Use Case diagram

Diagram

Description automatically generated

Use Case Description

**Use Case 1:** Select destination and date.

**Description:** Passengers use the ticket machine to select their destination and date.

**Primary actor:** Passenger

**Main scenario:**

* The passenger selects their destination on the touch screen of the ticket machine.
* The passenger selects the date of ticket.
* The system verifies confirms the selected destination and calculator the total of money.

**Result:** The passenger has successfully selected their destination and date.

**Use Case 2:** Select payment methods (QR code or credit card) .

**Description:** Passengers use the ticket machine to select their payment methods.

**Primary actor:** Passenger

**Main scenario:**

* The passenger selects payment methods.
* The system verifies confirms the payment and processing.

**Result:** The passenger has successfully selected payment methods.

**Use Case 3:** Payment by QR code

**Description:** Passengers pay by QR and scan this on their smartphone.

**Primary actor:** Passenger

**Main scenario:**

* The passenger selects the payment method as QR code.
* The system prompts the passenger to scan this QR code on screen of ticket machine.
* The system verifies the QR code payment session.
* The system prints a paper ticket with a barcode for the passenger.

**Result:** The passenger has successfully paid by QR code and received a paper ticket.

**Use Case 4:** Payment by credit card.

**Description:** Passengers pay by credit card and input their card to machine.

**Primary actor:** Passenger

**Main scenario:**

* The passenger selects the payment method as credit.
* The system prompts the passenger to input the credit card and they enter PIN for confirmation.
* The system verifies the credit card information and change the money of card.
* The system prints a paper ticket with a barcode for the passenger.

**Result:** The passenger has successfully paid by credit card and received a paper ticket.

**Use Case 5:** Cancel payment session.

**Description:** If the passenger wants to cancel their session, they can press the cancel button on the touch screen of the ticket machine. After confirming the information, the ticket machine will cancel the ticket and return the home screen.

**Primary actor:** Passenger

**Main scenario:**

* The passenger presses the cancel button on the touch screen of the ticket machine.
* The ticket machine cancels payment session.

**Result:** The passenger has successfully cancelled payment session.

**Use Case 6:** Revenue report.

**Description:** Every day, the system automatically provides a revenue report that includes information on the overall income and the number of tickets sold to the manager.

**Primary actor:** System

**Main scenario:**

* At the conclusion of each day, the system automatically provides a revenue report.
* To control the revenue of the organization, employees can obtain a report via the system.
* To find out what seat was chosen on another ticket machine.

**Result** : As a result, the staff has access to the revenue report and can manage many ticket machine.

**Use Case 7:** Handling errors.

**Description:** In case of errors during the ticket purchasing process, the system should show the notification on screen. If errors about system, passengers can call customers care.

**Primary actor:** System

**Second actor:** Passengers

**Main scenario:**

* If the passenger's credit card information or wallet linked QR code is invalid, the system prompts the passenger to re-enter their information or use a different payment method.

• The system should alert the user if there are any technical issues and suggest they try again later or use another ticket machine.

**Result:** The system manages errors appropriately to prevent inconvenience to the passenger.

Activity diagram

Diagram

Description automatically generated

Sequence diagram

Diagram

Description automatically generated

Communication Diagram

Graphical user interface

Description automatically generated with low confidence

Class diagram

Diagram

Description automatically generated

Balsamiq for your use cases:

Shape, square, polygon

Description automatically generatedGraphical user interface

Description automatically generated with medium confidenceGraphical user interface

Description automatically generatedShape, polygon

Description automatically generatedGraphical user interface, application

Description automatically generatedShape, square, polygon

Description automatically generated

Architecture design

User Interface: This component is responsible for displaying information to the user and receiving input from them. It includes a touchscreen display and a keypad.

Payment Processor: This component is responsible for processing payment transactions made by the user. It includes a card reader for credit/debit cards, a QR code scanner for digital wallet payments, and a cash acceptor for accepting cash payments.

Ticket Dispenser: This component is responsible for dispensing tickets to the user once payment has been confirmed. It includes a printer for printing out the tickets.

Control System: This component is responsible for controlling the overall operation of the machine, including communication with external systems and components.

Database: This component is responsible for storing data related to ticket sales, machine usage, and other relevant information.

Deployment Diagram

**Diagram

Description automatically generated**

Demo

**Graphical user interface, application, website

Description automatically generated**

**Graphical user interface, map

Description automatically generated**

**Graphical user interface, application

Description automatically generated**

**Qr code

Description automatically generated**

**Graphical user interface, text, application

Description automatically generated**