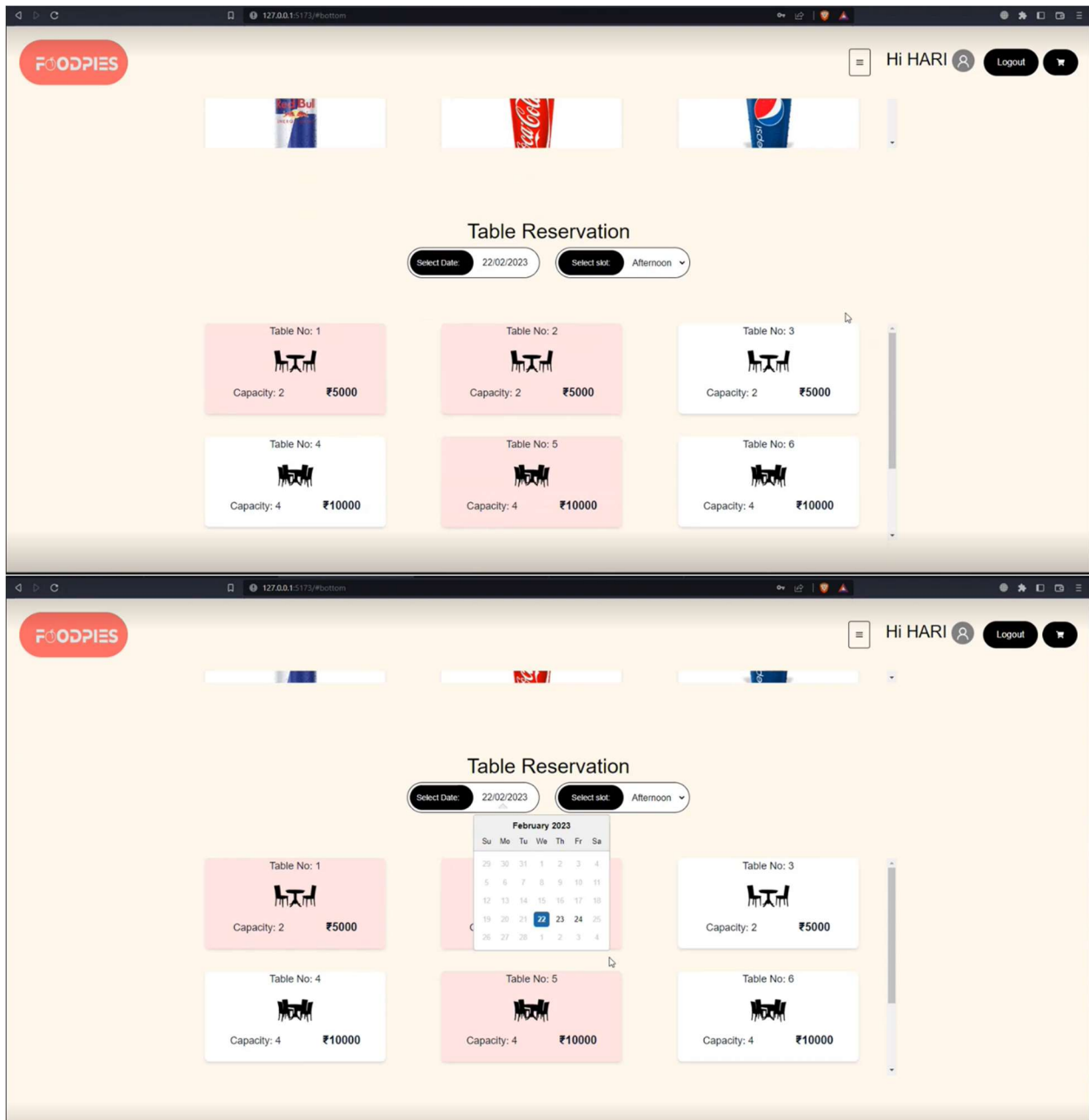
- **Week 7**
 - Preparation for ISTQB Certification Exam

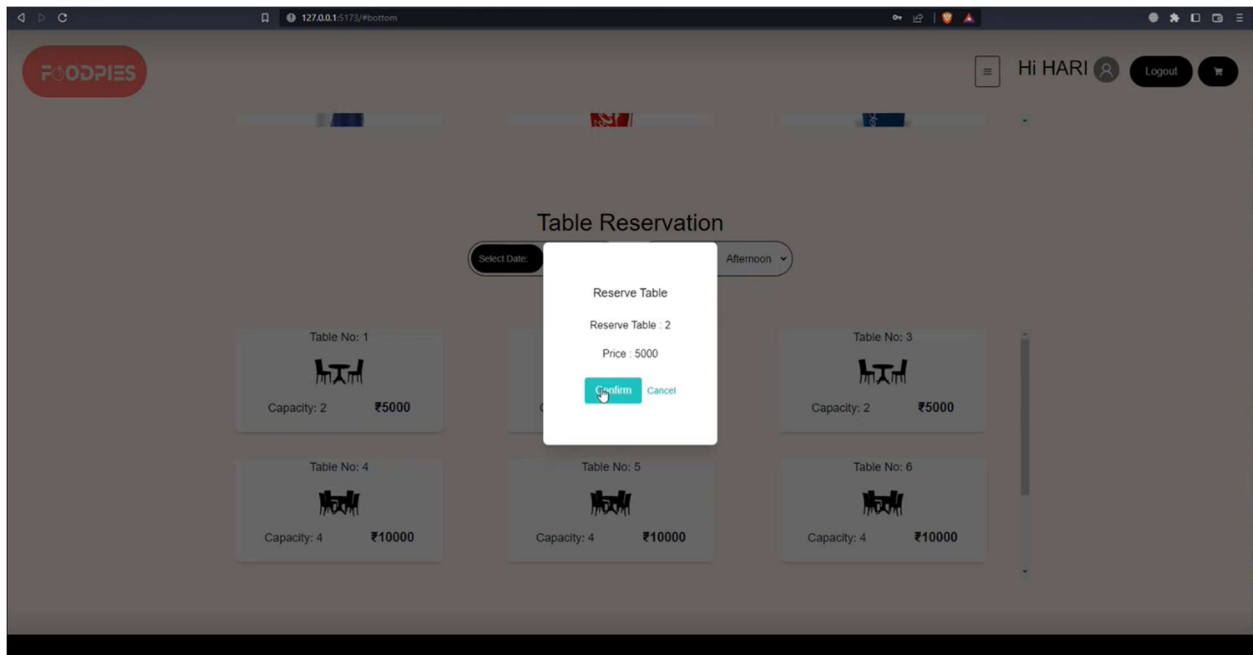
Screenshots











My Reflections / Experiences of Internship

My internship at Infuse Consulting has been an amazing experience filled with new challenges every day. The company's culture promotes a relentless thirst for knowledge and encourages employees to constantly learn and grow. Working in the industry and being involved in product development has provided me with valuable learning opportunities and practical experience.

One of the great things about Infuse is that I never felt alone. I was given the freedom to interact with colleagues, seek guidance, and ask for help whenever I needed it. Throughout the internship, I gained a wealth of knowledge about software development, clean code architecture, and improving coding skills. The company's supportive environment allowed me to try out new ideas and implement them in the product, even if I wasn't familiar with them beforehand. This constant exploration and learning process made each day exciting and educational.

In conclusion, I am extremely grateful to be a part of Infuse Consulting and have the opportunity to learn and grow. I extend my best wishes to all the members of the team.

References

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