Meal Tracking System

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Software Requirements Specification

Document

Developed during the Software Requirements Specification class CEN 3073

1. Introduction

1.1 Purpose

This software shall be developed so that to-go specialists and culinary staff don't have to spend as much time reviewing orders and potentially forgetting items. Using this system will provide more satisfaction to customers since it will be less likely for them to have the wrong order/item.

1.2 Scope

Product Name

Meal Tracking System

Overview

This software device will track to-go orders with a UI that can 'tag' food already packaged, showing the patron's order if scanned. This will allow to-go specialists the ability to quickly figure out which boxed order is related to what customer.

Goals

The software will allow for the culinary staff to keep track of orders and boxes of food, reducing the 'customer with a problem' statistic to 18% or below within four weeks. Having a way for to-go specialists to easily track what items are for which customers they won't need to check inside the box and instead just scan a QR/bar code.

Out of Scope

At this stage of development, the solution will not provide a means to scan the codes for each order, the individuals will need to have the software downloaded on their mobile phones. The system will not keep track of food/items in inventory as it is specifically for tracking boxed orders to their respective customers.

1.3 Product overview

1.3.1 Product perspective

Context Diagram
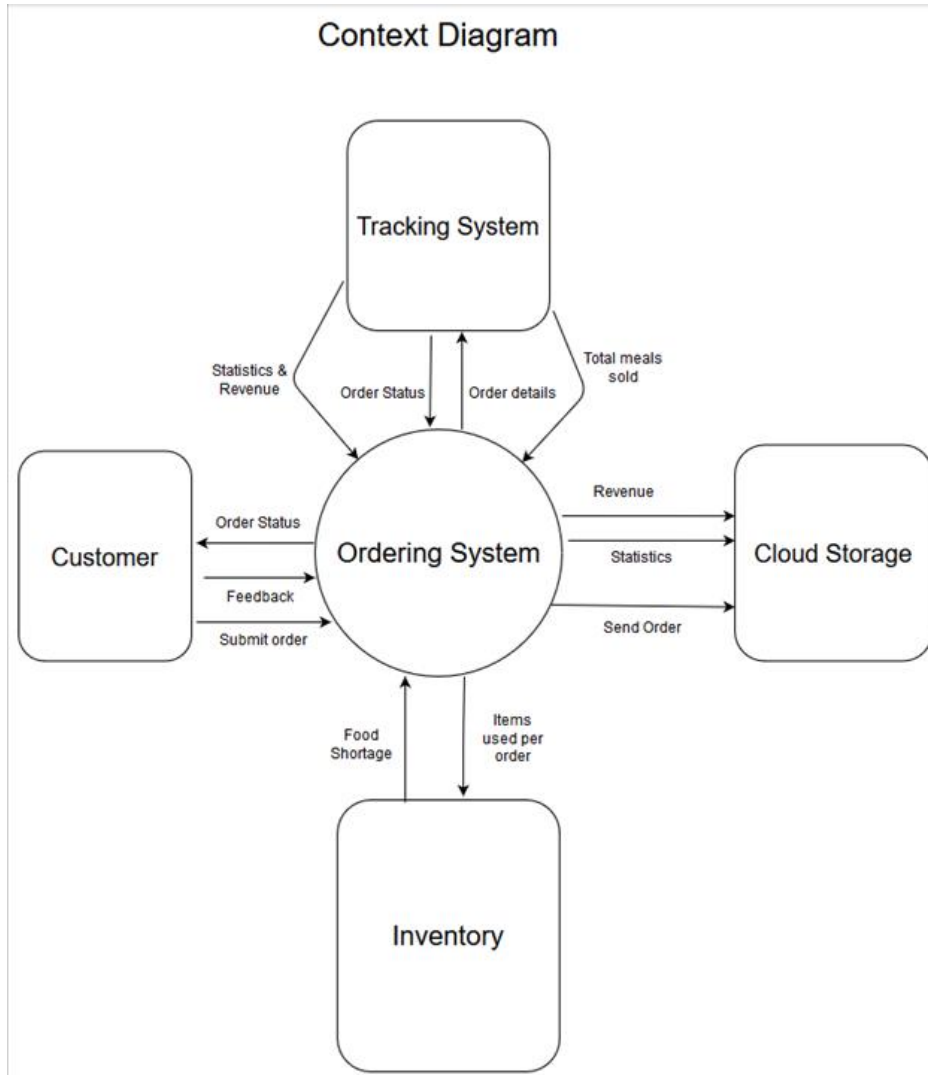
Constraints:

