COMP 2411- DATABASE MANAGEMENT SYSTEM
Group Project
Group #1

USER GUIDE

Table of Contents

1. Set Up the Banquet Management Project

This guide will walk you through setting up and running the Banquet Management System project.

Step 1: Download or Clone the Project

Option 1: On the Blackboard, you can see our project folder as zipped. You can extract the ZIP file on your system.

Option 2: Visit the GitHub repository:

https://github.com/CLEM-9/DBS---Group-Project-COMP2411.git

a) Click the green Code button and select Download ZIP. Extract the ZIP file to a folder on your system.

b) Open your terminal or command prompt. Run the following command:

git clone https://github.com/CLEM-9/DBS---Group-Project-COMP2411.git

cd <folder-name>

Step 2: Create Database

Our project is designed to automatically create the database and its tables, as well as upload test data, once you run the application (see Step 5). Alternatively, if manual setup is preferred, you can use the provided SQL file to accomplish the same tasks.

Step 3: Install Required Python Packages

1. Ensure you have Python and MySQL installed on your system.

2. Install the required Python packages by executing the requirements.txt file.

   - Open a terminal or command prompt in the project folder.

   - Run the following command:

      pip install -r requirements.txt

   This will install the following dependencies:

-     - mysql-connector-python~=9.1.0

-     - pandas==2.0.3

-     - openpyxl==3.1.2

-     - tabulate==0.9.0

- - matplotlib==3.8.0
- - numpy~=1.26.4
- - fonttools~=4.51.0

Step 4: Prepare MySQL Credentials

Ensure MySQL is installed and running on your system. Have your MySQL localhost password ready, as the program will require it to connect to the database. If you do not wish to use the root@localhost user in MySQL, you can modify the host and username in the source/db_connection.py file on lines 27 and 28.

```
25          # Attempt to establish a connection
26          connection = mysql.connector.connect(
27              host='localhost',
28              user='root',
29              password=password
30          )
```

Figure 1 db_connection.py file

The database and test data will be automatically created in MySQL by the Python scripts after you enter your root@localhost password.

Step 5: Run the Application

1. Navigate to the project folder if not already there. Navigate to source folder.

2. Execute the main script:

   python main.py

3. If you have Visual Studio Code or another integrated development environment (IDE) installed, you can simply run the main.py script directly.

4. Follow the on-screen prompts to use the system.

Prerequisites

Before running the application, ensure the following:

- Python: Installed on your system (Python 3.7 or above is recommended).

- MySQL: Installed and running on your system.

2. How to Use BMS Application

OVERVIEW OF APPLICATION USER CAPABILITIES

Before demonstrating how to use the dashboards, the actions that application users can perform within the system are outlined below.
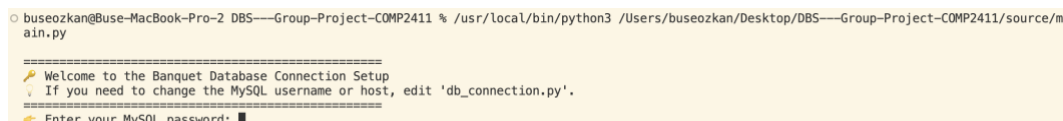
Attendees

- •Search for banquets using filters or view all available banquets.
- •Register for banquets with valid ID and select meals.
- •Update account details like email, password, and address.
- •View, edit, or delete their banquet registrations.
- •Logout from the system.

Administrators

- •Create new banquets with meals and drinks.
- •View, edit, or delete banquet details.
- •Search for and update attendee information.
- •Generate reports on registration, meals, and attendance.
- •Logout from the system.

WELCOME PAGE

After executing the main.py file, you will see the following message in the terminal. Enter your MySQL password in the prompt and press **Enter** to proceed. Upon successful connection, you will be directed to the **Welcome Page** (see Figure 3).


```
○ buseozkan@Buse-MacBook-Pro-2 DBS---Group-Project-COMP2411 % /usr/local/bin/python3 /Users/buseozkan/Desktop/DBS---Group-Project-COMP2411/source/m
  ain.py

  ================================================
  🔧 Welcome to the Banquet Database Connection Setup
  ⚙ If you need to change the MySQL username or host, edit 'db_connection.py'.
  ================================================
  👉 Enter your MySQL password: █
```

Figure 2 MySQL password screen

Once the program starts, the system displays a welcome message and provides the menu's options.
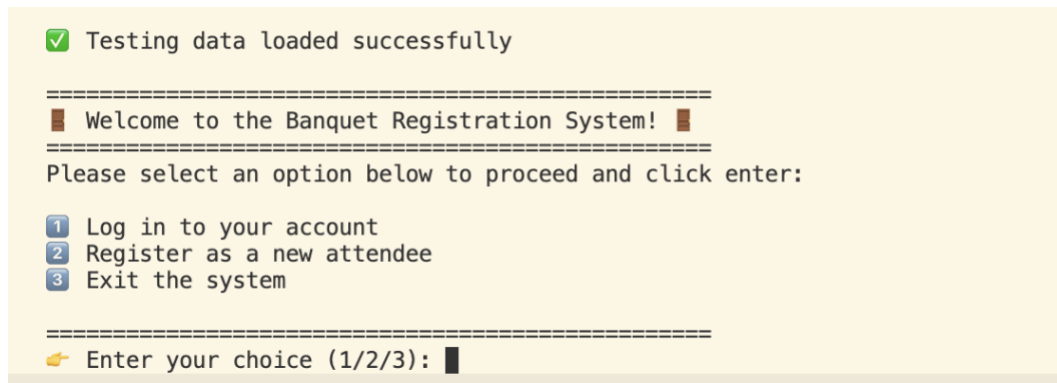
Figure 3 Welcome Page

