

Application documentation

FEATURES OF THE APPLICATION:

- Detecting if bluetooth is enabled / disabled
- User can enable the Bluetooth from the app
- User can select whether the app should disable the Bluetooth during closing
- App scans for all available boards, which have Automation IO BLE service
- User can connect to selected board
- Once connected, app fetches the pins data, which are defined by the sketch running on the board
- User can manage the IO pins on the board:
 - User can subscribe to receive value from multiple digital input pins
 - User can subscribe to receive value from multiple analog input pins
 - ~~○ User can add digital output pins to the list to set their state~~
(problem with the Apache Cordova BLE library, more details below)
 - ~~○ User can add analog output pins to the list to set their state~~
(problem with the Apache Cordova BLE library, more details below)
- Once disconnected from the board, the app search for the boards automatically
- The app has the console, which contains all messages, generated by the app
- The app displays the toasts (little notifications on the bottom of the screen)
- User can enable / disable showing toasts in the app

FEATURES TO BE DONE IN THE FUTURE

- Because of the fact that used Cordova BLE library is implemented fully for Android platform, the app is available on Android only; iOS implementation of the Cordova BLE library would have to be done in the future
- Because of the problem with certain functions in Cordova BLE library, setting states of digital and analog output pins of the board do not work; more time would be needed to investigate the problem and implement this feature

VERSIONS OF THE TOOLS AND LIBS USED

- **Intel XDK:** v2366
- **Ionic framework:** 1.0.0-beta.1
- **Ionicons:** 2.0.1
- **Cordova:** 5.1.1
- **Crosswalk runtime:** 14

