

GTA-Group

WaterMe

**Use-Case Specification: Connect App to Raspberry Pi
via Bluetooth**

Version 1.3

Revision History

Date	Version	Description	Author
29/Nov/2016	1.0	First version	Chris Todt
01/Dez/2016	1.1	Added Basic Flow	Chris Todt
07/Dez/2016	1.2	Added Mockups and updated UML	Chris Todt
08/Dez/2016	1.3	Added Espresso test	Chris Todt
01/Mai/2017	1.4	Added FP-Calculation	Akymenko Olga

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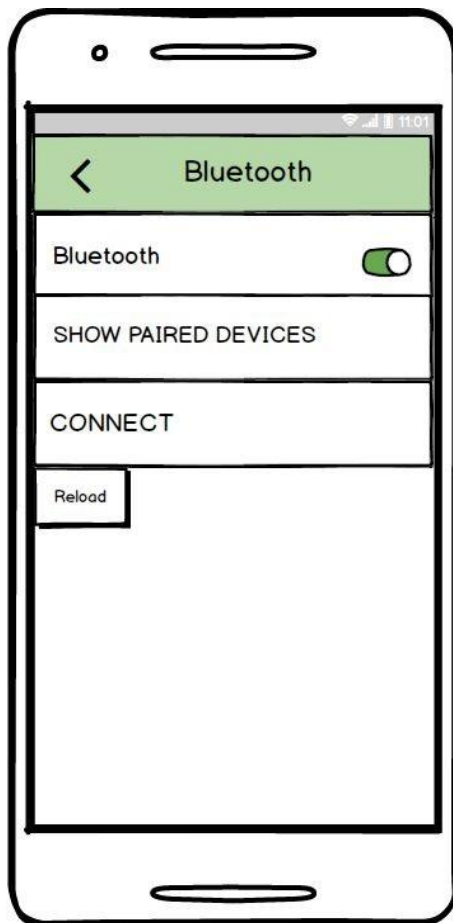
Use-Case Specification: Connect App to Raspberry Pi via Bluetooth

1. Connect App to Raspberry Pi via Bluetooth

1.1 Brief Description

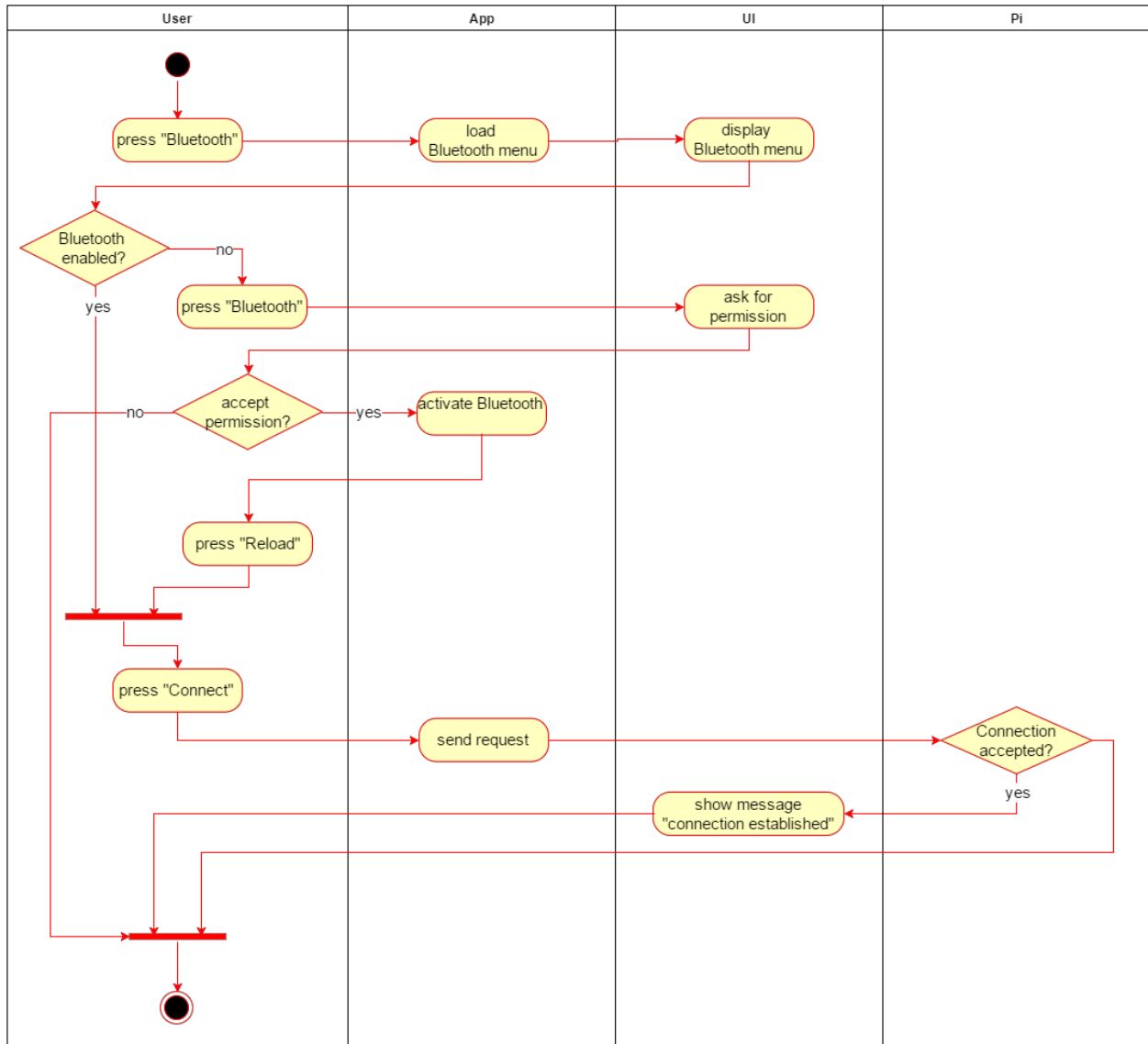
In “Bluetooth” the user can connect the application with the Raspberry Pi via Bluetooth.

