CSCI 441 VA

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QuickBytes

By MMPK

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	Requirements Specifications	Software Design	Coding	Debugging	Report Preparation	Other
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Section 1:

A:

As the owner of a restaurant, I am looking for a new system that will allow my business to move into the future. I want to be able to have an online system that will work for both my employees and my customers. I need this system to be able to work on any computer or device. It will handle the mass amount of work for everyone in my business from the manager to the busser and even to the customer. With Covid-19 making a major dent in my ability to maintain my restaurant, I want to be able to receive a system that will help me move my business into an online format that will be safe and fun for my employees and my customers while also following the new Covid-19 guidelines.

The first thing I need to worry about is my manager. They need to be able to login as an administrator to the service, view the budget and revenue sources along with the daily tasks. I would like for there to be a profile for the manager to keep their information. I also need a way for the manager to keep tabs on employees' salaries and profiles, as well as their schedules and time clocks. The manager must also be able to view information about the customers, such as to view and manage customer complaints and the customer tracking information. The manager must also be able to view and manage the store's resources by being able to know what we have in stock, what we are running low on, and when they need to restock more items. I would also like to be able to have a way for customers to call a manager to them without having to notify the server first to save time for both the customer and the server.

The Chef must be able to view and manage orders as they are being put through while also being able to manipulate the priority of certain orders. He must also be able to request

additional information from the server if necessary. The Chef should also have access to the food inventory so that he may update the system of the current availability of ingredients. They must also have a way of alerting the Server when an order for their table is ready.

To follow along with Covid-19 guidelines, I would like to try and make delivery as available to the public as possible while also making it as contactless as possible. The Delivery Liaison will need to have a way to do the work for the customer by being able to enter a customer's order into the system. Sometimes delivery is going to have to take precedence over long wait times in the kitchen so the Liaison should be able to reorganize and reprioritize orders in the queue for the kitchen. The Liaison should also have a way to alert the Delivery Driver of an order ready for delivery.

The Host has a hard time in the restaurant business right now. We need to be able to meet health standards and maintain social distancing as well as limiting the number of guests per table. The Host is going to need to be able to view and assign tables to customers. They are also going to need to be able to make reservations for tables and set tables as unavailable for specific times. The Host is also going to be the face of our store so I would like for them to have a way to access store information so that they can readily answer any questions that incoming guests may have.

The Server is going to have to rely heavily on the system as the menu becomes electronic and the orders are all submitted electronically. Therefore, the Server must first have a way to send in orders from tables to the kitchen. As many tables are going to want to split the bill, I would like for there to be a way for the server to do this automatically at any point in the transaction because people are not always forthcoming with that information. The server should also be able to see information about their section. They should be able to know which tables are

available and which are not. I would also like for the Server to be able to see how long a table has been occupied so that they can make sure that they are continuing to check on their tables as well as knowing when each table may be getting ready to leave. The Server is going to need to be able to send their tables into the queue to be cleaned by the Busser. Since I want the customer to be able to push a button on their device to call the Server over to them, I would also need a way for the Server to reset that button on the customer's device once they have checked on the table. Another thing that I want the Customer to be able to do is ask for a Manager by pressing a button on their device, like how they would call the Server. I would like for the Server to be alerted when one of their tables asks for a Manager so that they may have a warning to whether a customer might be upset. We want the dining experience at our restaurant to be enjoyable and we want to protect our employees as well.

The Busser needs to be able to view tables and also possibly be able to view how long a table has been occupied, just like for a Server, so that they may be ready to clean tables as they are coming into the queue. The Busser should be able to view the Queue of tables that need to be cleaned and they need to have a way of taking the table off of the queue and making it available for both the Host and the Server so that we can seat a new set of guests as quickly as possible. Sometimes the Busser is going to need to move fast so that we can get more customers in. I would like for them to have a way to send an alert when they need more cleaning supplies. The alert could go to other Bussers who may not have the same workload, or to a Manager that can bring them some more cleaning supplies so that they may keep working.

