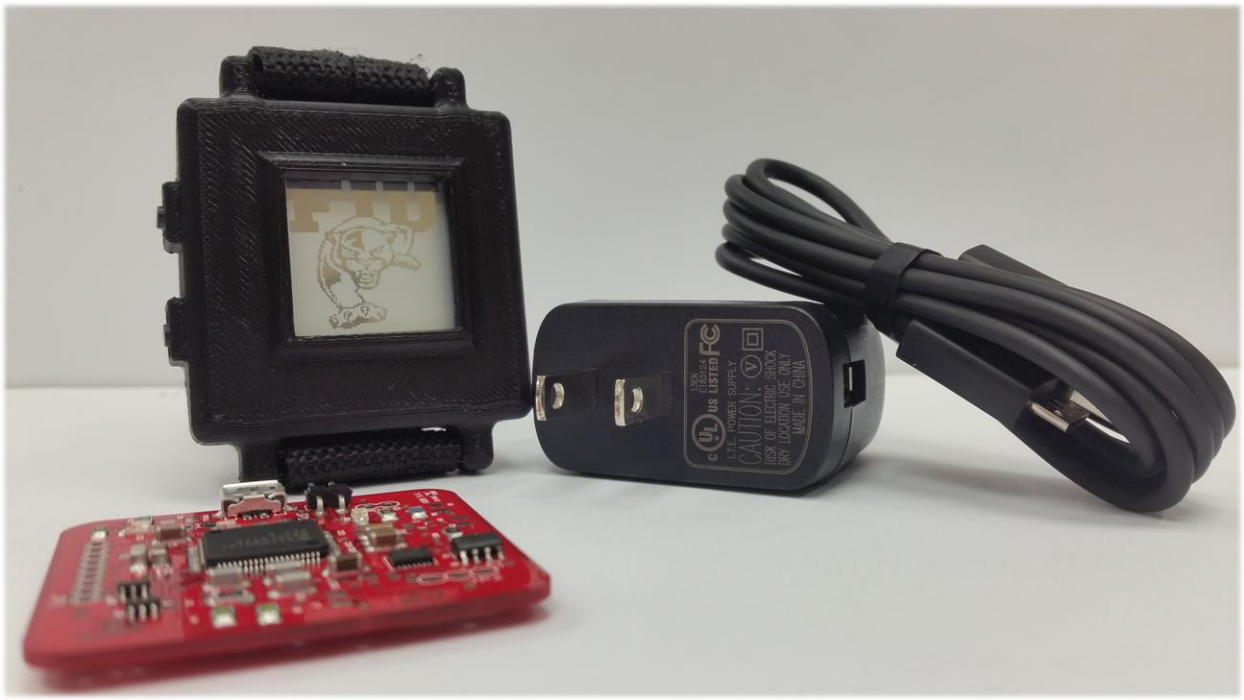
Transdermal Alcohol Monitoring System User Manual

December 2015

Revision 1.0



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Document Revisions

Date	Version Number	Document Changes
11/30/2015	1	Initial Revision

1 Introduction

1.1 Scope and Purpose

The purpose of this manual is to familiarize the user with the operation and troubleshooting of the Transdermal Alcohol Monitoring System. Please read this manual carefully and thoroughly to ensure proper operation of the device and familiarization.

2 Transdermal Alcohol Monitoring System Instruction

2.1 Powering the Transdermal Alcohol Monitoring System:

The Transdermal Alcohol Monitoring system is powered by a 3.7V Lithium Ion battery with short circuit protection. Upon shipment of the device the battery is discharged and therefore turned off through internal circuitry. Please ensure that the USB cable with the adapter provided is connected to the watch for a minimum of three hours to ensure full battery charge and proper operation. Once the charger is connected to the device system operation will begin.

