**Assignment for Backend Developer (Python Django) - Technical Evaluation**

**Problem Statement**:

Our web application, originally developed for small-scale businesses, has experienced rapid growth in recent months, resulting in a significant increase in the number of registered customers. As a result, we are facing challenges related to database performance, customer data management, and enhancing customer engagement. Your task is to address these challenges by implementing specific improvements in our backend using Python Django.

Current Registered user field consists of ;

* Username
* Fullname
* Birth of date (b.o.d)
* Email
* Ph number

**Tasks:**

**1. Customer Delivery Location Management:**

To enhance user experience and provide more functionality to our customers, you are required to implement a feature for managing and displaying customer delivery locations on a map. Your tasks involve:

* Adding the capability for customers to input and store their delivery locations.
* Designing and implementing a map-based interface that displays these locations.
* Creating a well-documented API that allows the frontend to retrieve and display delivery locations on the map.

**2. Automated Birthday Greetings:**

To foster customer engagement and build stronger relationships, you need to implement an automated system that sends birthday greetings to customers on the midnight of their birthdays. Your responsibilities include:

* Developing a scheduled task that identifies customers with upcoming birthdays.
* Designing a messaging system that sends personalized birthday greetings to each customer.

**4. Age Group Analysis with Bar Graph API:**

To provide insights into customer demographics, you are required to create an API that generates a bar graph categorizing customers into age groups. Your tasks involve:

* Defining age group categories (e.g., 1-20, 20-40, 40+).
* Implementing a query to retrieve customer ages from the database.
* Designing and building an API endpoint that calculates the distribution of customers across different age groups.
* Using a visualization library (e.g., Matplotlib or Plotly) to generate a bar graph representing the age group distribution.

Submission Guidelines:

* You are expected to provide a well-documented codebase that follows best practices in terms of code structure, readability, and maintainability.
* Include clear instructions on how to set up and run the application locally for evaluation purposes.
* Provide a brief explanation of your design decisions and the technologies/libraries used.
* Evaluation Criteria:
* You will be evaluated based on the quality and functionality of your code, your ability to design and implement solutions to complex problems, adherence to best practices, and the overall user experience of the application.

We look forward to reviewing your solutions and assessing your capabilities as backend developers.. Good luck!