**Queuing System Use Case Diagram**

Queuing System that will automate the process of managing and controlling customer flow in the establishment. The system is an effective tool to prevent overcrowding in establishment queue areas. The proposed system will be installed in the establishment’s queue areas to guide customers to their designated counters. The screen will provide the queue updates by displaying the counter number and the corresponding ticket number of the customer. The proposed system helps to automate the queuing process while improving service and enhancing the overall customer experience.

**What is a Queuing System?**

A queuing system is a mathematical model of congestion and waiting that is widely used in the operations research and management science. It is used to study and analyze a variety of problems, including:

- Queuing theory is the mathematical study of waiting in lines, or queues.

- Congestion theory is the study of how traffic moves and congests urban areas.

- Traffic engineering is the application of queuing theory to improve traffic flow.

- Queuing systems can be used in a variety of applications, including retail, transportation, service delivery, manufacturing and medical care.

Queuing models are typically composed of two types of elements: queuing points and service points. Queuing points are the locations at which people wait to receive a service. Service points are the locations where the service is provided.

Customer

Dashboard

Customer Profile

User Management

Counter # Info

Queue List

Admin



Ads Management

Database Backup

Reports

The admin can access the entire core modules of the system while the customer can access the Customer Profile, Counter # Info and the Queue List modules.

**Purpose of Use Case Diagram**

Use Case Diagrams are a type of behavioral diagram used in software development. They are used to capture the functionality of a system and the relationships between users and the system. Use Case Diagrams are a valuable tool for developers as they provide a high-level view of the system and can be used to identify potential areas of functionality and user interaction. Additionally, Use Case Diagrams can be used to document the system requirements and help ensure that the functionality is implemented in a consistent manner.

**Use Cases**

The following are the discussions that describe how a user uses a system to accomplish a particular goal.

**Use Case:** Dashboard

**Actor(s):** Admin

**Description:**

This feature is used to manage the information displayed in the system’s Dashboard.

**Successful Completion:**

1. The admin can add, edit, and update information displayed in the Dashboard.

**Alternative:** None

**Precondition:** Admin will login first to access the module and update dashboard information.

**Post Condition:** updated Dashboard information

**Use Case:** Customer Profile

**Actor(s):** Admin and Customer

**Description:**

This feature is used to manage the personal profile of the registered customer in the system.

**Successful Completion:**

1. New customer can register their profile or account using this feature, for old customer, this is used to update their personal profile.
2. Admin can search, add, update and remove a client data or profile.

**Alternative:** Customer can only access their own profile; Admin can access all of the student profile.

**Precondition:** New customer for registration, existing customer for updating

**Post Condition:** accepted customer registration and updated customer profile

**Use Case:** User Management

**Actor(s):** Admin

**Description:**

This feature is used to manage the users of the system.

**Successful Completion:**

1. The admin can add, edit, and update information of the users of the system.

**Alternative:** None

**Precondition:** Admin will login first to access the module and update user information.

**Post Condition:** added and updated user information

**Use Case:** Counter # Info

**Actor(s):** Admin and Customer

**Description:**

This feature is used to manage and view counter number information in the system.

**Successful Completion:**

1. The customer can view counter number information.
2. Admin can search, add, update and remove counter number information.

**Alternative:** Customer can only view counter number information; Admin can access and manage all counter number information.

**Precondition:** New counter numbers on queue

**Post Condition:** counter numbers updated and displayed

**Use Case:** Queue List

**Actor(s):** Admin and Customer

**Description:**

This feature is used to manage and view queue list in the system.

**Successful Completion:**

1. The customer can view queue list.
2. Admin can search, add, update and remove queue list information.

**Alternative:** Customer can only view queue list; Admin can access and manage queue list information.

**Precondition:** updating queue list

**Post Condition:** updated queue list

**Use Case:** Ads Management

**Actor(s):** Admin

**Description:**

This feature is used to manage the ads of the system.

**Successful Completion:**

1. The admin can add, edit, and update information of the ads of the system.

**Alternative:** None

**Precondition:** Admin will login first to access the module and update ads information.

**Post Condition:** added and updated ads information

**Use Case:** Database Backup

**Actor(s):** Admin

**Description:**

This feature is used to manage the backup database of the system.

**Successful Completion:**

1. The admin can add, edit, and update database backup information.

**Alternative:** None

**Precondition:** Admin will create and connect the backup database.

**Post Condition:** new backup database.

**Use Case:** Report Generation

**Actor(s):** Admin

**Description:**

This feature is used to view and print the reports in the system.

**Successful Completion:**

1. Admin can view, print and export the report of the system.

**Alternative:** None

**Precondition:**

1. Admin will need to login to access the reports.

**Post Condition:** hard and soft copy of the report of the system.

**Summary**

The capstone project, entitled “Queuing System” is designed to be used by different industries in managing the flow of their customers.  The said project will be installed in the queue areas to electronically control the flow of the customers who want to avail services of a certain industry. This post focused on the development of the Use Case Diagram of the system. The admin can access the entire core modules of the system while the customer can access the Customer Profile, Counter # Info and the Queue List modules.