2.2 Overview of External Buttons

The Transdermal Alcohol Monitoring system contains two external momentarily On/Off switches as shown in Figure 1. The switches perform the following functions:

Button No.1 has been designed to switch between user pages. The first page contains the approximation from alcohol concentration in ppm/cm^2. The second page contains miscellaneous information such as the room temperature in degrees Fahrenheit. The third page contains the Florida International University logo. The fourth page contains the team logo and names of the creators of the Transdermal Alcohol Monitoring System.

Button No. 2 has been designed as a reset switch for alpha testing. Upon pressing this button momentarily, the system will restart. Normal operation is indicated by a *System Status: Successful* message during start up. The voltage and current take approximately ten seconds to stabilize, this is because the output from the sensor is filtered through a 2nd Order Software Defined Low Pass Filter and the output requires a certain period of time to stabilize.

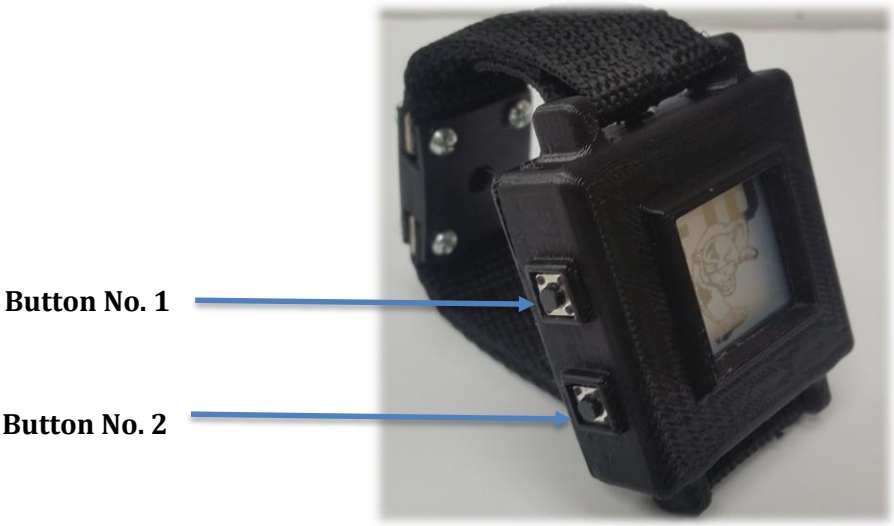
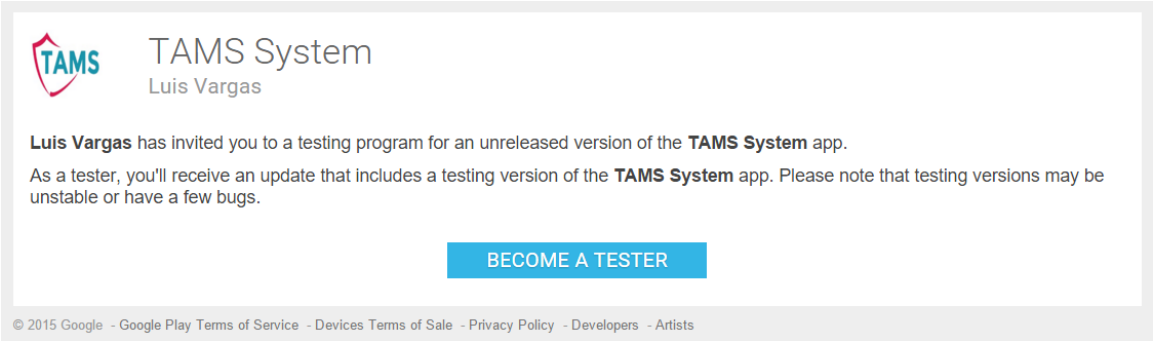


