ACT BRIGHT

Technology creating an Edge

FAMS

Fixed Assets Management System

Tag . Control . Save

TECHNICAL PROPOSAL

Radio Frequency Identification (RFID) Application:

Fixed Assets Management System

ABSTRACT:

Frequency Identification (RFID) technology to the Middle East and North Africa (MENA) Region, with a special emphasis on Egypt and GCC.

Companies now more than ever are under pressure to correctly value their assets all in efforts to run more transparently. Certain organizations, by nature of the industry they compete in, can easily have a majority or substantial amount of their capital invested in some form of assets. These can include stock inventory, work-in-progress (WIP), raw materials, equipment and machinery, vehicles, furniture, and so forth. Companies must not only be knowledgeable about such assets, but the ability to trace them through RFID technology allows for better management, accounting, and reporting – all working towards a more efficient and effective internal asset management system.

With the development of RFID, no longer are executives and employees forced to waste time knowing and searching for assets they might or might not have. With the tracking ability RFID unleashes, not only can know the exact physical location of assets instantly, but if they are moved, such details would also be noted with extreme accuracy.

Essentially, RFID can help track the entire life cycle of fixed assets – their installation, maintenance, modification/upgrade, movement and decommissioning – giving companies the ability to establish a complete audit trail of ownership rights and current asset location. For larger companies, such abilities could prove to be vital moving forward.

INTRODUCTION:

RFID systems include tags, readers, antennas and software to process the data. Tags are usually applied to items, often as part of an adhesive label. The reader sends a radio signal that is received by all tags present in the RF field tuned to that frequency. Tags receive the signal via their antennas and respond by transmitting their stored data. The tag can hold many types of data, including a serial number, configuration instructions, activity history (e.g., manufacturer date and time, when the tag passed a specific location, etc.), or even temperature and other data provided by sensors. The read/write device receives the tag signal via its antenna, decodes it and transfers the data to the computer system through a cable connection.
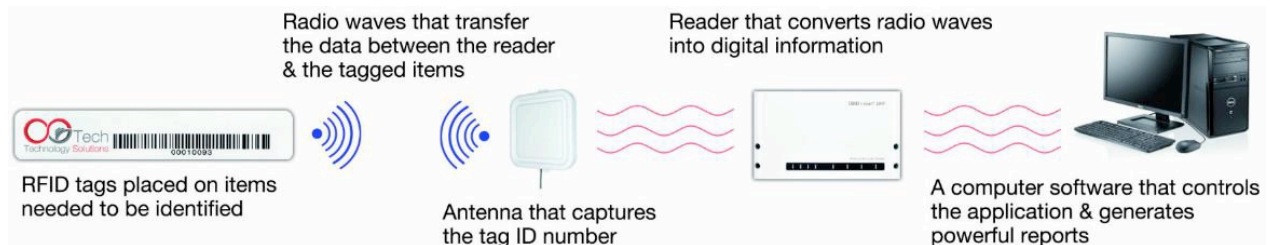
RFID provides itself through the impractical and impossible where others cant. RFID can operate in environments where factors such as indirect line of sight, high-speed reading requirements, temperature extremes, and exposure to gases and chemicals prevent the use of other data collection methods. RFID also provides convenience for innumerable common tasks. Businesses rely on RFID to securely track and report the locations of thousands of assets, shipments and inventory items.

Inventory movements from monitored locations could automatically trigger a replenishment request, or contact security if the item was moved by unauthorized personnel.

FAMS APPLICATION

Now you can just think about your assets in three steps, tag, control and save. By attaching RFID tag to an asset, you are well identifying this asset with full description, history and records. At a glance by the handheld reader you can identify every single item in the entire field of the device which can reach up to 5 meters with capability of identifying 50 items within the same second. Execute whatever reports with whatever criteria just by a click.

The **ACT-Bright** FAMS solution provides many benefits, including but not limited to:

✓ **TIME SAVING:** The handheld can identify up to 50 items in the same second within the entire field of the device which can reach up to meters. Just one employee can handle the task of inventory of huge premises within couple of days instead of teams handling the task within months.

✓ **LIMIT FINANCIAL LOSSES:** Many organizations ignore some of their assets' items due to the incapability of monitoring these types of assets. Others lose assets due to the inaccurate records they have regarding.

