System Design Document

System Design Document for Mom & Pop’s Pizza Project

**Team:** The Cardinals

**Team Members**

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[Zhuoxing Wangx](https://cdn.discordapp.com/attachments/620764222103748620/637898005424373770/Screen_Zhuoxing_WangSteve.docx)

Report Formats

**Customer’s receipt:**

**MOM & POPS PIZZA RESTAURANT**

**ATLANTA, GA**

SALE

12/4/2019 2:13 PM

Client Name:

Phone number:

Address:

Payment Method: Card

Logistics: Delivery

2 Thin Large Pizza --------------------------- $16.00

[Cheese, Pepperoni, Peppers, Onions] - $2.00

1 Pan Small Pizza ---------------------------- $4.50

[Cheese, Bacon] ----------------------------- $0.00

Subtotal 1: $38.50

2 Medium 7UP ------------------------------- $2

Subtotal 2: $2.00

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Total: $40.50

Sign Here: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Order Slip for the Cook:**

**MOM & POPS PIZZA RESTAURANT**

**ATLANTA, GA**

Order

12/4/2019 2:13 PM

Order #:

Logistics: Delivery

2 Thin Large Pizza

[Cheese, Pepperoni, Peppers, Onions]

1 Pan Small Pizza

[Cheese, Bacon]

----------------------------------------------------------

2 Medium 7UP

3 Chocolate Chip Cookie

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Transactions for Management**

**Earnings of the Day:**

**MOM & POPS PIZZA RESTAURANT**

**ATLANTA, GA**

12/4/2019 - Transactions

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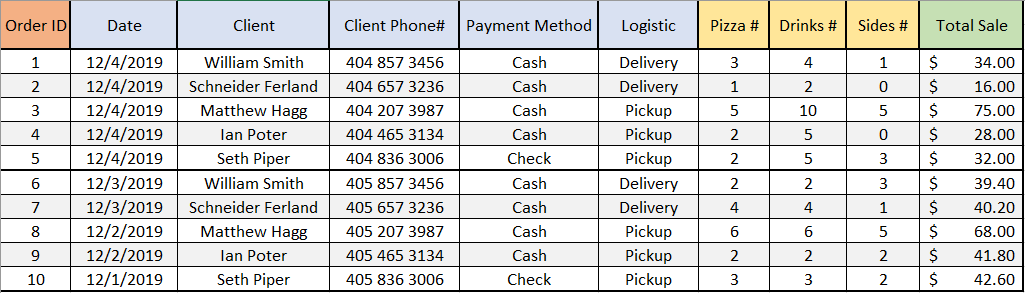
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**Earnings of the Month:**

**MOM & POPS PIZZA RESTAURANT**

**ATLANTA, GA**

December - Transactions



Screen Layouts/Shots

**Login:**

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The Login Screen fulfills the following system requirements:

* “Customers can login as registered users and as guest users for those who don’t have an account.”
* “A cashier can login as guest to take orders from clients calling the restaurant to order.”

The Login screen fulfills two separate required functionalities. Primarily its servers as a means login for returning customers. Secondarily it allows a cashier to login as a guest to ring up phone order.

**Registration:**

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The Registration screen fulfills the following system requirements:

* Customers can create an account for the software.

This Screen allows the user to register an account with mom and pops pizza restaurant with the following information Cardholder name, Card Number, address, Expiration date, Security code, Password.

**Account Configuration:**

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Description automatically generated**

The Account Configuration Screen fulfills the following system requirements:

* Registered customer can edit their personal and billing information and change and recover password.

This screen allows for the editing of account information for existing customers, for example any of the following fields; Cardholder name, Card Number, address, Expiration date, Security code, Password.

**Basics:**

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Description automatically generated**

The Basics fulfills the following system requirements:

* Customers can fully customize the size, crusts, and toppings of the pizza.

In this screen the customer can select either “Thin”, “regular” or “pan” as well as choose a between the sizes, “small”, “medium”,” large” or “giant”. Through these options we fulfill the required capability to be able to select the size and crust type of the pizza.

**Toppings:**

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Description automatically generated**

The Toppings Screen fulfills the following system requirements:

* Customers can fully customize the size, crusts, and toppings of the pizza.
* The price is based on the size of the pizza and the extra toppings.

The toppings screen fills the ability to customize between the meats “Pepperoni”, “Sausage” or “Bacon” and the non-meats “Plain Cheese”, “Green Peppers”, “Onions” or “Tomatoes”.

**Drinks and Sides Prompt:**

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Description automatically generated**

The Drinks and Side Prompt fulfills the following system requirements:

* The software’s interface should provide the users with useful shortcuts to improve the task finishing time.