Key	Summary	T
PBA-60	When generating QR codes, follow the QR Code Generator API (see description)	
PBA-30	The system must interface with the current Chili's app.	
PBA-29	Developers shall follow the Model-View-Controller (MVC) framework.	
PBA-24	The app will be available for IOS & Android versions 10 and up	
PBA-23	Chilis staff clicks on the current tracking unit to cycle between seconds, minutes, or hours.	
PBA-22	The application must use an H2 database	
PBA-21	Users are given 5 attempts for logging in before being locked out for 15 minutes. Additional failed attempts increase this timer an extra 15 minutes.	
PBA-20	Payment through the Chilis app may accept PayPal and Visa	
PBA-19	The tracking label must be a QR code	

9 issues

1.3.2 Product functions

Functional Boundary

- A pending order will require a label to go with it and will be marked as 'missing' until someone scans the code.
- The label will be placed on a to-go box BEFORE the food is completed.
- As the order is being developed, anybody can scan the code and view the order.
- A centralized system will track all orders being developed and can control the status of individual orders.

1.3.3 User characteristics

- Most of the users affected by this project will be to-go staff & cooks that are dealing with order. The intended purpose for this project is to let employees work on their day-to-day operations without the worry of mismatching meals.
- We expect the users to have basic knowledge in COVID-19 safety standards (such as wearing masks, disinfecting work spaces, etc.)

- Utilizing this software will come with a learning curve, therefore training videos and demonstrations for using this new product will be implemented as addressed in later requirements.

1.3.4 Limitations

Key	Summary	Description	Labels
PBA-7	Potential hardware limitations for the centralized system	There may be hardware limitations running the centralized system on older computers, testing may be required.	Limitation
PBA-2	There must be a large supply of QR labels to go with each to-go order	Each to-go box must be accompanied by a label able to track the order.	Limitation
PBA-1	Employees must be trained for the new system of scanning and tracking customers' orders	It may take time for employees to learn the new system and procedures.	Limitation

3 issues

1.4 Definitions

Comprehensive: Broader, deeper management and technology coverage tailored for your role and driven by common client needs

Actionable: Data-based tools, benchmarks, and guidebooks enable you to make smarter decisions and execute them successfully

Consultative: Personalized, expert advice when you need it, unbound by project scopes and timelines

Peer-informed: A global network of peers you learn from at conferences and exclusive forums, in online communities, and through in-depth case studies

Provocative and pragmatic: Innovative ideas born from rigorous analyses, coupled with practical guidance to achieve measurable business results

Independent and objective: Insights and advice that are free from vendor and service provider bias

2. References

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- Irving, Mike. "The Nine Divisions of Your Business." *Advanced Business Abilities*, 18 Oct. 2020, advancedbusinessabilities.com/the-nine-divisions-of-your-business/.
- "Gartner for HR - Client Success Stories." *Gartner*, www.gartner.com/en/human-resources/customer-success-stories.
- "Research & Advisory." *Gartner*, www.gartner.com/en/products.
- HR representative Jane D'Alonzo
- Culinary Manager Edgar

3. Specific requirements

Key	Summary	Description	T	Linked Issues	P	Labels
PBA-61	The system shall display QR codes online, and may be printed	A QR code must be fitted to A4 printer paper and large enough to be scanned with a phone.			↓	
PBA-59	After a customer orders To Go, the system shall assign 60 days to the customer's reward bonuses.			PBA-32	↓	Functional
PBA-58	System maintenance shall be inside the hours of 2am - 6am.			PBA-36	↑	Functional
PBA-36	Downtime for system maintenance shall be less than 2 hours			PBA-58	↑	Non-Functional

PBA-35	The system shall provide customers a form to submit questions or concerns through the app when paying for a meal.				↓	Functional
PBA-34	The system shall provide vegetarian/vegan menu items				↓	Non-Functional
PBA-33	The system shall provide rewards for customers that order To Go once every 60 days				↓	Non-Functional
PBA-32	The system shall alert customers that are approaching their 60 days reward limit.			PBA-59	↓	Functional
PBA-31	The system shall track revenue generated through each order daily.				↑	Non-Functional
PBA-28	The system shall include step-by-step instruction for applying QR codes to boxes, scanning codes, and tracking order progress.				↑	Non-Functional
PBA-27	The system shall notify managers once an item in inventory falls below 20%				↑	Functional
PBA-26	The system shall track a customer's order progress in the event they are disconnected from the system				↓	Non-Functional

