

My project's name is OK Bloomer Beta and was created to control an automated plant caretaker for my mechanical engineering design class from fall 2024. I used Bluetooth to pair to the Arduino, and it sends back sensor data such as soil moisture, temperature, and light levels to the app. From the app, the user can turn on the pump to water the plant and calculate the remaining water left in the tank.

I built this using Xcode Version 16.1 (16B40) and Apple Swift version 6.0.2. The target deployment is iOS 18. No further dependencies are needed.

I ran this app directly on my iPhone 14 Pro, as it needs Bluetooth capability. It also requires an Arduino Uno R4 that has the service UUID and characteristic UUID coded to match what is in the swift code for this project. This was demoed on my prototype, and I will provide a recording of a demo. The orientation of this app is meant to be portrait.

Required Feature Checklist

✓ "Settings" screen. The two behaviors implemented are:
dark mode, sound on/off

✓ Non-default fonts and colors used

Two major elements used:

✓ Login/register path with Firebase

- Core Data

✓ User Profile path using camera and photo library

- Multithreading

- SwiftUI

Minor Elements used:

- Two additional view types such as sliders, segmented controllers, etc. The two

implemented are: sliders, segmented controller

At least one of the following:

- Table View

✓ Collection View

- Tab VC

- Page VC

At least one of the following:

- Alerts

- Popovers

- Stack Views

- Scroll Views

- Haptics

✓ User Defaults

At least one of the following:

- ✓ Local notifications
 - .. Core Graphics
 - .. Gesture Recognition
 - .. Animation
 - .. Calendar
 - .. Core Motion
 - .. Core Location / MapKit
- ✓ Core Audio
 - .. Firebase (if not used to fulfill Major Element requirement)
 - .. Core Data (if not used to fulfill Major Element requirement)
- ✓ Other (such as QR code, Koloda, etc.) with approval from the instructor - Core Bluetooth