

Feasibility report

Executive Summary

The objective of this report is to provide an overview of the practicality of creating a restaurant management system web application where customers will be able to view the restaurant menu, place orders and make payments for takeaway, while also allowing the staff of this restaurant to log in to manage these requests/orders. This report will also provide context and explain why this specific project is being considered, followed by a further comprehensive breakdown of the project's scope. This will form the basis for the analysis that will be taking place to determine if this project is viable taking into consideration several tools and techniques to scrutinise the technical, financial, operational and market-oriented considerations. This report also discusses the potential risks that may arise as a result of this project and potential mitigations of those risks including, but not limited to, the consideration of other alternative implementations to reach the desired goal of this project. The final sections will talk about the key findings of the analysis and will also provide a recommendation on whether this project is feasible.

Background

During my time at university, I got to develop a foundational understanding of development by creating a similar project to the one described above. However, there were several aspects that I wanted to improve upon and implement which I wasn't able to at the time due to constraints placed by the course leaders. Furthermore, there were several elements of the system which were implemented but I did not either understand why they were implemented or how they worked with other elements of the system, which is something I will be aiming to rectify in this project and use as a learning curve to become better at software development.

Thus, this project will be designed in a way that will allow me to gain exposure to different technologies and explore the different avenues that go into creating a web application. For example, one element of the system that was implemented previously, but not studied carefully was user login authentication and how an adequate amount of security is ensured. Another is how to set up and efficiently store and retrieve data from databases; something which I didn't get to embrace fully when developing the system previously. All these aspects, and more, will be implemented to train me to plan, think and implement solutions as a software engineer would do, thus allowing me to gain hands-on exposure in improving my development skills.

Outline

As previously mentioned, the objective of this project will be to create a restaurant management system web application (not for a real restaurant) which will allow the user to browse through a variety of menu options and place and pay for an order for takeaway. Within this system, staff members of the restaurant will also be able to log in, using credentials based on their roles, and be able to manage incoming customer orders, edit menu items and notify the customer of their order's status. A further breakdown of the project's scope of this project is provided below:

- Home Page
 - A welcoming message.
 - Navigational bar with a brief description of the restaurant.
- Menu Page
 - List of items for starters, mains and desserts along with price and some nutritional information such as if the items are Vegan/Vegetarian or have nuts etc.
 - Implement a filtering system for the type of meal (starter, mains or desserts).
 - Users should be able to click on the item to view more information about it such as ingredients and Macro information.
- Order page
 - Customers should first be able to select a starter, main and dessert.
 - Customers should then enter their details such as name, address and contact details.
 - A confirmation of all choices and information should be displayed to the user.
- Payment page
 - Upon confirmation of the order page, customer should be directed to a payment page where they can input their card details.
 - A Total price should be displayed along with a form to fill out.
 - Successful and unsuccessful submissions should be dealt with responsibly
- Employee Log in page
 - Allow Staff to log in and see their specific pages without letting anyone else see
- Kitchen Staff Page
 - Kitchen staff should be able to see orders that have been placed which include the items for each type of meal they've ordered and customer details
 - Kitchen staff should also be able to clear completed orders and have an undo button in case mistakes are made.

The scope of the proposed project goes beyond what was previously implemented and incorporates new technologies that I have/will encounter as a part of my training at Peregrine, and by solo studying. For example, having recently learnt about how APIs work and how to make GET requests in Python, I will translate this learning into a C# or JavaScript environment so that it fits in with my current learning and implementation of the system. For instance, one aspect of the system could involve creating a branch finder page, where users can search for other branches of this restaurant for eat-in as well as take away with additional information about the branch such as phone number, address and email address. This could be expanded on further by implementing the Google Maps Routes API, to allow users to see how far the selected branch is from their current location. Such amendments may be made as I navigate through the project, and will be discussed further in the Overview of Alternative section of this report at a later date.

Conclusion

As of this moment, is this project feasible? Yes.

Having completed a similar project beforehand, albeit within a team environment, I am confident in saying that this project is feasible and will be completed with the final goal and aim in mind to utilise new tools and technologies learned on the way and to gain experience in developing software rather than blatantly coding with no end goal. There will need to be additional training done in areas outside the scope of Peregrine's training, such as learning JavaScript for web development. The time to complete this project has been set for three weeks. Not completing this project within this amount of time is deemed "acceptable", as this will be a personal ongoing project which I do aim to finish.

Further considerations on the feasibility of this project will need to be gathered as we go through the program, such as technical, operational, financial and market-oriented considerations etc.