# Login Use Case Specification

Actor: Student/Admin

Precondition: Nil

Main flow of events:

1. The user enters the username and password to log into the system.
2. The system validates the username and password and logs the user into the system.

Alternate flow of events:

1. If user enters an invalid username and/or password, the system displays an error message.
2. The system will prompt the user to re-enter their credentials.

# Breakdown by Year/School/Gender Use Case Specification

Actor: Student/Admin

Precondition: The user is logged in.

Main flow of events:

1. The system will prompt the user for the timeframe to search.
2. The user will select the criteria to breakdown the information.
3. The system will generate the report based on the inputs from the user.

# Top K Next Places Use Case Specification

Actor: Student/Admin

Precondition: The user is logged in.

Main flow of events:

1. The system will prompt the user for the timeframe, semantic place and the top value to search.
2. The user will select the respectively semantic place and top value to view and enters the date and time.
3. The system will generate the report based on the inputs from the user.

# Top K Popular Places Use Case Specification

Actor: Student/Admin

Precondition: The user is logged in.

Main flow of events:

1. The system will prompt the user for the timeframe and the top value to search.
2. The user will select the top value to view and enters the date and time.
3. The system will generate the report based on the inputs from the user.

# Top K Companions Use Case Specification

Actor: Student/Admin

Precondition: The user is logged in.

Main flow of events:

1. The system will prompt the user for the timeframe, user and the top value to search.
2. The user will select the respectively user and top value to view and enters the date and time.
3. The system will generate the report based on the inputs from the user.

# Heatmap Use Case Specification

Actor: Student/Admin

Precondition: The user is logged in.

Main flow of events:

1. The system will prompt the user for the timeframe and floor to search.
2. The student will select the floor and enter the date and time.
3. The system will generate the heatmap based on the inputs from the student.

# Automatic Group Identification Use Case Specification

Actor: Student/Admin

Precondition: The user is logged in.

Main flow of events:

1. The system will prompt the user for the timeframe to search.
2. The student will enter the date and time.
3. The system will generate the report based on the inputs from the student.

# Bootstrap Use Case Specification

Actor: Admin

Precondition: The admin is logged in.

Main flow of events:

1. The admin uploads a zip file into the system.
2. The system validates and processes the file.

Alternative flow of events:

1. If the admin uploads an invalid file type, the system will display an error.
2. The system will prompt to upload only a zip file.

# Update Use Case Specification

Actor: Admin

Precondition: The admin is logged in.

Main flow of events:

1. The admin uploads a zip file into the system to update.
2. The system validates and processes the file.

Alternative flow of events:

1. If the admin uploads an invalid file type, the system will display an error.
2. The system will prompt to upload only a zip file.