User-Guide

Smart Animal Farming Management System (SAM)

April , 2018

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A. GENERAL INFORMATION

1.1 System Overview

The system shall aid the farming process and has the following characteristics:

- A cross-platform mobile application.
- A web user-interface to provide access through all platforms.
- Collects live data from the farm with low latency
- Provides alerts for gas leakage, smoke, and fire that are passed as an SMS.
- Show the trends of data collected and provides suggestions based on the live data.
- Data is stored for further wrangling and to allow future enhancements.
- System provides a unified database for farm entities (animals and plants).

1.2 Open-source repositories

References to the open-source repositories used in the project.

https://github.com/pubnub
https://github.com/Freeboard/freeboard
https://github.com/0xD9D0/freeboard-pubnub-plugin
https://github.com/bportaluri/WiFiEsp

B. SYSTEM SUMMARY

2.1 System Configuration

To first configure the system you have to download the mobile application using the link below. Alternatively, the user can also use the web user-interface to access the features of the system.
Mobile application:
http://adaptiveanalytics.tk/mobile/
Web UI:
http://adaptiveanalytics.tk/

The user needs to provide the desired phone number to get SMS alerts on to the Adaptive Analytics Team using the following contact information.

info@adaptiveanalytics.tk

2.2 Data Flows

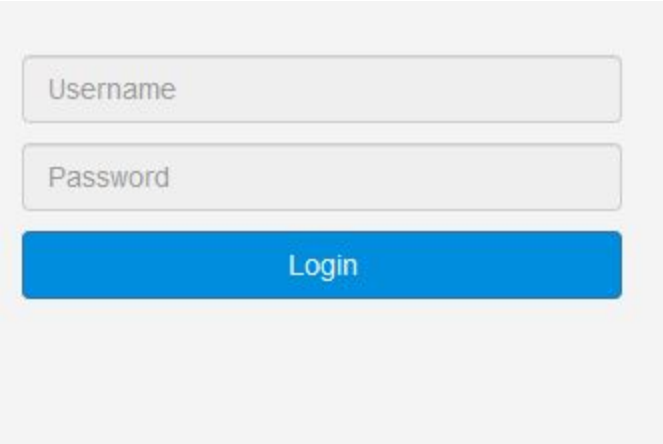
Users input is received by button on-screen. The settings and the configuration are provided automatically in real time without user input from the sensors without the user's meddling, The database of Farm Entities can be modified through an on-screen keyboard or through normal user input to input the number and quantity of farm entities in the system.

2.3 User Access Levels

The Farmer user may be able to add and modify data and information and have more functionality than the Owner. The Owner will have functionality oriented toward editing and adding farmer and getting a general report of the overall farm.

C. USING THE SYSTEM

3.1 Logging In



A user ID and password is required to log onto web interface/mobile interface. The default credential for login is **admin** for ID and **admin** for password, the login inputs are case-sensitive.

3.2 System Menu

The menu shows five possible options :

