TWN4

Mobile Apps for Android and iOS

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Elatec GmbH

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1 Mobile Badge - BLE App for Android Phone / Tablet

The app scans for nearby BLE devices and connects automatically to TWN4 MultiTech BLE readers in the proximity of the mobile device. The maximum separation between the reader and the mobile device across which a connection is allowed is adjustable via the "RSSI field strength" parameter. Once a connection is established, the app sends the unique physical properties of the mobile phone / tablet to the reader so that a security code can be generated and forwarded to the device connected to reader.

In the next stage the app transmits the identity credentials of the user associated with the mobile phone / tablet hardware to the Elatec reader.

1.1 System Requirements

Elatec reader requirements:
- Elatec TWN4 MultiTech BLE reader
- Reader firmware with BLE authentication functionality

The app supports Android 5.x OS or higher. Ensure the following app permissions are given:
- Bluetooth V4.x
- Coarse Location (necessary for BLE)

1.2 Installation

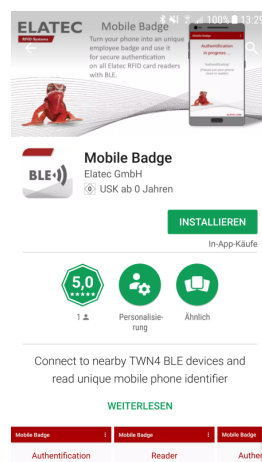Install the app Mobile Badge on your phone / tablet via Play Store:

Figure 1.1: Mobile Badge - Play Store

If any of the requirements for BLE operation are not fulfilled, the app informs the user on startup.

1.3 Menu

Start the menu on the top right corner of the screen by pressing symbol "...". The following subsections describe the functionality of each option in the menu.
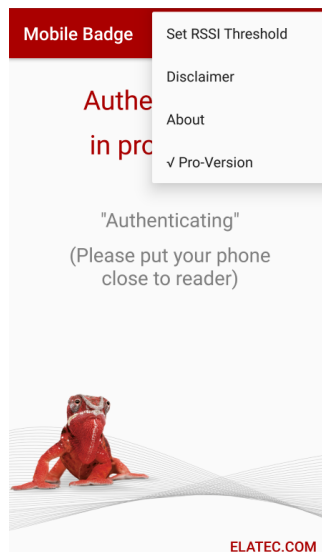

Figure 1.2: Mobile Badge - Menu

1.3.1 Set RSSI Threshold

When using the app for the first time, save the authentication distance to the reader:
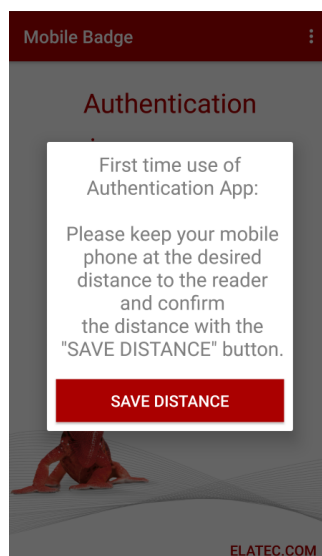

Figure 1.3: Mobile Badge - Set RSSI Threshold

Select the menu point "Set RSSI Threshold" and specify the maximum separation allowed for connecting the phone / tablet to the TWN4 MultiTech BLE reader (with authentication functionality reader firmware). Press "SAVE DISTANCE". From now on you can identify the phone / tablet on the reader with this distance.

1.3.2 Disclaimer

This menu point gives remarks on the functionality of the app and the disclaimer of warranty and limitation of liability.

1.3.3 About

The menu point "About" gives information on the app and a list of successful tested phones with the app.

1.3.4 Upgrade to Pro-Version

The app can be used in trial mode for 8 days. After the trial period expires the app must be purchased for continued use. An option is available to pay before expiration of the trial period. If already paid for the app, the text "Pro-Version" is written in this menu.

1.4 Authenticate your Identity

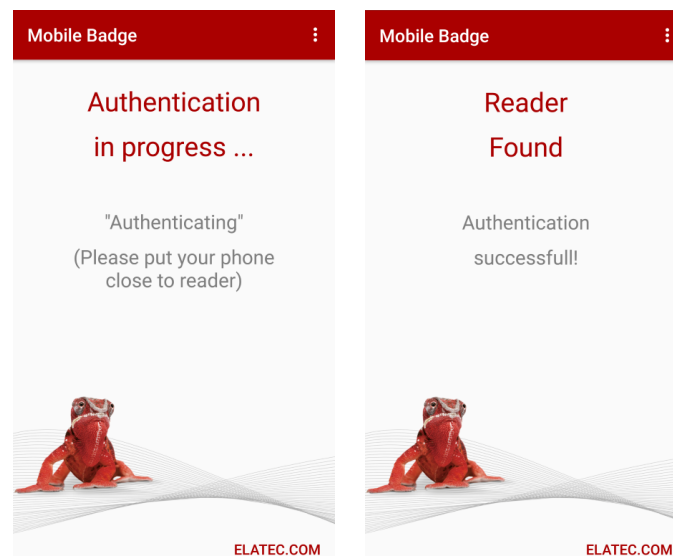On startup the app scans the proximity area for Bluetooth BLE devices with name "TWN4 BLE".

Figure 1.4: Mobile Badge - Authentication Process

If there is a TWN4 reader compataible with requirements listed in section 1.1 present in the neighborhood, the device connects to it. If authentication is achieved, the details are sent automatically to the periphery.

Once the identification is complete, remove the phone / tablet from the reader to prevent the process from starting again from the beginning.

2 TWN4 BLE Demo - BLE App for Android Phone / Tablet

The TWN4 BLE Demo app tests the BLE connection to the TWN4 MultiTech BLE reader. The app scans for nearby BLE devices and automatically connects with TWN4 MultiTech BLE readers within the allowed adjustable RSSI field strength. The reader then receives a random MAC address of the mobile phone / tablet and forwards it to a connected device.

Requirements:
- Elatec TWN4 MultiTech BLE reader

Limitations:
- Depending on your mobile phone / tablet, the public or a random MAC address is transmitted.

App Permissions:
- Bluetooth
- Location (necessary for BLE)

3 TWN4 HCE Demo - HCE App for Android Phone / Tablet

The TWN4 NFC Demo app perform Host Card Emulation (HCE). The app emulates ISO14443A transponders and runs in the background without additional user input. If the APDU matches, a selectable response is transmitted to the TWN4 MultiTech reader.

Requirements:
- TWN4 MultiTech reader with HCE firmware
- NFC enabled mobile phone / tablet

Permissions:
- NFC
- Phone (for IMEI transmission)

4 TWN4 NFC Demo - NFC App for Android Phone / Tablet

The TWN4 NFC Demo App exchanges selectable NDEF messages with the TWN4 MultiTech reader.

Requirements:
- TWN4 MultiTech reader with NFC firmware.
- NFC enabled mobile phone / tablet

Permissions:
- NFC
- Phone (for IMEI transmission)

5 Disclaimer

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