Figure 1. External Buttons of the Transdermal Alcohol Monitoring System

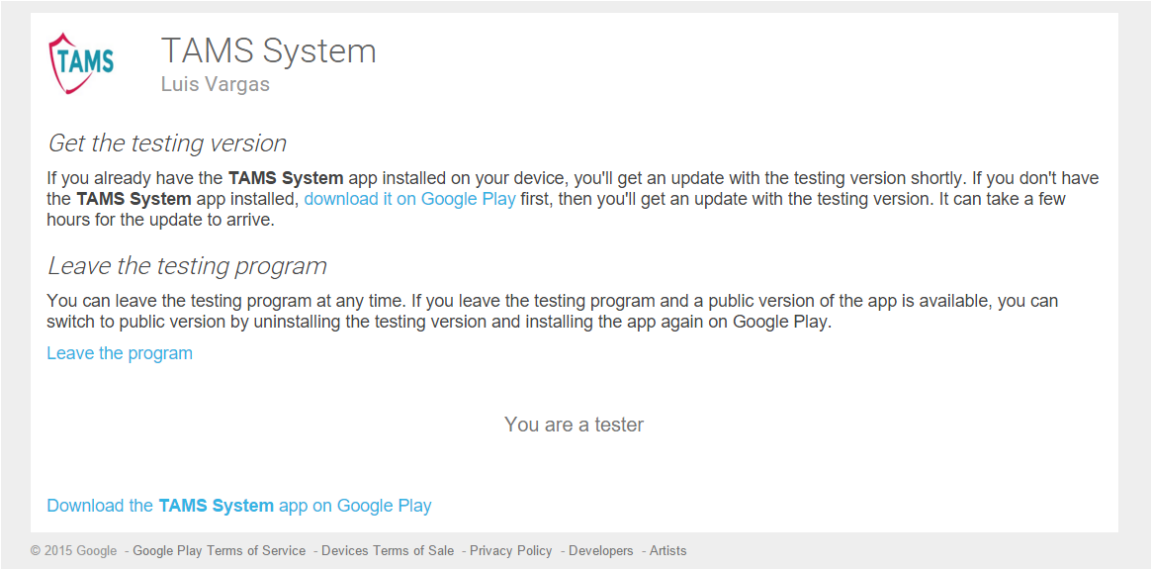
2.3 Bluetooth Connection, Application Installation and Usage

Every unit delivered by TAMS is equipped with an RN-42 Bluetooth Module. In order to fully utilize all the features provided by TAMS an Android application has been designed. The URL for downloading the android application from the google application store: https://play.google.com/apps/testing/firstappfor.tamssystem

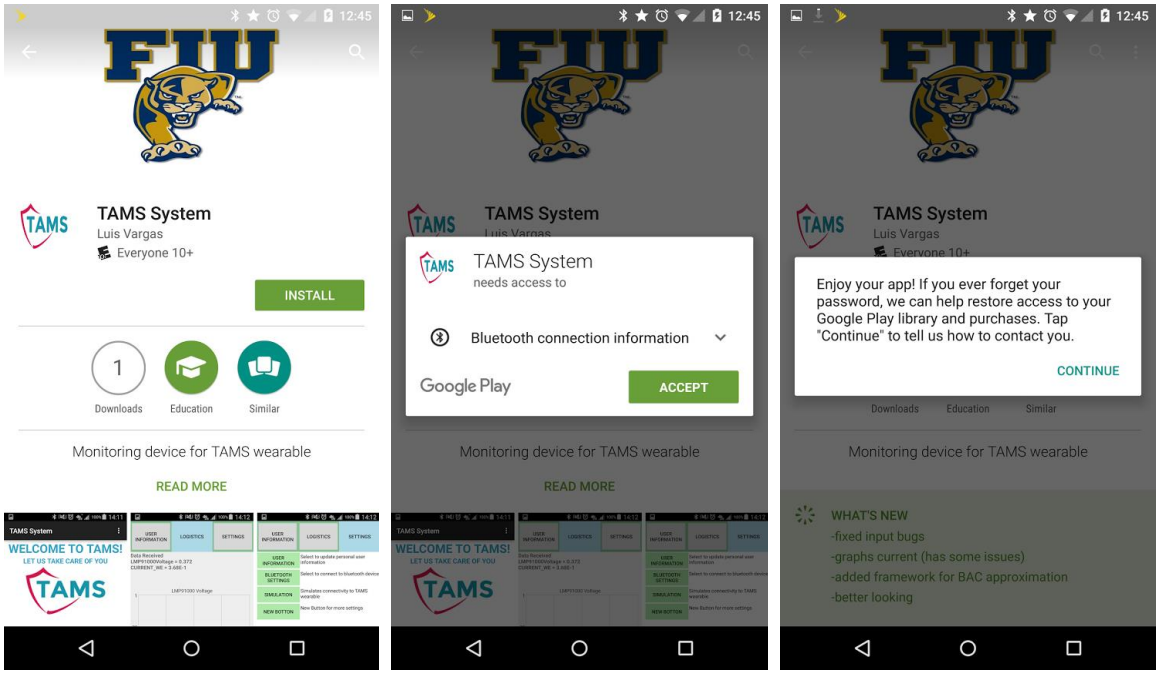
Once the page loaded, click "BECOME A TESTER".



