Assignment: Egg Timer App Development Using iOS UIKit

Objective

Develop an iOS application that functions as an egg timer. The app should allow users to select between three types of eggs—soft-boiled, medium-boiled, and hard-boiled. When a user taps on an egg type, a timer starts for the corresponding cooking duration. A progress bar updates on the screen, and when the timer completes, an alarm sound plays.

Requirements

1. App Interface
- **Egg Selection:**
  - Display three UIImageView elements representing different types of eggs:
    - Soft-Boiled Egg
    - Medium-Boiled Egg
    - Hard-Boiled Egg
  - Add buttons for eggs that users can tap.
- **Layout:**
  - Use Auto Layout to ensure the app displays correctly on all iPhone screen sizes.
  - Align the egg images either vertically or horizontally, based on your design preference.
- **Progress Bar:**
  - Include a progress bar that visually represents the timer countdown.
  - Position the progress bar beneath the egg images.

2. Timer Functionality
- **Cooking Durations:**
  - Assign different durations to each egg type:
    - Soft-Boiled: 5 minutes
    - Medium-Boiled: 7 minutes
    - Hard-Boiled: 12 minutes
- **Starting the Timer:**
  - When an egg image is tapped, start a countdown timer for the corresponding duration.
  - If a timer is already running, reset it when a new egg is selected.
- **Progress Update:**
  - Update the progress bar in real-time to reflect the remaining time.
  - Optionally, display the remaining time in minutes and seconds above or below the progress bar.
- **Alarm Sound:**
  - When the timer reaches zero, play an alarm sound to notify the user.

3. User Interaction
- **Visual Feedback:**
  - Provide visual feedback when an egg image is tapped (e.g., briefly change the opacity or add a subtle animation).
- **Interruptions:**
  - Allow users to cancel the timer by selecting another egg.

4. Code Structure
- **Language & Framework:**
  - Use Swift and UIKit for development.
  - Do not use SwiftUI or any third-party libraries.
- **Organization:**
  - Keep your code clean and well-organized.
  - Use descriptive variable and function names.
  - Comment your code to explain key functionalities.

Submission Instructions
- **Project Submission:**
  - Send your entire Xcode project folder into git repo.
- **README File:**
  - Include a README.md with:
    - Your name.
    - Instructions on how to build and run the app.
    - Description of any optional features implemented.