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| Use Case Name: | **Login (Passenger)** | |
| Scenario: | **Passenger logs in to their Bus Tap account.** | |
| Triggering Event: | **Passenger entered their login details on the login page of the app.** | |
| Brief Description: | **When passenger logs in to their account, the system validates that the login details entered by the passenger matches the login details of an existing Bus Tap account.** | |
| Actors: | **Passenger** | |
| Related Use Case: | **Login (Employee), Login (Manager)** | |
| Stakeholders: | **Passenger – provides the login details** | |
| Preconditions: | **Passenger must have an existing Bus Tap account** | |
| Postconditions: | **Passenger is logged in.** | |
| Flow of Activities: | Actor | System |
| 1. **Passenger requests the login page of the app.** 2. **Passenger enters the registered email address and corresponding password.** | * 1. **System displays the login page.**   2. **Validate data input**   3. **Match email address and password to an existing account**   4. **Log in passenger**   5. **Display passenger information** |
| Exception Conditions: | 1. **If email address entered does not match any existing accounts, redirect to sign-up interface or forgot username interface.** 2. **If password entered does not match the email address, redirect to forgot password interface.** 3. **Users are only given 10 chances to enter their correct login details at a time.** | |

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| Use Case Name: | **Reserve seat** | |
| Scenario: | **Passenger reserves a seat on a BGC Bus.** | |
| Triggering Event: | **Passenger entered travel details on the seat reservation page of the app.** | |
| Brief Description: | **When passenger wants to reserve a seat on the BGC Bus, the system displays the seats available on the selected schedule. Passenger selects an available seat, and the bus driver reserves the seat on the bus for the passenger.** | |
| Actors: | **Passenger**  **Driver** | |
| Related Use Case: |  | |
| Stakeholders: | **Passenger – provides date and time of travel, bus stop; selects the bus schedule; selects the bus seat**  **Driver – reserves the bus seat** | |
| Preconditions: | **Passenger must be logged in to their Bus Tap account.** | |
| Postconditions: | **A seat is reserved for the passenger.** | |
| Flow of Activities: | Actor | System |
| 1. **Passenger requests the seat reservation page of the app.** 2. **Passenger enters the date, time, and the bus stop.** 3. **Passenger selects the bus schedule.** 4. **Passenger selects the seat to reserve.** 5. **Driver reserves the seat.** 6. **Passenger shows the reservation code to claim the reserved seat.** 7. **Driver enters the reservation code.** | * 1. **System displays the seat reservation page of the app.**   2. **System displays the available schedules closest to the travel details entered by the passenger.**   3. **System displays the seat map for the selected schedule.**   4. **System reserves the selected seat for the passenger.**   5. **System notifies the corresponding driver of the seat reservation.**   6. **System verifies reservation code.**   7. **System sets the reservation as claimed.** |
| Exception Conditions: |  | |

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| Use Case Name: | **Plan travel** | |
| Scenario: | **Passenger wants to know how to travel from one place to another in BGC using the BGC Bus.** | |
| Triggering Event: | **Passenger entered origin and destination on the plan travel page of the app.** | |
| Brief Description: | **When passenger enters an origin and destination, the system displays a detailed travel itinerary for the passenger, including the bus stop nearest to the origin, available BGC bus routes, fare, and estimated travel time.** | |
| Actors: | **Passenger** | |
| Related Use Case: |  | |
| Stakeholders: | **Passenger – provides origin and destination** | |
| Preconditions: | **The user must have an internet connection.**  **The user must allow the app to access the passenger’s location through their mobile phone.** | |
| Postconditions: | **Detailed travel itinerary must be displayed.**  **Map must display the location of the bus stop nearest to the origin.**  **Map must display the relevant BGC bus routes.**  **Estimated travel time must be displayed.**  **Fare must be displayed.** | |
| Flow of Activities: | Actor | System |
| 1. **Passenger requests the plan travel page of the app.** 2. **Passenger enters the origin and destination.** | **1.1 System displays the plan travel page of the app.**  **2.1 System checks the location of the passenger.**  **2.2 System displays the location of the bus stop nearest to the passenger’s location.**  **2.3 System displays the BGC bus routes that can take the passenger from the bus stop nearest the origin to the bus stop nearest the destination.**  **2.4 System displays the bus fare for the corresponding bus route.**  **2.5 System estimates the travel time for the trip.** |
| Exception Conditions: | 1. **Internet Connection is required.** 2. **Origin and destination entered must be within the scope of the app.** | |