Download the application by clicking “Download the TAMS System app on Google Play”.



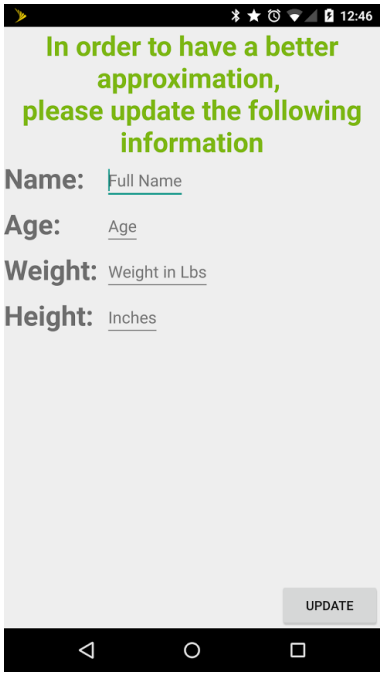
Click “INSTALL”, read the instructions and then “ACCEPT”, and then click “CONTINUE” as given below.



Once the application has been installed, your phone is ready to pair with the device.

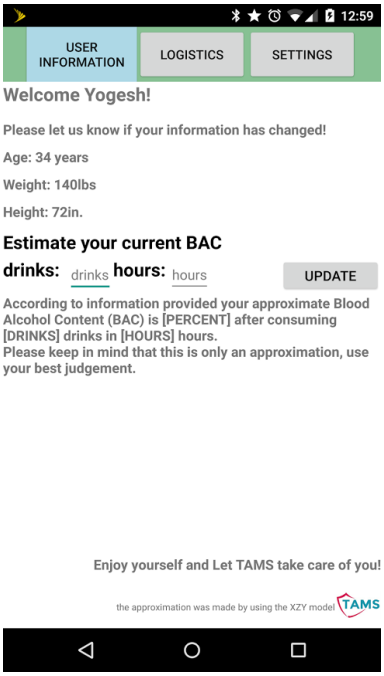
Before using TAMS application, pair the device to your phone. Device name “TAMS”.

Once the device has been paired with phone, open the application. It will lead to following page 1, once you update the information on page 1, it will lead to page 2 and then to 3 as shown below.



