

**WaterMe**  
**Use-Case Specification: Show Humidity Diagram**

**Version 1.0**

## Revision History

Date	Version	Description	Author
31/Mai/2017	1.0	First version	Paul Giesa
13/Juni/2017	1.1	Tests added	Olga Akymenko

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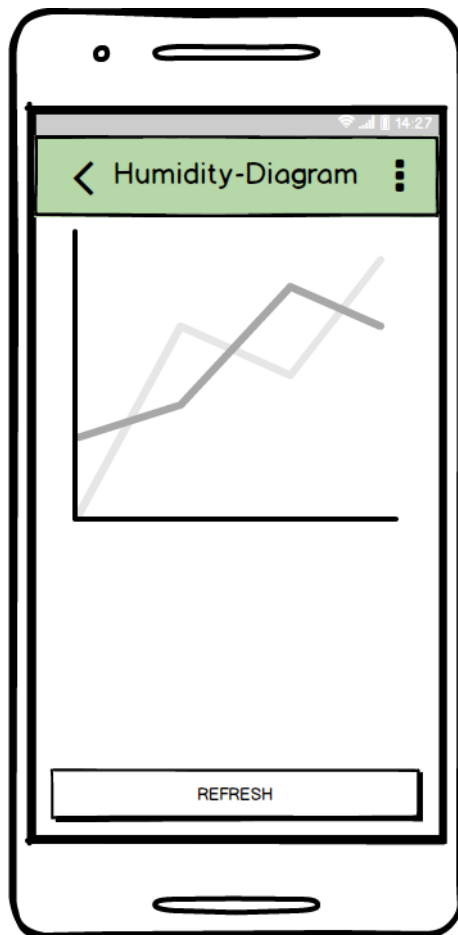
# Use-Case Specification: Show Humidity Diagram

## 1. Use-Case Name

### 1.1 Brief Description

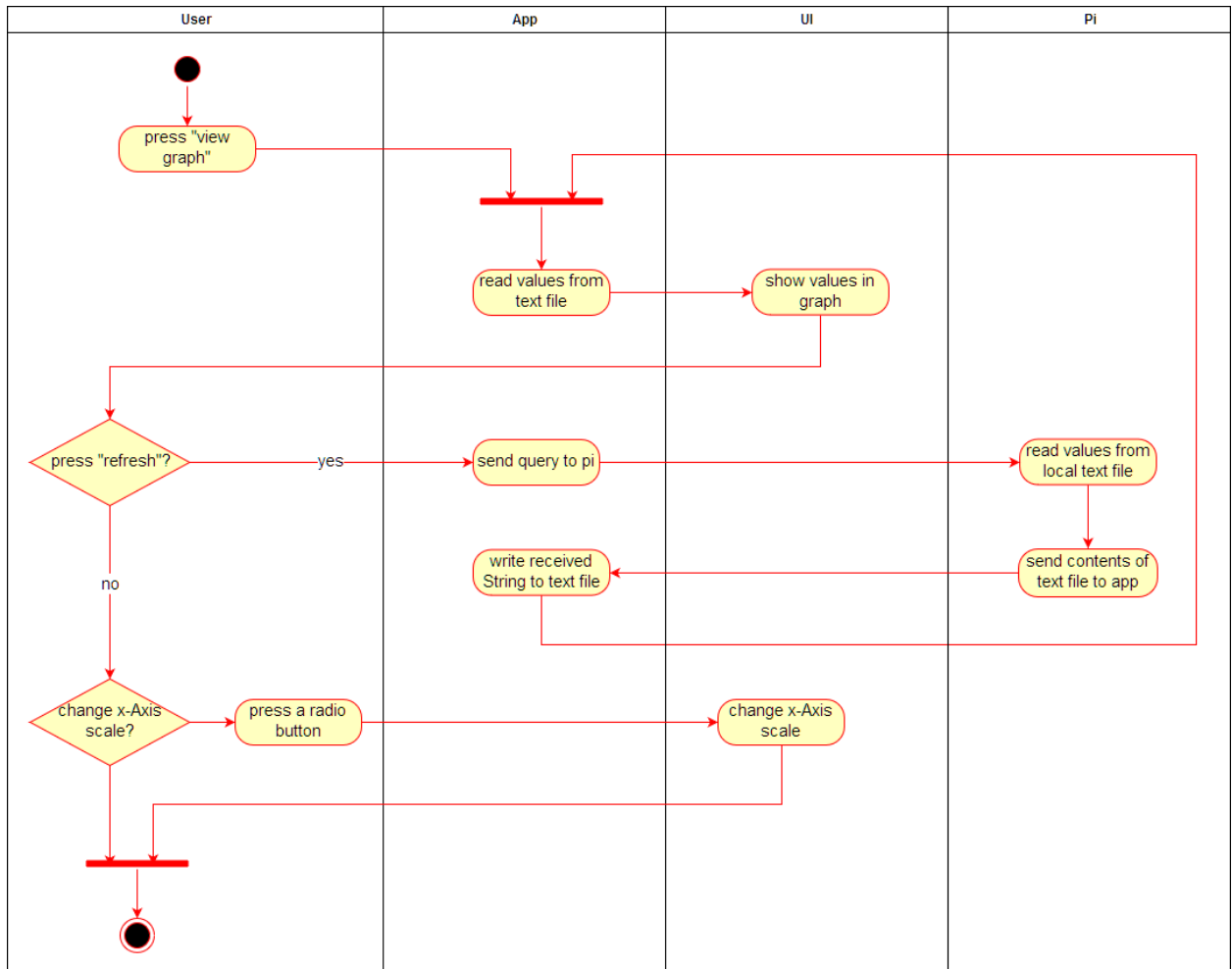
The user is able to press a button to receive the current humidity level.

