Disciples' Pizza Delivery System Specification

For Mr. Park at Disciples' Pizza

Prepared by Cypress Payne at CayCy Development

Executive Summary

Disciples' Pizza has hired CayCy Development to create an order and delivery system to support their food delivery services. CayCy has designed a system to fulfill Disciples' Pizza's requirements. This system is a cloud-based server and database to support an application for the users. No new hardware is required, as everything will be cloud-based. Disciples' Pizza Delivery System (DPDS) will support the delivery service by allowing online and mobile ordering, as well as food and delivery support for the chefs and couriers.

This document contains the following: An introduction to the project, a detailed look into the structural model of the system, an investigation into the required infrastructure, hardware, and software, and a user interface outline to show the flow between different windows and their content.

1.0 Introduction

1.1 Problem Statement and Project Vision

Disciples' Pizza is launching a food order and delivery service that requires a computer system to support daily operations. CayCy Development is working with Disciples' Pizza to develop this system, the Disciples' Pizza Delivery System (DPDS). DPDS will support the customers, chefs, couriers, and administrators of Disciples' Pizza. It will be used to view menu items, place orders, provide delivery instructions, and support administrative changes. The project's key stakeholders are Disciples' Pizza executives, administrators, couriers, chefs, and customers, and CayCy Development's development team. DPDS will benefit CayCy Development, Disciples' Pizza, and the community in the Greater Seattle area.

Please see System Proposal section 1 for further details.

1.2 System Services

- Account Control (Use-Case 1): DPDS must allow the users to create, modify, and/or delete user accounts based on their account type.
- Account Access (Use-Cases 2, 3, 4, 5, 6): DPDS must allow or restrict users' access to different modules depending on their account type.
- Login User (Use-Case 1): DPDS must allow access to an account when the correct username and password is entered.
- Display Menu (Use-Case 2): DPDS must display the menu items available to be ordered by the customer.
- Edit Menu (Use-Case 4): DPDS must allow administrators to edit, create, and delete menu items.
- Create Order (Use-Case 2, 3): DPDS must allow customers to create an order and save this information to be used by the chef and courier accounts.

- Update Order Status (Use-Case 3): DPDS must allow courier and chef accounts to update order statuses based on their account type.
- Edit User Accounts (Use-Case 5): DPDS must allow administrator accounts to create, edit, and delete user accounts.
- Generate Sales Statistics (Use-Case 6): DPDS must generate sales statistics for administrator accounts to view.

Please see System Proposal sections 4.2 and 5 for further details.

1.3 Nonfunctional Requirements and Design Constraints

- The system must be intuitive enough for customers to use without additional instructions and for Disciples' Pizza employees to use with minimal training.
- DPDS must keep track of user account type and modify available controls based on this account type.
- The system must function on a variety of devices such as smartphones, tablets, laptops, and desktop computers.
- The system must support use from multiple devices concurrently.
- The system must securely store user data and only allow access to account details through the user's account.
- The system will only be available in English when it is first deployed.

Please see System Proposal sections 1.6 and 4.4 for further details.

1.4 Document Outline

This document contains three more major sections:

2.0 Structural Model: A class model containing the major classes and their relationships within the system.

3.0 Architecture Design: The physical implementation of the system's hardware and security requirements.

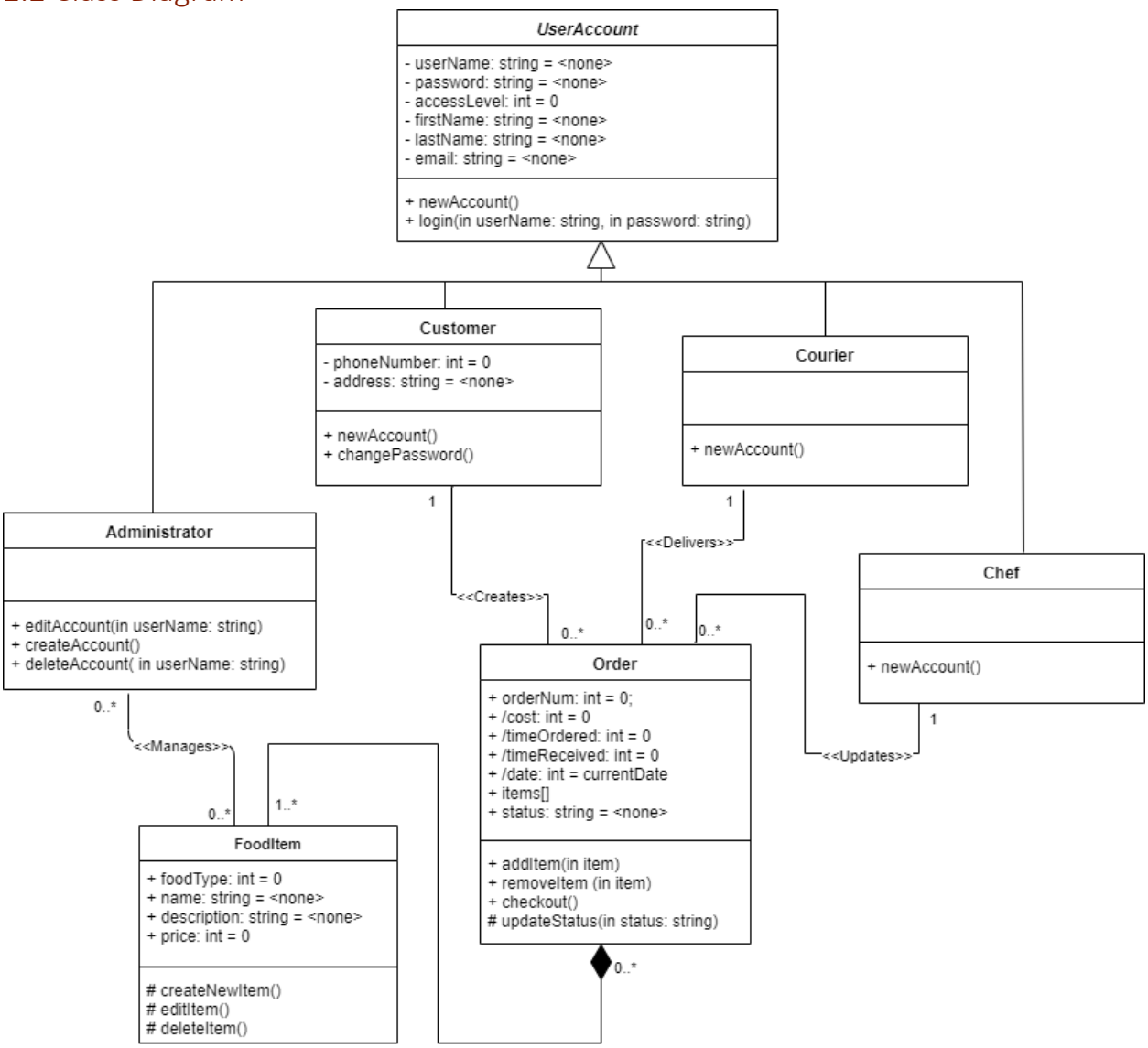
4.0 User Interface: A collection of user-interface prototypes for the system.

