**Eastern Eggs**

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# Background description

At the moment, VIA’s Study Café has trouble keeping track of students’, teachers’ and staff’s orders. Their current strategy relies solely on human interaction: when a customer fancies a coffee, they walk up to the barista and place an order. The barista then either memorizes the order or writes it down on paper for another colleague. Either of these enable human error and take time, which could make the queue longer and upset those at the end of it. Another thing that could increase queue time would be if one employee was working alone. First of all, he would have to play the role of both barista and cashier. Secondly, memorizing all orders is too demanding, so they would have to write them down, which, as mentioned, consumes more time. Subsequently, with the external pressure, they are also more prone to making mistakes in the orders, which leads to a “snowball” of issues for one person to deal with alone.

The problem also arises on the other side of the counter: for example, customers who are introverted might be reticent to approach a barista and make their order. Alternatively, they might take a long time, which increases waiting time for other people. Another thing that can cause complications is the indecisiveness of humankind: if a customer wants to change their order, they will have to phrase this request to an employee, which can confuse them and take up more of their valuable time.

Additionally, the inconvenience of the present situation does not stop there: currently, the existing menu is on paper, and it does not feature all of the possible extras at the Study Café. This makes it so that customers do not always know what syrups are available to add to their coffee, making them miss out on a potentially more tasteful experience. Furthermore, if a change to the menu is to be made, a whole new set of physical menus will have to be printed and laminated, which is harmful for the environment, unsustainable and, overall, a waste of resources.

Back in 2003, McDonalds introduced self-service Kiosks for their fast-food restaurants in response to customers’ *“complaints about long queues and slow service at lunch time”.* This solution has had significant growth in the past few years: 16 years later, *“in 2019, Tillster has found that self-service kiosks are popular across all age groups. It is a deciding factor when choosing a venue: 65% of customers say they would visit a restaurant more often if it provided self-service.”* (Tšernov, 2021)

On top of that, particularly since the COVID-19 pandemic, it is said *that “the market for self-service kiosks is expected to grow at a compound annual growth rate of 6.4% during 2021 to 2026”*, mainly due to *“shortening the queue length for customers and cutting down on their time spent during each interaction*”, meaning that it succeeded in solving the initial problem. (Growth in The Self-Service Kiosk Market - UCP, n.d.)

The rise of these self-service kiosks has also brought other benefits to both customers and companies: “*with the speed and convenience that they offer, kiosks can improve the overall operations of a restaurant, from traffic flow to staffing. In essence, kiosks automate ordering, which can re-allocate personnel resources for higher value activities, whether that is food prep or keeping the restaurant clean. Or, without adding staff, you can add new services such as table delivery”.* (Rasmussen, n.d.)

Moreover, The Dodgers Stadium concession stands showed that changing from traditional point-of-service systems to self-service kiosks increased the average order size by more than 20%. (Tšernov, 2021)

In summary, the Study Café at VIA is currently lacking a tool that will facilitate the process of ordering, especially in days of higher demand, in which it would be overwhelmed with orders, causing longer waiting times, dissatisfaction for customers and unreasonable pressure on employees.

# Problem statement

**Main problem:**

VIA’s Study Café is struggling to manage all of their orders, which results in longer queues, in an increase in mistakes and impatient and unsatisfied customers.

1. Which data is necessary to complete an order as a customer?
2. Do customers prefer human interaction or autonomous ordering?
3. What exactly makes customers dissatisfied?
4. How many orders is a barista capable of memorizing at once?
5. How fast can one barista complete an order?

# Definition of purpose

The purpose of this project is to develop a system that takes and manages the Study Cafe's guests' orders efficiently, decreasing queue lines and increasing customer satisfaction.

# Delimitation

1. We will not include actual payment methods in our system.
2. The system will only be accessible through a Java application, not through a physical interactive Kiosk.
3. The system will only be available in English.

# Choice of models and methods

Throughout the development of this project, we will be following Scrum and Unified Process.

Scrum is related to project management.

Unified Process is a way to develop systems.

*We will elaborate further when we have had the presentation on Scrum and UP.*

# Time schedule

|  |  |  |  |
| --- | --- | --- | --- |
| **Week** | **Date** | **Number of hours/member** | **Tasks** |
| 6 | 7/2 – 11/2 | 3 + 4 = 7 | Intro, Groups, project Proposals |
| 7 | 14/2 – 18/2 | 5 | Deadline/Feedback: Project proposals + Project Description start |
| 8 | 21/2 – 25/2 | 5 | Project Description work |
| 9 | 28/2 – 4/3 | 5 | Project Description work |
| 10 | 7/3 – 11/3 | 5 | Project Description work |
| 11 | 14/3 – 18/3 | 6 | Introduction to SCRUM (Inception) |
| 12 | 21/3 – 25/3 | 10 | Product backlog, SCRUM roles, plan |
| 13 | 28/3 – 1/4 | 5 | Feedback product backlog |
| 14 | 4/4 – 8/4 | 15 | Group work |
| 15 | 11/4 – 15/4 | 0 | BREAK |
| 16 | 18/4 – 22/4 | 10 | Sprint Planning |
| 17 | 25/4 – 29/4 | 20 | Hand-in sprint backlog |
| 18 | 2/5 – 6/5 | 20 | Group work |
| 19 | 9/5 – 13/5 | 40 | Review and retrospective, sprint planning |
| 20 | 16/5 – 20/5 | 40 | Project Period |
| 21 | 23/5 – 27/5 | 40 | Project Period |
| 22 | 30/5 – 2/6 | 40 | Project Period |

# Risk assessment

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Risks** | **Likelihood** | **Severity** | **Product of likelihood and severity** | **Risk mitigation** | **Identifiers** | **Responsible** |
| Incorrect database | 4 | 5 | 20 | Make proper diagrams and follow them | Information displays incorrectly or not at all | Daniel |
| Too many clients & baristas accessing at the same time | 2 | 5 | 10 | Limit the number of users at the same time (like in coronaprover.dk) | System not responding | Robert |
| User guide not clear enough | 2 | 3 | 6 | Ask for external opinion on guide | Users unwilling to use system | Kamil |
| Counter-intuitive system | 2 | 2 | 4 | Proper design, surveying potential customers | Users quit too frequently in the middle of an order | Laura |

# Sources of Information

2022. [online] Available at: <https://money.cnn.com/2003/08/11/news/companies/mcdonalds\_diy/index.htm https://ucp-inc.com/growth-in-the-self-service-kiosk-market/> [Accessed 18 February 2022].

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