

## Summary:

The requirement was to develop a mobile application to communicate with a smart device, built to serve as a medication reminder, using BLE. The intent was to offer an effective and affordable medication management solution to improve medication adherence allowing interventions by caregivers, and other concerned people, based on need.

## Client details:

**Name:** Confidential | **Type:** Healthcare | **Location:** USA

**Technologies:** iOS SDK 8.0 and above, BLE, Xcode (8.1), Swift 3.0.

## Description:

A Smart Pill box, this device enables patients to cope with medication compliance. Features available are audible reminders along with LED indicators. The team at Mindfire developed a native iOS mobile application, using Apple's Swift 3.0 language, to communicate with the device using the BLE. Firstly, the app registers the device on the server to generate a unique user ID. This makes it possible to fetch the reminders' list from the server and set them onto the device as per the required time schedules. The device is programmed to beep at the scheduled times, acting as reminders. There is also provision to re-program the device and change the schedule of the reminders in the event of time zone changes or daylight savings for specific time zones.

## Feature Description

Pairing Screen:

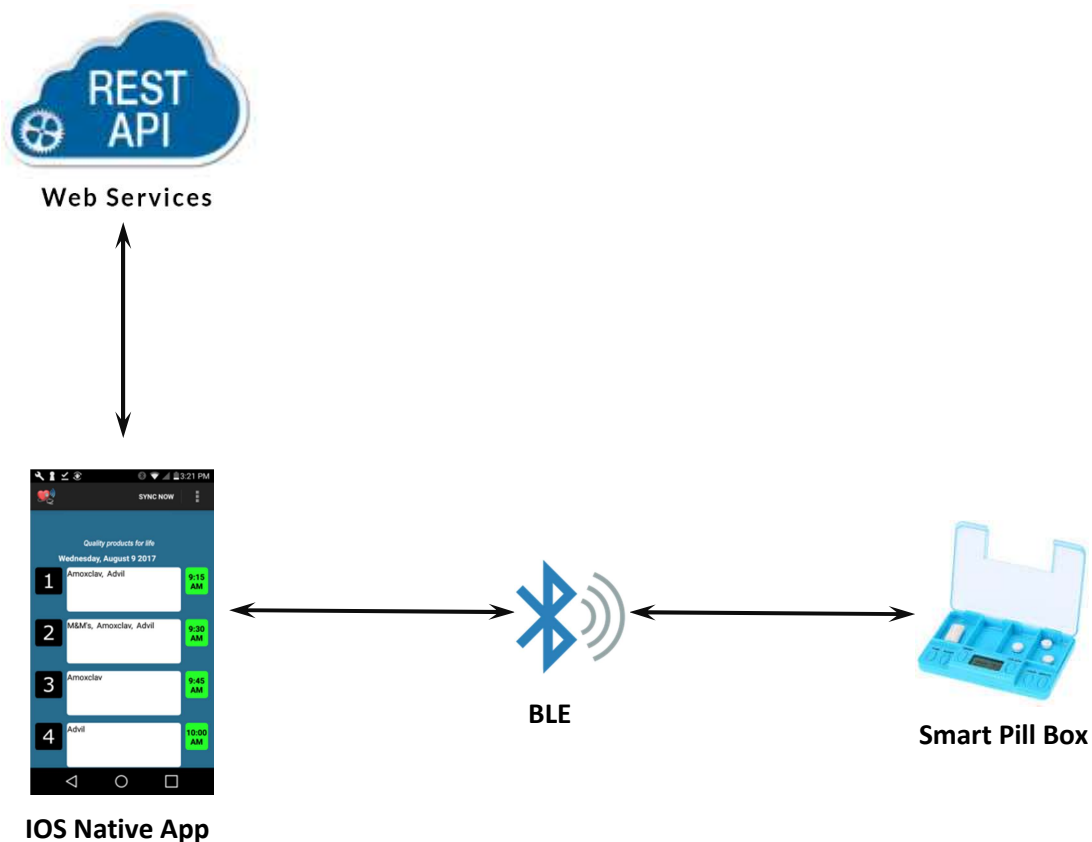
Pairing screen displays the information to the user to insert the batteries into the Smart Pill box and lets the application start searching for Bluetooth devices in the vicinity. If the user

hasn't registered the pill box, then the application registers it on the server and saves the unique user ID and key for all future requests. In the event of the device being registered already, the application searches for and connects with the Smart Pill Box and for the particular device, downloads the reminders-data from the server and programs them on the device using BLE technology.

### Medication Screen:

This section displays the medicine names contained in various wells/compartments of the Smart Pill box, along with the scheduled times at which they are supposed to be taken by the user. Data is collected from the device and updated into the server. Subsequently related medication information is fetched from the server to display the appropriate statuses of medications for various wells i.e. whether they are scheduled, taken or not, along with the scheduled/taken time. Color coding is done to reflect the same.

### Architecture:



Screenshots:



Screen 1: Adding New Device



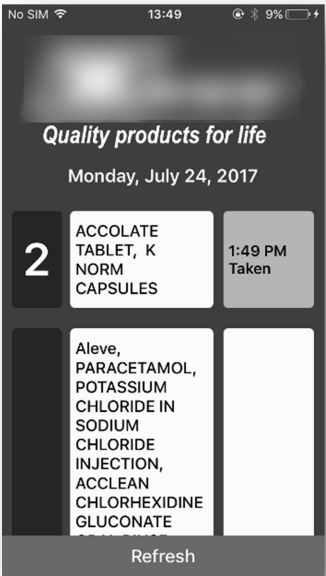
Screen 2: Searching for New Device



Screen 3: Pairing New Device



Screen 4: Medicines Scheduled



Screen 5: Details of Medicines Taken