

Well System Monitor

Installation and User Manual

© 2018, Jim Schrempp and Bob Glicksman, Team Practical Projects
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https://github.com/TeamPracticalProjects/WellSystemMonitor/blob/master/Terms_of_Use_License_and_Disclaimer.pdf

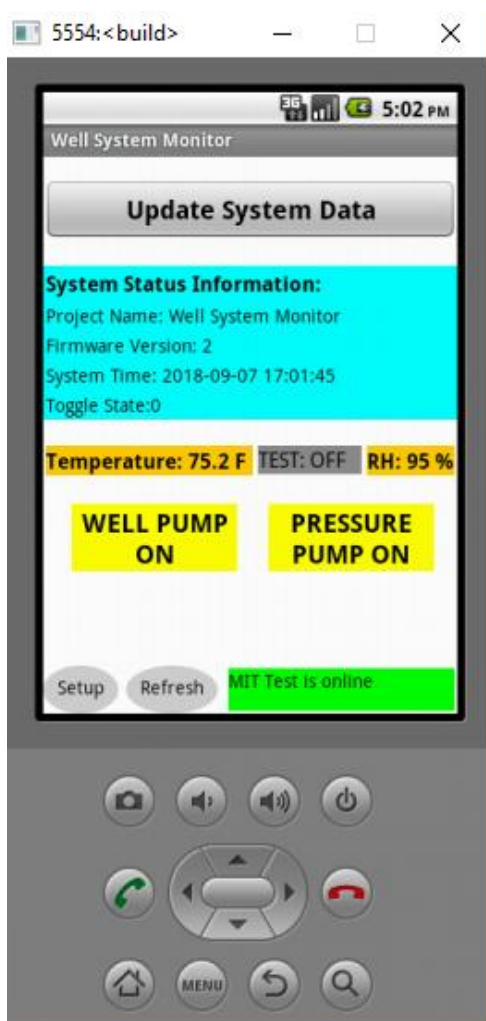


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1. Introduction.

The *Well System Monitor (WSM) Test* app is a simple “dashboard” that presents the current state of the WSM. The app retrieves and decodes a JSON object supplied by the WSM firmware and presents this data to the user in an easy to view and understand form. The WSM Test app is not intended to present long term trend information. The WSM firmware records this data to a Google Docs spreadsheet and this spreadsheet creates a time sequenced view of the WSM data for analysis.

This document provides you with instructions to install the app on your Android device and further instructions about using the app. An iOS version of the app is not available at this time.

The *WSM* is an open source project. You do not need source code to install and use this app. However, source code (“WellMonitorTestApp.aia”) is provided under an open source, non-commercial license so that you can learn about how the app works and so that you can modify the app under the terms of this license. License information and other terms of use and limitations can be found in the document:

https://github.com/TeamPracticalProjects/WellSystemMonitor/blob/master/Terms_of_Use_License_and_Disclaimer.pdf

2. Installing the App on Your Mobile Device.

The installation file for this app is located in this repository under “TestApp>executable” and is called “*WellMonitorTestApp.apk*”:

<https://github.com/TeamPracticalProjects/WellSystemMonitor/tree/master/TestApp/executable>

Download this file to your computer in some location that you can find (such as the desktop). Next, you need to transfer this file to your Android mobile device. There are several ways to do this. You can upload the .apk file to an Android device via USB cable from your computer, or you can e-mail the .apk attachment to yourself (and to any other people who will be installing this app on their device). Either way that you do this, each person should place this .apk file on their mobile device in a location that they can find using the *MyFiles* app on their device. For people that have an SD card installed on their device, we recommend placing the .apk file in the root directory of the SD card, i.e. /SDcard. However, the actual file location does not matter, as long as the device user can find it after saving it there.

Each device user must then use *MyFiles* to locate the .apk file on their device and tap on this file. The app will then install on the mobile device. **NOTE:** the Android OS will likely pop-up a

message about the app not being “trusted” or from an “unknown source” and some warning about damage that unknown apps can do to the device. Follow the instructions on this popup message to install the app anyway (it is safe!)¹. The app should install just fine.

After installing the app on each device, each user may wish to create a shortcut to the app on their home screen. Use Android’s app explorer to find the app, *tap and hold* the app icon until a graphic of the home screen appears and drag the app icon to the place on the home screen where the user wants the shortcut. This places a shortcut to the app on the home screen; the app is still available via the Android app explorer.