1.2 Mockup



2. Flow of Events

2.1 Basic Flow



3. Espresso test

```
package com.project.gta.demo;

import android.os.SystemClock;
import android.support.test.espresso.ViewInteraction;
import android.support.test.rule.ActivityTestRule;
import android.support.test.runner.AndroidJUnit4;
import android.test.suitebuilder.annotation.LargeTest;

import org.junit.Rule;
import org.junit.Test;
import org.junit.runner.RunWith;

import static android.support.test.espresso.Espresso.onView;
import static android.support.test.espresso.action.ViewActions.click;
import static android.support.test.espresso.matcher.ViewMatchers.isDisplayed;
import static android.support.test.espresso.matcher.ViewMatchers.withId;
import static android.support.test.espresso.matcher.ViewMatchers.withParent;
import static android.support.test.espresso.matcher.ViewMatchers.withText;
import static org.hamcrest.Matchers.allOf;

@LargeTest
@RunWith(AndroidJUnit4.class)
public class UCConnectApptoRaspberryPiviaBluetooth {

    @Rule
    public ActivityTestRule<MainMenu> mActivityTestRule = new
    ActivityTestRule<>(MainMenu.class);

    @Test
    public void uCConnectApptoRaspberryPiviaBluetooth() {
        ViewInteraction appCompatButton = onView(
            allOf(withId(R.id.BTNsettings), withText("Settings"),
                withParent(allOf(withId(R.id.mainmenu),
                    withParent(withId(R.id.activity_main_menu)))),
                isDisplayed()));
        appCompatButton.perform(click());

        ViewInteraction appCompatButton2 = onView(
            allOf(withId(R.id.BTNbluetooth), withText("Bluetooth"), isDisplayed()));
        appCompatButton2.perform(click());

        ViewInteraction switch_ = onView(
            allOf(withId(R.id.SWbluetooth), isDisplayed()));
        switch_.perform(click());

        ViewInteraction appCompatButton3 = onView(
            allOf(withId(R.id.BTNreload), withText("Reload"),
                withParent(withId(R.id.LLbluetooth)),
                isDisplayed()));
```

```
appCompatButton3.perform(click());

ViewInteraction appCompatButton4 = onView(
    allOf(withId(R.id.BTNconnect_bt), withText("connect"), isDisplayed()));
appCompatButton4.perform(click());
SystemClock.sleep(9000);
}
}
```

4. Special Requirements

4.1 Bluetooth

The smartphone has to support Bluetooth.

5. Preconditions

5.1 Settings menu

The user has to be in the settings menu.

5.2 Paired

The smartphone and the Pi must be paired.

6. Postconditions

6.1 Connected

The smartphone is connected to the Pi and the user can see the message “connection established”.

6.2 Not connected

The smartphone could not connect to the Pi. No message is displayed.

7. FP-Calculation

Calculation of DET/RET/FTR: [DET/RET/FTR Table](#)

Domain Characteristic Table

MEASUREMENT PARAMETER	COUNT (value >= 0)	WEIGHTING FACTOR		
		Simple	Average	Complex
Number of User Input	<input type="text" value="0"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Number of User Outputs	<input type="text" value="1"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Number of User Inquiries	<input type="text" value="5"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Number of Files	<input type="text" value="0"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Number of External Interfaces	<input type="text" value="1"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

8. Extension Points

(n/a)