TurnStone

RFID Item Survey and Inventory Tool

Overview

TurnStone is a system that allows users to quickly and efficiently determine if enrolled items are present in a given space. The system is comprised of the TurnStone handheld software pre-installed on a handheld RFID Reader and a secure cloud-based interface.

The handheld RFID Reader allows users to enroll items, search an environment for items that have been enrolled, quickly survey an environment to see which items are present and transfer items from a given enrolled location to another location.

The secure cloud interface allows users to fully manage the items that are enrolled and generate exportable reports about the location of the items enrolled.

TurnStone's intuitive user interface and ease of use allows novice users to quickly learn all the features and minimizes training required for operation of the system.

TurnStone provides organizations a superior use experience over manual inventory processes. Using TurnStone to perform an inventory is less laborious and less time consuming than traditional processes. Additionally, TurnStone provides more accurate information and instantaneous reports allowing users to locate missing items faster than legacy processes.

Once TurnStone is implemented and used within an organization, the simple - yet scalable - functionality of TurnStone provides added benefits beyond the simple savings associated with automated counting.

Core Features

TurnStone natively supports:

- Barcode / SKU scanning and linking
- Multiple site management
- Tiered hierarchical item organization
- Multiple simultaneous users and user roles
- Item Enroll, Management, Find and Transfers
- Reports, Surveys, User Audit Trails
- Customized additional item attributes
- Standalone mode for remote handheld operations

TurnStone allows users to perform collaborative surveys, transfer items from one location to another, view and export audit trails of user activity, export reports to spreadsheet applications and interface with other inventory applications.

Linking of accounts allows organizations to transfer the data associated with an enrolled item to outside organizations when sales or item transfers occur. Additionally, this inter-organization link feature helps to prevent counterfeiting and promotes efficiencies within supply chain management operations.

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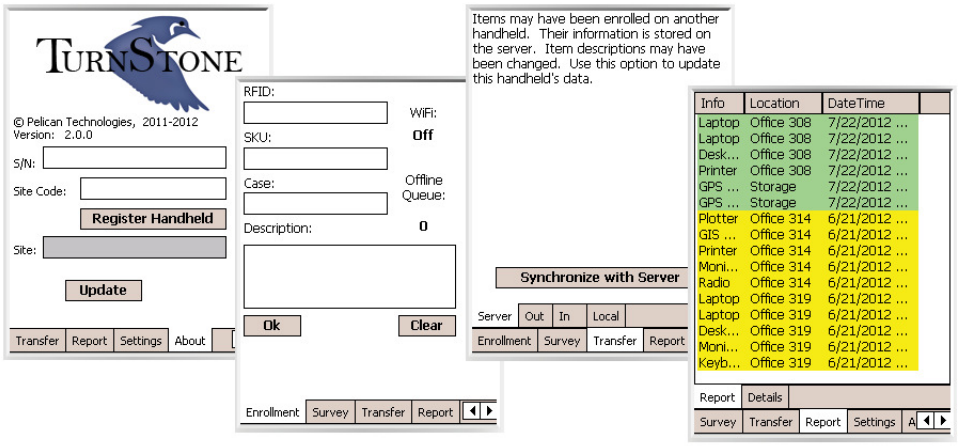
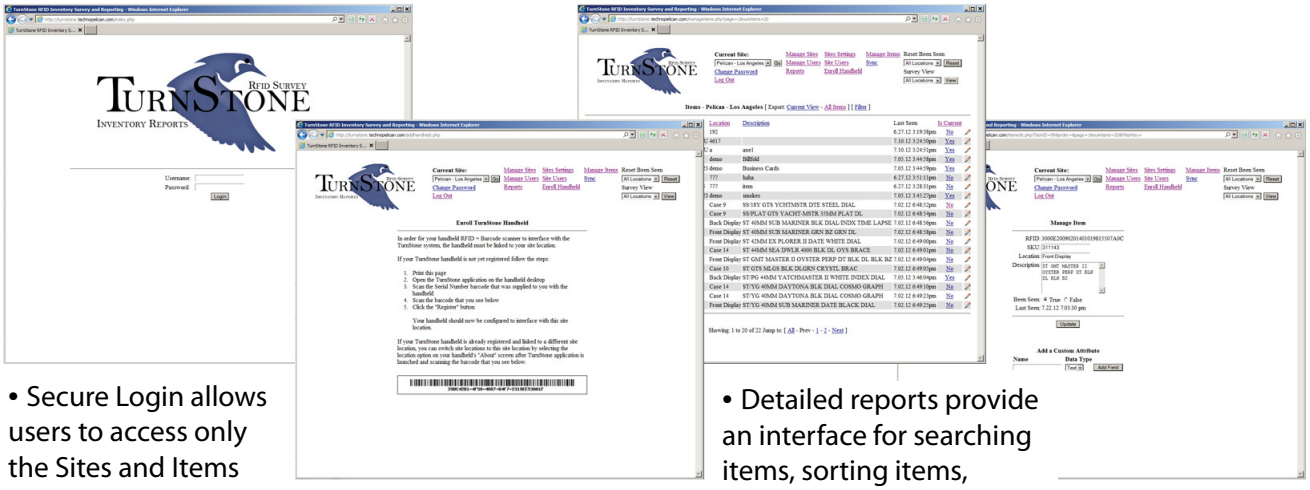
Intuitive Handheld Interface