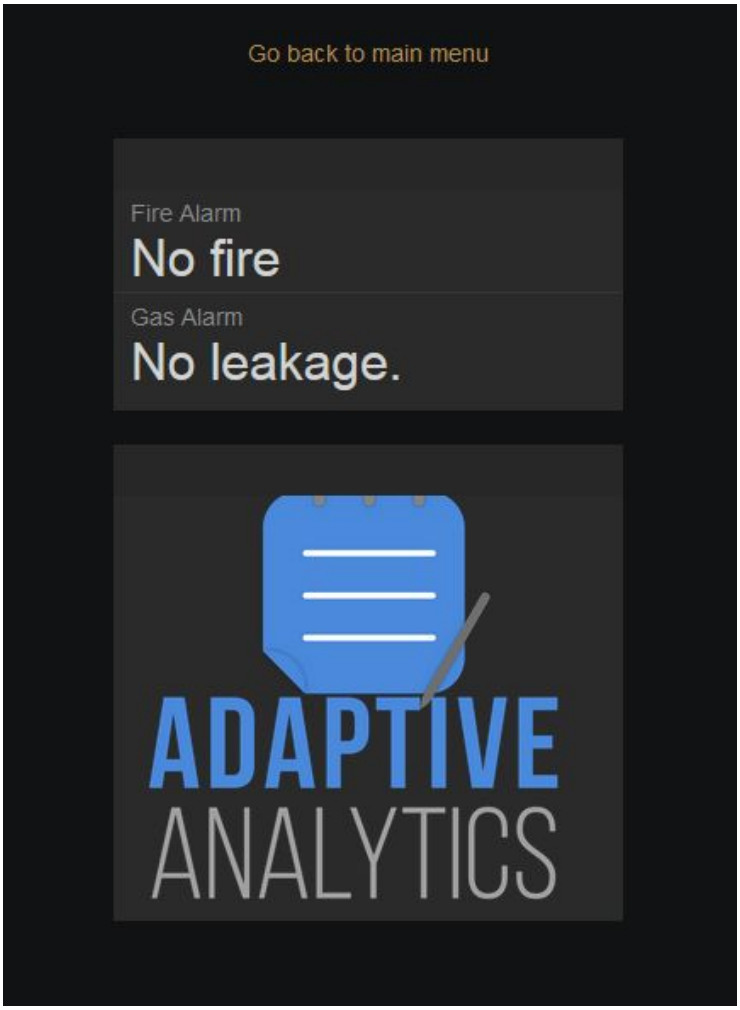
1) Farm Dashboard : live data collected from the farm
2) Alerts Dashboard : live data about the alarms and critical systems
3) Recommended Actions & Trends : live data trends and recommended action
4) Farm Entities :
5) Log-out : leaving the system

3.2.1 Farm Dashboard

The Farm dashboard provides real-time data collected from the sensors and display them directly into by graphing them to the user using the web platform. The farm Dashboard display luminosity, soil moisture, water level, humidity sensors, and temperature recorded of from the sensors. The data collected is organized in widgets to be portable to different display sizes including mobile phones.

The Farm dashboard can be accessed through the **menu** then press the **Farm Dashboard** button to view the data, the user can return back to the menu by click **Go back to to main menu**.

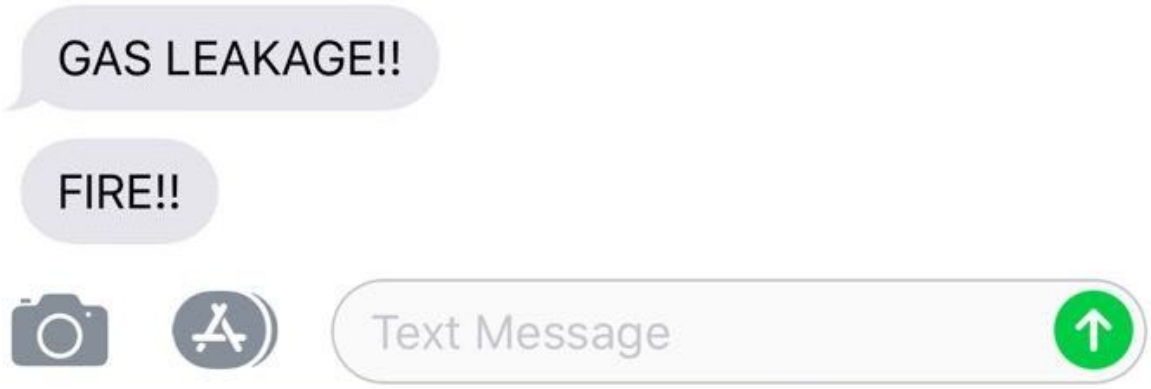
3.2.2 Alerts Dashboard



The alerts Dashboard provides warnings regarding the farm, and is able to return real-time alert of it. The alerts dashboard can send an SMS when the fire or gas leakage can happen. The alerts dashboard is organized in widgets to be portable to different display sizes including mobile phones.

The Alerts dashboard can be accessed through the **menu** then press the **Alerts Dashboard** button to view the warnings, the user can return back to the menu by click **Go back to to main menu**.