PBA-25	The system shall reflect changes in inventory through a database within 30 seconds after an order has been received			↑	Non-Functional
PBA-18	The system shall provide options to convert between seconds, minutes, and hours while tracking an order	This will give more preference to the staff working at Chilis.		↓	Functional
PBA-17	The Chilis app shall display "Your order has been received" once a customer places an order	This will let the patron know that their order is being prepared after submitting their request		↓	Functional
PBA-16	The Chilis app shall only allow employee accounts to view and use the QR code scanner	Patrons should not need to view the QR code scanner, it may even obstruct their ordering process, so only allow authorized users to view this feature.		↑	Non-Functional
PBA-14	The system shall track the duration of an order in minutes while it is being prepared	Tracking the orders throughout each stage will help managers see in realtime which areas are lacking and make adjustments.		↑	Non-Functional
PBA-13	The system shall generate a QR code once order information has been submitted	Utilizing QR codes will help differentiate different customer orders in progress.		↓	Functional

Key	Summary	Description			T	P
PBA-12	The system shall display order details after scanning a QR code	Using the Chilis app, users should be able to scan QR codes and view order details			↓	Functional
PBA-11	The system shall scan QR codes through the Chili's mobile app	Staff members may scan the codes and view the order details of said QR code.			↑	Non-Functional
PBA-10	The system shall send a patrons' order information to a database within 5 seconds once an order has been submitted	Sending information to the database will create a central repository of orders that any Chilis staff member may access to view orders.			↑	Non-Functional
PBA-9	The customer shall specify whether the order is picked up or delivered			PBA-15	↑	Functional
PBA-8	Once a patron receives their order, the system shall send a survey within 60 minutes			PBA-6	↓	Functional

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Key	Summary	Description	T	P
PBA-15	As a customer, I want to order from home so that I can enjoy food at my own leisure.			↑
PBA-6	As a customer I want to submit quality feedback about my experience so that my opinions can be heard			↓

PBA-5	As a culinary manager, I want customer satisfaction to be high so that we meet annual goals.	The main goal for my client is to increase customer satisfaction by reducing the 'guest with a problem' statistic to 18%. This statistic is measured from customers that answer survey questions after their meal.		
PBA-4	As a to go specialist I want orders to be accurate so that I can deliver the proper items in a timely manner.	When demand is high these to-go specialists spend extra time rechecking orders to make sure all items are correct at the cost of efficiency. Otherwise they risk customer dissatisfaction with potential incorrect orders		
PBA-3	As a Line-cook I want to maximize efficiency on to go orders so that the to go specialists are not overwhelmed.	Cooks at this restaurant at times need to prepare 9+ orders at a time, and one issue with so many to-go orders is a spatial limitation with boxes taking up cooking space. This affects everyone else down the line (to-go specialists, customers, etc)		

5 issues

4. Verification

Key	Summary	verification approach
PBA-61	The system shall display QR codes online, and may be printed	Inspection
PBA-59	After a customer orders To Go, the system shall assign 60 days to the customer's reward bonuses.	Test
PBA-58	System maintenance shall be inside the hours of 2am - 6am.	Demonstration
PBA-36	Downtime for system maintenance shall be less than 2 hours	Demonstration
PBA-35	The system shall provide customers a form to submit questions or concerns through the app when paying for a meal.	Demonstration
PBA-34	The system shall provide vegetarian/vegan menu items	Inspection
PBA-33	The system shall provide rewards for customers that order To Go once every 60 days	Test

PBA-32	The system shall alert customers that are approaching their 60 days reward limit.	Test
PBA-31	The system shall track revenue generated through each order daily.	Analysis
PBA-28	The system shall include step-by-step instruction for applying QR codes to boxes, scanning codes, and tracking order progress.	Test
PBA-27	The system shall notify managers once an item in inventory falls below 20%	Analysis
PBA-26	The system shall track a customer's order progress in the event they are disconnected from the system	Analysis
PBA-25	The system shall reflect changes in inventory through a database within 30 seconds after an order has been received	Test
PBA-18	The system shall provide options to convert between seconds, minutes, and hours while tracking an order	Demonstration
PBA-17	The Chilis app shall display "Your order has been received" once a customer places an order	Inspection
PBA-16	The Chilis app shall only allow employee accounts to view and use the QR code scanner	Demonstration
PBA-14	The system shall track the duration of an order in minutes while it is being prepared	Analysis
PBA-13	The system shall generate a QR code once order information has been submitted	Inspection
PBA-12	The system shall display order details after scanning a QR code	Inspection
PBA-11	The system shall scan QR codes through the Chili's mobile app	Demonstration

Showing 20 out of 23 issues

5. Appendices

5.1 Assumptions and dependencies

- We assume that scanning a QR/bar code will be quicker than just opening the box and checking
- We assume that culinary staff will have the tools necessary to scan boxes in order to view customers' orders.
- I assume that the tagging system (barcodes/QR codes) will be inexpensive to dispose of after each use.

5.2 Acronyms and abbreviations

WFH: Work from home

RTO: Return To the Office

GWP: Guess With a Problem