Note: For the navigation through the application, you will see the prompt:

Enter your choice (1/2/3):

To proceed, type the corresponding number for your desired action and press **Enter.** To ensure proper navigation, the system validates user input for menu options. If you type anything other than the numbers presented in the menu, the system will display a warning and show the current screen again (see Figure 4). This prevents invalid inputs from disrupting the application's flow.
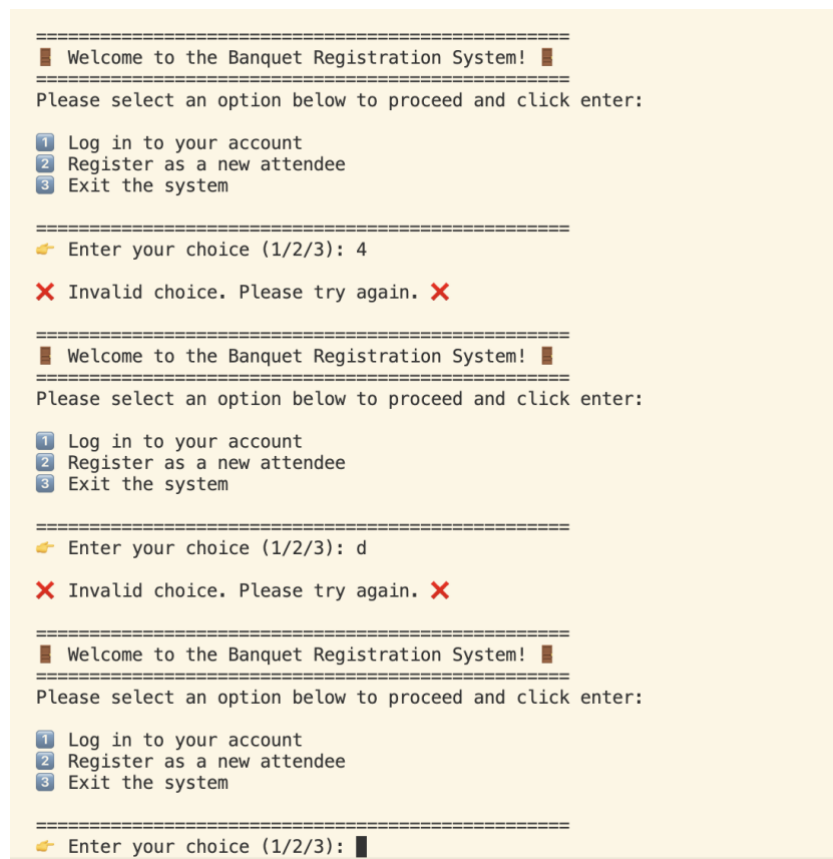

Figure 4 Giving wrong input to navigation

Option 1: Log in to your account

1. Select **1** at the prompt and press **Enter**.

2. Choose this option if you are an attendee or administrator with an existing account.

3. Upon successful login, you will access your Admin/Attendee Page.

Note: If incorrect credentials are entered, the system will display a warning message and return you to the Welcome Page (see Figure 6).
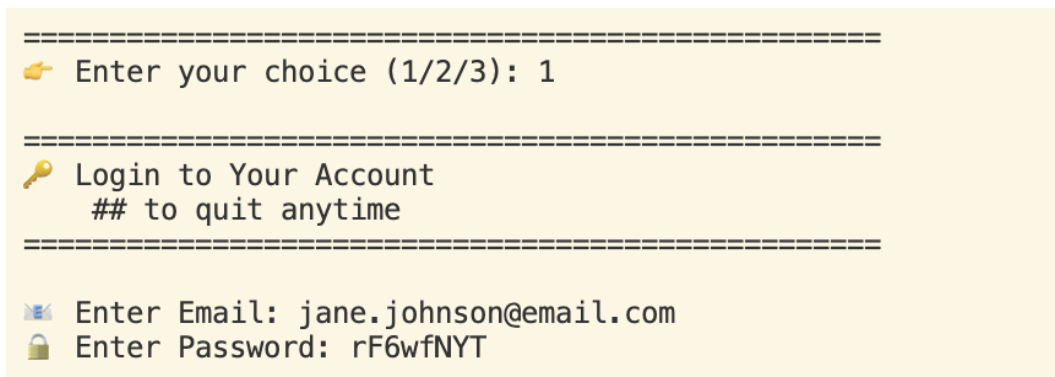
```
================================================
☞ Enter your choice (1/2/3): 1


================================================
🔑 Login to Your Account
     ## to quit anytime
================================================


📧 Enter Email: jane.johnson@email.com
🔒 Enter Password: rF6wfNYT
```