✓ **PRODUCTIVITY BOOMING:** The reallocation of manpower which were lost in the inefficient inventory processes, can boom the overall productivity of the organization by using that manpower in other tasks. Moreover, the increased accuracy of the inventory results will makes the organization capable to use the previously lost budgets due to assets' losses in other worthwhile operations that boom the overall productivity.

✓ **DEVELOPMENT:** Let's go with the tendency that is controlled by development of every single step in our daily living. It is time to develop your management procedure and be up to date with **ACT-Bright** FAMS application.

✓ **REPORTING:** Execution of fully described reports with special criteria is one of the main special features to the application. The reports can show data according to the authority of the user and license.

✓ **ASSET VISABILITY:** With FAMS application, no missing or ignored assets. You can monitor every single asset knowing its location, history, depreciation plan, full description, present value, etc.

✓ **HISTORICAL RECORDS:** Recording the history of the assets for further forecasting is very important to reflect the organization's experience in procurement on the new assets purchase.

✓ **EFFICIENT AUDITING:** Full records with accurate inventory process will lead to an extremely smooth and efficient auditing process.

✓ **THEFT DETECTION:** It can be easily integrated with other security systems (i.e. alarms, lighting, cameras) for further safety. Just by passing any unauthorized item through the assigned RFID checkpoints, the security system will take the dedicated action with recording the full description of the item going through the RFID checkpoint.

SYSTEM PARTNERS

FEIG ELECTRONIC

Which is a German company founded in 1970. FEIG Electronics has a wide experience in the field of electronics manufacturing with special focus on the RFID devices. FEIG Electronics had the opportunity to be from the main partners in the project of operating the national IDs with the RFID technology for Germany. It is backed with international quality certificates.

METALcraft I.D. PLATES & LABELS

Which is an American company founded in 1950. It is a company specialized in the field of labeling with international certified production lines of the RFID labels. The RFID on-metal tag is one of the most distinctive products for Metal craft.

QUID solutions

Which is a Hungarian company founded in 2007 specialized in the manufacturing of very special finished RFID tags. It is awarded in 2010 with the NOKIA innovation award on GINNT Expo. It's mission to make the finished RFID life cycle longer with a lower cost.

SMARTRAC

Which is a Netherlander company has taken over UPM company which was a Finnish company founded in 1996, had 14 factories over five continents with revenue in 2010 alone amounted to about 9 Billion Euros. It is a leading supplier in labeling materials from 2000 and specialized in the manufacturing of RFID chips. SMARTRAC backed with international quality certifications.

Atid

Which is a Korean Company innovating the latest technologies in the field of RFID. It leads the handheld RFID readers manufacturing. Atid products characterized with the compact options that makes a single device works as a team.

SYSTEM COMPONENTS

The following equipment comprises a standard 'FAMS' solution.

- ## Encoding Station

An RFID enabled printer developed by Zebra Technologies is used to encode and print smart stickers regarding the desired data to be associated with each unit (i.e. Asset number, Location, User, etc…).

- ## Smart Sticker

UHF RFID Passive tags or paper faced tag stickers (full color printability) that suit the tagged items. These tags require no internal power supply (batteries) to use in the methodology. The RFID tag gives a tremendously long and accurate read/write range.

- ## Handheld Reader

The ultra-high frequency (UHF) handheld reader greatly aids in maintaining accurate records. It is a powerful portable tool capable of reading 50 tags simultaneously per second from a distance up to 7 meters. It also allows the carrier to search for specific assets and change any specific detail regarding any registered/stickered asset. It runs on a built-in battery, which allows for easy recharging. Finally, it can be easily connected to the main database at any time to update inventory details efficiently and effectively through its Wi-Fi module.

- ## RFID Checkpoint "Optional"

An ultra-high frequency (UHF) RFID reader with its reading antenna(s) – up to four per reader – work together to control entrance/exit gates (i.e. checkpoints). Every antenna purchased, represents a potential checkpoint – whereby any tagged item passing through or by it will be logged in the system's database with appropriate detail with high levels of control, security, and monitoring abilities.

