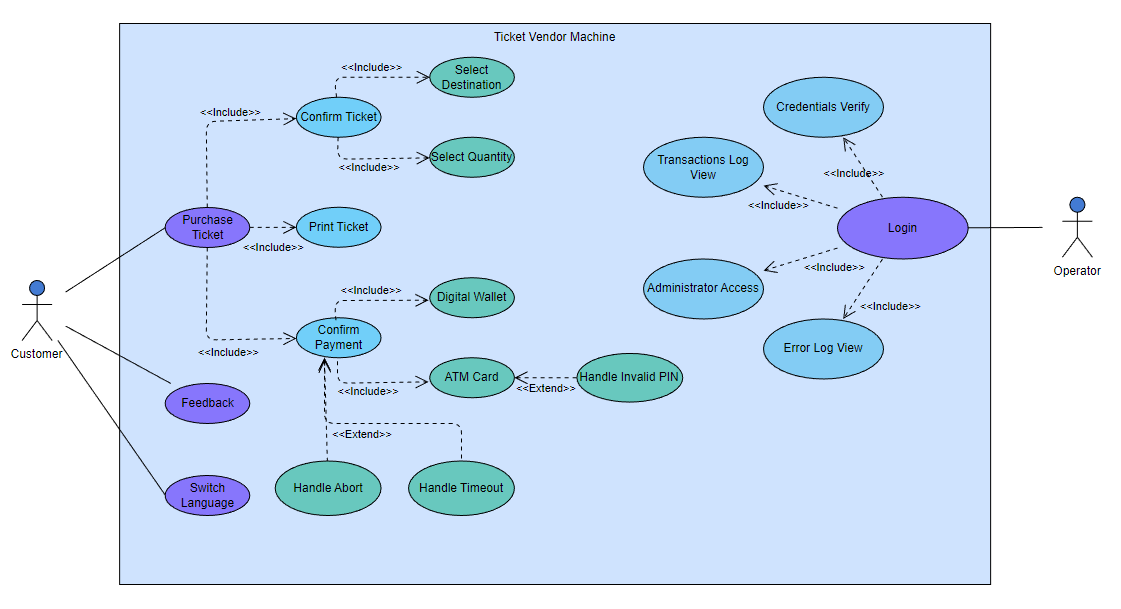
1. **Use case diagram**

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* 1. **Purchase Ticket description**

|  |  |  |
| --- | --- | --- |
| **Use case name:** | Purchase Ticket | |
| **Trigger event:** | Customer hits the start button on the screen | |
| **Brief description:** | Customer purchases ticket for the selected destinations using available payment methods and receives a printed ticket with a barcode | |
| **Actors:** | Customer | |
| **Preconditions:** | TVM is connected to MRT system and payment system | |
| **Post conditions:** | \_The TVM issues a ticket with a bar code  \_The TVM logs the transaction | |
| **Flow of activities:** | Actor | System |
| 1. Customer selects destination from the TVM menu  2. Customer selects mode of payment, confirms payment and pays | 1.1 TVM displays available routes calculates ticket price and display it on screen  1.2 TVM prompts customer to select ticket quantity and mode of payment  2.1 Charged customer bank account or display QR code base on selected payment method and wait for transaction processed  2.2 TVM issues tickets with barcode and logs the transaction after the transaction is complete  2.3 Use case end |
| **Alternative flow:** | 1.2 Go back to previous step if customer want to change destination or payment method  2.1 Customer cancel the transaction before confirmation | |
| **Exception conditions:** | 2.1 If there is an error during the transaction process, the TVM displays on screen and logs the error message | |

