1. **Use case “Return bike”**
2. **Use case code**

UC004

1. **Brief description**

This use case describes the interaction between a user and the EcoBikeRental application when the user wishes to return their bike.

1. **Actors**

**-** User

**-** Interbank

1. **Preconditions**

The user must have rented a bike before returning.

1. **Basic flow of events**

Step 1: User click on the "Return bike" button.

Step 2: System display a list of docks.

Step 3: User chooses a dock to return their bike.

Step 4: System calculate rental fee.

Step 5: System display rental information and fee.

Step 6: User click on "Proceed to payment".

Step 7: System display payment screen.

Step 8: User enter payment information.

Step 9: System process user payment information.

Step 10: Interbank makes payment transaction.

Step 11: System saves the rental transaction.

Step 12: System displays transaction information.

1. **Alternative flow of events**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Location** | **Condition** | **Action** | **Resume location** |
|  | 2 | If the user click on the return button | * System returns to the main screen | Use case ends |
|  | 9 | If the payment information is in the wrong format | * System notifies the error on the screen | Step 7 |
|  | 10 | If Interbank reports failed payment | * System notifies the error | Step 7 |

1. **Input data**

Input data of payment form

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No** | **Data fields** | **Description** | **Mandatory** | **Valid condition** | **Example** |
|  | CardHolderName | Name of card owner | Yes | Only English alphabet letters are allowed, all letters are capitalized | NGUYEN HUU PHUOC |
|  | CardNumber | Card number of the credit card | Yes | Can only contain numbers, separated by space or dash | 9999-9999-9999-9999 |
|  | ExpirationDate | Expiration date of the credit card | Yes | Only contains number, with month and year separated by a character ‘/’ | 12/2024 |
|  | SecurityCode | Security code of the credit card | Yes | Only contains a 3-digit number, | 456 |
|  | Content | Transaction content | No |  |  |

1. **Output data**

**Table 1:** Output data of each dock

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Data fields** | **Description** | **Display format** | **Example** |
|  | Name | Name of dock |  | Dock A |
|  | Address | Address of dock |  | 12 Dai Co Viet, Hai Ba Trung, Hanoi |
|  | Area | Area of dock |  | 123,2m2 |
|  | NumberOfAvailableBikes | Total number of bikes available in the dock |  | 25 |
|  | NumberOfEmptyDockingPoints | Number of empty docking points in the dock |  | 5 |

**Table 2:** Output data of rental summary

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Data fields** | **Description** | **Display format** | **Example** |
|  | BikeID | ID of the rented bike |  | 2 |
|  | RentDockID | ID of the dock that the user rented the bike from |  | 4 |
|  | ReturnDockID | ID of the dock that the user returns the bike to |  | 2 |
|  | RentStartTime | Time stamp of the moment the user rented the bike |  | 2023-08-01 13:29:21 |
|  | RentEndTime | Time stamp of the moment the user returns the bike |  | 2023-08-01 14:30:25 |
|  | DepositAmount | Amount of money the user has deposit |  | 600,000VND |
|  | RentalFee | Calculated rental fee |  | 27,000VND |

**Table 3:** Output data of transaction information

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Data fields** | **Description** | **Display format** | **Example** |
|  | TransactionID | ID of the transaction |  | 25 |
|  | Amount | Amount that the user has to pay or gets refunded | Contains a minus sign if the user gets refunded | -500,000VND |
|  | Time | Time stamp of the creation of the transaction |  | 2023-08-01 14:35:22 |
|  | Content | Content of the transaction |  |  |

1. **Postconditions**

A new transaction is added to the database.