The Customer is arguably the most important aspect. I want the system to feel easy and intuitive for everyone to use so that they don't get frustrated at its complexity. I also want to be able to maintain a healthy standard for customers to follow during these times. The menu should

be digital so that the customer can look at it without having to grab a reused old menu. It would also be nice if they could choose what level of contact they want in their dining experience. There are many people who would prefer to be able to keep as much of a distance from the waitstaff as possible, while many others might want to have the server check on them regularly. They will need a simple way to call the Server or Manager over to them for service. And as another precaution, it would be nice if the guest could pay for their meal on their device to limit contact even more if they so choose.

B:

Glossary:

Customer Tracking: The information gained through the app about customers through their orders, such as what their favorite or most recurring meal is and what time they most often visit.

SECTION 2:

A:

Manager-Interface Requirements

Identifier	Priority	Requirement
MREQ-1	5	Login system for Manager/Owner
MREQ-2	4	Landing page contains a quick view of the budget, revenue sources, and daily tasks.
MREQ-3	3	Navbar to the right holds links to important business functions
MREQ-4	2	Profile tab shows the Manager's information

MREQ-5	3	Employees tab allows employee appraisals and salary review
MREQ-6	5	Income shows monthly expenses and income generated as well as a ledger functionality
MREQ-7	4	Restock tab allows the manager to order more food items
MREQ-8	5	Customer tab shows customer tracking information such as: how many times they've eaten there and how much they've spent.
MREQ-10	2	Complaints tab shows customer and worker complaints
MREQ-11	5	Business tab allows for the scheduling of employees and their break times and also displays local events that may bring in more customers. Also shows peak business hours.
MREQ-12	2	Log out ends the user's session

Chef Requirements

Identifier	Priority	Requirement
CREQ-1	5	Interface for Chef to manage kitchen orders
CREQ-2	5	Button to request additional information about an order to server.
CREQ-3	4	Button to send the server notification that the order has been completed.
CREQ-4	4	Interface for Chef to modify food inventory

Liaison Requirements

Identifier	Priority	Requirement
LREQ-1	5	An interface for the Liaison to enter in customer order.
LREQ-2	4	An interface to reorganize orders to prioritize for preparation by kitchen staff
LREQ-3	4	Button to allow the Liason to send an order to the kitchen for preparation.
LREQ-4	5	Button to allow the Liason to send a notification to the Delivery Driver.

Busser - Interface Requirements

Identifier	Priority	Requirement
BREQ-1	5	An interface to signal that a table has been cleared and is ready for service.
BREQ-2	5	An interface to display a queue of tables that need to be cleaned and cleared.
BREQ-3	3	A button to flag a table as having an issue that will result in the table being cleared and ready for guests in the time expected.
BREQ-4	4	A button that allows bussers to signal that they are running low on additional cleaning products (i.e., towels, sanitizing spray, etc.) so that they can continue to work without waiting on necessary supplies.

Host/Hostess - Interface Requirements

Identifier	Priority	Requirement
HREQ-1	5	An interface for the Host/Hostess to view and assign tables
HREQ-2	3	An interface to make future table reservations
HREQ-3	4	Interface to manage waiting list
HREQ-4	2	Interface to allow Host to access store information

Customer - Interface Requirements

Identifier	Priority	Requirement
CUREQ-1	3	An button to allow customer to select contact level
CUREQ-2	5	A digital menu for the customer to select items for ticket
CUREQ-3	3	A button to call service
CUREQ-4	5	Interface to allow customer to pay for meal

Server - Interface Requirements

Identifier	Priority	Requirement
SREQ1	5	The interface should have a way for a server to send an order from a table to the chef
SREQ2	2	The interface should send a warning to the server when a customer at one of their tables calls for a manager
SREQ3	4	The interface should show all the tables in the in the server's section and display whether they are open
SREQ4	3	The interface should show the approximate wait time for a server's section.
SREQ5	3	The interface should show how long a table has been occupied to the server.
SREQ6	5	The interface should have a button for the server's to turn off the call service button on the customer's side when they have gone to a table that called them
SREQ7	5	The interface should have a way to send tables that need to be cleaned into the queue for the Busser
SREQ8	5	The server should receive a message when a chef has a question about an order
SREQ9	5	The server should receive an alert when an order is ready for a table.
SREQ10	4	The interface should have a way for the server to view the orders for each of their tables and print them