- Register handheld with a given site by scanning the Site Enrollment Barcode
- Easy item enrollment process
- Synchronize local database with the server to take full advantage of team enrollment and team survey processes
- Transfer Items from Site to Site
- Move Items from Location to Location
- Check the progress of an ongoing survey with color coded reports

Useful and Powerful Cloud Solution



- Secure Login allows users to access only the Sites and Items they have access to. Functionality is driven from users' roles and access level on a Site-by-Site basis. Additionally, the whole user-interface (external and internal) can be branded to look and feel like an organization's existing website to promote users' acceptance.

- Pulling the trigger on the handheld and scanning the Site Enrollment Barcode links the handheld to the site. Detailed on-page instructions assist new users. Handhelds normally linked to one site can be quickly linked to a different site to ease the process of team inventory processes. This code process is a certificate validation for enrollment.

- Detailed reports provide an interface for searching items, sorting items, transferring groups of items from one location to another, from one site to another and exporting the information out of TurnStone to familiar spreadsheet applications. Users have the ability to add and remove columns of information from the display, filter the content and page through lists that span multiple pages.

- Edit the default data on an item by item basis or add additional fields of data for each item or just one item. Underlying database structure and the web interface work together to allow custom-tailored information. External documents and pictures can be linked to items and data can be pulled from external databases.

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Connecting Clouds

At TurnStone's core is a secure cloud database and the web services that allow different devices to interface with the whole of the system. The architecture of TurnStone's interface allows it to be connected to other online databases and to share information with those other systems. TurnStone Identity Certificates on the connected systems validate that the systems, devices and connected elements are authentic.

Inherent in the TurnStone architecture is the ability to link a given TurnStone site to any other or multiple TurnStone sites. By linking sites together, users can quickly and efficiently transfer enrolled items from one location to another. When the transfer takes place, all the information associated with the item being transferred flows with the item from site to site. This sharing of information adds efficiencies to the process involved in receiving items and prevents duplicated effort.

TurnStone's ability to transfer item from site to site and maintain an audit trail of the item as it moves adds a level of sophistication not present in other off-the-shelf inventory / item management systems. This sharing of information between multiple organizations enables the development of detailed management procedures to track supply chain processes, ensure timely delivery of items, detect fraudulent items inside the supply chain and allow end recipients of items to know (without the shadow of doubt) that the item being received is coming from a verified supplier and manufacturer.

Due to the open nature of the TurnStone data interface, it can be linked with a wide variety of different online database systems and even private inhouse databases. TurnStone can be configured to both pull information from these systems and push information out. As items are moved from site to site, TurnStone can update the external systems with information about the progress of the item.

Detect and Prevent Counterfeits

Example Usage: A pharmaceutical manufacturer in Asia is concerned that counterfeit cancer drugs are being introduced into the supply-chain. These counterfeits are labeled and look like the real drugs but are in fact fake. The counterfeits are undermining company profits and resulting in a decrease in patient life-expectancy.

By enrolling each unit of real medicine at the factory with TurnStone and requiring that at each stop in the supply-chain the bottles are surveyed using TurnStone, the manufacturer can ensure that medicines that reach the hospitals are in fact real and not counterfeit.

Counterfeits are detected in the supply-chain process because they do not possess an RFID Tag or the RFID Tag they do possess hasn't been registered with TurnStone (or it is a duplicate RFID Tag to one that was registered and already delivered).

Using TurnStone to prevent counterfeits from reaching consumers is not limited to medical markets but rather can be utilized by any industry that is facing the problem of counterfeit goods. The unique nature of RFID tags and TurnStone's use of those tags as the primary key in the secure cloud allows TurnStone to ensure the item that is received is the item enrolled.

