User Guide for CarbCapture Application

Overview

The CarbCapture application is designed to assist people with diabetes in accurately estimating their insulin dosage for meals based on carbohydrate content and their current blood glucose levels. The app integrates real-time glucose monitoring data from Dexcom devices and uses image recognition to analyze meals, providing a precise estimate of required insulin. This user guide explains the key functionalities and how to use the app effectively.

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1. Getting Started

1. **Download and Installation**
    - The app can be downloaded from the Apple Store or Google Play Store.
    - Install the application and open it on your mobile device.
2. **Login and Initial Setup**
    - **Login to Dexcom Account:** Click on the popup to use your Dexcom credentials to connect your Continuous Glucose Monitoring (CGM) device.
    - **Set Carb-to-Insulin Ratio:** You will be prompted to enter your personalized carb-to-insulin ratio. This ratio will be used in insulin dosage estimation.
3. **Permissions**
    - Allow the app to access your camera and storage for capturing meal images and saving data logs.
    - Ensure internet connectivity for API calls and data retrieval from Dexcom.

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2. User Interface Overview

1. **Welcome Screen**
    - Displays a brief introduction to the app.
    - Options to navigate to settings, view logs, or begin capturing meal data.

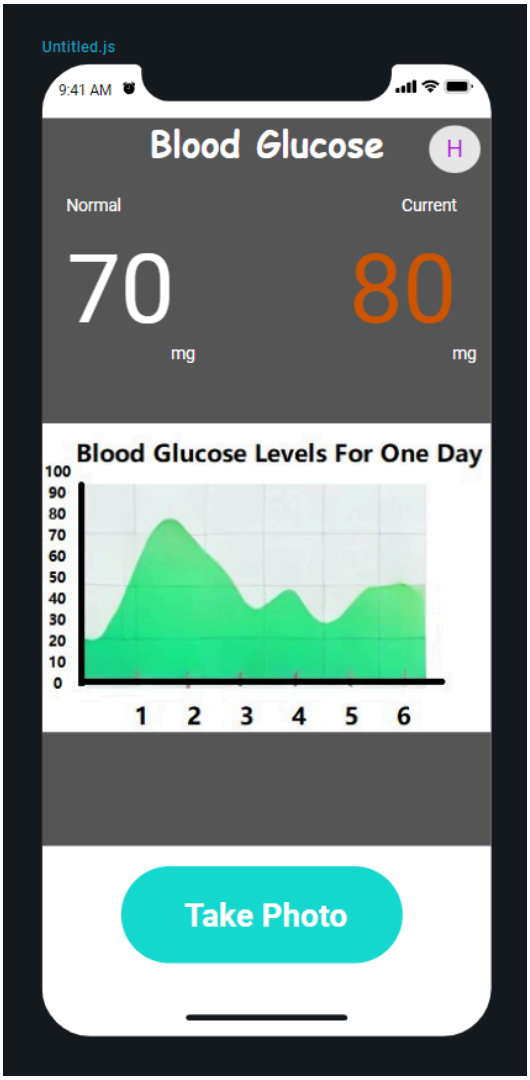

Fig X. Blah Blah

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2. **Current Blood Glucose Display**
    - The primary screen shows real-time glucose levels, which are fetched from the connected Dexcom device.
    - Includes **Normal** and **Current Glucose** readings (Refer to the image in the guide).

3. **Meal Capture and Analysis**
    - Use the **Take Photo** button to capture an image of your meal.
    - The app sends the photo to OpenAI's image recognition API to estimate the carbohydrates in the meal.

- The analysis result includes a detailed carbohydrate breakdown and the corresponding insulin recommendation.

4. **Daily Log and Historical Data**
    - Users can view their blood glucose levels throughout the day using the "Blood Glucose Levels For One Day" chart.
    - The chart updates dynamically as new data is fetched.

5. **Personalized Analysis and Recommendations**
    - After calculating the carb-to-insulin ratio, the app provides personalized analysis.
    - Example: “Blood sugar levels higher than usual. Consider adjusting your breakfast.”

6. **Settings**
    - Manage Dexcom integration and set up notification preferences.
    - Access **Data Logs** to view previous meals and blood glucose records.
    - Update carb-to-insulin ratios as needed.