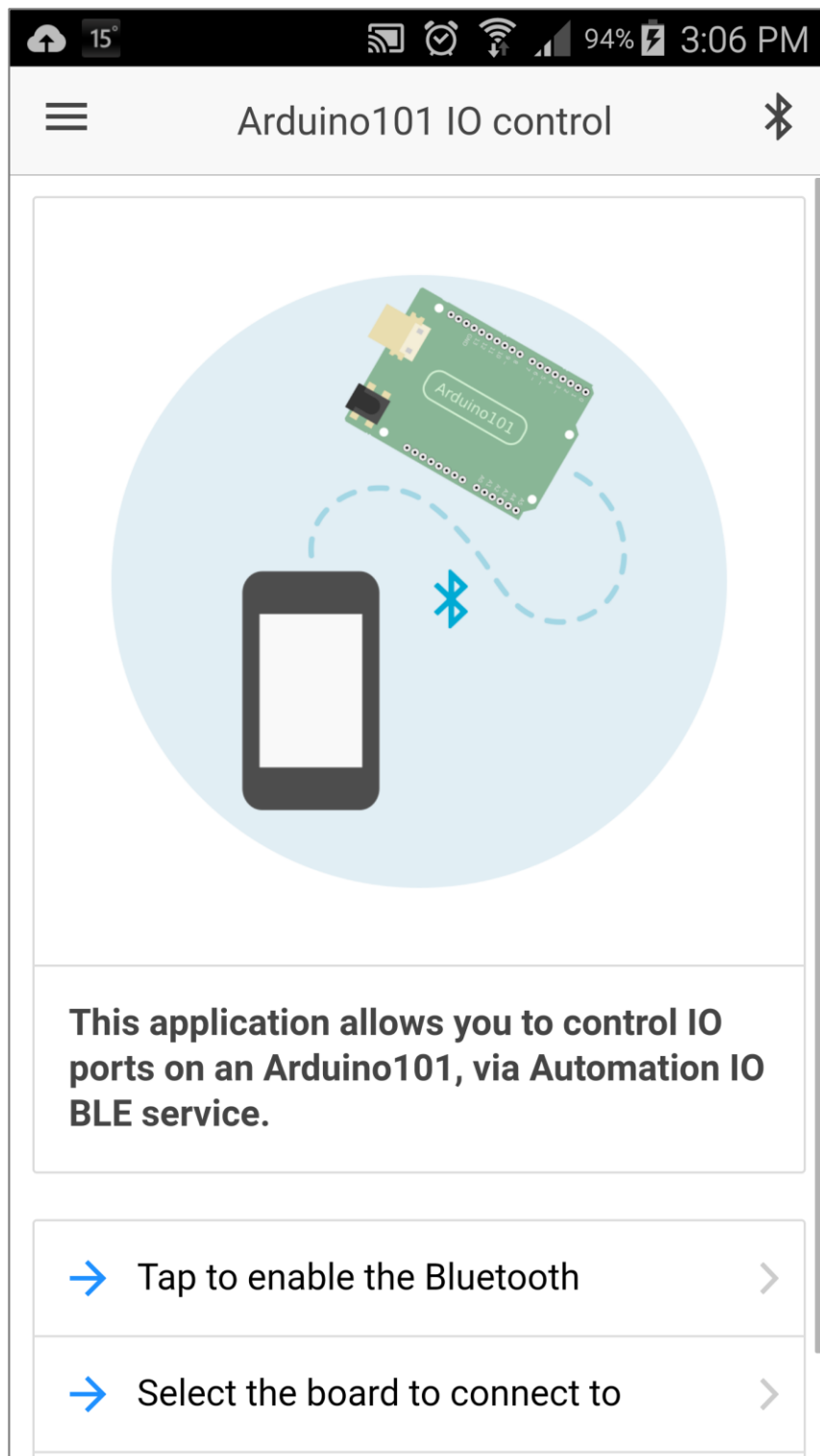
ADDITIONAL INFORMATION

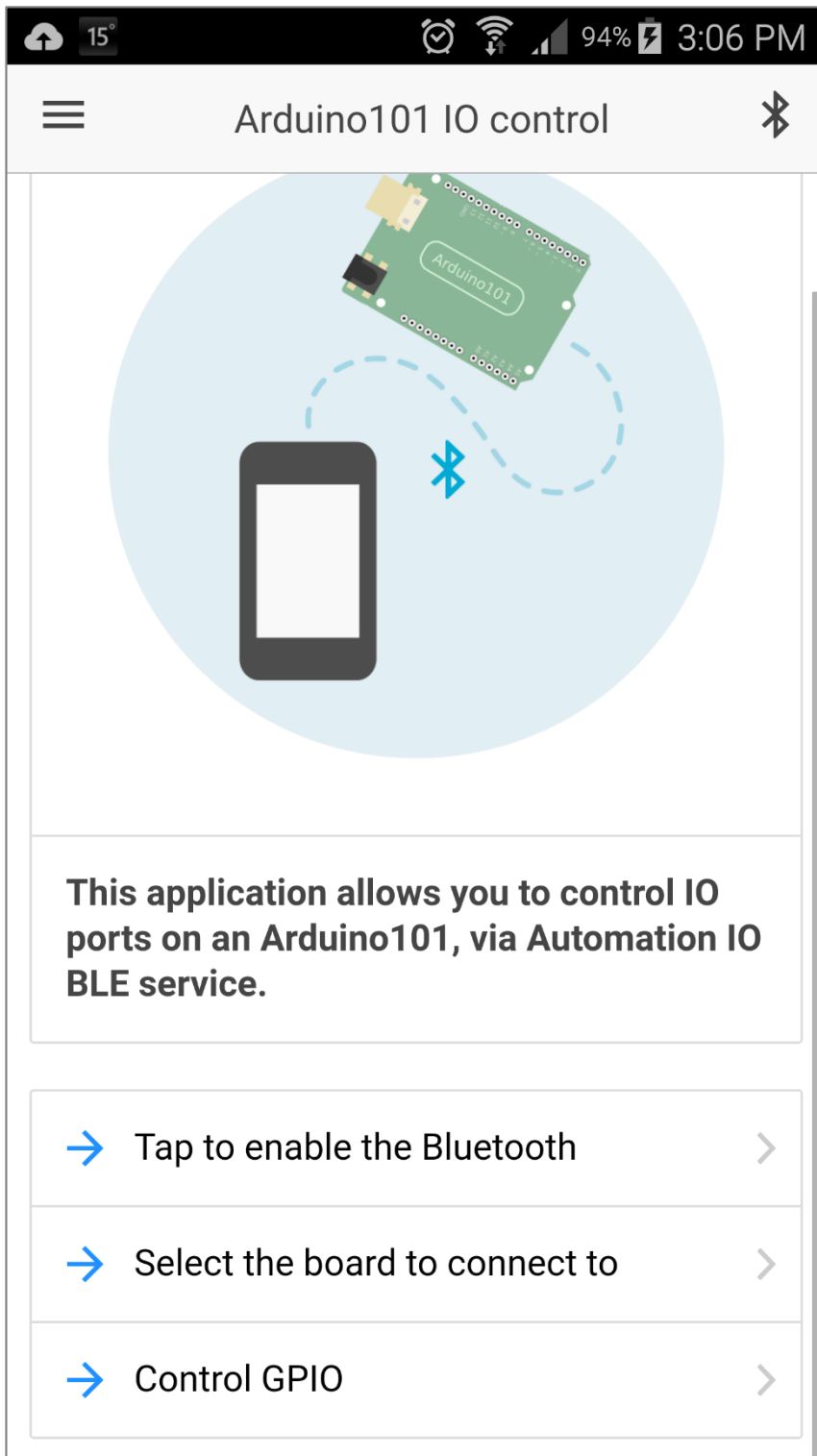
- **Minimum Android API: 18**
- **Target Android API: 22**