2.0 Structural Model

2.1 Introduction

This section contains information on the major classes that will be required for the system. The class diagram provides a model of these classes and the relationships between them.

2.2 Class Diagram



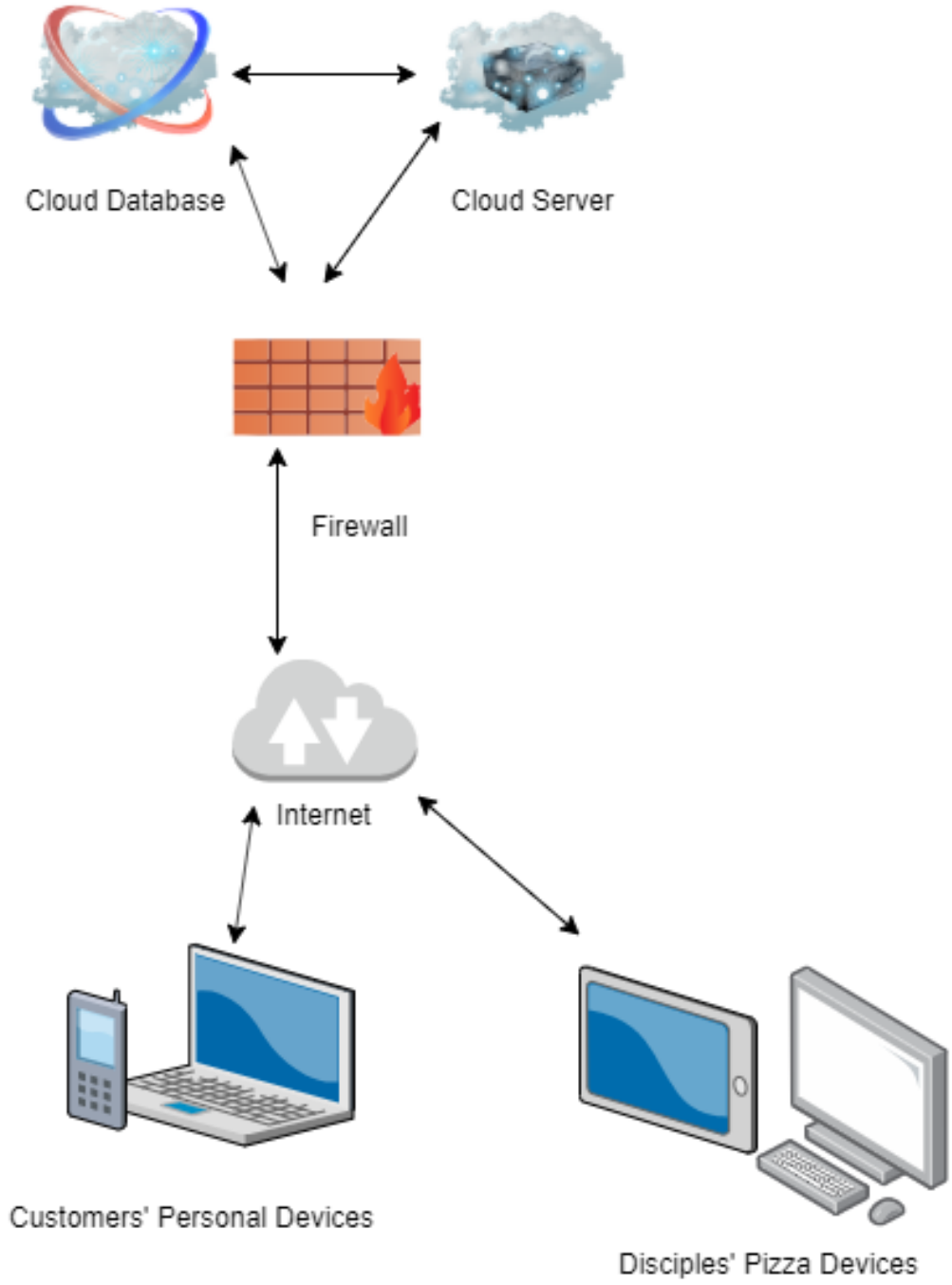
3.0 Architecture Design

3.1 Introduction

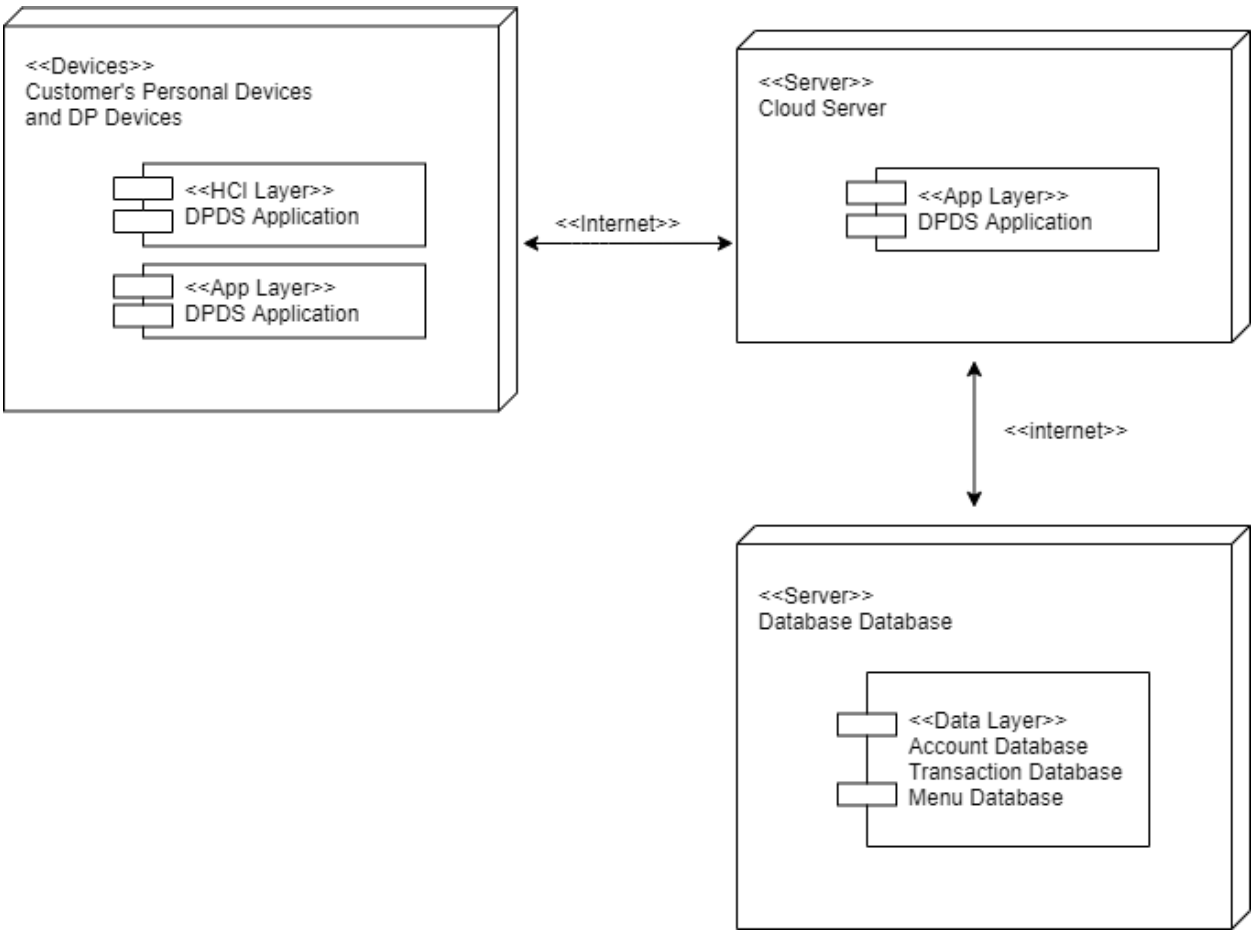
This section deals with the infrastructure model, the hardware and software requirements, and the security plan for the system. The infrastructure model is divided into an architecture overview and anodes and artifacts diagram. Both consist of a box and line diagram portraying relationships between the different required components. The hardware and software requirements include everything necessary for the system to run. The security plan reveals potential threats and the current plans on how to prevent and respond to these threats.

3.2 Infrastructure Model

3.2.1 Architecture Overview



3.2.2 Nodes and Artifacts



3.3 Hardware and Software Requirements

3.3.1 Hardware Components:

- Tablets or Mobile Phones: Couriers must have a portable tablet or phone that they can access the application on.
- Company Computers: Chefs and administrators should have computers to access the system. Chefs could also use a tablet but will likely already have a computer for in-person transactions.

3.3.2 Software Components:

- Cloud database: All information will be stored in the cloud for added security and ease of access.
- Cloud server: Server space will need to be rented to host the system and application support.
- Anti-Virus software: An anti-virus software must be purchased to prevent attacks and keep the data secure.
- Firewall: A firewall must also be purchased to help secure the cloud components of the server.

3.4 Security Plan

Components	Threats			Unauthorized Access	
	Fire	Flood	Virus	External Intruder	Internal Intruder
Customer's Personal Devices	-	-	3, 4	2	2
DP Devices	1	1	3, 4, 5	2, 3, 4 , 6	2, 6
Cloud Server/Database	-	-	3	2, 3, 6	2, 6
People	1	1	-	-	-

1. Disaster recovery plan
2. Secure passwords
3. Firewall
4. Anti-Viral Software
5. DP Employee training
6. Data encryption

