Entry exercise for the “Recommending Trigger-Action Rules for the IoT” thesis

This exercise is expected to take no more than 3 full days of development, max 7 days (one week) are allowed.

In order to get access to the “Recommending Trigger-Action Rules for the IoT” master thesis proposed by the e-Lite group, a small entry exercise must be carried on and successfully accomplished.

You are required to develop a simple Android application, by using the tools available for the Android development (e.g., Android Studio, Eclipse, Android Emulator).

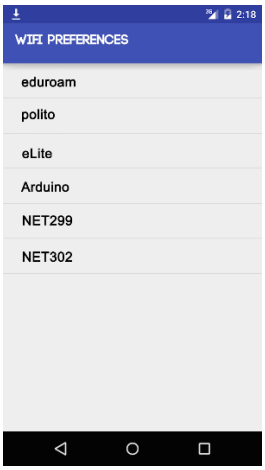

Figure 1

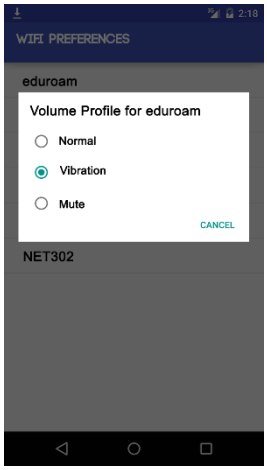

Figure 2

The application allows the smartphone user to apply a different volume profile to different Wi-Fi networks. A volume profile may be:

- **Normal:** volume level = 100%, vibration = active.
- **Vibration:** volume level = 0%, vibration = active.
- **Mute:** volume level = 0%, vibration = disabled.

The main application should:

- Display a list of the currently available Wi-Fi networks (Figure 1).
- Allow the definition of a *volume profile* for each network (Figure 2).

After the definition of user preferred volume profiles, the application should:

- Automatically update the volume when the phone connects to a Wi-Fi network for which a *volume profile* is defined.

Exercise accomplishment will be evaluated by analyzing the developed code as well as running and playing with the realized application on a smartphone; discussion of technological choices and adopted solutions may be required.

Initial reference documents and links include:

- http://www.vogella.com/tutorials/Android/article.html (tutorial)
- http://developer.android.com/index.html (reference documentation and developer guide)
    - http://developer.android.com/sdk/index.html (Android SDK)
    - http://developer.android.com/sdk/eclipse-adt.html (Android Development Tool for Eclipse)
- http://www.eclipse.org/ (Eclipse website)