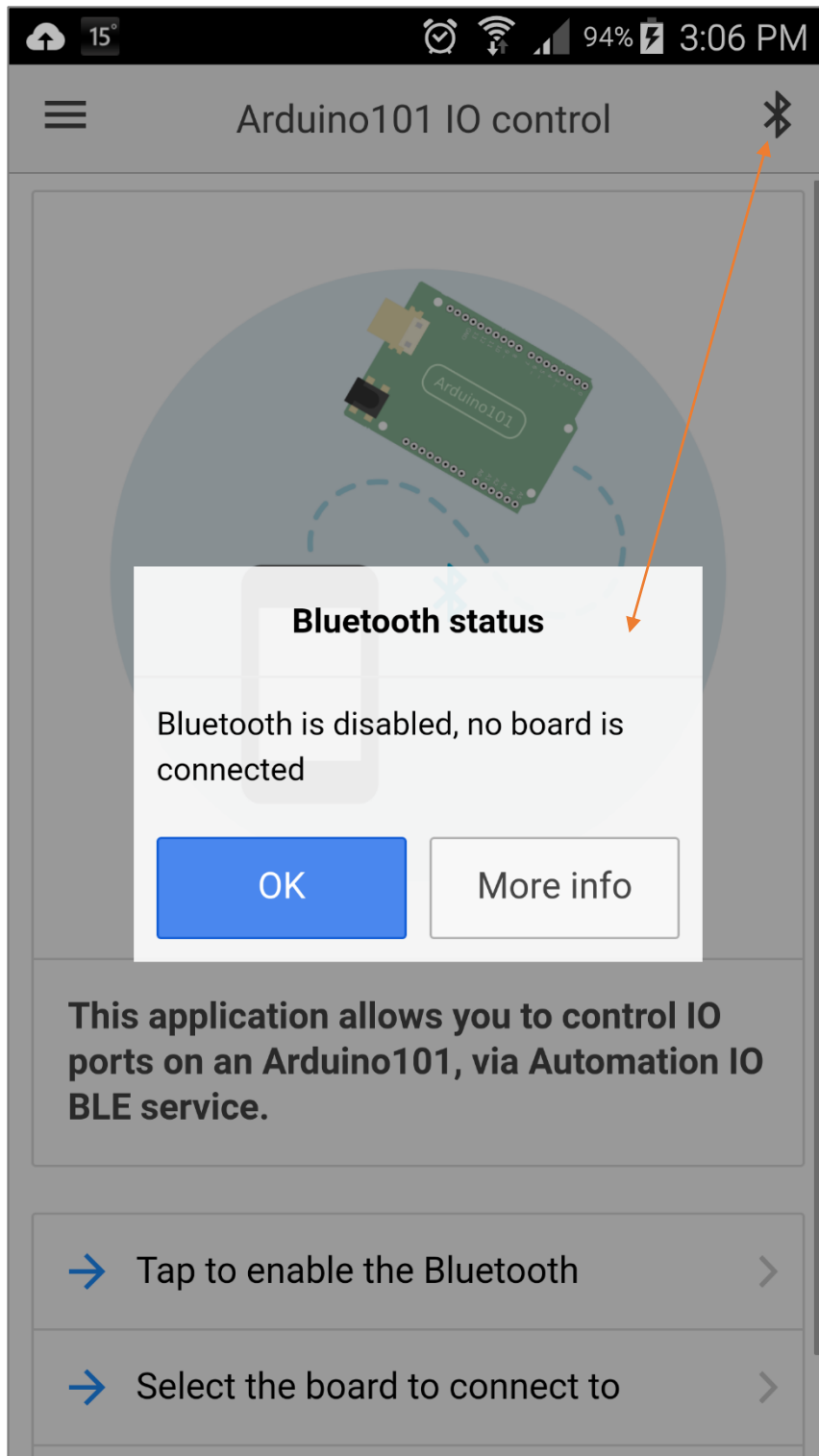
CORDOVA PLUGINS USED:

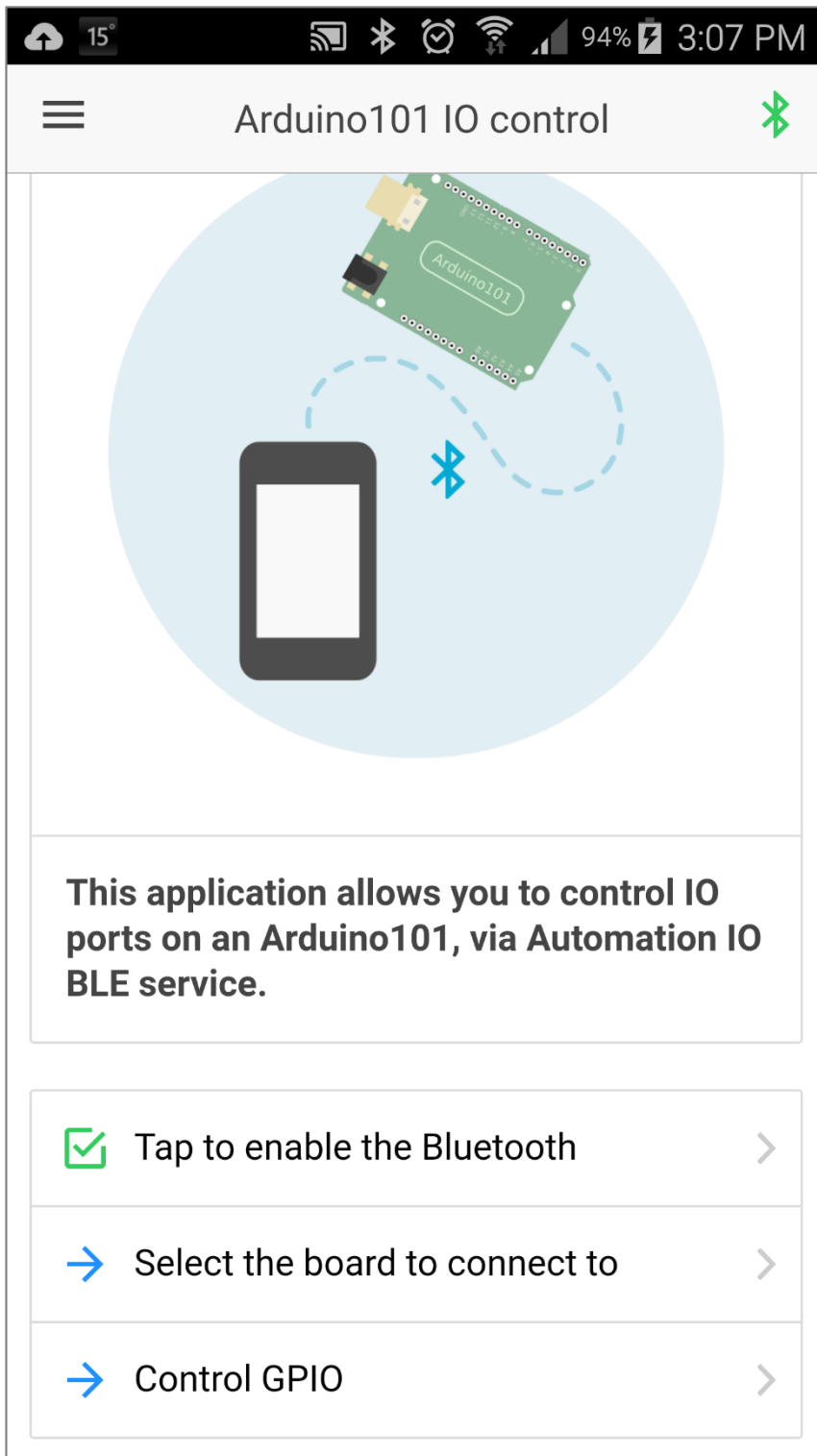
- **Standard:**
 - **Device**
 - **Dialogs**
 - **SplashScreen**
 - **StatusBar**
- **Third party:**
 - **Toast plugin**
 - **BLE plugin**

