# Project Plan: Event Management and Greeting Card Generator

## Homepage Menu

The homepage will have a menu with the following elements:  
1. Show Events for Today  
2. Show Events for This Month  
3. Add an Event  
4. Generate a Greeting Card  
5. Exit

## Features

### 1. Show Events for Today

- Fetch and display events from the database where the date is today's date.  
- Provide an option for each event to generate a greeting card.  
SQL Query:  
 SELECT \* FROM events WHERE date = CURRENT\_DATE;

### 2. Show Events for This Month

- Fetch and display all events from the database where the date falls within the current month.  
- Include a feature to generate greeting cards for each event.  
SQL Query:  
 SELECT \* FROM events WHERE EXTRACT(MONTH FROM date) = EXTRACT(MONTH FROM CURRENT\_DATE);

### 3. Add an Event

- A form to input event details (e.g., name, date, and description).  
- Save the event to the database.  
SQL Query:  
 INSERT INTO events (name, date, description, created\_at)   
 VALUES ('Event Name', 'YYYY-MM-DD', 'Description', CURRENT\_TIMESTAMP);

### 4. Generate a Greeting Card

- For each event, generate a greeting card with the theme and text based on event details.  
- Example greeting card layout:  
 - Title: Event Name  
 - Body: Description + Custom Wishes (e.g., "Have a wonderful day celebrating [Event Name]!").  
- Optionally integrate a library to generate PDF or image-based cards.

### 5. Exit

- A simple button to close the application or end the session.

## Database Design

A simple relational database table might look like this:  
  
Table: events  
| Column Name | Data Type | Description |  
|----------------|--------------|---------------------------------|  
| id | Integer | Primary key, unique identifier |  
| name | Text | Name of the event |  
| date | Date | Date of the event |  
| description | Text | A short description of the event |  
| created\_at | Timestamp | Timestamp for event creation |

## Integration with AWS Services

To enhance the application using AWS services, the following can be integrated:  
  
1. \*\*AWS RDS (Relational Database Service):\*\*  
 - Use Amazon RDS for hosting the database (e.g., MySQL, PostgreSQL).  
 - Ensure data security and automated backups.  
  
2. \*\*AWS Lambda:\*\*  
 - Use serverless functions for generating greeting cards or managing backend logic.  
  
3. \*\*AWS S3 (Simple Storage Service):\*\*  
 - Store generated greeting cards as files (PDF or images) for easy retrieval.  
  
4. \*\*AWS DynamoDB:\*\*  
 - Use DynamoDB as an alternative NoSQL database for events if flexibility is required.

## Workflow with AWS Services

1. \*\*Database Integration:\*\*  
 - Configure Amazon RDS to store and retrieve event data securely.  
  
2. \*\*Backend Processing:\*\*  
 - Use AWS Lambda for processing event data and generating greeting cards.  
  
3. \*\*Storage and Retrieval:\*\*  
 - Store greeting cards in S3 and retrieve them using pre-signed URLs.  
  
4. \*\*User Notifications:\*\*  
 - Use AWS SES to send automated emails for event reminders or greeting cards.  
  
5. \*\*Frontend Hosting:\*\*  
 - Host the frontend application on AWS Amplify or S3 with CloudFront.  
  
6. \*\*Authentication:\*\*  
 - Use AWS Cognito to handle user login, registration, and authentication.