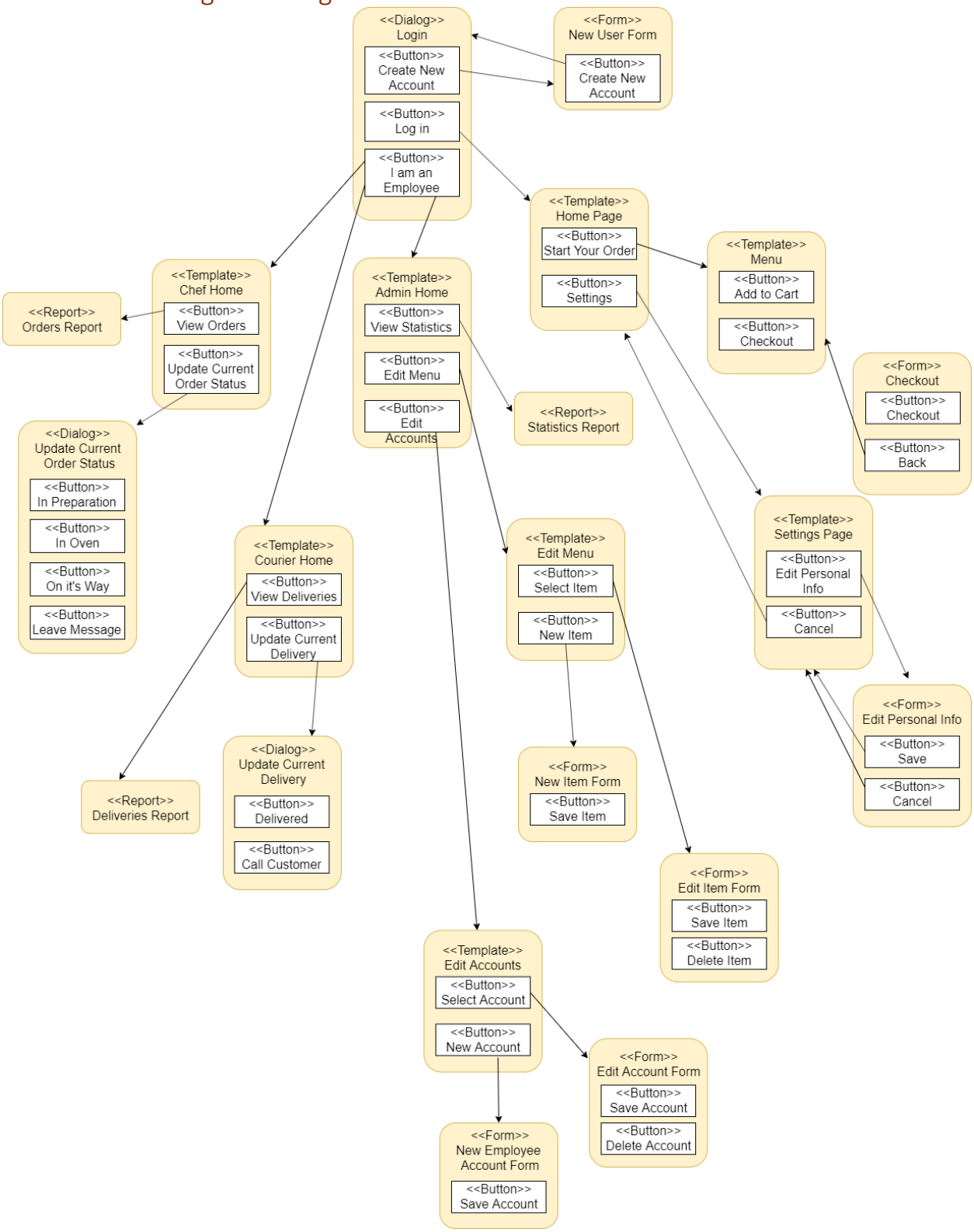
4.0 User Interface

4.1 User-Interface Requirements and Constraints

This section provides basic user-interface design based on the system proposal and in-depth analysis. The goal for DPDS' GUI is for it to be reliable and easily understood, as many users will have basic to intermediate understanding of technology. The UI design is created to be as basic, learnable, and consistent.

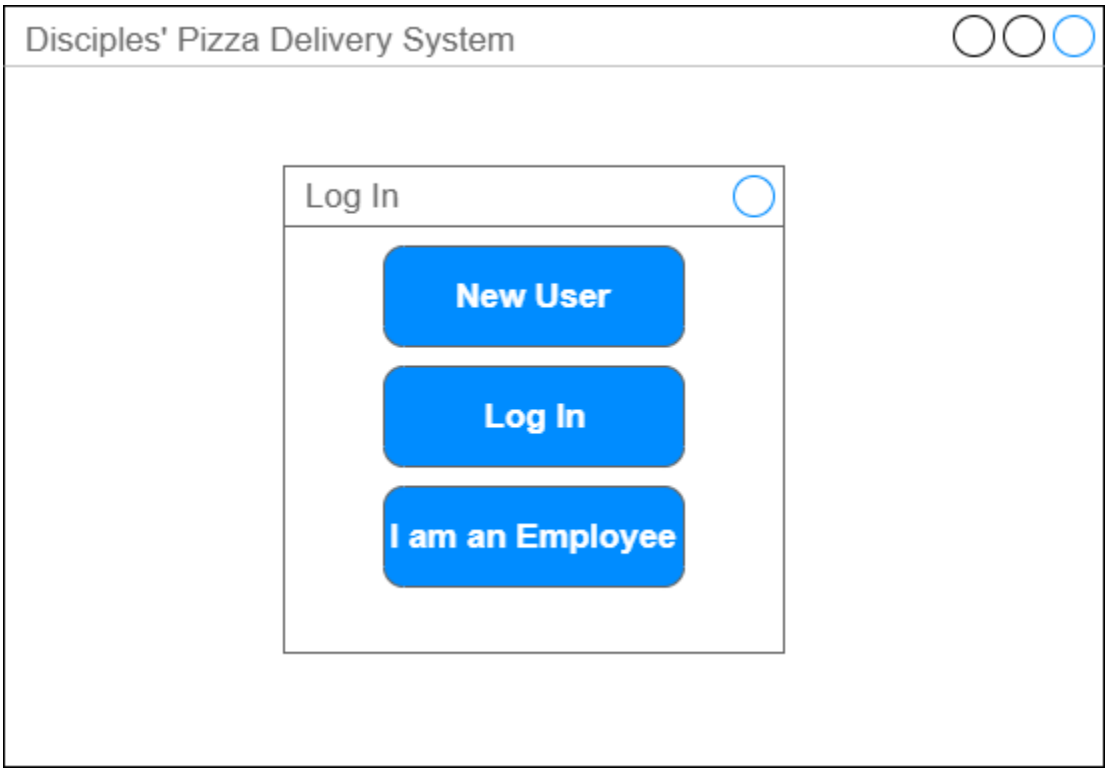
The following sections contain a window navigation diagram that shows the flow between different screens, a user-interaction design that shows the content and display of each screen, and a reports design to show the formatting of DPDS' printed output.

