Term Project Proposal

Course Code: CNG 495

Semester-Year: Fall - 2023

NCC Campus Event Manager

Team Members:

Member 1: Berke Diler (2401503)

Member 2: Keremcan Adanur (2452902)

Member 3: Gökberk Lük (2453405)

Project Name: NCC Campus Event Manager

Project Topic

The NCC Campus Event Manager is a Serverless Application designed to assist campus societies and individuals in organizing and sharing events seamlessly. The application exclusively allows users with a metu-mail to sign-up. There are two user roles: Students, and Admins.

User Roles

- **Students:** The majority of users who can view and request bookings for events.
- **Admins:** Admins with privileges to add/delete events, set capacities, manage users/participants, and oversee the application. App will recognize Admins while signing in.

Functionalities

- **User Authentication:** Users must have an account to view events. The app will display a login/sign-up page for users without an account.
- **Booking System:** Registered users can request bookings for events with limited capacity. If the event does not have a capacity, they can still book it to see it on booked events tab.
- **Admin Portal:** Admins have a portal to manage the application, including event management and user administration.

Cloud Delivery Models

- **PaaS (Platform as a Service):** AWS Amplify for the serverless backend and AWS Cognito for user authentication. Amplify studio is going to be used as a platform to manage cloud services.

- **IaaS (Infrastructure as a Service):** Amazon S3 or Amazon DynamoDB for storage and database, AWS Lambda for serverless computing.

Diagrams/Figures

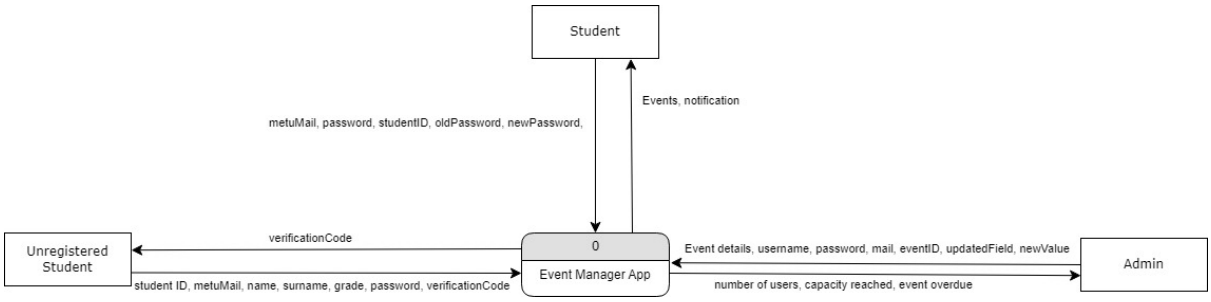

Figure 1: Context Level Data Flow Diagram

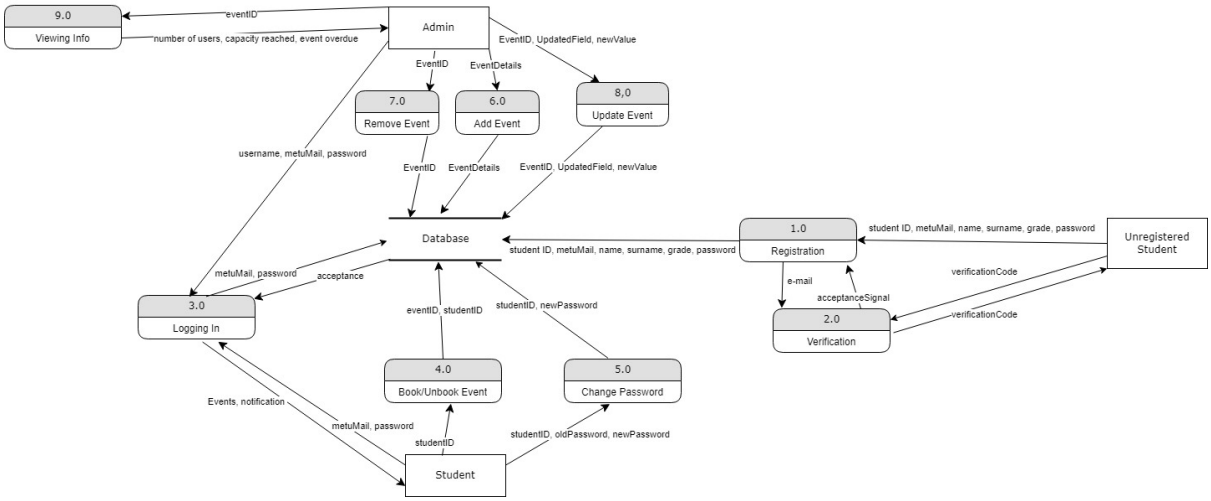

Figure 2: 0 - Level Data Flow Diagram

Data Types

verificationCode: bool
studentID: int
metuMail: mail
name: string
surname: string
grade: string
password (oldPassword, newPassword): password
EventDetails: JSON
notifications: string
username: string
eventID: int
updatedField: string
newValue: depends on the field
number of users: int
capacity reached: bool
event overdue: string