* 1. **Feedback description**

|  |  |  |
| --- | --- | --- |
| **Use case name:** | Feedback | |
| **Trigger event:** | Customer hit the feedback button | |
| **Brief description:** | Customer provide feedback on the TVM experiences | |
| **Actors:** | Customer | |
| **Preconditions:** | None | |
| **Post conditions:** | Customer feedback is logged in the feedback log for further action | |
| **Flow of activities:** | Actor | System |
| 1. Customer select the feedback option on the menu  2. Customer input their experiences and submit the feedback report | 1.1 TVM prompts the customer to describe their experiences on the TVM  2.1 TVM records their feedback in the feedback log  2.2 Use case end |
| **Alternative flow:** | 1.1 The TVM menu display a list of common issues in case of they want to report the issues. | |
| **Exception conditions:** | 2.1 The TVM can’t access to database | |

* 1. **Switch language description**

|  |  |  |
| --- | --- | --- |
| **Use case name:** | Switch language | |
| **Trigger event:** | Customer select a language | |
| **Brief description:** | The TVM displays information on selected language | |
| **Actors:** | Customer | |
| **Preconditions:** | None | |
| **Post conditions:** | Information displayed in selected language on the TVM menu | |
| **Flow of activities:** | Actor | System |
| 1. Customer select switch language option  2. Customer select their desired language | 1.1 The TVM display a list of available language  2.1 The TVM reload the menu with information displayed in selected language  2.2 Use case end |
| **Alternative flows:** | 2.2 TVM switch back to default language after one minute of no interaction | |
| **Exception conditions:** | 2.1 The TVM displays error message and logs the error in the error log if there is an error during switching language. | |

* 1. **Login as administrator description**

|  |  |  |
| --- | --- | --- |
| **Use case name:** | Login as administrator | |
| **Trigger event:** | The operator wants to log in to the TVM system | |
| **Brief description:** | The process of logging in to the TVM system | |
| **Actors:** | Operator | |
| **Preconditions:** | The TVM has the correct login credentials | |
| **Post conditions:** | The operator gains access to the administrator functions | |
| **Flow of activities:** | Actor | System |
| 1. The operator hit the Login button on screen  2. The operator enter their login credentials | 1.1 The TVM displays the login screen  2.1 The TVM verifies the operator’s credentials  2.2 If the credentials are valid, the TVM switches to administrator interface  2.3 Use case end |
| **Alternative flows:** | 2.2 If the credentials are invalid, the TVM displays an error message and prompts the operator to try again | |
| **Exception conditions:** | 2.1 The TVM failed to verify the operator credentials due to technical issues | |

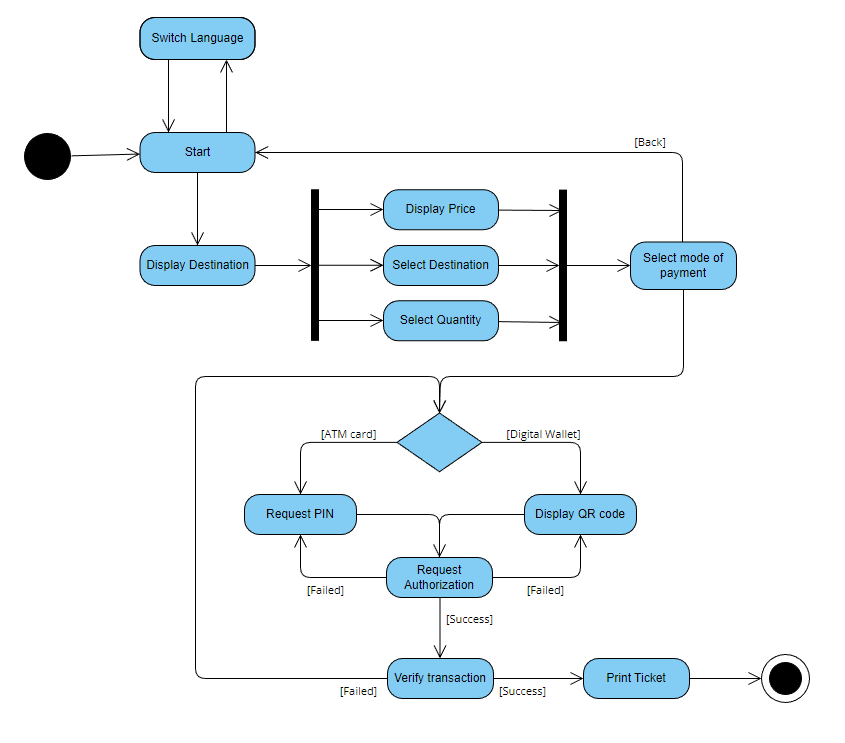
* 1. **Transaction log view description**