### 1.2 Mockup



## 2. Flow of Events

### 2.1 Basic Flow



## 3. Espresso test

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

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 android.view.View;
import android.view.ViewGroup;
import android.view.ViewParent;

import org.hamcrest.Description;
import org.hamcrest.Matcher;
import org.hamcrest.TypeSafeMatcher;
import org.junit.Rule;
import org.junit.Test;
import org.junit.runner.RunWith;
```

```

import static android.support.test.InstrumentationRegistry.getInstrumentation;
import static android.support.test.espresso.Espresso.onView;
import static
android.support.test.espresso.Espresso.openActionBarOverflowOrOptionsMenu;
import static android.support.test.espresso.action.ViewActions.click;
import static android.support.test.espresso.action.ViewActions.closeSoftKeyboard;
import static android.support.test.espresso.action.ViewActions.replaceText;
import static android.support.test.espresso.matcher.ViewMatchers.isDisplayed;
import static android.support.test.espresso.matcher.ViewMatchers.withClassName;
import static
android.support.test.espresso.matcher.ViewMatchers.withContentDescription;
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;
import static org.hamcrest.Matchers.is;

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

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

    @Test
    public void uCShowHumidityDiagram() {
        ViewInteraction appCompatButton = onView(
            allOf(withId(R.id.BTNmyplants), withText("My plants"),
                withParent(allOf(withId(R.id.mainmenu),
                    withParent(withId(R.id.activity_main_menu)))),
                isDisplayed()));
        appCompatButton.perform(click());

        ViewInteraction actionMenuItemView = onView(
            allOf(withId(R.id.changescale), withContentDescription("Change
scale"), isDisplayed()));
        actionMenuItemView.perform(click());

        ViewInteraction editText = onView(
            allOf(withClassName(is("android.widget.EditText")),
                withParent(allOf(withId(R.id.custom),
                    withParent(withId(R.id.customPanel)))),
                isDisplayed()));
        editText.perform(click());

        ViewInteraction editText2 = onView(
            allOf(withClassName(is("android.widget.EditText")),
                withParent(allOf(withId(R.id.custom),
                    withParent(withId(R.id.customPanel)))),
                isDisplayed()));
        editText2.perform(replaceText("test"), closeSoftKeyboard());

        ViewInteraction appCompatButton2 = onView(
            allOf(withId(android.R.id.button1), withText("OK"),
                withParent(allOf(withId(R.id.buttonPanel),
                    withParent(withId(R.id.parentPanel))))),

```

```

        isDisplayed()));
appCompatButton2.perform(click());