4.2 Window Navigation Diagram

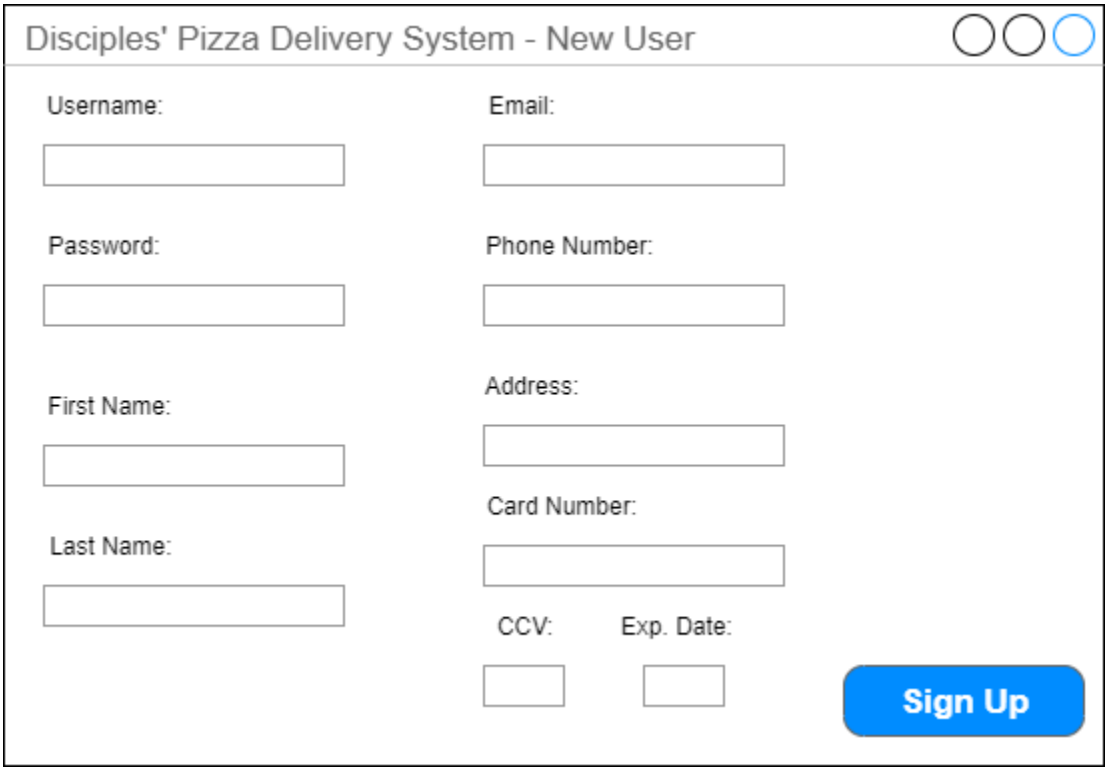


4.3 Forms: User-Interaction Design

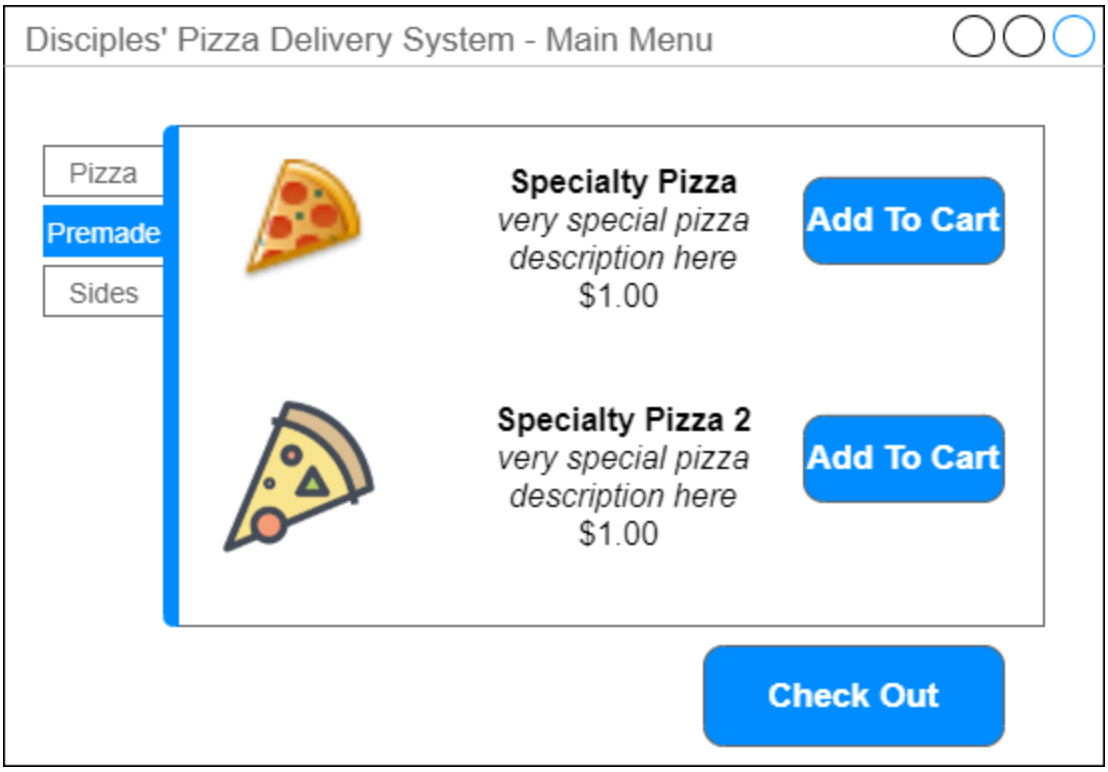
Login:



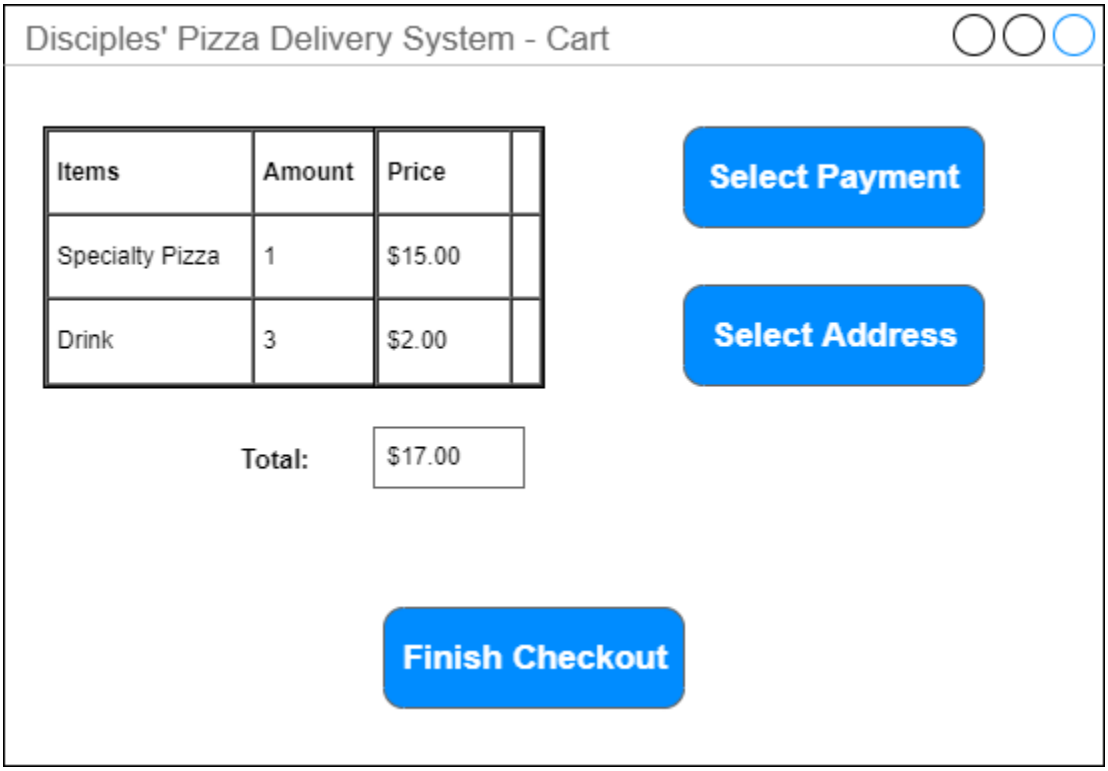
New User Form:



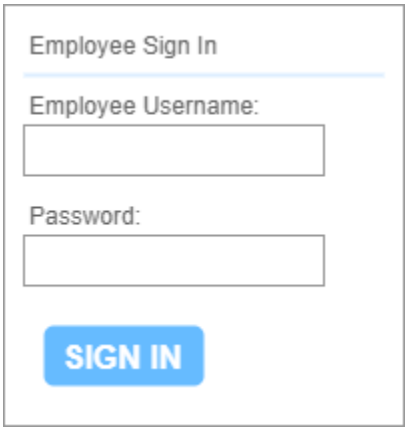
Customer Main Menu:



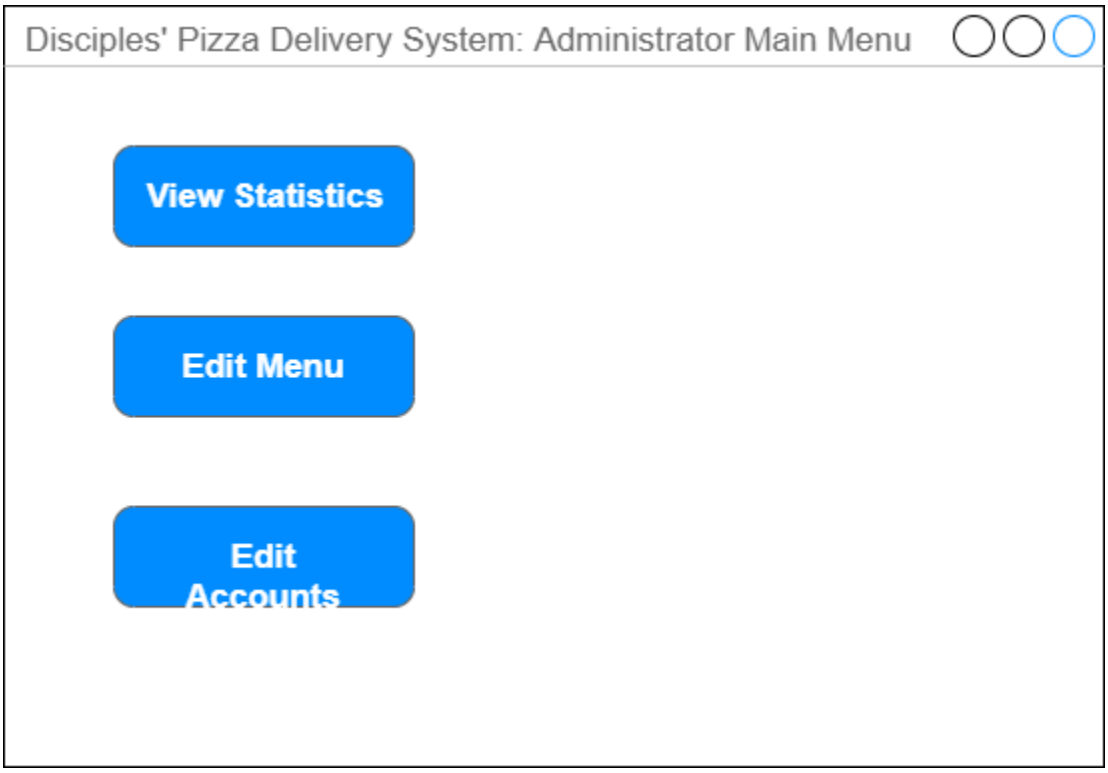
Customer Checkout:



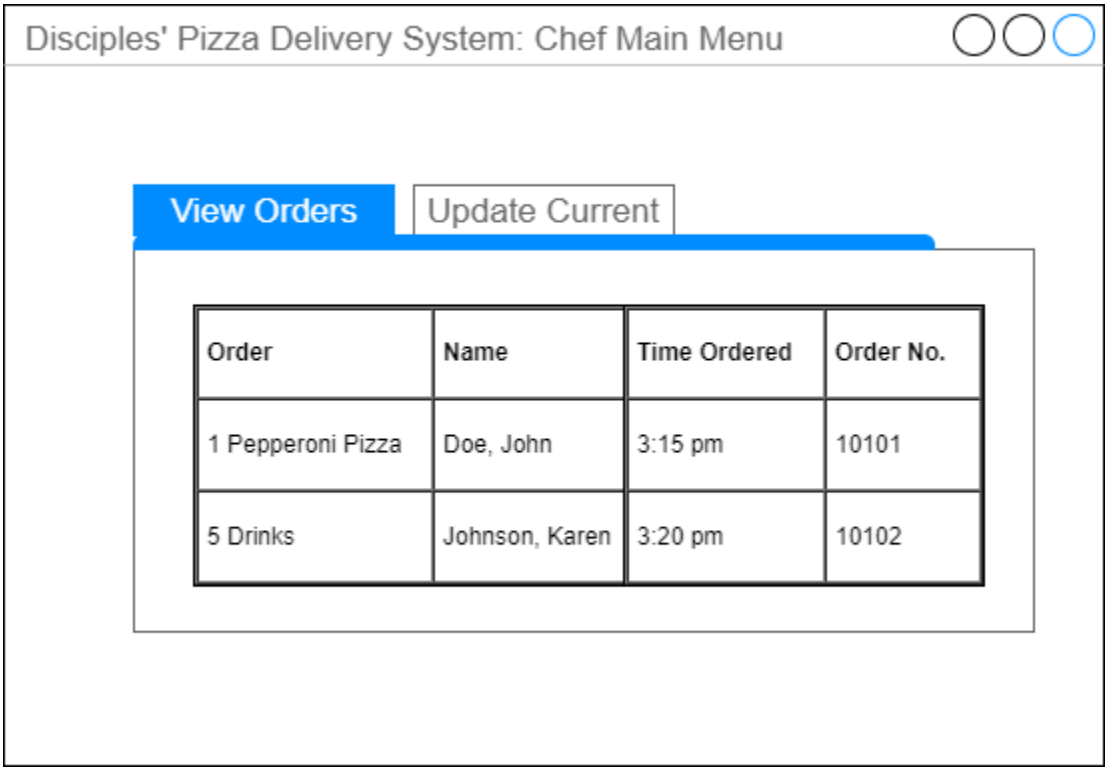
Employee Login:

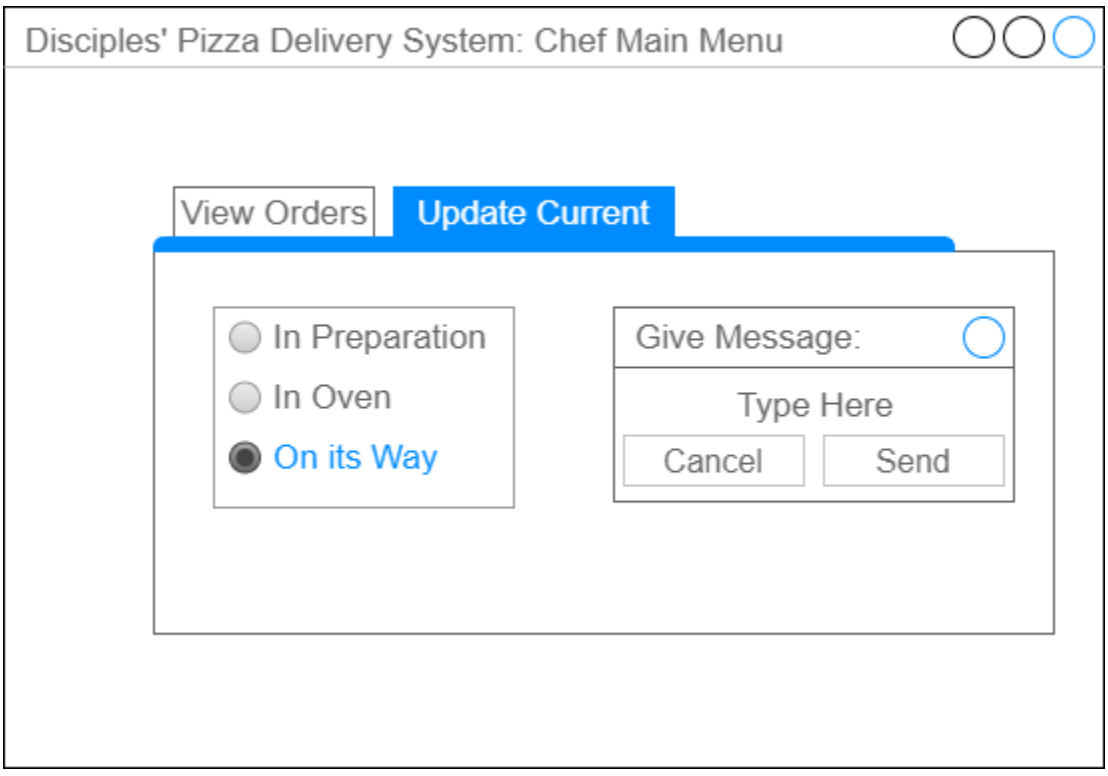


Administrator Main Menu:

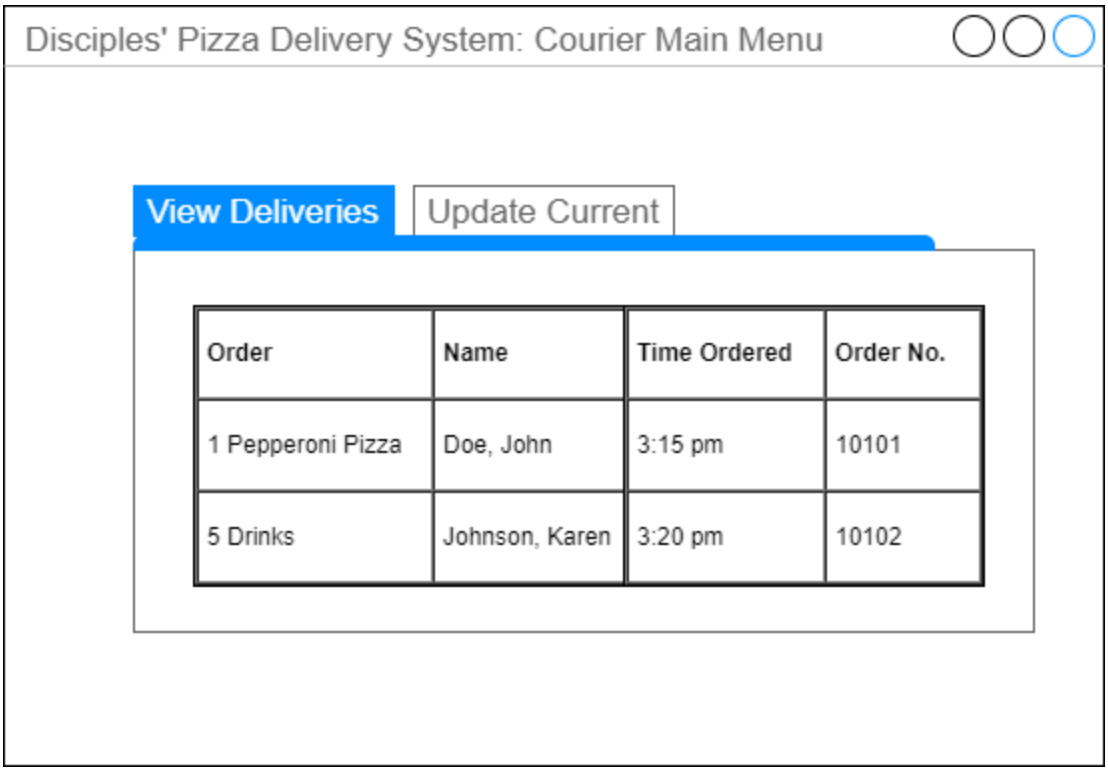


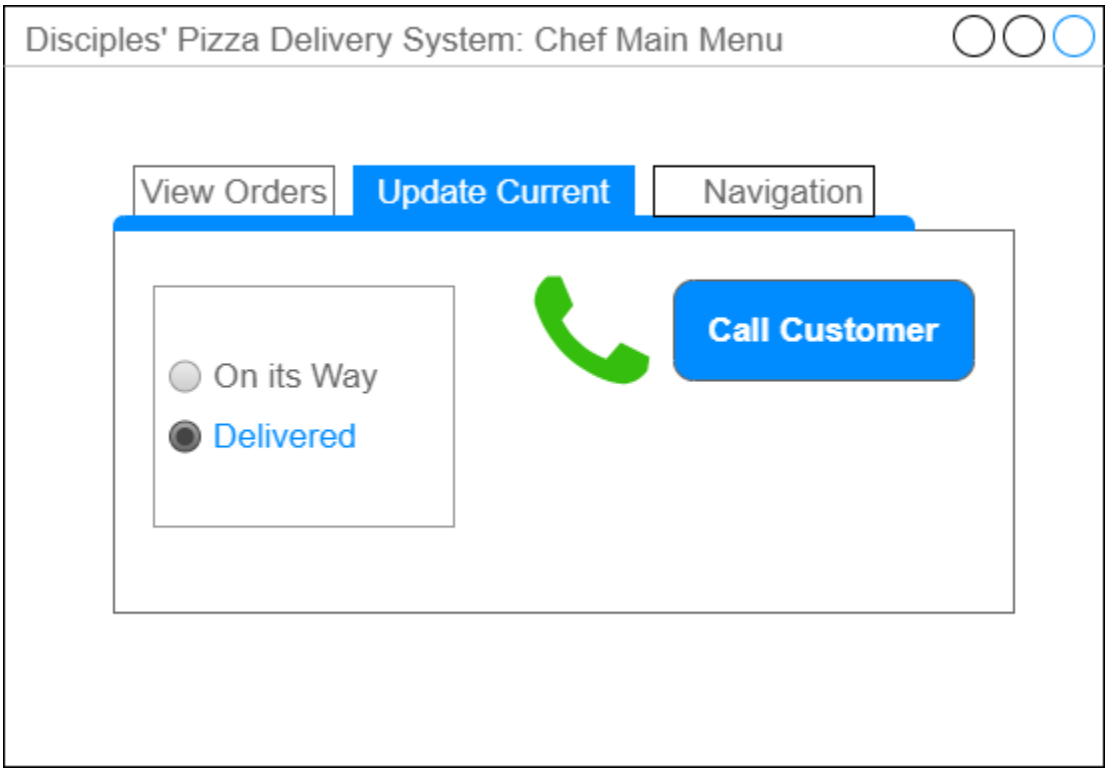
Chef Main Menu:



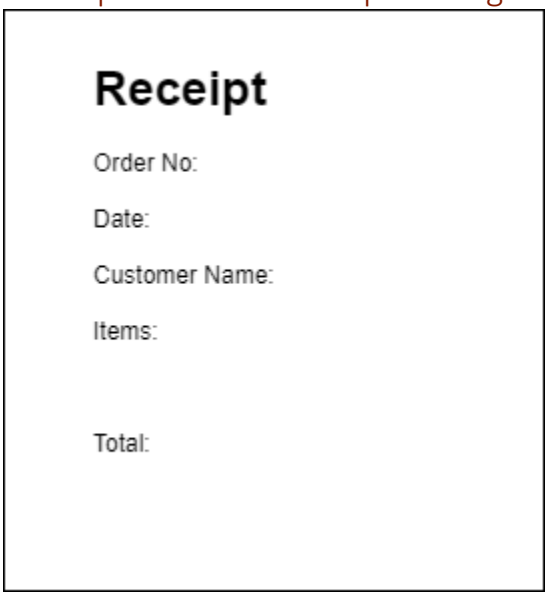


Courier Main Menu:


Disciples' Pizza Delivery System: Courier Main Menu
View Deliveries
Update Current
Order
Name
Time Ordered
Order No.
1 Pepperoni Pizza
Doe, John
3:15 pm
10101
5 Drinks
Johnson, Karen
3:20 pm
10102


Disciples' Pizza Delivery System: Chef Main Menu
View Orders
Update Current
Navigation
On its Way
Delivered
Call Customer

4.4 Reports: Formal Output Design



5.0 Appendices

5.1 Bibliography

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