|  |  |  |
| --- | --- | --- |
| **Use case name:** | Transaction log view | |
| **Trigger event:** | Operator selects “Transaction log” option | |
| **Brief description:** | Operator views the transaction log | |
| **Actors:** | Operator | |
| **Preconditions:** | Operator is logged in as administrator | |
| **Post conditions:** | Operator can view transaction log | |
| **Flow of activities:** | Actor | System |
| 1. Operator selects “Transaction log” option  2. Operator can filter log by date, route and payment method  3. Operator can select a transaction to view more details | 1.1 The TVM displays a list of transactions  2.1 The TVM displays a filtered list of transactions  3.1 The TVM displays details of a selected transaction  3.2 Use case end |
| **Alternative flows:** | None | |
| **Exception conditions:** | 1.1 The TVM can’t access to database | |

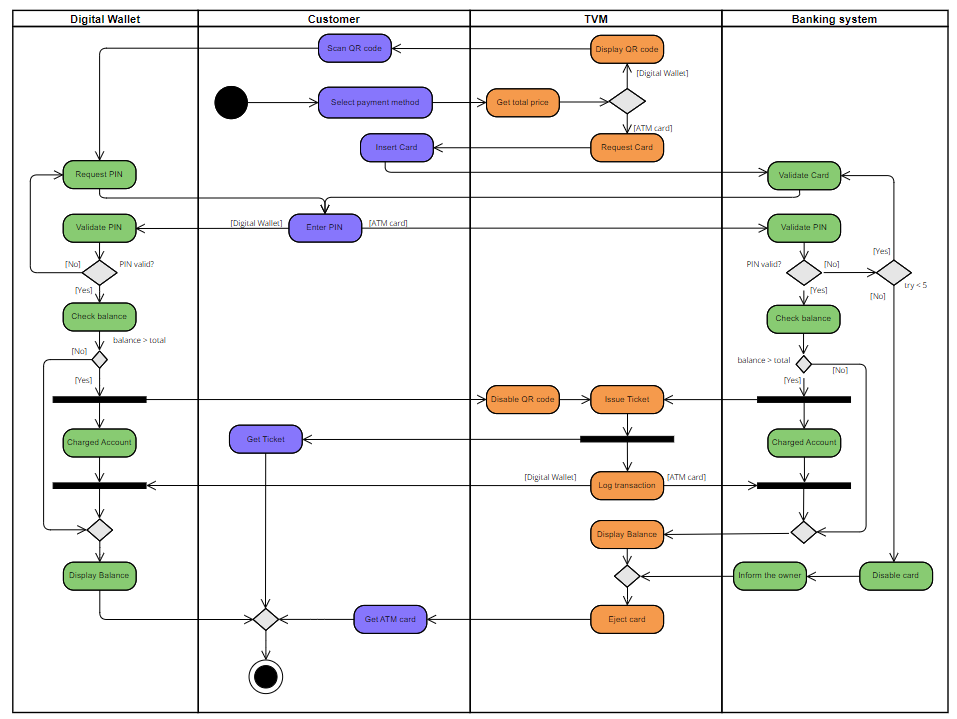
* 1. **Error log view description**

|  |  |  |
| --- | --- | --- |
| **Use case name:** | Error log view | |
| **Trigger event:** | Operator selects “Error log” option | |
| **Brief description:** | Operator views the error log | |
| **Actors:** | Operator | |
| **Preconditions:** | Operator is logged in as administrator | |
| **Post conditions:** | Operator can view error log | |
| **Flow of activities:** | Actor | System |
| 1. Operator selects “Error log” option | 1.1 The TVM displays a list of errors  1.2 Use case end |
| **Alternative flows:** | None | |
| **Exception conditions:** | 1.1 The TVM can’t access to database | |