ViewInteraction appCompatImageView = onView(
    allOf(withId(R.id.image1),
        withParent(allOf(withId(R.id.LayoutPlants1),
withParent(withId(R.id.activity_single_plant_menu))))),
        isDisplayed()));
appCompatImageView.perform(click());

ViewInteraction appCompatButton3 = onView(
    allOf(withId(R.id.BTNgraph), withText("View Graph"),
isDisplayed()));
appCompatButton3.perform(click());

ViewInteraction appCompatButton4 = onView(
    allOf(withId(R.id.BTNrefresh), withText("Refresh"),
        withParent(allOf(withId(R.id.activity_humidity_diagram),
            withParent(withId(android.R.id.content)))),
        isDisplayed()));
appCompatButton4.perform(click());

openActionBarOverflowOrOptionsMenu(getInstrumentation().getTargetContext());

ViewInteraction appCompatTextView = onView(
    allOf(withId(R.id.title), withText("Change scale"),
isDisplayed()));
appCompatTextView.perform(click());

ViewInteraction appCompatCheckedTextView = onView(
    allOf(withId(android.R.id.text1), withText("24h"),
        childAtPosition(
            allOf(withId(R.id.select_dialog_listview),
                withParent(withId(R.id.contentPanel))),
            0),
        isDisplayed()));
appCompatCheckedTextView.perform(click());

openActionBarOverflowOrOptionsMenu(getInstrumentation().getTargetContext());

ViewInteraction appCompatTextView2 = onView(
    allOf(withId(R.id.title), withText("Change scale"),
isDisplayed()));
appCompatTextView2.perform(click());

ViewInteraction appCompatCheckedTextView2 = onView(
    allOf(withId(android.R.id.text1), withText("three days"),
        childAtPosition(
            allOf(withId(R.id.select_dialog_listview),
                withParent(withId(R.id.contentPanel))),
            1),
        isDisplayed()));
appCompatCheckedTextView2.perform(click());

```

```

openActionBarOverflowOrOptionsMenu(getInstrumentation().getTargetContext());

ViewInteraction appCompatTextView3 = onView(
    allOf(withId(R.id.title), withText("Change scale"),
isDisplayed()));
appCompatTextView3.perform(click());

ViewInteraction appCompatCheckedTextView3 = onView(
    allOf(withId(android.R.id.text1), withText("one week"),
        childAtPosition(
            allOf(withId(R.id.select_dialog_listview),
                withParent(withId(R.id.contentPanel))),
                2),
        isDisplayed()));
appCompatCheckedTextView3.perform(click());

openActionBarOverflowOrOptionsMenu(getInstrumentation().getTargetContext());

ViewInteraction appCompatTextView4 = onView(
    allOf(withId(R.id.title), withText("Change scale"),
isDisplayed()));
appCompatTextView4.perform(click());

ViewInteraction appCompatCheckedTextView4 = onView(
    allOf(withId(android.R.id.text1), withText("optimal"),
        childAtPosition(
            allOf(withId(R.id.select_dialog_listview),
                withParent(withId(R.id.contentPanel))),
                3),
        isDisplayed()));
appCompatCheckedTextView4.perform(click());

}

private static Matcher<View> childAtPosition(
    final Matcher<View> parentMatcher, final int position) {

    return new TypeSafeMatcher<View>() {
        @Override
        public void describeTo(Description description) {
            description.appendText("Child at position " + position + " in
parent ");
            parentMatcher.describeTo(description);
        }

        @Override
        public boolean matchesSafely(View view) {
            ViewParent parent = view.getParent();
            return parent instanceof ViewGroup && parentMatcher.matches(parent)
                && view.equals(((ViewGroup) parent).getChildAt(position));
        }
    };
}
}

```



#### 4. Preconditions

The app needs an active connection to the Pi. Also the user has to enter the “Single Plant Menu”.

#### 5. Postconditions

The graph will show the course of the humidity.

#### 6. FP-Calculation

**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="0"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Number of User Inquiries	<input type="text" value="4"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Number of Files	<input type="text" value="1"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Number of External Interfaces	<input type="text" value="1"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

[Complexity Adjustment Table](#) | [FP Calculation](#)