- ## Customizable Software Packages

Depending on your desired usage of the solution, a software package by our development team will be created to your liking for optimum benefit from the purchase. The database is based on Microsoft SQL Server as to ensure system compatibility, as it can be integrated with other Database such as Oracle and SAP through many ways such as:
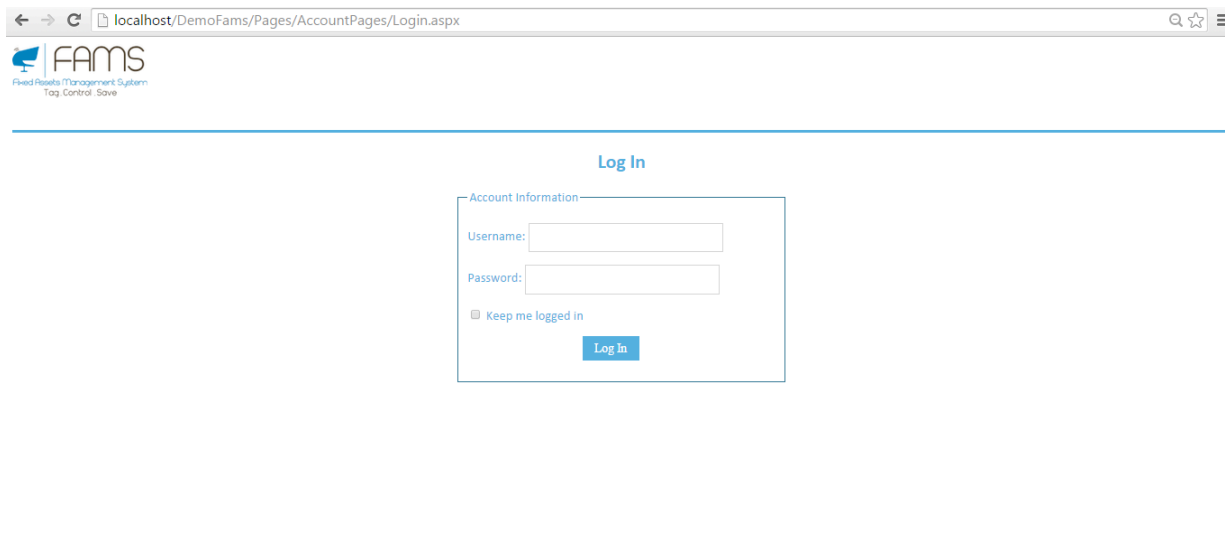
- **you grant us to Read / Write on some tables in your Database.**
- **We grant you to Read / Write on some tables in our Database**.

Also, if you purchase additional equipment in the future to add to the solution, the **ACT-Bright** development team updates the software for free to take advantage of any upgrades.

DEVELOPMENT FRAMEWORK

- Database Engine - Microsoft .NET **Framework 3.5** and **MicrosoftSQL Server 2008**
- Standalone System - Our system uses a standalone **Microsoft SQL Database**.

localhost/DemoFams/Pages/AccountPages/Login.aspx
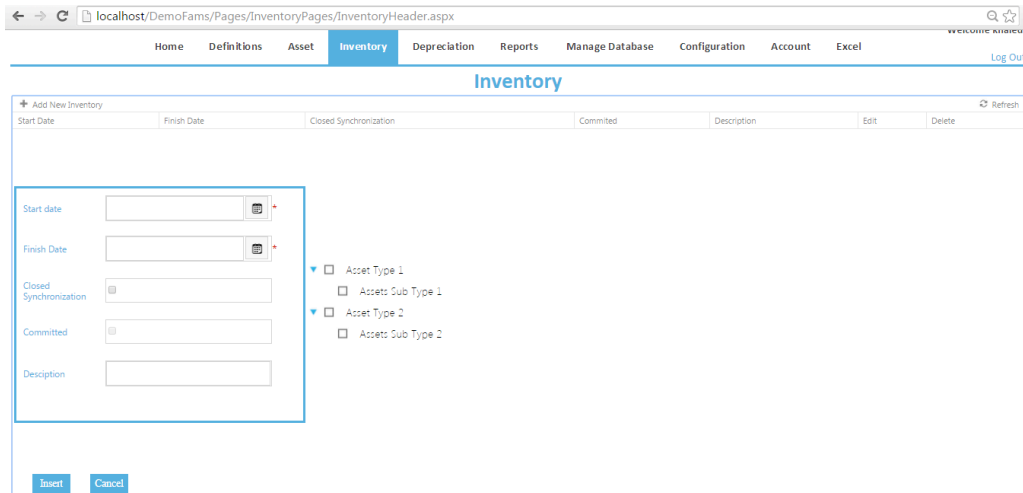
Log In