3.2.2.1 SMS Alerts



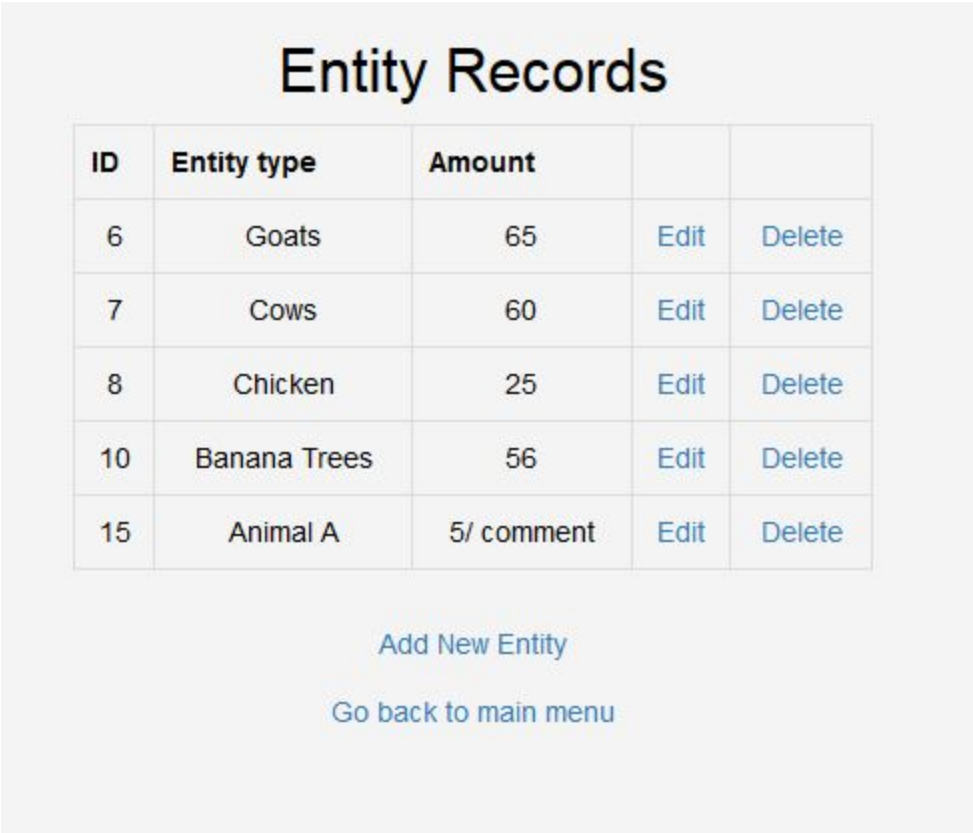
Urgent alerts from the farm will proceed to the user's phone. Shown above the text message of a Gas leakage followed by one of a Fire.

3.2.3 Recommended Actions & Trends

The Recommended actions and Trends Dashboard provides decision-making module that gives advices regarding the level of moisture, water level, and the food level for the farm. Also the the sensors are provided with a minimum and maximum values. The dashboard is organized in widgets to be portable to different display sizes including mobile phones.

The Recommended Actions & Trends dashboard can be accessed through the **menu** then press the **Recommended Actions & Trends** button to view the dashboard, the user can return back to the menu by click **Go back to to main menu**.

3.2.3 Farm Entities



The Farm Entities Dashboard provides access to all farm entity's information stored in MySQL database for the user to add, modify, and delete the elements of farm entities. Please note that both the entity type and amount can include comments. The user can edit,delete or add farm entities by pressing on the words colored in blue.

The **Farm Entities** dashboard can be accessed through the **menu** then press the **Farm Entities** button to view the entities, the user can return back to the menu by click **Go back to to main menu**.

3.2.3.1 Editing Farm Entities

Editing farm entities changes the data stored in the database to data provided by the user. The user must input the changes and press submit to submit changes.

The **Farm Entities** dashboard can be accessed through the **menu** then press the **Farm Entities** button to view the entities then press the **Edit** button shown in the row of the desired entity, the user can return back to the menu by click **Go back to to entity menu**.

3.2.3.2 Adding Farm Entities

Adding new farm entities changes the data stored in the database to data provided by the user. The user must input the entity type and the amount and press submit to add a new farm entity.

The **Farm Entities** dashboard can be accessed through the **menu** then press the **Farm Entities** button to view the entities, the user can return back to the menu by click **Go back to to entity menu**.

3.3 Changing User ID and Password

- To change the user ID , Password , or to change the phone number used to send notifications of the farm alerts please notify the Adaptive Analytics team using the following contact information

  info@adaptiveanalytics.tk

3.4 Exiting The System

Click on **Log-out :(**