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| Use Case Name: | **Generate bus schedules** | |
| Scenario: |  | |
| Triggering Event: |  | |
| Brief Description: |  | |
| Actors: |  | |
| Related Use Case: |  | |
| Stakeholders: |  | |
| Preconditions: |  | |
| Postconditions: |  | |
| Flow of Activities: | Actor | System |
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| Exception Conditions: |  | |

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| Use Case Name: | **Locate bus** | |
| Scenario: |  | |
| Triggering Event: |  | |
| Brief Description: |  | |
| Actors: |  | |
| Related Use Case: |  | |
| Stakeholders: |  | |
| Preconditions: |  | |
| Postconditions: |  | |
| Flow of Activities: |  |  |
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| Exception Conditions: |  | |

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| Use Case Name: | **Check beep card balance** | |
| Scenario: | **Checking the remaining balance of user’s beep card** | |
| Triggering Event: | **Beep card balance inquiry** | |
| Brief Description: | **If a user does not know the remaining balance of their beep card, the system has the functionality to check the balance but only for NFC-enabled Android devices only.** | |
| Actors: | **Logged in Passenger** | |
| Related Use Case: |  | |
| Stakeholders: | **User – Owner of the beep card** | |
| Preconditions: | **User must have their own respective card**  **User’s phone must be NFC enable to fully use this functionality** | |
| Postconditions: | **Message will appear regarding the card’s remaining balance**  **If the remaining balance was not sufficient to ride the bus, message would appear as if the user is task to load their card**  **Save transaction** | |
| Flow of Activities: | Actor | System |
| 1. **User wants to check their card’s remaining balance** 2. **User taps the beep card into the NFC section of their phones** | * 1. **The system shall work on all NFC enabled android devices**   2. **Message will appear regarding the card’s remaining balance**   3. **If the balance is sufficient to ride the bus, system must be able to notify the user to load the card**   4. **After tapping the card, transaction should be save for history purposes** |
| Exception Conditions: | 1. **The functionality would only work on NFC enabled android devices** 2. **User must have their own beep cards** | |

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| Use Case Name: | **Rate and provide feedback** | |
| Scenario: |  | |
| Triggering Event: |  | |
| Brief Description: |  | |
| Actors: |  | |
| Related Use Case: |  | |
| Stakeholders: |  | |
| Preconditions: |  | |
| Postconditions: |  | |
| Flow of Activities: | Actor | System |
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| Exception Conditions: |  | |

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| Use Case Name: | **View congestion status.** | |
| Scenario: | **Administrator gathers data and use it for forecasting** | |
| Triggering Event: | **Generate report on passenger congestion** | |
| Brief Description: | **Forecasting the number of passengers of BGC Bus at a specified time and day. Predicting the Congestion status for knowing how many buses needs to be deployed on a given time and situation.** | |
| Actors: | **Management** | |
| Related Use Case: |  | |
| Stakeholders: | **Administrator – collects the data** | |
| Preconditions: | **Data or historical data is required** | |
| Postconditions: | **Ability to forecast and generate the result that would be given to the user.** | |
| Flow of Activities: | Actor | System |
| 1. **Data gathering – knowing the amount of passengers that BGC Bus has every day** 2. **check the congestion at different time of the day.** | **1. Generate a forecasting method and predict the congestion status for the given day. By doing so, the management would be ready for the large volume of passenger that the BGC bus have especially on holidays** |
| Exception Conditions: |  | |