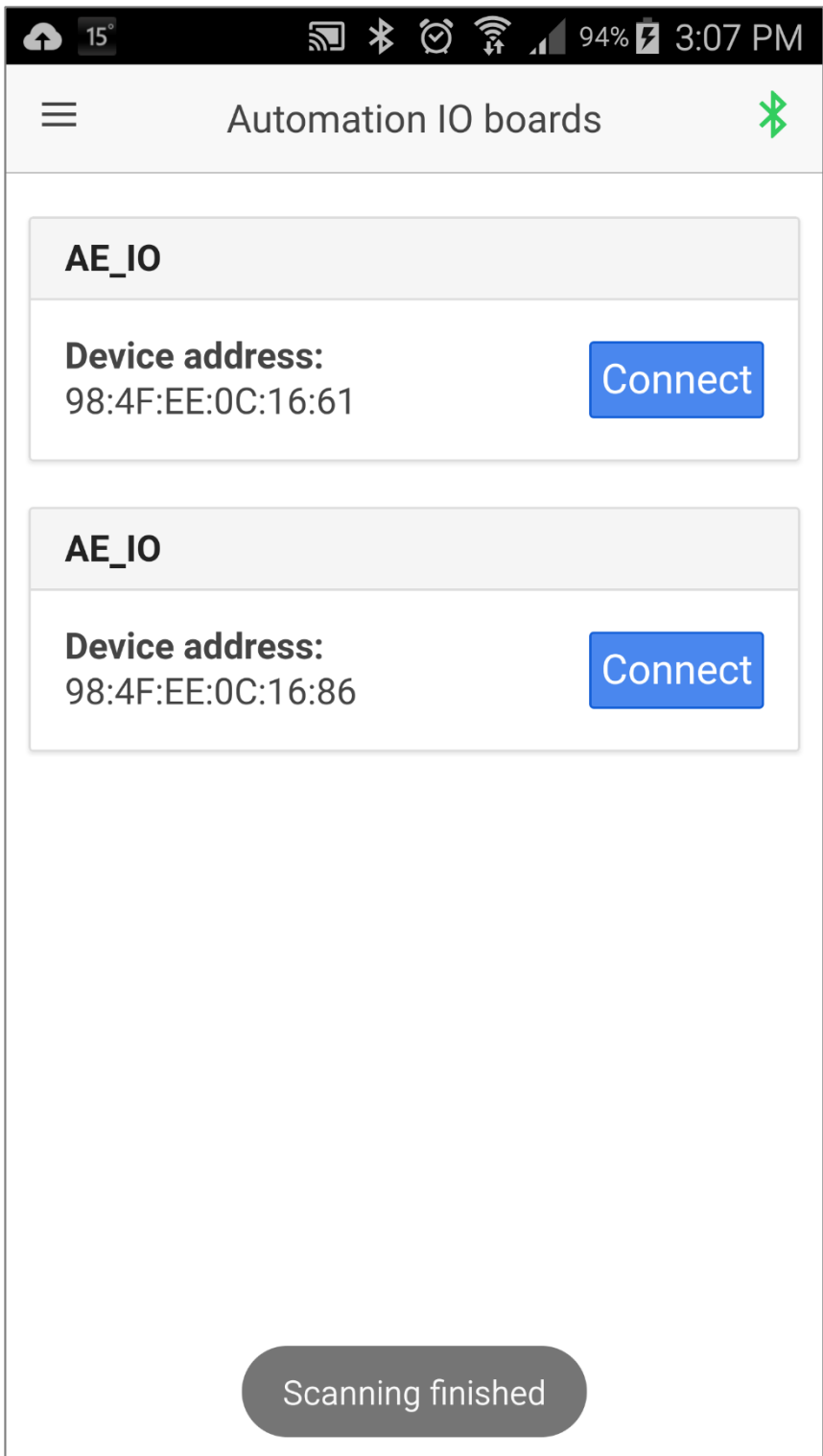
SCREENSHOTS OF THE APPLICATION







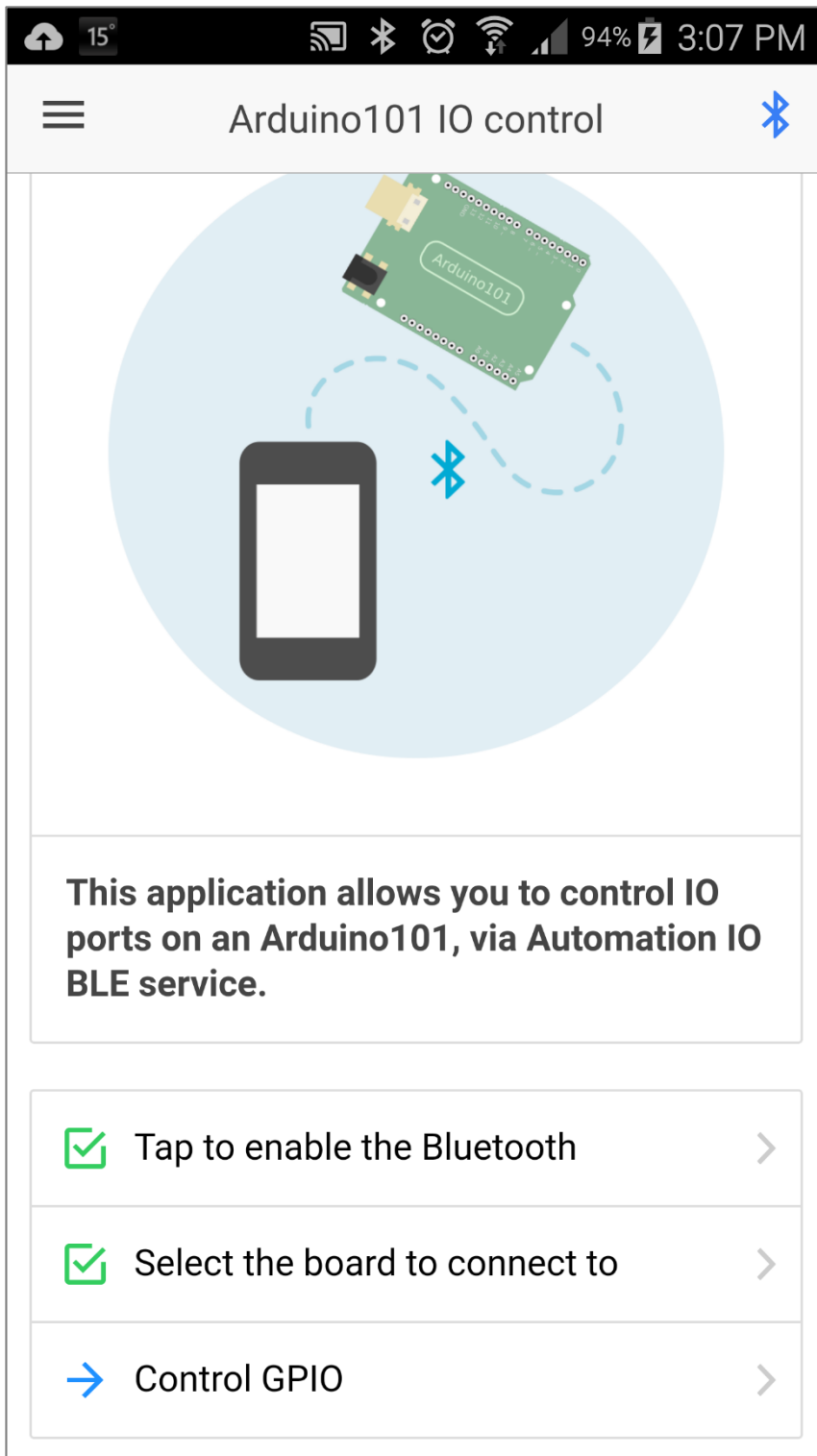




Reading pins data. Please wait...