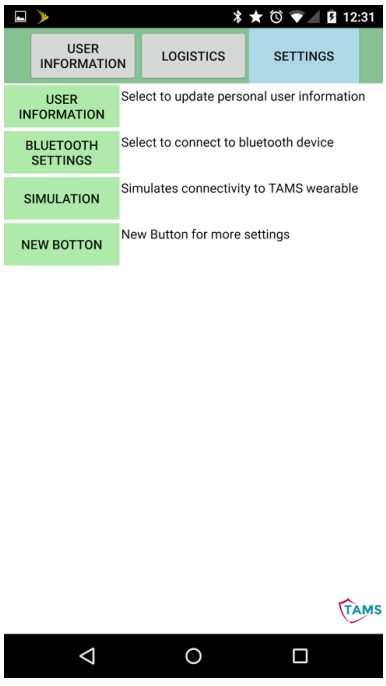
Page 1

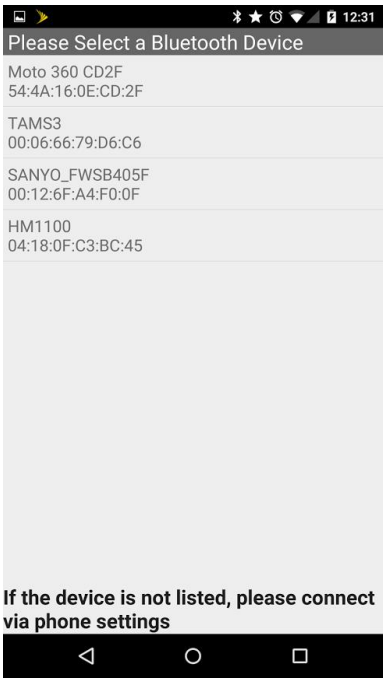
Page 2

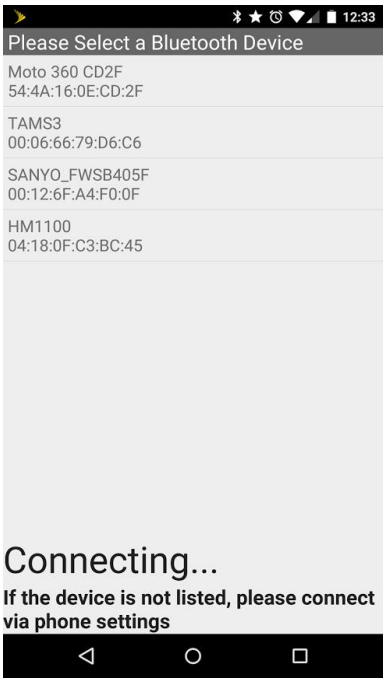


Page 3

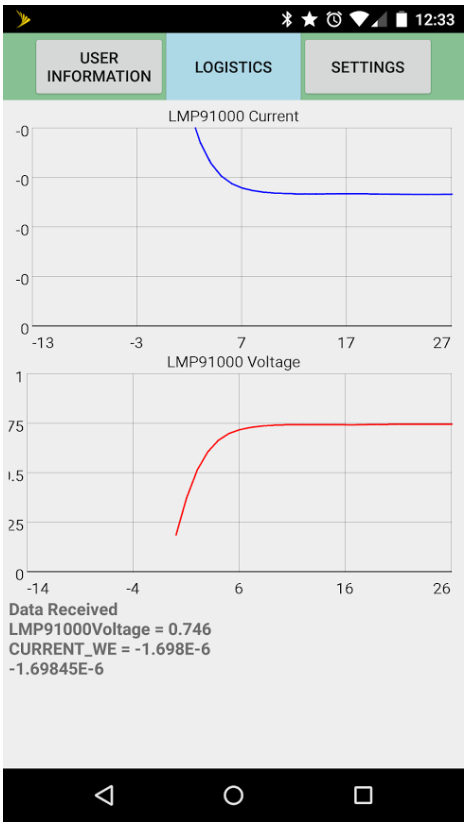
In page 3 click “SETTINGS”, then click “BLUETOOTH SETTINGS” and select TAMS device, once selected it will try connecting to the device.







Once the device successfully connected to the phone, LOGISTICS will open and will show the current and voltage change in presence of alcohol or humidity. To quit the application just close the application by pressing 'Home' button.



Troubleshooting:

1. If the Bluetooth failed to connect, reset the device by pressing 'Button 2' in Figure 1. And then try connecting again. Try couple of times for a successful connection.
2. In case the device or application freeze or the plots freeze, restart the both device and the application.

Disclaimer:

This device is in alpha testing stage. It will not display BAC, it will display only the current produced by the fuel cell sensor in presence and absence of ethanol or humidity, and the corresponding voltage. The nullification of humidity algorithm has not been programmed in this device. This device is for demonstration purpose only (To demonstrate the feasibility of ethanol vapor detection by a wearable device).