Account Information

Username:

Password:

☐ Keep me logged in

[Log In]
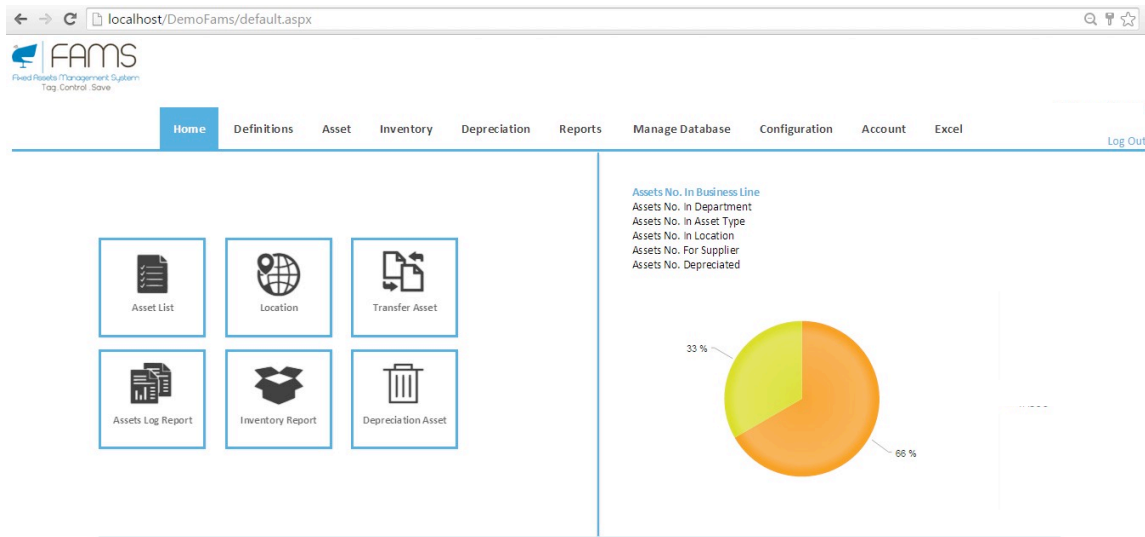
The Home page is showing some statistics for the data available
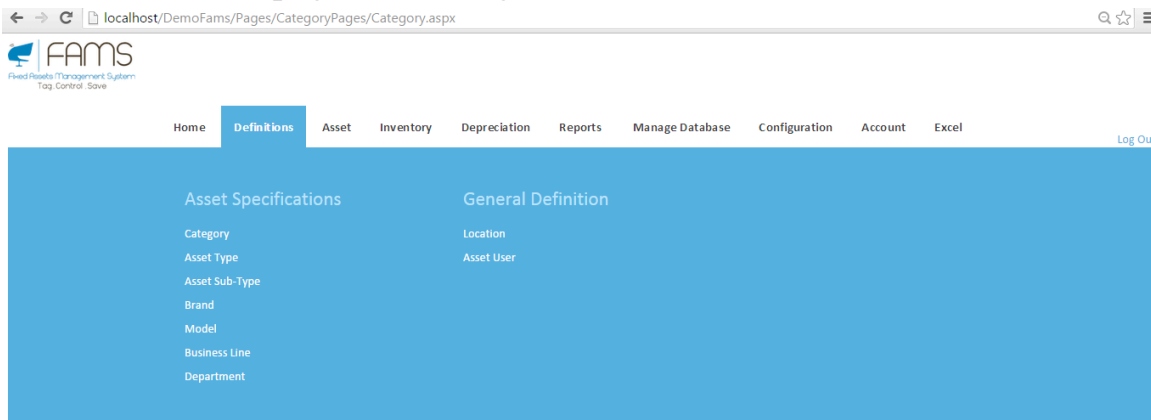
The Definition Lists to define each one of them with no limitation on any of the definitions accept for the locations for the basic package.