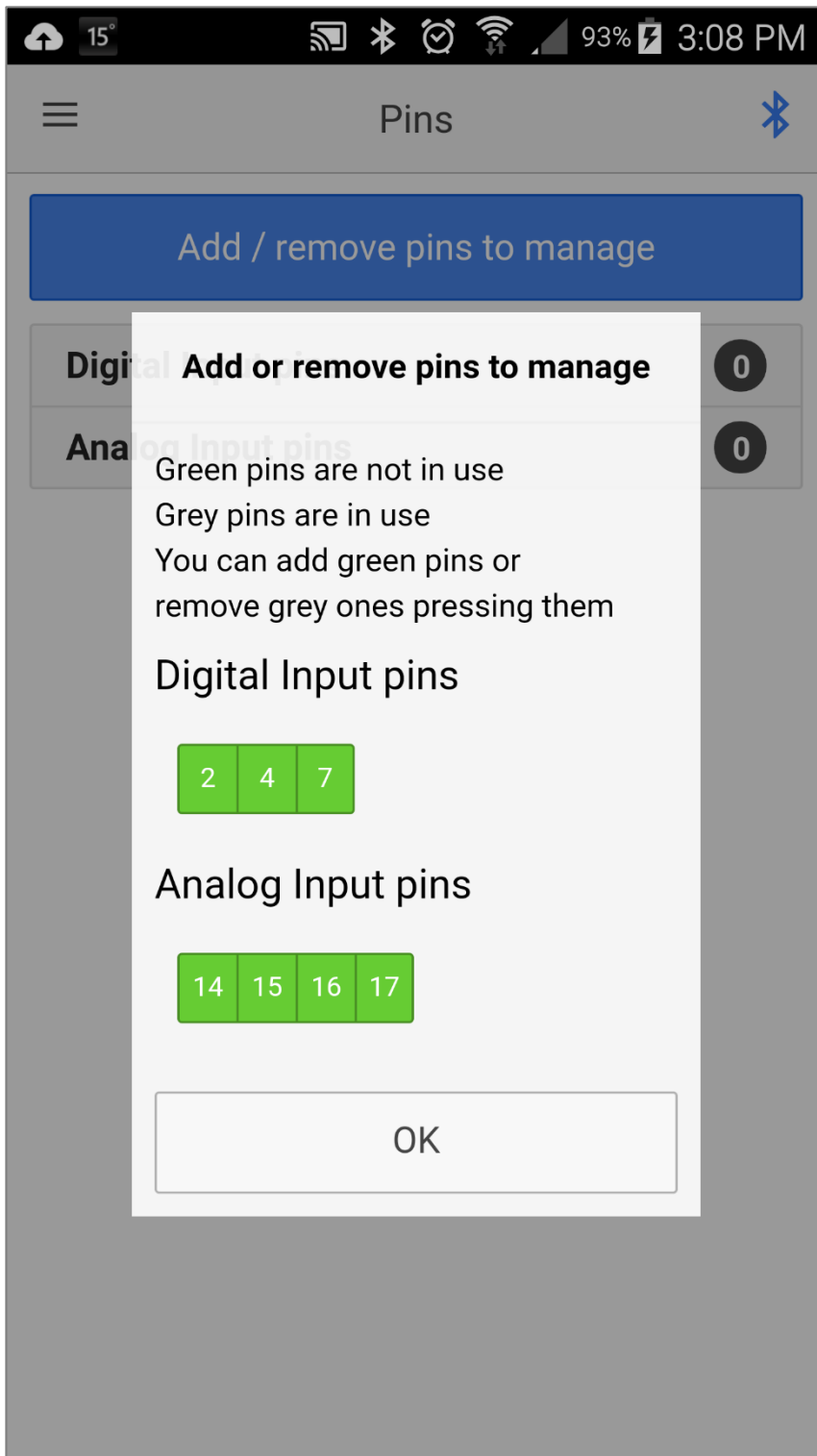
AE_IO

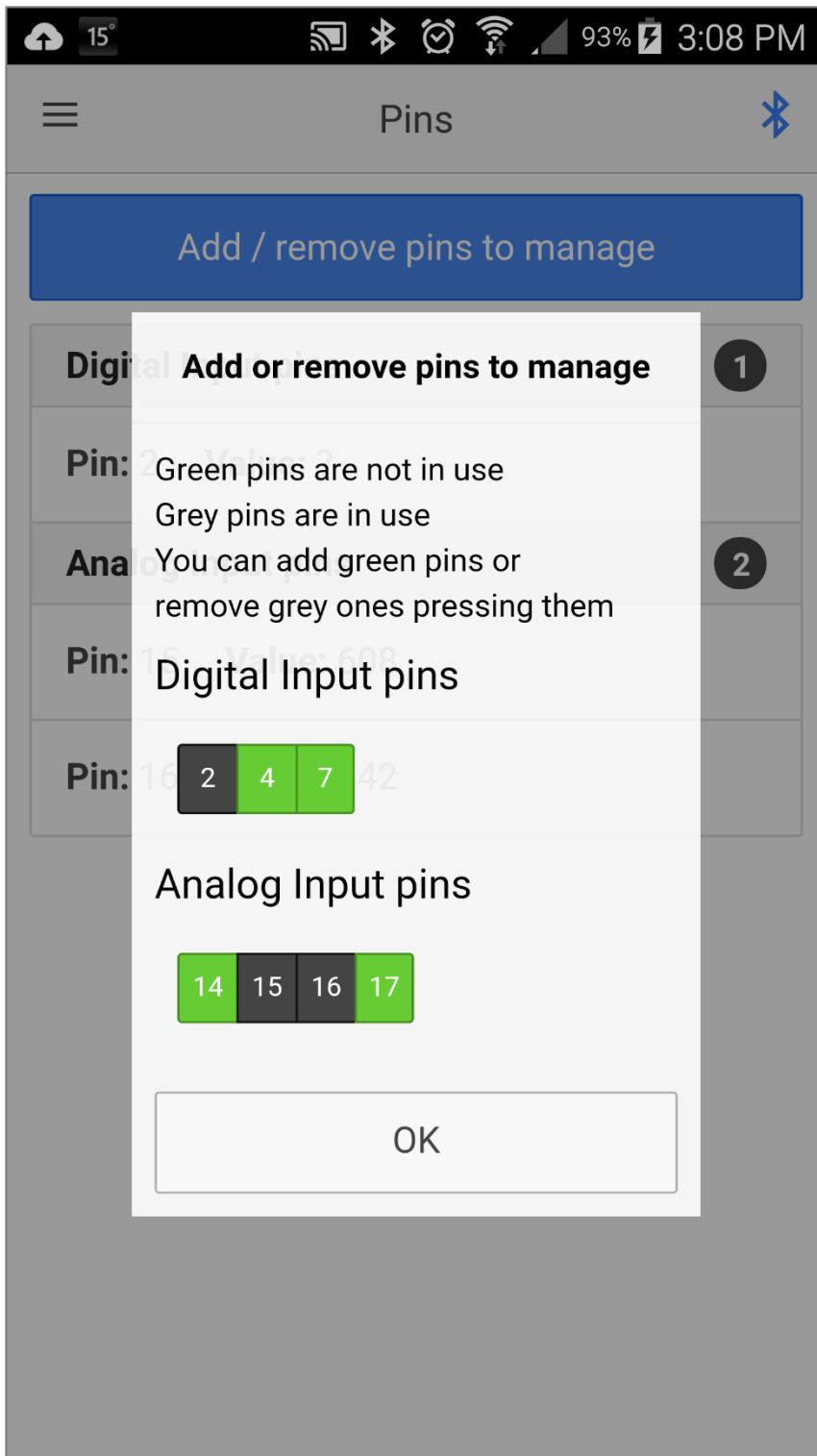
Device address:
98:4F:EE:0C:16:61



Add / remove pins to manage

Digital Input pins	0
Analog Input pins	0





Pin: 17 Value: 723



Add / remove pins to manage

Digital Input pins 3

3

Pin: 2 Value: LOW

Pin: 4 Value: ?

Pin: 7 Value: ?