Figure 5 Login Screen

```
================================================
☞ Enter your choice (1/2/3): 1

================================================
🔑 Login to Your Account
     ## to quit anytime
================================================

📧 Enter Email: grace.doe@example.com
🔒 Enter Password: grace123

Authenticating your credentials... 🔄
Login failed. Please try again.

❌ Invalid email or password. Please check your credentials and try again. ❌

📧 Enter Email: ##
Please select an option below to proceed and click enter:

1️⃣ Log in to your account
2️⃣ Register as a new attendee
3️⃣ Exit the system

================================================
☞ Enter your choice (1/2/3): █
```
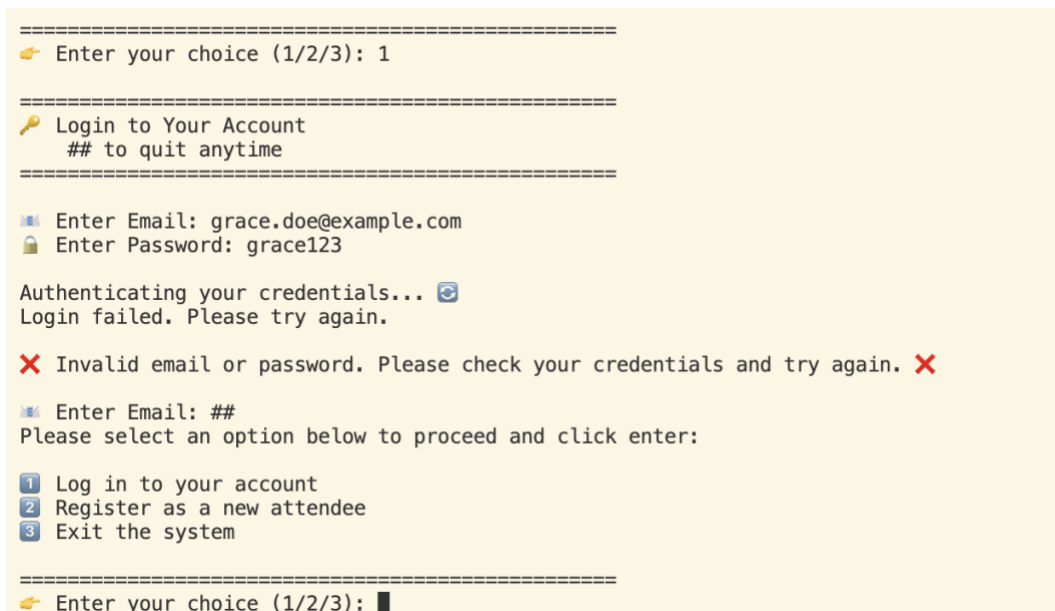
Figure 6 Welcome Page After Entering Wrong Credentials

Option 2: Register as a new attendee

1.   Select **2** at the prompt and press **Enter**.

2.   Select this option to create **a new attendee account.**

3.   Follow the on-screen instructions to input your details and complete the registration process (see Figure 7).

Figure 7 Register as a New Attendee

Note: The system ensures that all inputs during the registration process are properly formatted and complete to prevent errors or incomplete user data. If the user provides incorrect input, an appropriate message is displayed to guide them to correct their entry (see Figure 8).

Figure 8 System messages when empty or wrong formatted input is given

Note: During the registration process, the system checks whether the provided email already exists in the database. If it does, the user receives appropriate feedback to use a different email or log in if they already have an account (see Figure 9).

```
==================================================
📝 Register as a New Attendee
==================================================
📧 Enter Email: buse@gmail.com

❌ This email is already registered. Please log in or use a different email to register. ❌

📧 Enter Email: █
```

Figure 9 Trying to register with an existing email

Option 3: Exit the system

If you choose option 3, the system will terminate, and you will exit the application.

```
==================================================
👉 Enter your choice (1/2/3): 3

==================================================
👋 Thank you for using the Banquet Registration System!
Goodbye! Have a great day! 🎉
==================================================
buseozkan@Buse-MacBook-Pro-2 DBS---Group-Project-COMP2411 % █
```

Figure 10 Exit the System

ATTENDEE DASHBOARD

Upon successfully logging in or completing the registration process, attendees will see the following dashboard:
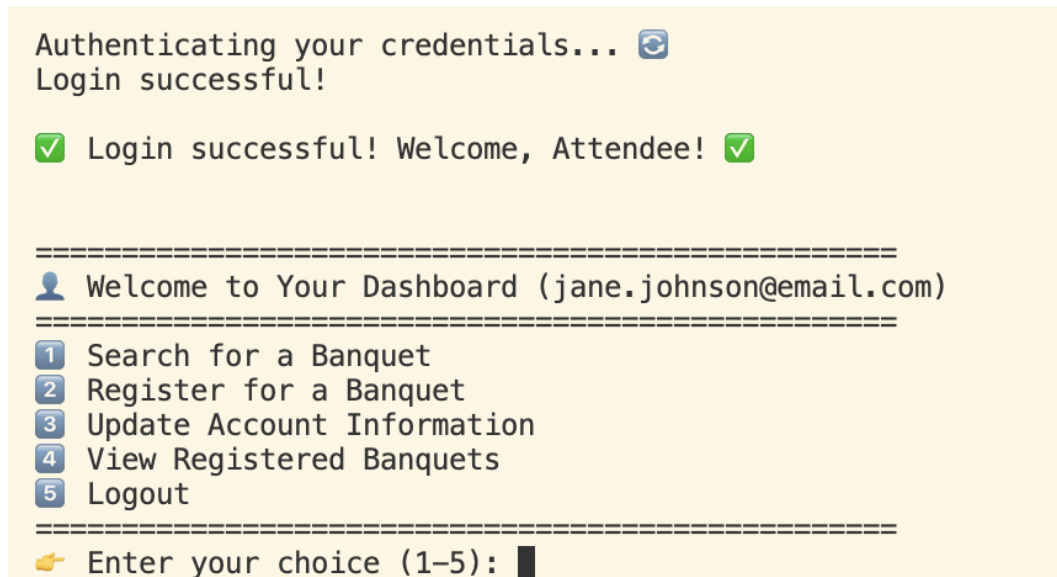


```
Authenticating your credentials... 🔄
Login successful!

✅ Login successful! Welcome, Attendee! ✅


============================================
👤 Welcome to Your Dashboard (jane.johnson@email.com)
============================================
1️⃣ Search for a Banquet
2️⃣ Register for a Banquet
3️⃣ Update Account Information
4️⃣ View Registered Banquets
5️⃣ Logout
============================================
👉 Enter your choice (1–5): ▮
```

Figure 11 Attendee's Dashboard

Option 1: Search for a Banquet

The user can search for banquets using four filters: **Banquet Name**, **Banquet Date**, **Banquet Address**, and **Banquet Location**. However, all these filters are optional, and the user can leave any or all of them blank.

