**Narrative**

**Concept**

This project entails the design and implementation of a contactless food ordering system that allows customers to order food and drink in a fast food chain without having to walk up to the till, tell the employee their order and then pay there. It allows them to order food directly from a screen in the store.

Customers will be able to avail of a plethora of features such as choosing which language to order in, customising your order, applying a voucher code. The screen will allow people to enter their log in details as to apply discounts. They may be able to redeem a free product or receive a free discount, based on how long its been since their last visit. This is a customer retention scheme which will encourage them to come back more often.

Customers are also able to receive certain discounts on special events or if there are special circumstances admins are able to apply a promotional discount.

Employees will be able to view order history and update stock.

Admins will be able to edit the menu and run promotions, as well as everything that an employee can do.

We were inspired to build a system like this because we all agreed that the machines that are used in the majority of McDonalds chains are user friendly and speed up the process of ordering your food.

By implementing a system like this we hope to be able to process more orders than a typical ordering system by the till. Due to the ability to take more orders we also think that having this system in place will increase the profitability of a company.

**Software Lifecycle Model**

We decided early on that we wanted to use an agile approach. This was after a discussion in which each team member gave their opinion on how we should go about executing this project. We still felt it was necessary to discuss each model in this report, as we wanted to give our justification to why we chose the agile approach.

**Waterfall Model**

This was discussed by our group and we considered using this model as our approach. We came to the conclusion that this wouldn’t be the best approach for us, as we believed that each of us would be working on different parts, and some parts may take longer than others. If we used this model we would be stuck at certain stages of the project. We also agreed that we weren’t going to get the entire project 100% correct on our first run. We were aware that there was going to be some changes to the project down the line.

Graphical user interface, application, website

Description automatically generated

**V-Model**

This was a strong contender for how we were going to approach the project. We all agreed that testing after each phase was a strong point of this approach. It would have allowed us to move through our project one phase at a time, with clear goals and a definitive way to verify our work and move on. It would have been a great way to track progress accurately, however we decided that the disadvantages outweighed the advantages. We believed that the risk of requirements changing later on in the project would negatively impact our ability to stick to this approach.

Text, chat or text message

Description automatically generated

**Agile**

We ultimately decided that proceeding using the Agile model would be the most beneficial for us. The agile approach would be the most realistic approach in our situation we thought. This was due to a few reasons. One of them was that we wanted to work in teams and we believed that the agile model would promote teamwork and enable it. As mentioned earlier, we believed that we would be making changes to our project along the way and agile seemed like the best way to enable these sort of unforeseen changes. The biggest reason why we chose agile was because we felt that none of us would be holding up the project from advancing any further if we were working on a specific item for a while. With the other approaches, there could have been bottlenecks while one person or a team tries to complete specific task, whereas with this approach we did not feel this problem would be as prominent.

We also discussed the disadvantages of this approach. We knew that the lack of an absolutely strict plan was a strength, it could also lead to being a weakness. We needed to hold each other accountable for what work needed to be done, and to not stray too far from the plan.

Diagram

Description automatically generated