Analog Input pins 4

4

Pin: 14 Value: 0

Pin: 15 Value: 373

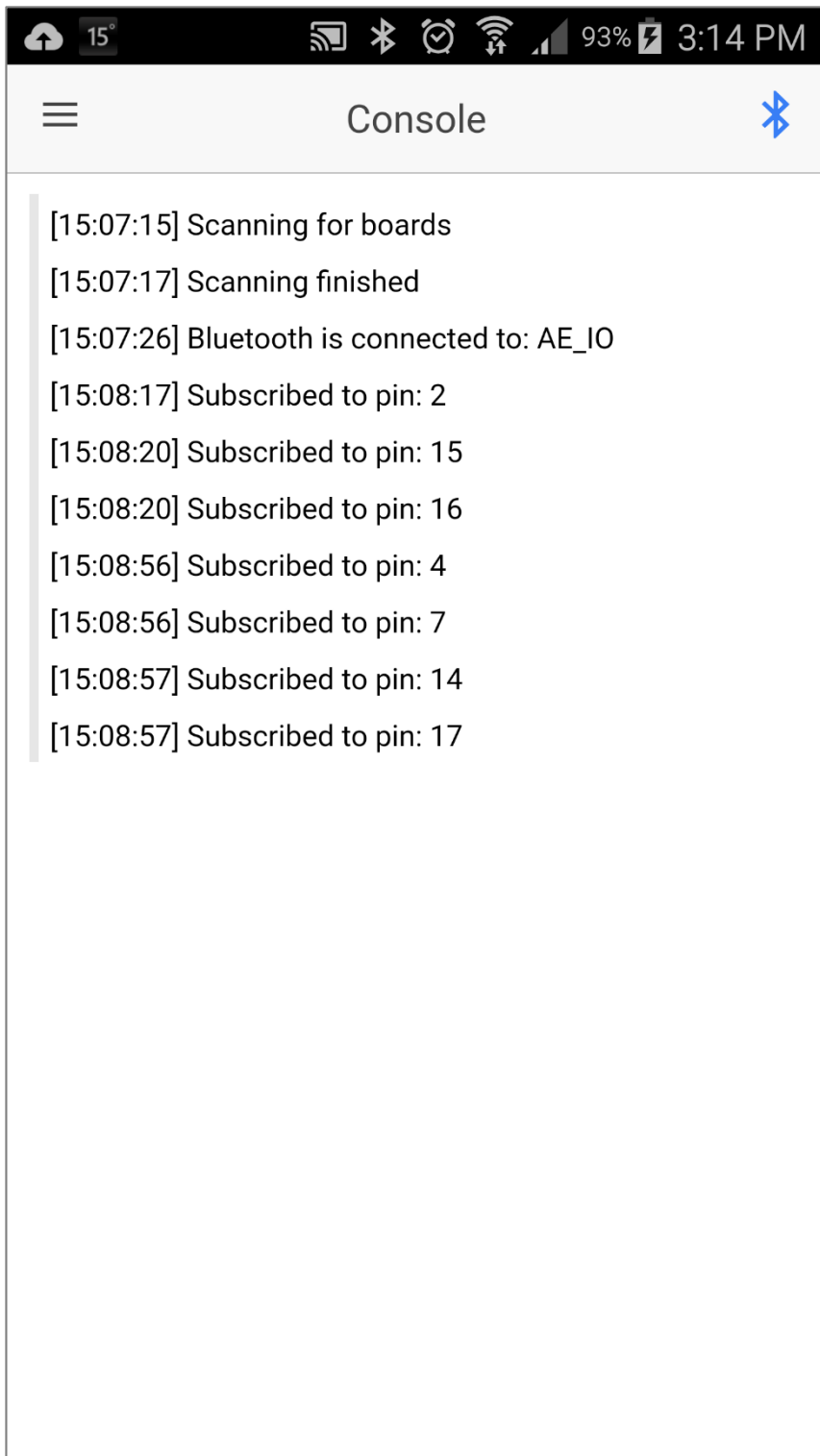
Pin: 16 Value: 548

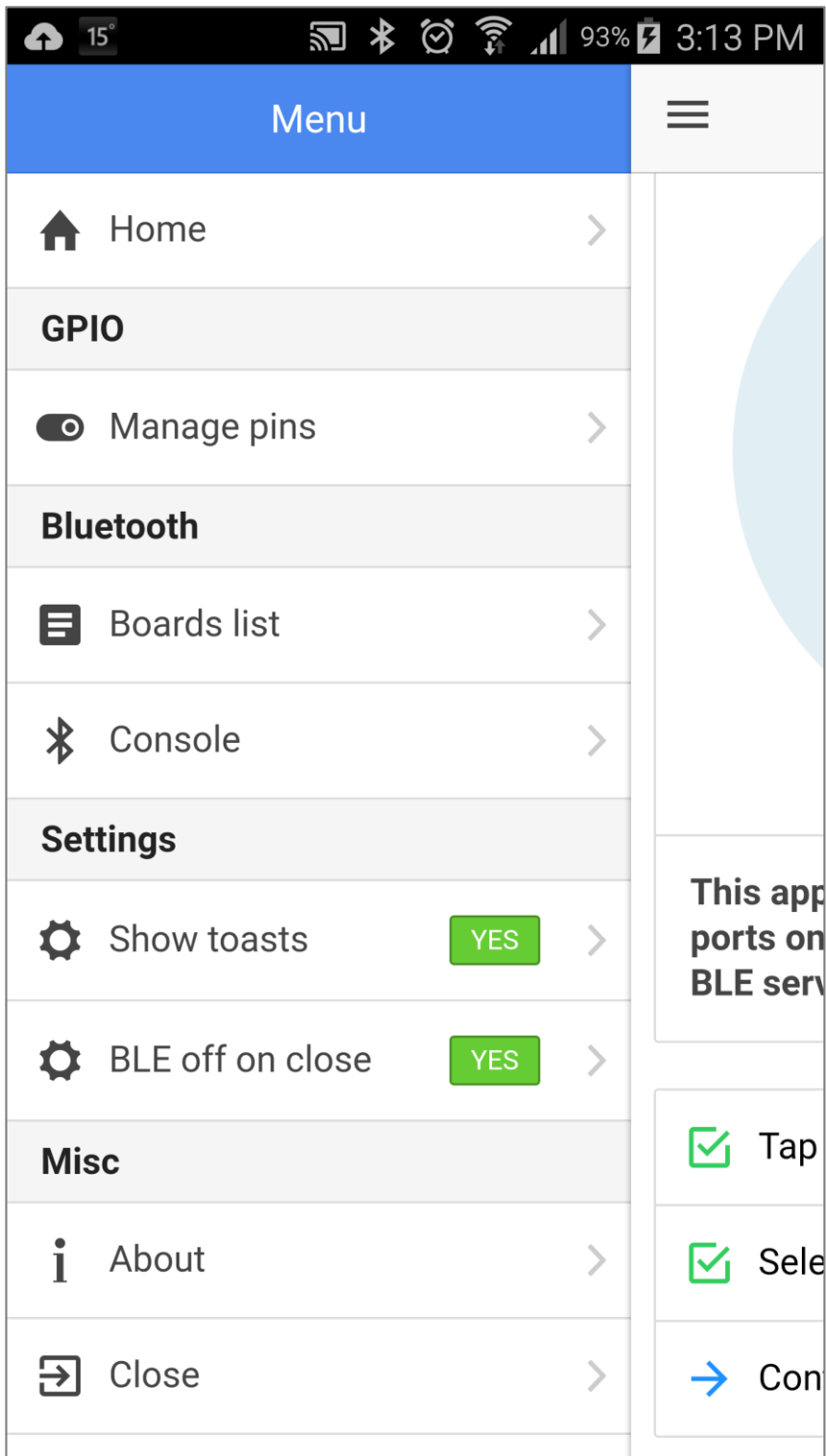
Pin: 17 Value: 760

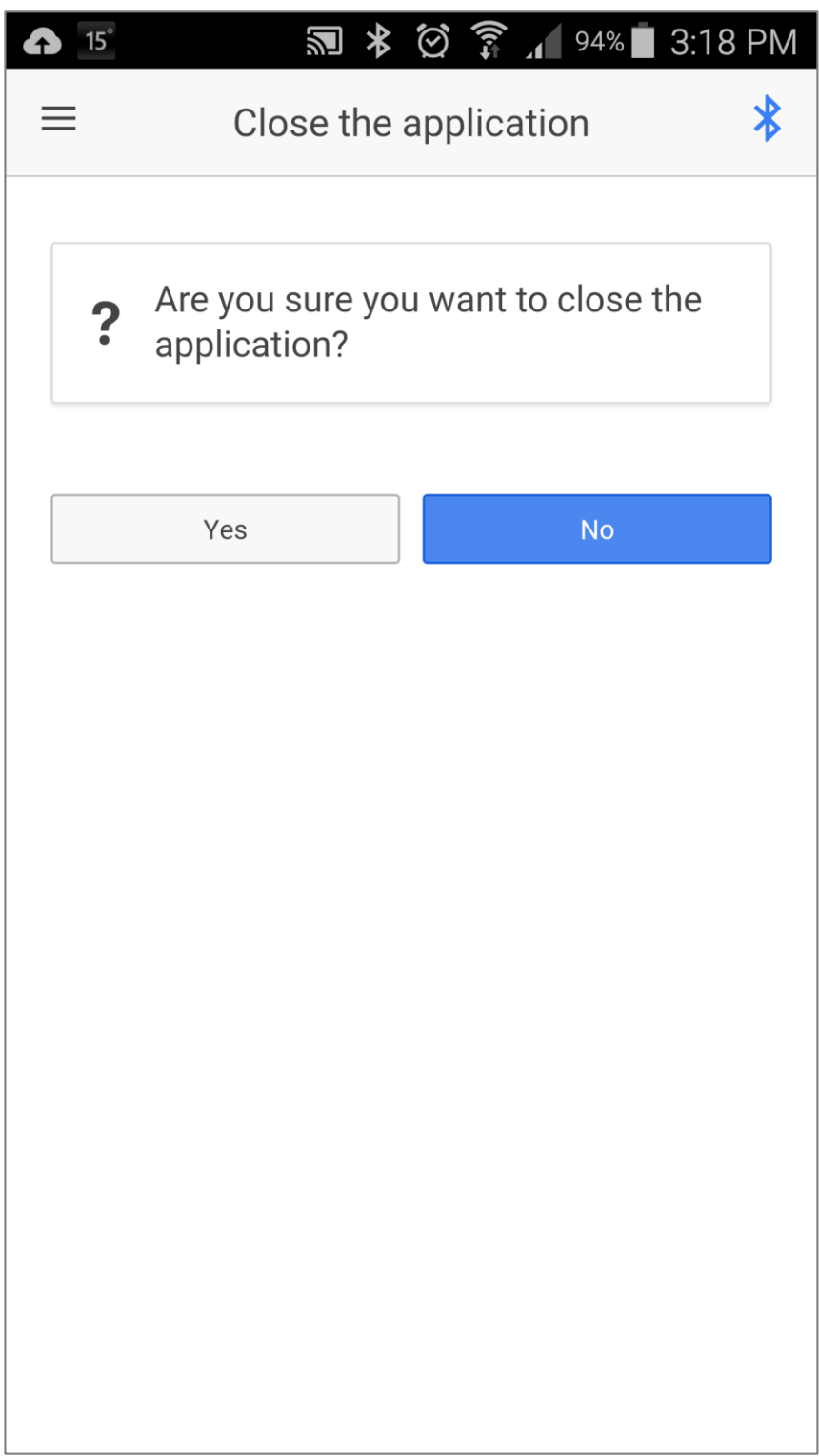
AE_IO

Device address:
98:4F:EE:0C:16:61

Disconnect







SCREENSHOTS OF THE APPLICATION – GUI FOR SETTING DIGITAL AND ANALOG OUT FEATURE NOT AVAILABLE IN CURRENT BUILD OF THE APPLICATION, BUT INSERTED HERE FOR INFORMATION PURPOSE