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Implementation Environments

TurnStone has been implemented in a variety of environments to improve the efficiency of the inventory process. These environments include:

- Jewelry Stores and Department Store Jewelry Counters - daily inventory processes that don't disrupt the look of the display case.
- Perfume Counters - daily inventory of merchandise to detect internal theft and loss.
- Retail Art Galleries - quickly locating merchandise in stock and helping to build a custom online catalogue of items available for purchase.
- Retail Clothing Stores - assist in the traditional manual inventory process, making the process less time consuming and more accurate.
- IT Departments - managing equipment (desktop computers, laptop computers, printers, mobile devices, etc.), tracking and inventory processes.
- Hospitals - locating "missing" equipment and devices.
- First Responders - daily equipment inventories.
- Auto Part Manufacturing - part specifications are added to the enrolled items before shipping. As parts are received the specifications are digitally received as well.
- Counterfeit Prevention - manufacturer of products often counterfeited, tags genuine items as they are manufactured. Retailers can verify the validity of the item by scanning the RFID tag and checking the TurnStone cloud.

Ease of Use

A user-friendly system should combine intuitive controls, flexible configuration and personalization options.

TurnStone is designed around these ideals both on the handheld and in the cloud interface. TurnStone can be experienced on a tablet (or smartphone) and as surveys occur, the information displayed is continuously up-dated.

"If you count stuff on a regular basis or spend time looking for stuff that you know is somewhere in your facility, TurnStone is the perfect tool."

- Amy Sims (TurnStone user)

What do you misplace?

People misplace items and accidently take or move things all the time. Organizations of all types count things on a regular basis.

Hours are wasted every day by people looking for the things they need or counting the things they have.

TurnStone is the solution to the problem of lost / misplaced items and the solution to efficiently and accurately performing an on-the-spot inventory.

After items are enrolled, the TurnStone handheld will identify what items are "seen" and which are "missing". The TurnStone handheld also allows users to search for the missing items (or any enrolled item) thereby assisting in the process of finding the things that occasionally go missing or are needed.

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Typical TurnStone Operation

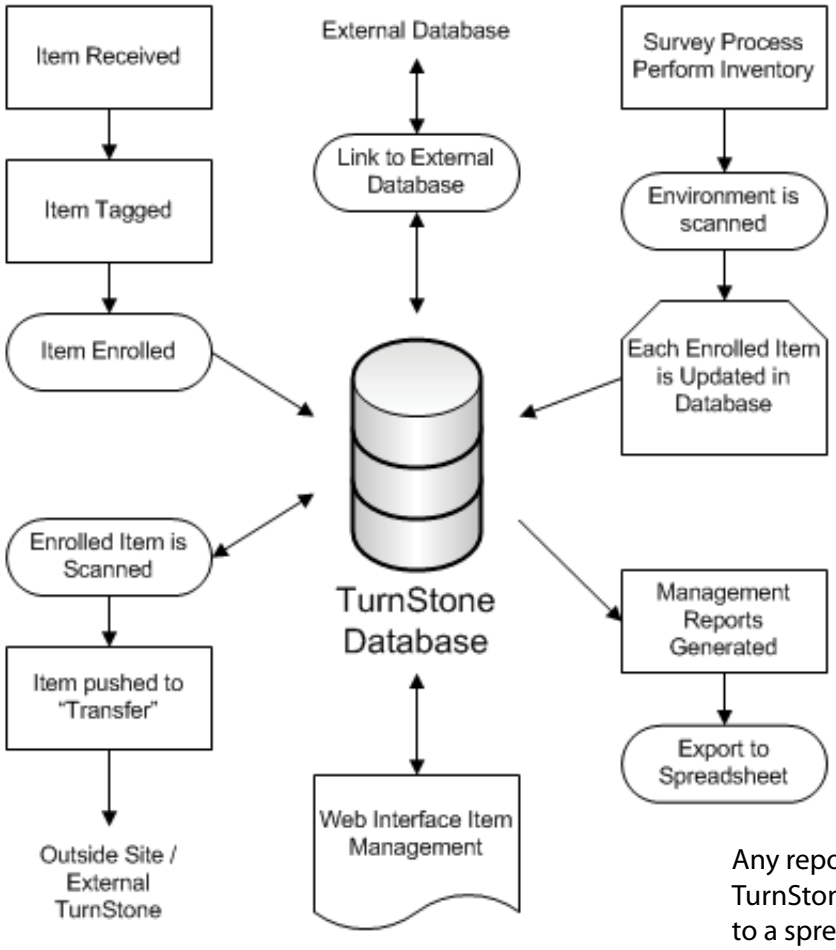
As items are received, check the item to see if a tag is present and the item is already enrolled. If the item isn't enrolled, add a tag and enroll the item; if it is already enrolled all the information present about the item is transferred with the item's tag. Now that the item is enrolled, it can be counted and tracked.

Enrollment typically requests a barcode, item location and description to be associated with the item. Additional fields can be included and any field can be populated from an external data-source.

TurnStone allows users to move items from location to location as those items move in the real world.

When an item is being transferred to another TurnStone site (either internally or externally to the organization), the item is moved into a "Transfer" location that is either public or privately linked to another organization. Users control which pieces of information associated with the item are be transferred with the item.