•**Banquet Date**: If the date is provided, it must be entered in the specified format (YYYY-MM-DD). If the format is incorrect or the date is omitted, the system will display a warning.

Based on the filters entered, the system processes the search and presents the filtered banquet results to the user, as shown in the image.

As stated in the terminal instructions, the user should note down the **Banquet ID** of the desired banquet. This ID will be required to register for the banquet using **Option 2 (Register for a banquet)** in the main menu.

If the user wants to see all the banquets, they can leave all the fields blank and press Enter, as shown in Figure 12. This will display all available banquets.

Figure 12 Search for a Banquet

Alternatively, the user can enter information into the desired filter fields, and the system will display the banquets that meet all the specified criteria.

Figure 13 Filtering with date

Option 2: Register for a Banquet

To register for a banquet, the user utilizes the **Register for a Banquet** functionality. Here, the user is required to input the ID of the banquet they wish to register for.

•If the user is already registered for the banquet:

The system notifies the user and redirects them back to the attendee dashboard.

•If the user is not already registered:

The registration process continues. The user is prompted to provide additional required information. If there are enough seats available for the banquet, the user is successfully registered. The system then requests input for meal selection.

The available meals, along with their prices, are displayed on the terminal. During this step, the system ensures that the user enters valid input. If the user provides incorrect input (e.g., an invalid meal name), the system rejects it and continues to prompt the user until a valid meal name is entered.

```
====================================================
📝 Register for a Banquet
====================================================
## to quit anytime

ID  Enter Banquet ID: 15
✖ You have already registered for this banquet.


====================================================
👤 Welcome to Your Dashboard (jane.johnson@email.com)
====================================================
1  Search for a Banquet
2  Register for a Banquet
3  Update Account Information
4  View Registered Banquets
5  Logout
====================================================
👉 Enter your choice (1-5): ▌
```

Figure 14 Attendee tries to register a banquet she already did

Figure 15 Registering banquet process

Option 3: Update Account Information

The user can update the information displayed on the screen, such as email, password, first name, last name, phone number, address, attendee type, and affiliate organization. If the user does not wish to update a specific field, they can simply press **Enter** to skip that field without making any changes.

If the user enters an input in the wrong format (e.g., invalid email or an unsupported attendee type), the system will reject the input, provide appropriate feedback, and prompt the user to re-enter the information correctly. This behavior is consistent with how the system validates inputs in the **Register as a New Attendee** section.

```
=======================================================
☞ Enter your choice (1–5): 3


=======================================================
▌ Press: 'Enter' to leave information fields empty
▌ Type:  '##'    to quit any operation
=======================================================
☞ Update Your Account Information
=======================================================
Leave fields blank to keep them unchanged.
✉ Enter Email:
🔒 Enter Password:
👤 Enter First Name: Buse
👤 Enter Last Name:
📞 Enter Phone Number:
🏠 Enter Address:
♟ Enter Attendee Type (Student, Alumni, Staff, Guest):
🏢 Enter Affiliate Organization:

Following fields are successfully updated:
email = emily.doe@email.com
firstName = Buse
```

Figure 16 Update Account Information

Option 4: View Registered Banquets

If the user has not registered for any banquet, a message similar to the one shown in the figure below is displayed, and the user is redirected back to the attendee dashboard.

```
=================================================
☞ Enter your choice (1–5): 4

=================================================
▢ Registered Banquets
=================================================
✗ No registered banquets.
```

Figure 17 No Registered Banquet

If the user has previously registered for any banquets, those banquets are displayed, and the user is presented with three options: **Delete Registration**, **Edit Registration**, or **Go Back to Dashboard**.

    •**Delete Registration:**

The user can delete their registration for a banquet by providing the banquet's ID. This will remove their registration for the selected banquet.

    •**Edit Registration:**

If the user wants to make changes to their banquet registration, they can choose this option. The system allows the user to update specific details related to their registration. Fields the user does

not wish to change can be skipped by pressing **Enter**, while fields to be updated can be modified by providing the new input.

  •**Go Back to Dashboard:**

The user can choose to return to the attendee dashboard without making any changes.

The system performs input validation during this process to ensure that all inputs are correctly formatted and valid. If an invalid input is provided, the system will reject it and prompt the user to re-enter the correct information.

Figure 18 Registered Banquets Interface

Figure 19 Delete Registration

Figure 20 Edit Registration

Option 5: Logout

To log out of your account, simply type **5** and press **Enter**. To exit the system type 3 and press enter.

Figure 21 Logout from Attendees Dashboard

ADMINISTRATOR DASHBOARD

Upon successfully logging, administrators will see the following dashboard:

```
Authenticating your credentials... 🔄
✅ Login successful! Welcome back Administrator! ✅

================================================
👨‍💼 Admin Dashboard (Logged in as: barbara.jackson@adminportal.com) 👨‍💼
================================================
Please choose an action:

1️⃣ Create a New Banquet
2️⃣ Search for Banquets
3️⃣ Edit Banquet
4️⃣ Delete Banquet
5️⃣ Search for Attendees
6️⃣ Edit Attendee Information
7️⃣ Generate Reports
8️⃣ Logout
================================================
👉 Enter your choice (1-8): ▊
```
Figure 22 Administrator's Dashboard

Option 1: Create a New Banquet

Administrators can create a new banquet by providing details such as the banquet name, date, time, location, address, and the total number of seats. During this process, they are also prompted to assign meals and drinks to the banquet.

