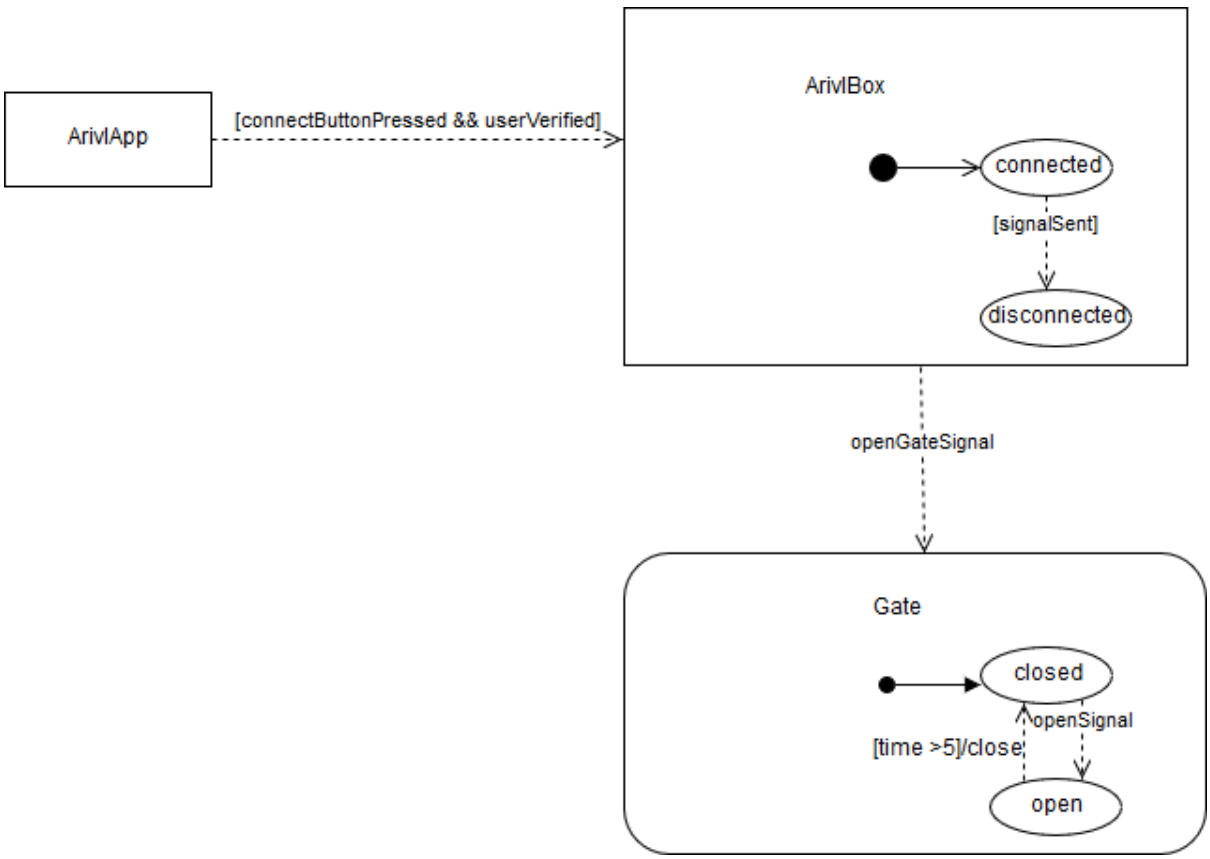
Architectural design document

Purpose

The purpose of this document is to showcase how our system will communicate with every module.



Our system follows an event-driven architecture where the system depicts state-dependent behaviour. The ArivlApp, the name of our Android application, firstly tries to connect to the ArivlBox using Bluetooth Low-Energy(BLE); if the user has access to that specific boom gate and if the ArivlBox is not connected to any other device, a button appears on the home screen of the application reading "Open Gate", which , when pressed, verifies the user's access to that specific boom gate and if the user is authorized access, the application sends a signal to the gate, requesting it to open the gate; consequentially, disconnects the user's ArivlApp from the ArivlBox. Furthermore, changing it's state from "closed" to "open" and hence, opening the gate. Moreover, as soon as the gate is opened, a timer for 5 seconds is started, as the time stops, the state of the gate is changed to "closed" and the gate is closed. This allows another authorized device to connect to the ArivlBox as soon as possible.