



WEB APPLICATION FOR A RESTAURANT

Higher Diploma in Science in Computing

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Higher Diploma in Science in Computing
Software Development

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1. Introduction

The objective of this project is to create a information system for restaurants, where providing a holistic service from customer to the owner aiming the business development, best customer experience and sales increase.

It might be a very useful tool for the company's routine, handling in store/ on line orders, reservations, kitchen tasks, billing report, sales reports, etc.

With different access levels for users as admins, floor staffs, kitchen staffs and customers the application will integrate a database and handle data accordingly due a given request.

This application should demonstrate the skills I have gained along this Science in Computing course.

2. Project Scope and Objectives

Cloud Service:

- Research and select the best cloud provider that matches this web app requirement
- Configure the resources and environment necessary for the app, such as memory, elasticity, VPN and region if necessary

Project management:

- Create a Git repository
- Setup and link the repository to the project

Back End:

- Select the IDE that matches this project requirement
- Avail and select the best framework to work with
- Write the back end web app

Front End:

- Select/create the web page design (user interface)
- Create the different pages for any kind of service/ access
- Implement features such as forms, buttons, images, logos, etc.
- Setup the front end features behaviour (e.g. show/hide by clicking)
- Implement the web design such as alignment, colours, backgrounds, etc
- Make the web site responsive to screen sizes variations

Database:

- Research and select the best database that matches this web app requirement
- Design and create the database and tables
- Host and setup the database on the server
- Get, request and post data through the database for many features as needed, such as logins.

API's:

- Research and implement API's if necessary, convenient or required for this application

3. Student's Learning Objectives

The objective of this project, as mentioned above, is to demonstrate the skills I've gained along this entire course, permeating through the several subjects studied.

When implementing such skills and applying it in a real life project provides us a great opportunity to experience some very good point that wasn't possible in class, such:

- Best comprehension about the Software Development career
- Where my abilities and skills points to (front end, back end, data analysis, QA)
- My strengths and weaknesses, in all factors, such as technical, resilience, research, solving issues, writing technical reports/ documents, etc.
- Best understanding of a widely range of tools to work with

4. Technical Specification of the Project

Overview:

- This proposal for a web application for a restaurant transit across a simple user experience and strong management for a business that serves its customers online and locally. The current idea is designed to:
 - From home page the user has an ability to:
 - Browser over the options
 - View the menu
 - Make reservations
 - Make an order for delivery (login required)
 - Sign Up/ Login
 - From the admin login access, the user will have the ability to:
 - Follow up the reservations, online orders, all orders
 - See the 'Today's Sales (Chart or List)'
 - Access the sales history list via 'All sales history' button
 - Follow up the kitchen's orders
 - From the floor staff access, the users will:
 - Have access to the reservations list
 - Have access to the online orders list details
 - Have access to all orders received and sent to the kitchen (locally and online)
 - Have access to the orders prices and bills processing
 - From the kitchen access, the users will:
 - Have access to the orders received
 - On line (red identified)
 - Locally (blue identified)

- Have the ability to mark the order as 'done' when it is delivered to table or delivered
- Have a timer for each order, showing how long has passed since it has income.

Tools:

- The aim is to develop this application with the following languages, framework, platform, software, etc
 - Heroku – as cloud platform
 - Python – the back end main language
 - Flask – the web framework
 - HTML, CSS and JavaScript – the main front end
 - Postgres – for database
 - SQL – for CRUD operations
 - GitHub – for managing the project via repository
 - Pycharm or Sublime or VisualStudio - IDE
 - DB Browser – for managing the database
 - Selenium – for automated tests
 - Google Chrome and Microsoft Edge

Techniques:

- This project is aimed to be developed mostly in Agile methodology, where I see it is the best approach to complete the timeframes and accomplish the delivery goals.
- My project work will divided in 4 stages:
 - Plan
 - Design/ Develop
 - Deploy/ Test
 - Review/ Launch

Out of Scope:

- This web application won't accept online payments
- Will not track the order for delivery when on way to the customer's address

5. Project Plan

Week	Goals	To deliver (expected)
20/06	<ul style="list-style-type: none"> • Setup Cloud and Git Repository • Start designing the database • Start writing back end • Start working on home page (HTML) • Working on issues 	<ul style="list-style-type: none"> ✓ Database ✓ Home Page
27/06	<ul style="list-style-type: none"> • Keeping working on back end • Start working on sign in/login (BE and FE) • Start working on menu/ reservations page (HTML) • Start working on orders (BE and FE) • Working on issues 	<ul style="list-style-type: none"> ✓ Sign in/ Login ✓ Menu
04/07	<ul style="list-style-type: none"> • Keeping working on back end 	<ul style="list-style-type: none"> ✓ Orders

	<ul style="list-style-type: none"> • Keeping working on reservations page (BE) • Start working on admin page (BE and FE) • Working on issues 	✓ Reservations
11/07	<ul style="list-style-type: none"> • Keeping working on back end • Keep working on admin page (BE and FE) • Start working on floor staff page (BE and FE) • Working on issues 	✓ Admin
18/07	<ul style="list-style-type: none"> • Keeping working on back end • Start working on kitchen page (BE and FE) • Start working on design (CSS) • Working on issues 	✓ Kitchen ✓ Floor Staff
25/07	<ul style="list-style-type: none"> • Start working on Interim Report 	
29/07		✓ Interim Report

6. Conclusion

When completing this project I expect to have experienced a implementation of a full stack web application. This should be achieved by applying and demonstrating several skills and knowledge I have learned on this course, such as, design, walking through creation, implementation, test and deployment of the server/ cloud service, database, front end and the back end.

The web application is aimed to be fully functional an able to be deployed into production for a real life business case. Although, I am aware of some gaps in the application that might not be implemented due to the short delivery time, e.g.: on line payments. I will look for some solutions, and if I have enough time and confidence for implementing extras, it will definitely be implemented.

Finally I expect at the end of this project have had experienced a real life web developer position and duties, but also I expect having fun in doing this.

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