The basic package location structure is limited to 3 main levels with 3 sub levels for each main level. There is no limitation inside each sub level.

Example for a definition list

Example of building location structure

Example of defining user account

Format for defining a new asset

Format for transferring asset from one location to another within the
structure defined
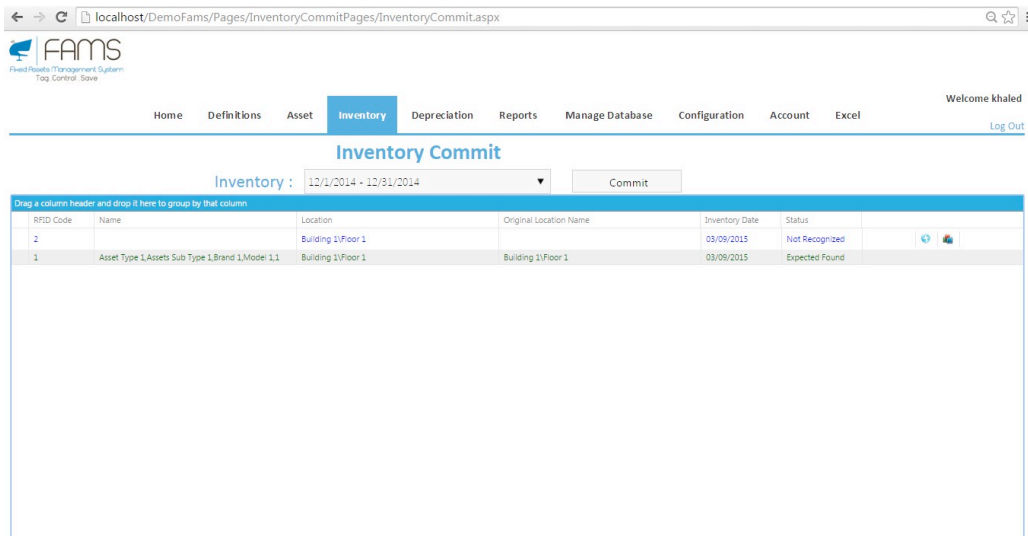
Example of creating a new inventory process

Example of committing inventory results

Format for moving operational items to junk area

Example of available report types

Example to synchronize assets users with available users on the domain automatically