Figure 3: Data Types Table

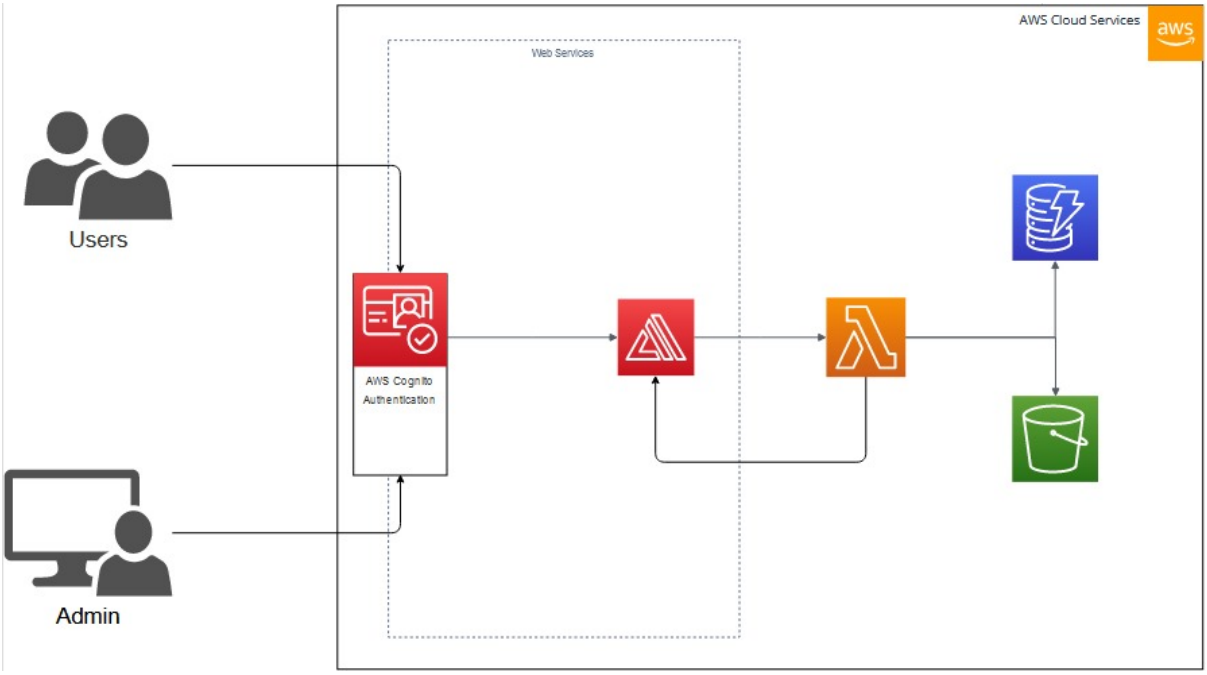

Figure 4: Cloud Computation Diagram

Expected Contribution

The success of the NCC Campus Event Manager project relies on the collaborative efforts of each team member. Below is a detailed breakdown of the expected contributions for each member:

1. **Berke Diler (2401503):**
    - **Frontend Development:** Design and implement the user interface of the application.
    - **User Authentication:** Implement the user authentication system using AWS Cognito.
    - **Booking System Frontend:** Develop the frontend components related to the booking system.
    - **Cloud Services Integration:** Research and implement the integration of AWS Cognito for user authentication.
2. **Keremcan Adanur (2452902):**
    - **Backend Development:** Implement the serverless backend using AWS Amplify.
    - **Database Integration:** Set up and integrate the database using Amazon DynamoDB.
    - **Cloud Services Integration:** Research and implement the integration of AWS Amplify for backend services, and Amazon DynamoDB for database storage.
3. **Gökberk Lük (2453405):**
    - **Admin Portal Development:** Design and implement the admin portal for managing events and users.
    - **AWS Amplify Configuration:** Configure AWS Amplify Studio for managing cloud services.
    - **Cloud Services Integration:** Research and implement the integration of AWS Amplify Studio for managing cloud services.

Note: All team members are expected to actively participate in research and contribute to the implementation of cloud services and development of certain back-end services. The responsibilities listed above represent their main focus areas.

Project Scope

The scope of the NCC Campus Event Manager project encompasses the following key aspects:

- **User Authentication and Authorization:** Implement a secure user authentication system using AWS Cognito. Users with a metu-mail and a student ID will be allowed to create accounts and access the platform.
- **Event Management:** Develop a comprehensive event management system, allowing event managers to create, modify, and delete events. Admins should have the capability to oversee and manage all events on the platform.
- **Booking System:** Implement a booking system for events with limited capacity. Users should be able to request bookings, and event managers can accept or reject these requests.
- **Admin Portal:** Create an administrative portal for admins to manage the application efficiently. Admins should be able to add and delete events, manage users, and perform other administrative tasks.
- **Event Manager Interface:** Design and implement a user-friendly interface for event managers. This interface should allow them to create events, set event types, specify locations, manage capacities, and upload banners for promotion.
- **Data Storage and Retrieval:** Utilize AWS services, including Amazon S3 for file storage, Amazon DynamoDB for database management, and AWS Lambda for serverless computing to ensure efficient data storage and retrieval.
- **User Experience:** Prioritize an intuitive and responsive user interface for users. Ensure a seamless experience for students, admins, and event managers.

References

1. Amazon Cognito. (n.d.). Retrieved from https://aws.amazon.com/cognito/

2. Amazon S3. (n.d.). Retrieved from https://aws.amazon.com/s3/

3. Amazon DynamoDB. (n.d.). Retrieved from https://aws.amazon.com/dynamodb/

4. AWS Lambda. (n.d.). Retrieved from https://aws.amazon.com/lambda/

5. AWS Amplify. (n.d.). Retrieved from https://aws.amazon.com/amplify/