The Drinks and Sides Prompt fulfills the ease of navigation requirement by allowing the user to flow directly to the order confirmation if no sides or drinks are needed.

**Drinks:**

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Description automatically generated**

The Drinks Screen fulfills the following system requirements:

* After adding the pizzas to the order, customer can choose to go to the drinks and sides screen or go directly to the order confirmation screen

The Drinks screen provides the following drink options “Small”, “Medium” or “Large” to be added to the cart.

**Sides:**

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Description automatically generated**

The Sides Screen fulfills the following system requirements:

* After adding the pizzas to the order, customer can choose to go to the drinks and sides screen or go directly to the order confirmation screen

The Sides screen allows the user to choose between the following sides “Bread Sticks”, “Bread Bites” or “Cookie” and add the following to the order.

**Order Confirmation:**

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Description automatically generated**

The Order Confirmation Screen fulfills the following system requirements:

* When finishing all customization of pizzas, drinks or sides, the customer will be able to review their order in the account confirmation screen. There they will select the payment method and the logistics of the order (Delivery or Pickup). There’s no dining at the restaurant. The system must have three different payment methods: Cash, Card, and Check.

The Order confirmation screen allows the user to review their itemized order and to select either “delivery or “pickup” as well as to choose between three payment options;” cash”, “card”, or a “check”.

Database Description

Table: Customer – The customer table stores the data of the customers information for Mom & Pop’s pizza restaurant.

Fields:

* Customer ID (Primary Key) – is the field that is unique to each customer. It is created to differentiate one customer from another.
* First Name – This field stores the first name of each customer that signs up for a user account. The information is stored in the database.
* Last Name – This field stores the last name of each customer that signs up for a user account in the system.
* Phone Number – This field stores the phone number of each customer in the system
* Password – When a customer makes an account, they must create a password for the account, and it is stored in the password field.
* Address – This field saves the home, apartment, office, etc. address of the registered customer.

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Description automatically generated

Table: Card – Stores the credit/debit card information of the registered customers.

Fields:

* Card ID (Primary Key) – is the field that is unique to each card and is made to differentiate one card from another.
* Card Number – this holds the 16-digit code combination that comes with all credit/debit cards.
* Security Code – holds the 3-digit security code that comes on the back of each credit/debit card.
* Expiration Date – lists the expiration date that comes with each credit/debit card the date involves the year and month.
* Card Type – this stores what type of credit/debit card the customer is using for example it could be a Mastercard or a Visa.
* Card Holder Name – this field saves the name written on the credit/debit card.

A screenshot of a cell phone

Description automatically generated

Table: Manager – this table holds the information of the managers username and passwords they need to create to access the system.

Fields:

* Manager ID (Primary Key) – is the field that is unique to the manager which is necessary to distinguish one manager from another.
* Username – this is the field that stores the usernames of the managers.
* Password – this stores the passwords of the managers.

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Description automatically generated

Table: Pizza – this table helps store the information of the pizzas

Fields:

* Pizza ID (Primary Key) – this field is unique to tell the difference between pizzas.
* Size ID – this field links to the table Size primary key as they are connected to help with the size of the pizzas.
* Topping ID – this field links to the Topping table primary key which helps tell the pizza toppings
* Crust ID – this field links to the Crust table, to tell what type of crust is on the pizza.
* Quantity – this field tells the amount of pizzas being ordered.
* Order ID – this field links to the Order table which holds the information of the pizza order.

A close up of a sign

Description automatically generated

Table: Order – this table holds the customer’s order information.

Fields:

* Order ID (Primary Key) – this field is unique so that the database system can tell the difference between orders because some orders might come out the same.
* Customer ID – this field links to the Customer table
* Pmethod ID – this field links to the Payment Method table.
* Lmethod ID – this field links to the Logistics table
* Date – this field stores the date of the order.
* Time – this field stores the time of the table.
* Total Price – this field holds the total price of the customer’s order.

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Table: Crust – this table holds the crust types available in Mom & Pop’s pizza restaurant

Fields:

* Crust ID (Primary Key) – field is unique and necessary for the table.
* Name – stores the names of the crusts available for the pizzas which are thin, regular, and pan.

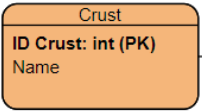


Table: Payment Method – this table stores the payment method process

Fields:

* Pmethod ID (Primary Key) – this field is unique and helps differentiate the payment methods.
* Name – this holds the different payment methods, cash, credit/debit card and checks

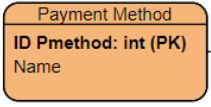


Table: Logistics – this table runs the data of the system

Fields:

* Lmethod ID (Primary Key) – this field is unique and necessary for the table.
* Name – this field holds the names of the logistics of the table.