Example of defining a new user

Example of integrating items batch with validation

Backup and Restore the Database

Backup Database

Restore Database

DemoFams_1_9_2015.bak

DemoFams_2_9_2015.bak

Restore Database

Format for backup/restore database

Inventory, Search

Synchronization

User Name

Password

Login   Cancel

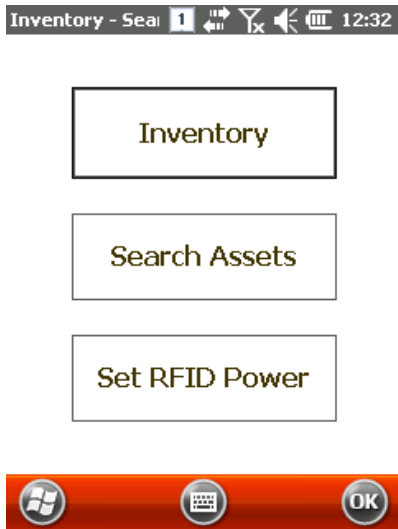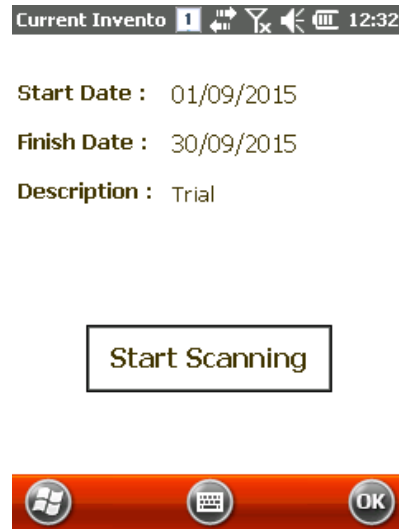Main Screen   Login Screen
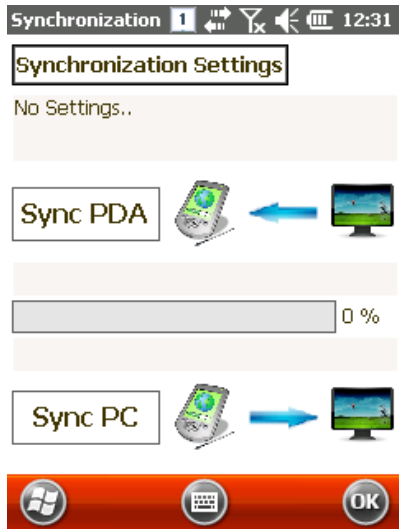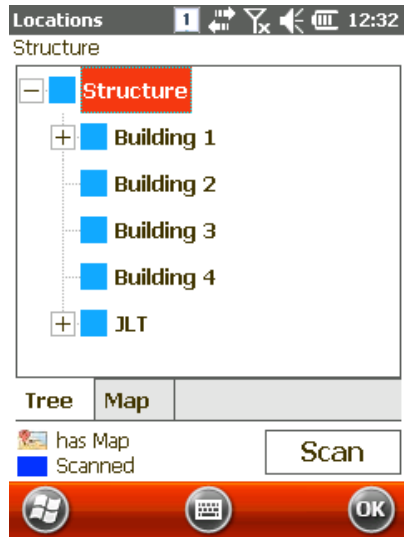
Two ways Synchronization
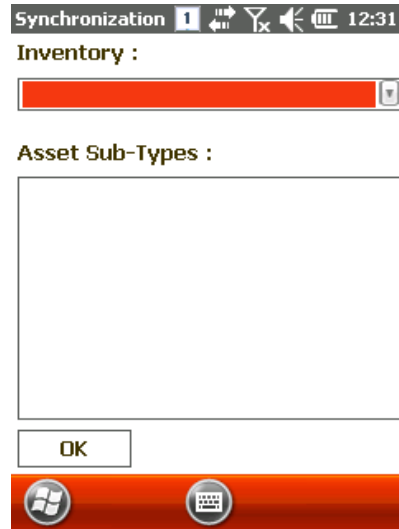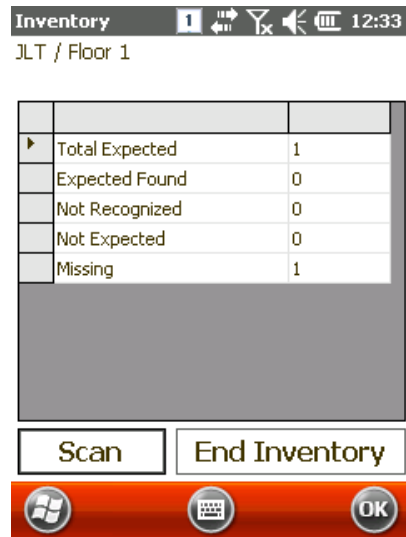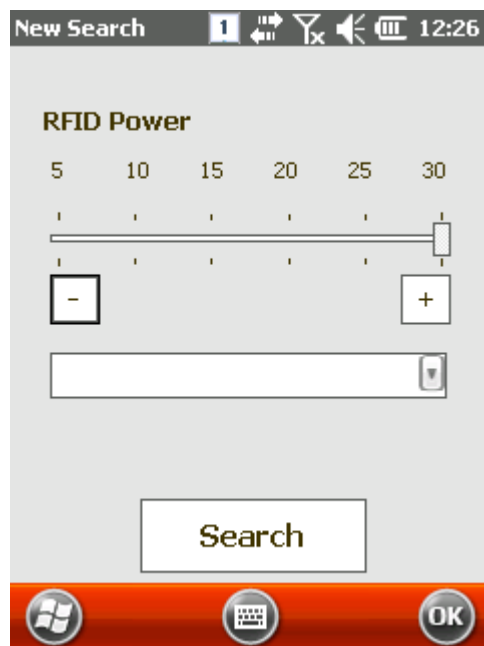

Inventory process selection

Main Menu

Inventory Process

Location Selection by
structure/RFID location tag/Map

Scanning Process

Search screen with zoom in/out feature

Some Significant References