Required Fields:

•Banquet Name: Cannot be empty.

•Banquet Date: Must be entered in the YYYY-MM-DD format.

•Banquet Time: Must be entered in the HH:MM:SS format.

•Banquet Location and Address: Cannot be left blank.

•Total Seats: Must be a valid numerical input.

The system ensures input validation for all fields. If an invalid format is detected, the system will reject the input and prompt the user to try again.

Additionally, administrators are required to assign meals to the banquet. All available meals are displayed in the terminal, and the administrator is prompted to enter the names of four meals to assign to the banquet.,

Input Validation:

The system ensures that the meals entered are valid by checking if they exist in the list of available meals.

•If a meal name is entered incorrectly or left blank, the system will reject the input and prompt the administrator to re-enter the meal name until a valid one is provided.

•If the same meal is entered more than once, the system will display an error message and request a different meal name.

This process ensures accurate and complete assignment of meals to the banquet.

```
=================================================
👉 Enter your choice (1-8): 1

=================================================
🚪 Press: 'Enter' to leave information fields empty
🚪 Type:  '##'    to quit any operation
=================================================
🎉 Create a New Banquet
=================================================
🍽 Enter Banquet Name: Wedding
📅 Enter Banquet Date (YYYY-MM-DD): 2024-10-10
⏰ Enter Banquet Time (HH:MM:SS): 12:00:00
📍 Enter Location: Hung Hom
🏠 Enter Address: 123 Street
💺 Enter Total Seats: 12
📧 Enter Staff Email: emily.smith@example.com

Creating banquet... 🔄

✅ Banquet 'Wedding' created successfully! ✅

=================================================
📋Add Meals to Banquet
=================================================

Available Meals:

BBQ Pork | BBQ Ribs | Beef Steak
Beef Stroganoff | Beef Tacos | Beef Wellington
Butter Chicken | Chicken Alfredo | Chicken Curry
Chicken Satay | Chicken Shawarma | Chicken Tikka Masala
Crab Cakes | Falafel Wrap | Fish and Chips
Fish Tacos | Fried Rice | Grilled Chicken
Grilled Pork Belly | Grilled Salmon | Grilled Shrimp
Halal Chicken | Halal Lamb | Herb-Crusted Fish
Lamb Chops | Lamb Kebabs | Miso Ramen
Mushroom Risotto | Pesto Pasta | Pork Chops
Pork Ribs | Ratatouille | Seafood Paella
Shrimp Scampi | Spinach Quiche | Spinach Ravioli
Stuffed Bell Peppers | Teriyaki Chicken | Tofu Pad Thai
Tofu Stir-fry | Vegan Burger | Vegan Pasta
Vegan Salad | Vegan Tacos | Vegetable Curry
Vegetable Stir-fry | Vegetarian Lasagna | Vegetarian Pho
Vegetarian Pizza | Vegetarian Sushi


=================================================
You must assign four meals to the banquet.
👉 Enter Meal Name: Vegetarian Sushi
💰 Enter Price for 'Vegetarian Sushi': 12
✅ Meal 'Vegetarian Sushi' added successfully.

👉 Enter Meal Name: Tofu Pad Thai
💰 Enter Price for 'Tofu Pad Thai': 12
✅ Meal 'Tofu Pad Thai' added successfully.
```

```
👉 Enter Meal Name: Grilled Shrimp
🔢 Enter Price for 'Grilled Shrimp': 13
✅ Meal 'Grilled Shrimp' added successfully.

👉 Enter Meal Name: Grilled Pork Belly
🔢 Enter Price for 'Grilled Pork Belly': 12
✅ Meal 'Grilled Pork Belly' added successfully.


✅ Meals added successfully

================================================
🍷 Drinks for the Banquet
================================================

Alcoholic Drinks:
   — Ale
   — Beer
   — Bloody Mary
   — Bourbon
   — Brandy
   — Champagne
   — Cider
   — Cosmopolitan
   — Daiquiri
   — Gin
   — Long Island Iced Tea
   — Mai Tai
   — Margarita
   — Martini
   — Mojito
   — Negroni
   — Old Fashioned
   — Pina Colada
   — Porter
   — Red Wine
   — Rose
   — Rum
   — Sangria
   — Scotch
   — Spritzer
   — Stout
   — Tequila
   — Vodka
   — Whiskey
   — White Wine

Alcohol—Free Drinks:
   — Apple Juice
   — Berry Blast
   — Cappuccino
   — Chamomile Tea
   — Cola
   — Espresso
   — Ginger Ale
   — Grape Soda
   — Iced Tea
   — Latte
   — Lemonade
   — Macchiato
   — Mango Smoothie
   — Mocha
   — Orange Juice
   — Peach Tea
   — Root Beer
   — Sparkling Water
   — Still Water


================================================
At least one drink must be assigned, at most you can assign four d

👉 Enter Drink Name: Sparkling Water
🔢 Enter Price for 'Sparkling Water': 12
(51, 'Sparkling Water') added successfully.
👉 Enter Drink Name: White Wine
🔢 Enter Price for 'White Wine': 12
(51, 'White Wine') added successfully.
👉 Enter Drink Name: Lemonade
🔢 Enter Price for 'Lemonade': 10
(51, 'Lemonade') added successfully.
👉 Enter Drink Name: Ginger Ale
🔢 Enter Price for 'Ginger Ale': 11
(51, 'Ginger Ale') added successfully.

✅ Drinks added successfully
✅ Banquet created successfully
```