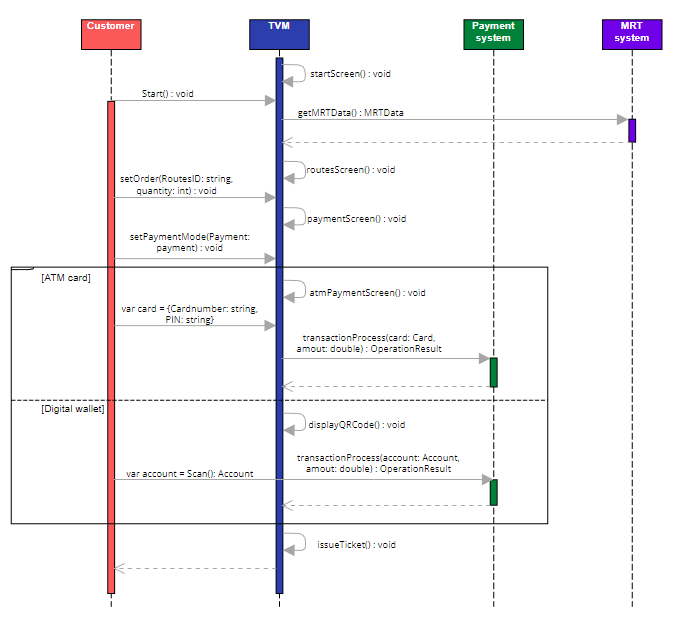
1. **Activity diagram**
   1. Purchase ticket process:



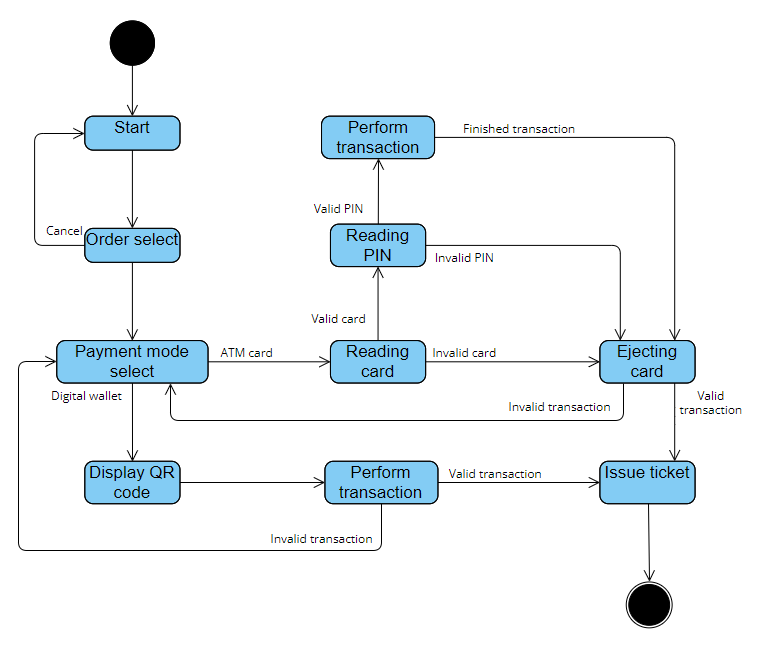
* 1. Communication between systems:



1. **Sequence diagram (Use case: Purchase ticket)**

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1. **State chart diagram (Use case: Purchase ticket)**



1. **Class diagram (Use case: Purchase ticket)**
2. **MVC model**
3. **Deployment diagram**
4. **Demo**