A screenshot of a cell phone

Description automatically generated

Table: Size – this table holds the different sizes of the pizza.

Fields:

* Size ID (Primary Key) – this field is unique and tells the different sizes.
* Name – this field holds the name of the sizes like small, medium, large, extra-large.
* Price – this field holds the price of the different sizes of pizza.

A screenshot of a cell phone

Description automatically generated

Table: Toppings – this table stores the pizza toppings

Fields:

* Topping ID (Primary Key) – this field is unique and tells the difference between toppings.
* Name – this field holds the names of the toppings for example peperoni, cheese, etc.
* Type – this field holds the different type of toppings like meats and non-meats.

A screenshot of a cell phone

Description automatically generated

Table: Drinks – this table holds the different drink options available.

Fields:

* Drink ID (Primary Key) – this field is unique and tells the difference between drinks.
* Name – this field holds the name of the drinks.
* Price – this field holds the price of the drinks.
* Order ID – this field links to the Order table.

A close up of a sign

Description automatically generated

Table: Sides – this table holds the different menu option sides available at the restaurant.

Fields:

* Sides ID (Primary Key) – this field is unique to the table and it differentiates the sides from one another.
* Name – this field holds the name of the sides available
* Price – this field names the price of the sides.
* Order ID – this field links to the Order table.

A close up of a sign

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A screenshot of a computer

Description automatically generatedDetailed Class Diagram

**User Class:**

Contains all general information of the user entities that can be either the manager or the customer. It’s an abstract class and is the parent of the Customer and Manager Class.

The method Verify Login does a query on the database to see if the data is valid for login.

The method Login gets the information of the user and goes to the main menu.

The method Logout remove all current information and goes to the first login page.

**Customer Class:** Contains all specific information of the client like phone number, name, card information, etc. This class is a child of the User Class. Without the customer class’ information there can’t be an order, or customer account or order confirmation class. Also, an order, customer account, or order confirmation can only have 1 customer, while the customer can have only one customer account, but many orders and order confirmations.

**Manager Class:** Contains all specific information of the manager which is just the username. This class is a child of the User Class.

The method UpdateS&TPrices updates the price information on sizes and toppings.

The method UpdateD&SPrices updates the price information on drinks and sides.

The method generate report will create a report with the current selection of data.

**Order Class:** Contains all information that an order needs except for the items acquired as those will take place in the Order Confirmation Class.

The method Request Information prompts the user for personal or billing information to complete the order if needed.

The method Place Order registers the transaction in the database.

**Customer Account Class:** Contains all the information of the customers to enable them to edit their data. It controls all the objects that appear in the view of the Account Configuration Screen.

A screenshot of a computer

Description automatically generatedThe method Change Pass updates the new password of the user in the database.

The method Save Info updates the new personal and billing information of the user in the database.

**Registration Class:** Requests all the information of the customers to enable them to register. It controls all the objects that appear in the view of the Registration Screen.

The method Register validates that the inputted data is correct and if it is, registers the information in the database.

**Login Class:** Requests the information needed for a user to login to his or her account. The information requested is phone number and password, if they are already registered. This class also controls the view of all the objects in the Login screen. There can’t be a registration class without the login class because to get to the registration class you must go through the login class.

The method Login validates the phone number and password inputted and, if it is correct, gets the information of the user and transitions to the main menu screen.

The method gotoRegistration transitions the user to the registration screen.

The method sendRecoveryPin opens the prompt to recover the password.

**Main Menu Class:** Controls all the object of the Main Menu Screen.

The method gotoAccount transitions the user to the Account Configuration Screen.

A screenshot of a computer

Description automatically generatedThe method gotoBasics transitions the user to the BTmenu.

**BTmenu Class:** Controls all the objects of the Basics and Toppings Screen. It has methods for returning to the previous screen, traverse the controls to select and customize the pizza, for adding to the order the desire amount and continue the process of order taking.

**DSmenu Class:** Controls all the objects of the Drinks and Sides Screen. It has methods for returning to the previous screen, traverse the controls to select the type of drink and sides the user wants, for adding to the order the desire amount of drinks or sides and to continue to the Order Confirmation String.

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Description automatically generated

**Order Confirmation Class:** Contains all the final information of the order, the user, and the logistic and payment method. Also, controls all the object of the Order Confirmation Screen with methods for returning to the previous page, selecting the payment method, selecting the logistic method (delivery or pickup), removing anything from the order, or continuing with the final payment of the order.

All the classes containing menu are associated with each other because they manage related information.

The Customer Class is associated with the login, registration, customer account, order, and order confirmation classes.

The Main Class: Just initializes the first view which is the Login Class.