Models:

* Beacon: this class holds all of the information regarding the beacon used to sign in
  + String Name
  + Id // not necessary; usually set to null since the device ids cannot always be identified
  + String Course id – the course for which the beacon is set to
  + String Instructor name
  + String Address - the device address used for Bluetooth pairing
* BeaconSingleton: this is the singleton for accessing the list of possible beacons registered by a user. There is only one instance of this class, as it ensures that the entire app only references one set of beacons
  + mBeacons – array of Beacon objects
  + sBeacon – an instance of itself (beaconSingleton)
  + mAppContext – the context of the current application, required for instantiation
* Course: this class holds information pertaining to a specific course a user is registered
  + String className - name of the course
  + String instructorName – name of the course’s instructor
  + String dates – days that course meets e.g. Monday and Wednesday
  + String beaconName – name of beacon registered to the user
  + Map<Date, Boolean> daysPresent – local map using dates as keys and a Boolean of whether the student is present
* CourseSingleton: Similar to the BeaconSingleton, this class is used for accessing the list of courses local to the users phone (pulled from the database)
  + mCourses – array of course objects
  + sCourse – an instance of itself (courseSingleton)
  + mAppContext - the context of the current application, required for instantiation
* BluetoothSingleton: this class allows for consistent Bluetooth scanning across each activity of the device. It instantiates one Bluetooth adapter and receiver object for scanning and identifying the beacon.
  + BluetoothSingleton sBluetoothSingleton – This is the universal instantiation of itself
  + mAppContext - the context of the current application, required for instantiation
  + IntentFilter filter
* Student: this class holds all of the information specific to a user such a

View:

* CourseAdapter – this class is used to construct a custom list adapter for displaying the courses within an android listView object. This class is linked to the item\_course.xml layout file which contains 3 textView objects for displaying the course name, instructor name and date, and a checkbox object for the student’s attendance

Main Activity: This is the main activity/entry point for the application. It holds layouts for both the login screen and the registration screen; by default, the login screen is presented to the user first. The ‘register’ button hides the login layout, and inflates the registration layout. Forgot password directs the user to a page on the firebase website, which allows the user to change their password.

ProfessorManageCoursesActivitty: This is the activity class pertaining to the professor\_manage\_courses layout. This allows the instructor to add or remove classes, as well as see information pertaining to each of the courses.

StudnetClassManagemetActivity: This functions similar to the instructor user, but is geared toward the student user. There is a toggleScanButton which allows the user to turn automatic Bluetooth detection on or off. Once the user has signed in, or if the app is no longer need, the user can toggle off the search to prevent it from running in the background