Follow up suggestions

Calvin Hong - 431518

# Introduction

After this project, multiple new functions can be added, with the back office at its center. These tasks can be a whole semester project by themselves (some are embedded systems project), so they could not be worked on during this short semester timeframe.

Down below, some suggestions are listed on which functions are doable and good to implement in the future. These suggestions main point is to increase efficiency and decrease the difficulty of the specified work.

# New dashboards for all stations

This project only created a dashboard for the “snacks gatherer” station, but this is certainly not the only station that is always busy. Besides this station, there are many more stations/jobs:

* Cashier station
* Phone station
* Hamburger station
* Snacks station (not gathering but packing them up)
* Fries station
* Announcer (giving the finished order to customers)

When working together with other people, communication is key. Unfortunately this can not always happen smoothly due to all the chaos, noise, and heat. With the new dashboards, every employee can quickly see what the other stations need and have done. Communication should go better, and hopefully faster. Errors should be less prone to happen, since there is more information available.

For example: A certain snack runs out, but the phone and cashier station do not know about this. Resulting in them selling more of this certain snack, which is not available anymore. Because of this, they have to call the customer and notify them, resulting in time lost and a worse customer experience.

# Use AI and camera to see which snacks are gone in the displays

Currently, there are 2 places where snacks are stored. In the front display (thawed), AND In the back (frozen in fridge). Frozen snacks have to be thawed (either by placing them outside or microwaving), which costs time that can be spent on processing other orders.

This process if snack is not thawed:

* checking if the snack is thawed
* walking to the back fridge
* walking back to the front
* thawing the snack
* finally fry it

This process happens every time a snack is not available in the front. If multiple snacks are frozen at a time, the employee has to remember every snack that he/she needs to bring with them.

This new project adds a camera to the display that checks if which snacks are still available and which needs thawing. Whenever a new order comes in with this snack, a quick notification is sent to the employee, or an employee on standby with no pressing work .

The data of how many times a snack is unavailable could be stored. This way, snacks that are unavailable a lot of times can be stocked up more in the front, saving time.

# Updatable Digital Signage

The signage is currently out of date. Plastic sheets that are years old are currently being used to display all the fries, snacks, burgers, everything. Whenever a snack runs out, there is no way of telling the customer in advance. By having a digital signage, the customer can quickly glance over the screen and see which snacks might be unavailable.

Prices are also constantly changing. The snack bar is trying its best to keep constant prices, but eventually the prices have to change. The current prices are displayed by stickers. To change the prices, all of the plastic sheets have to be taken down, stickers have to be removed, and new stickers have to be placed on. With the digital signage, a couple button presses and keystrokes will fix this problem.

# Order Status Board

When you finish ordering your meal, you don’t know how long it is going to take. Unlike MacDonald’s or KFC, the system does not have a place to display the current order status to the customers. A new screen can be added to display the ID, duration, and status of an order.

# Overview statistics screen

The statistics of the snack bar are currently being guessed. The rush hours, amount of snacks and fries that need to be bought, amount of customers during holidays, etc. This information could be helpful when planning for when to close the snack bar for holidays to not miss out on income.

The amount of orders can be tracked to see what times rush hours start on which days. This information can be saved, and kept for next year for reference.

There currently is no way to keep track of popularity of snacks, besides counting the amount of trashed snack boxes.

All this information can be displayed in a new overview for easier readability.

# Conclusion

These suggestions could be implemented for a better efficiency of processing orders. Some of these points also result in less errors, which increases the customer experience. The projects can be picked up next year as a side project.