Figure 23Creating a Banquet

Option 2: Search For Banquets

Administrators can view all the banquets. Each banquet's details are displayed, including the banquet name, address, location, date, time, and availability status.


```
🔍 Search for a Banquet
===================================================
Enter the details to search, or leave fields blank to skip.

🏷 Enter Banquet Name: Wedding
📅 Enter Banquet Date (YYYY-MM-DD):
🏠 Enter Address:
📍 Enter Location:

All fields are empty. All banquets will be displayed


Searching for banquets... 🔄

✅ Search Results:


Banquet 1:
    🆔 BID: 1
    🏷 Name: Wedding Gala
    🏠 Address: 123 Rosewood Ave
    📍 Location: New York
    📅 Date & Time: 2024-11-25 at 18:00:00
    🟢 Available: Yes
    🪑 Total Seats: 200


Banquet 2:
    🆔 BID: 18
    🏷 Name: Wedding Reception
    🏠 Address: 616 Lake Shore Dr
    📍 Location: Austin
    📅 Date & Time: 2024-12-09 at 20:00:00
    🟢 Available: Yes
    🪑 Total Seats: 400


Banquet 3:
    🆔 BID: 51
    🏷 Name: Wedding
    🏠 Address: 123 Street
    📍 Location: Hung Hom
    📅 Date & Time: 2024-10-10 at 12:00:00
    🟢 Available: Yes
    🪑 Total Seats: 12
```

Figure 24 Search Banquet

Option 3: Edit Banquet

The admin can update specific banquet details such as date, time, or availability. Fields can be skipped by pressing Enter, while modified fields require valid input.

```
========================================================
👉 Enter your choice (1–8): 3

========================================================
▐ Press: 'Enter' to leave information fields empty
▐ Type:  '##'    to quit any operation
========================================================
● Edit Banquet
========================================================
Enter the details to search, or leave fields blank to skip.


ID Enter the Banquet ID you want to edit: 51
If you want to skip a field, just press Enter.
  Enter Banquet Name:
📅 Enter Banquet Date (YYYY-MM-DD): 2024-12-20
⏰ Enter Banquet Time (HH:MM:SS):
📍 Enter Location:
🏠 Enter Address:
🪑 Enter Total Seats:
📧 Enter Staff Email:
🟢 Enter Availability (Yes/No): No

Updating banquet... 🔄

✅ Banquet updated successfully.

Do you want to update the meals for this banquet?
This will cause all current meals to be deleted before adding new ones.
👉 Enter your choice (Yes/No): No

Returning to dashboard.
```

Figure 25 Edit Banquet

Option 4: Delete Banquet

The admin can delete a banquet by providing the banquet's ID. This action will permanently remove the banquet and its details from the system.

```
========================================================
👉 Enter your choice (1–8): 4

========================================================
▐ Press: 'Enter' to leave information fields empty
▐ Type:  '##'    to quit any operation
========================================================
🗑 Delete a Banquet
========================================================
ID Enter the Banquet ID you want to delete: 51

✅ Banquet deleted successfully.
```

Figure 26 Edit Banquet

Option 5: Search for Attendees

Administrators can search for attendees using their email addresses. If an attendee is found, their details (name, contact information, type, and organization) are displayed.

Admins can choose to edit the attendee's information directly or return to the dashboard. Input validation ensures that only valid updates are made.


```
==================================================
☞ Enter your choice (1–8): 5

==================================================
█ Press: 'Enter' to leave information fields empty
█ Type:  '##'    to quit any operation
==================================================
🔍 Search for Attendees
==================================================
📧 Enter Email: li.johnson@email.com

Searching attendees... 🔄

✅ Search completed! Attendee Information:

        📧 Email: li.johnson@email.com
        👤 Name: Li Johnson
        📞 Phone: 95124573
        🏠 Address: 968 Cedar St
        🏷 Type: Staff
        🏢 Organization: SPEED

Do you want to edit this attendee's information? (Yes/No): █
```

Figure 27 Search for Attendees

Option 6: Edit Attendee Information

Admins can update attendee details such as phone number, address, attendee type, and affiliated organization.

•Current Information Displayed:

Before editing, the system shows the attendee's existing details for reference.

•Input Validation:

If invalid input (e.g., unsupported attendee type) is entered, the system will reject it and prompt the admin to re-enter the information correctly.

Admins can skip fields they do not wish to update by pressing Enter.

```
================================================
▭ Edit Attendee Information
================================================
✉ Enter Attendee Email: li.johnson@email.com

Current Information:

        ✉ Email: li.johnson@email.com
        👤 Name: Li Johnson
        📞 Phone: 95124573
        🏠 Address: 968 Cedar St
        ♟ Type: Staff
        🖥 Organization: SPEED

Leave fields blank to keep them unchanged.
📞 Enter Phone Number: 51993480
🏠 Enter Address:
♟ Enter Attendee Type (Student, Alumni, Staff, Guest): Alumni
🖥 Enter Affiliate Organization:

Updating attendee information... 🔄

✅ Attendee 'li.johnson@email.com' updated successfully! ✅
```

Figure 28 Edit Attendee Information

Option 7: Generate Reports

Administrators can generate various reports to gain insights into banquet and attendee data. Each report is presented in a tabular format, and some include visualizations such as bar charts or pie charts.