B:

Enumerated Non-Functional Requirements

Identifier	Priority	Requirement
REQ1	5	The web application should be easy to use for the average person
REQ2	4	The web application should be visually appealing to the user
REQ3	5	The web application should support a fully functioning restaurant
REQ4	5	The web application should be accessible from any platform

SECTION 3:

4.2 Actors and Goals

Initiating Actors

Actor	Role	Goal
Customer	Customers use the service of the Restaurant. They may order dine-in, or carryout. They will view the menu, order food, eat, and pay for their meal.	The goal of the customer is to receive their meal and pay quickly and conveniently.

Participating Actor

Actor	Role
Delivery Liaison	The liaison is responsible for taking customer orders over the phone and prioritizing the order in which they are sent to the Chef according to delivery and pickup time.
Chef	The chef is responsible for preparing the orders in the kitchen. The chef will receive orders from the server and liaison and notify them when their orders have been completed or request additional information.

Host/Hostess	The host/hostess is responsible for initially greeting the customers and either assigning seats or fulfilling reservations. The host can see when busboys have indicated a table as available.

4.1 Stakeholders

There are many stakeholders who have an interest in the quickbytes system and its successful implementation.

1. i. Restaurant Owners - Have an intense interest in using this system as it will improve restaurant efficiency, support owners by providing analysis and reporting, and improve the overall restaurant experience.

2. ii. Employees - Have an interest in this system since it will support their daily functions, expedite many of the more tedious tasks, and improve the customer experience.

4.3 Use Cases

4.3.1 Casual Description

UC-1: Order tracking - Allows customers and servers to place orders. Allows Chefs to view order priority, and Servers/Liaison to see order status.

Derived from: REQ1, REQ4, CREQ1, CREQ3, LREQ2, LREQ4, LREQ5, SREQ-9, SREQ—8, SREQ-10

UC-2: Order Placement - Allows customers and servers to place orders.

Derived from: SREQ1, REQ9, CUREQ-2

UC-3: Table management - Allows host/hostess, servers, and customers to view and assign tables. Allows Busboys to see which tables need to be cleaned, and mark them available when cleaned.

Derived from: REQ5, BREQ-1, BREQ-2, BREQ-3, HREQ-5, SREQ-3, SREQ-5, SREQ-7

UC-4: Payment - Allows customers to pay for dine-in or carryout meals. Includes meal-split option.

Derived from: REQ13, CUREQ-5

UC-5: Login - Allows employees and customers to log in and view appropriate information

Derived from: MREQ-1, MREQ-2, HREQ-4

UC-6: “Low-Contact” mode - Allows customers, servers, or host/hostesses to place a table on low-contact mode.

Derived from: REQ8, CUREQ-1

UC-7: Request service - Allows customers to request service

Derived from: REQ15, CUREQ-3

UC-8: Waiting list management - Allows host/hostess to manage the waiting list for customers. Allows customers to view their position on the waiting list and estimated time until meal.

Derived from: HREQ-3, SREQ-4

UC-9: Employee Scheduling - Allows manager to track and set employee schedule

Derived from: MREQ-8

UC-10: Ingredient management - Allows Managers and Cooks to track supplies and place orders when needed

Derived from: MREQ-7

UC-11: Table Reservation - Allows customers to make future reservations online.

Derived from: REQ-11, HREQ-2

UC-12: Employee Timecard - Allows employees to clock in/out of work and tracks weekly hours.

UC-13: Create Account - Allows actor to create appropriate account

Plan of Work:

September 23: Finish Report 1

September 24: Begin work on architecture model and detail design

October 2: Finish architecture model and prepare for first project demo; start Report 2

October 16: Finish Report 2; begin working on prototype

October 21: Begin testing prototype for First Demo

November 4: Finish First Demo; Continue testing project