3. Using the App.

Figure 1 shows the *WSM Test App* screen and identifies the various components on the screen. Each component is described further, below:

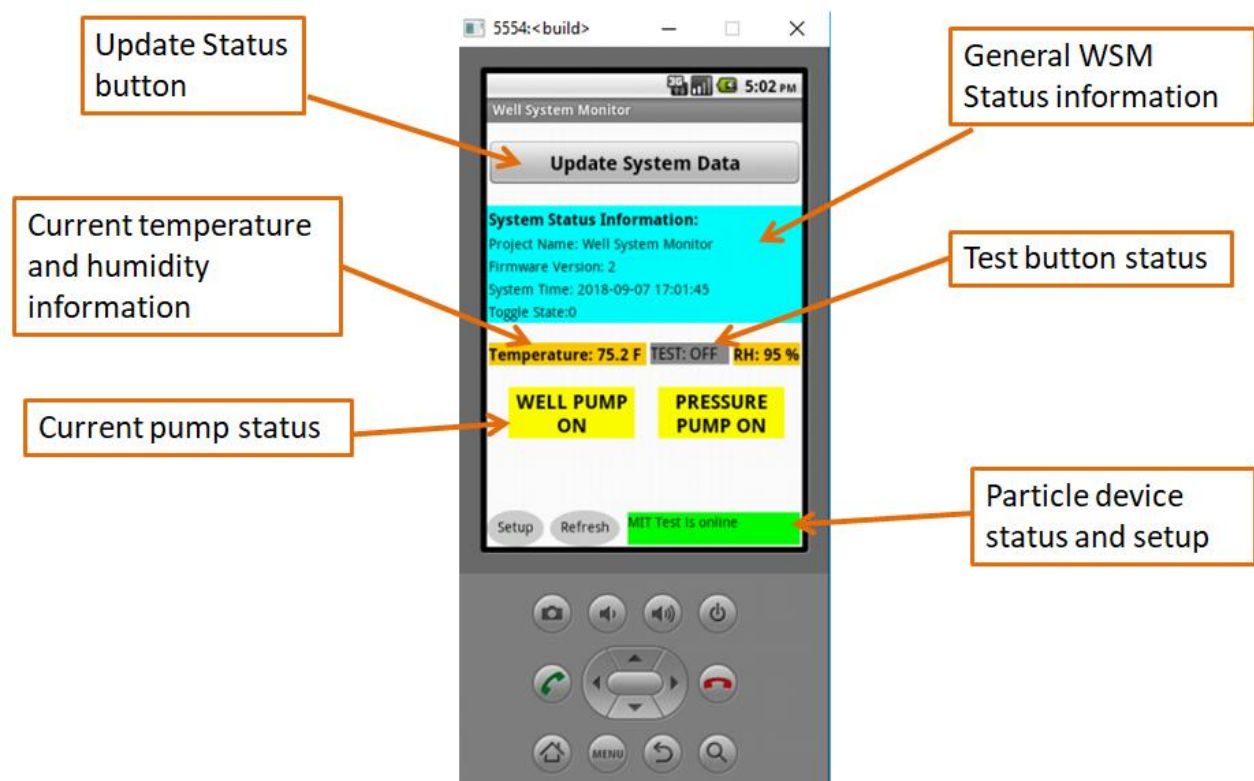


Figure 1. WSM Test App Screen.

¹ This usually means going to “Settings”, then “Security” and checking the box next to “Unknown Sources”. The details vary slightly with different versions of the Android OS. See <http://appinventor.mit.edu/explore/ai2/share.html> for further details.

Update System Data button: The WSM system data that is displayed by the app is automatically retrieved when the app is opened. Tapping this button updates the app by retrieving the latest WSM system information from the WSM device.

General WSM System Information: This field displays general WSM system information that is supplied by the WSM device.

Temperature, Humidity and Test Button status information: This information is measured and supplied by the WSM device.

Current Pump Status information: The WSM device reports the current status of the Well Pump and the Pressure Pump.

Particle Device Status and Setup: The text field on the right displays the status of the Particle device (e.g. Photon or Electron), as reported when the app opens or when the “Refresh” button is tapped. Tapping the “Setup” button takes the user to the *Device Setup* screen where the user can log in to their Particle account and select the Particle device to use with the app. See:

https://github.com/TeamPracticalProjects/Particle_App_Template
for details about setting up the app to work with a particular Particle device.

Note that when you first install the app, the *Particle Device Status and Setup* text field will show an error message in red. This is because no device has been selected for the WSM Test App to communicate with. Follow the instructions in the following document to log in to your Particle account and select the Particle device that is used in your WSM device:

https://github.com/TeamPracticalProjects/Particle_App_Template/blob/master/Documentation/Particle_App_Template_User_Manual.pdf