Note: To inable to interact with the terminal again, user should close the graph/pie chart via clicking the x.

The report types that available are:

```
================================================
👉 Enter your choice (1–8): 7

================================================
▌ Press: 'Enter' to leave information fields empty
▌ Type:  '##'    to quit any operation
================================================
📊 Generate Reports
================================================
1 Registration Status
2 Popular Meals
3 Attendance Behavior
4 Summary by Attendee Type
👉 Select report type (1–4): 1
```

Figure 29 Report Generation Choices

•**Registration Status:** Displays the total number of registered and available seats for each banquet.

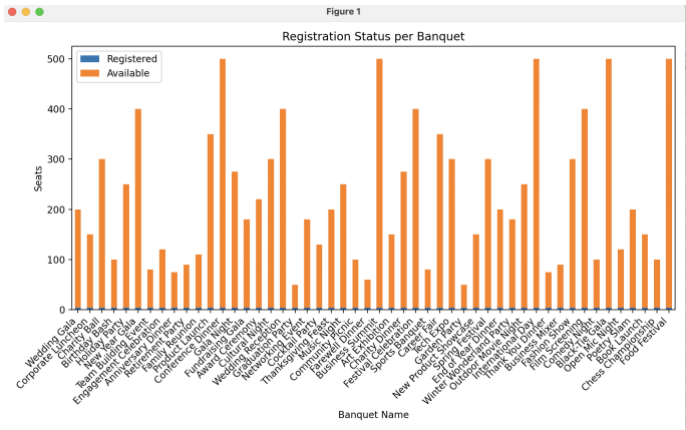*Figure 30 Registration Status Graph*

Figure 31 Registration Status Terminal Output

•Popular Meals: Lists meals ordered most frequently, along with their popularity metrics.
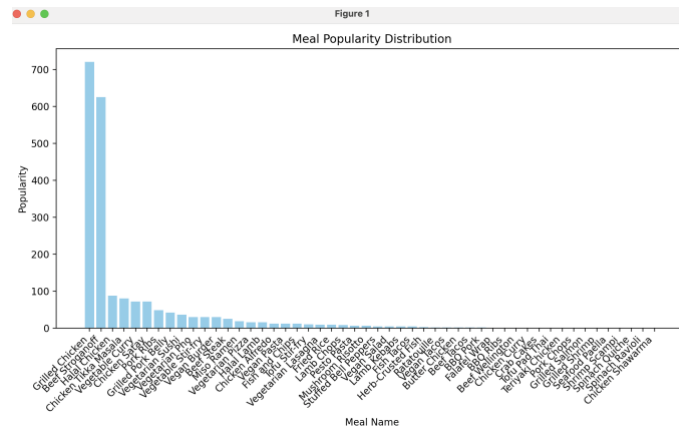
Figure 32 Popular Meals Graph
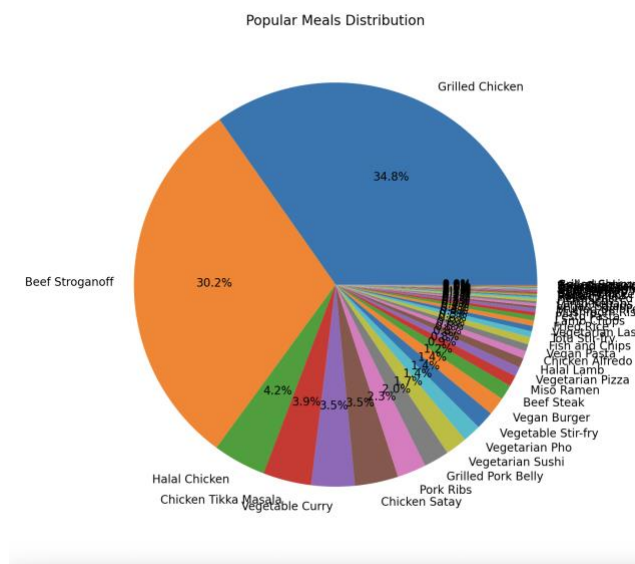
Figure 33 Popular Meals Pie Chart

```
🔍 Popular Meals Report:
+----------------------+------------+
|      Meal Name       | Popularity |
+----------------------+------------+
|    Grilled Chicken   |    720     |
|    Beef Stroganoff   |    625     |
|     Halal Chicken    |     88     |
|  Chicken Tikka Masala|     80     |
|    Vegetable Curry   |     72     |
|     Chicken Satay    |     72     |
|       Pork Ribs      |     48     |
|   Grilled Pork Belly |     42     |
|   Vegetarian Sushi   |     36     |
|    Vegetarian Pho    |     30     |
|  Vegetable Stir-fry  |     30     |
|      Vegan Burger    |     30     |
|      Beef Steak      |     25     |
|      Miso Ramen      |     18     |
|   Vegetarian Pizza   |     16     |
|      Halal Lamb      |     16     |
|    Chicken Alfredo   |     12     |
|      Vegan Pasta     |     12     |
|    Fish and Chips    |     12     |
|     Tofu Stir-fry    |     10     |
|  Vegetarian Lasagna  |      9     |
|       Fried Rice     |      9     |
|      Lamb Chops      |      8     |
|      Pesto Pasta     |      6     |
|   Mushroom Risotto   |      6     |
|      Lamb Kebabs     |      4     |
|       Fish Tacos     |      4     |
|  Stuffed Bell Peppers|      4     |
|      Vegan Salad     |      4     |
|   Herb-Crusted Fish  |      3     |
|      Ratatouille     |      2     |
|      Vegan Tacos     |      2     |
|     Butter Chicken   |      2     |
|       Beef Tacos     |      2     |
|        BBQ Pork      |      2     |
|     Grilled Shrimp   |      1     |
|     Grilled Salmon   |      1     |
|       Pork Chops     |      1     |
|    Teriyaki Chicken  |      1     |
|     Tofu Pad Thai    |      1     |
|     Falafel Wrap     |      1     |
|       Crab Cakes     |      1     |
|     Chicken Curry    |      1     |
|    Beef Wellington   |      1     |
|        BBQ Ribs      |      1     |
|     Seafood Paella   |      0     |
|     Shrimp Scampi    |      0     |
|     Spinach Quiche   |      0     |
|     Spinach Ravioli  |      0     |
|    Chicken Shawarma  |      0     |
+----------------------+------------+
```

Figure 34 Popular Meals Terminal

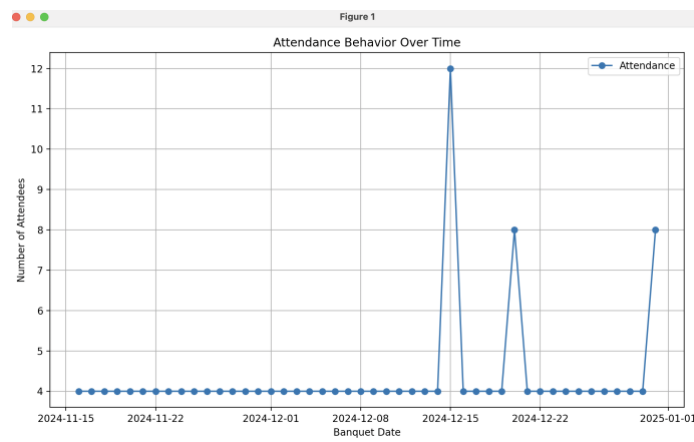•**Attendance Behavior:** Tracks attendee numbers over time for different banquets.

Figure 35 Attendance Behavior Graph

```
  Attendance Behavior Report:
+--------------+-------------+
| Banquet Date | Attendance  |
+--------------+-------------+
|  2024-11-16  |      4      |
|  2024-11-17  |      4      |
|  2024-11-18  |      4      |
|  2024-11-19  |      4      |
|  2024-11-20  |      4      |
|  2024-11-21  |      4      |
|  2024-11-22  |      4      |
|  2024-11-23  |      4      |
|  2024-11-24  |      4      |
|  2024-11-25  |      4      |
|  2024-11-26  |      4      |
|  2024-11-27  |      4      |
|  2024-11-28  |      4      |
|  2024-11-29  |      4      |
|  2024-11-30  |      4      |
|  2024-12-01  |      4      |
|  2024-12-02  |      4      |
|  2024-12-03  |      4      |
|  2024-12-04  |      4      |
|  2024-12-05  |      4      |
|  2024-12-06  |      4      |
|  2024-12-07  |      4      |
|  2024-12-08  |      4      |
|  2024-12-09  |      4      |
|  2024-12-10  |      4      |
|  2024-12-11  |      4      |
|  2024-12-12  |      4      |
|  2024-12-13  |      4      |
|  2024-12-14  |      4      |
|  2024-12-15  |     12      |
|  2024-12-16  |      4      |
|  2024-12-17  |      4      |
|  2024-12-18  |      4      |
|  2024-12-19  |      4      |
|  2024-12-20  |      8      |
|  2024-12-21  |      4      |
|  2024-12-22  |      4      |
|  2024-12-23  |      4      |
|  2024-12-24  |      4      |
|  2024-12-25  |      4      |
|  2024-12-26  |      4      |
|  2024-12-27  |      4      |
|  2024-12-28  |      4      |
|  2024-12-29  |      4      |
|  2024-12-30  |      4      |
|  2024-12-31  |      8      |
+--------------+-------------+
```

Figure 36 Attendance Behavior Terminal Output

•**Summary by Attendee Type:** Provides a breakdown of registrations based on attendee categories (e.g., student, alumni, staff).
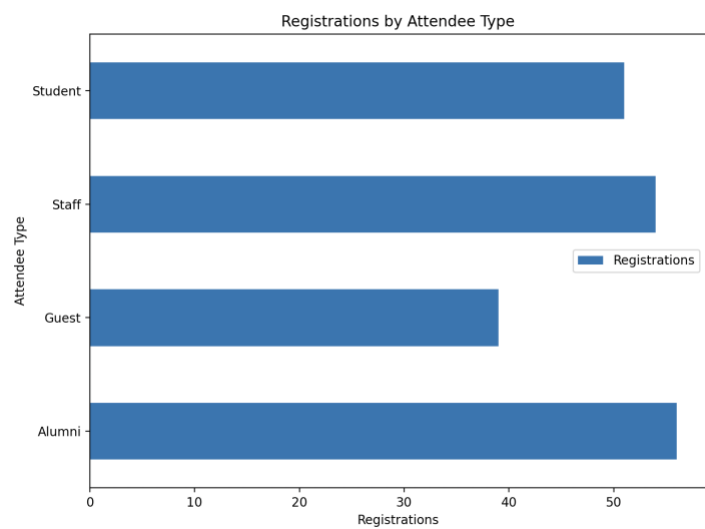

Figure 37 Summary by Attendee Graph

Figure 38 Summary by Attendee Terminal Output

Option 8: Logout

To log out of your account, simply type 8 and press Enter. To exit the system type 3 and press enter.

Figure 39 Logout as Admin