TurnStone can be linked to any ODBC Compliant database or external application that uses a standard database.



When performing an inventory (or looking for an item), simply scan the environment with the handheld. All the tags seen will be reported to the TurnStone cloud and their status will be updated on the handheld and online. The handheld will alert you when the item you are looking for is seen.

Multiple handhelds can be used to collaborate on the survey process and as items are seen by the handhelds, the interactive management reports are updated.

Reports are an important part of any process. TurnStone comes pre-loaded with several item reports and additional reports can be added at any time by qualified users.

Any report generated by a TurnStone user can be exported to a spreadsheet for additional usage.

TurnStone's secure, user-role based web interface allows users to manipulate any data element associated with the system and maintains an audit trail of all activity. From this interface reports are generated, items can be moved and item information can be updated manually or through bulk data transfer processes.

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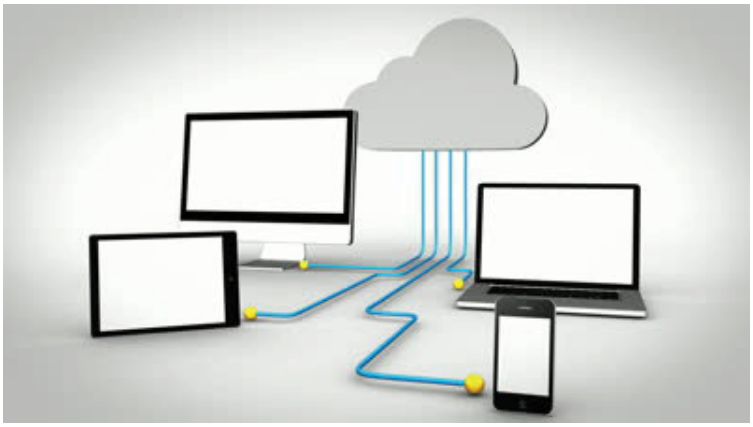
Additional Included Features

• Each handheld is linked to a specific Site within the TurnStone Cloud. Items can be surveyed or enrolled by multiple handhelds linked to the same Site; doing so causes the item information to propagate to each of the handhelds associated with the Site.

• Organizations that have multiple locations can set up each location as a different Site. Items can be transferred between sites (checked-out by one user and checked-in by another user at the new Site). Reports are available that provide an audit trail for transfers and item management across multiple Sites.



• Standalone functionality enables each handheld to operate autonomously, storing data in a local database and allowing users to view local reports. Later, when the handheld is connected to a wifi network, all the local data (including the audit trail) is transferred to the TurnStone Cloud.

• Import and Export support allows the TurnStone Cloud to accept bulk item information for easy enrollment and allows users to export their data to .CSV files for easy import into any spreadsheet data management system.

• TurnStone Cloud users can be assigned roles and permissions levels linked to each site they have access to; users with Site Administrator access decide what Site access each user has.

Add-on Features

• Custom Branding - Pelican Technologies offers branding services for TurnStone to make the interface look and feel however an organization would like it to look and feel. Branding can be applied to the handheld interface as well as the online interface and on a per Site basis or across all the Sites an organization has. Resellers can add their own branding and bring TurnStone to their own customers.

• Sync with Inventory Control - Interfaces exist and can be added to TurnStone that allow TurnStone to connect to and read information from existing POS or inventory control systems. Adding Sync allows users to generate additional reports and feed data into TurnStone from external systems automatically.

• Security Plug-In - TurnStone can be integrated with existing and new RFID loss prevention systems. As items are enrolled in TurnStone, the same tags that TurnStone uses to help users find and count inventory can be used by egress monitors to prevent theft.

Mobile Interface

Tablets and smartphones are everywhere and increasingly being used by business to streamline internal processes. TurnStone interfaces are designed to display well on these devices and present users with accurate and automatically updated reports.

Presently, TurnStone isn't deployed as a native application on any of the popular tablets or smartphones; however, the TurnStone web interfaces have been created with those devices in mind.

As multiple users are performing a survey or a search with the TurnStone handheld RFID reader, managers are overseeing the process - in real-time - utilizing a tablet (iPad or otherwise) connected to the TurnStone management web interface.

Organizations are not limited to a specific mobile interface for TurnStone operations and use of a mobile interface is an option, not a requirement.

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Return on Investment

TurnStone is affordable on any budget and for any sized organization.

Initial costs are based on scale. Licenses are based on the number of users and number of handhelds registered with a given site.

In a small initial live-environment blind participant test, Pelican Technologies observed an 8 fold increase in efficiency and productivity over traditional inventory counting and reconciliation methods.

Users have reported benefits in addition to savings on inventory counting processes. These benefits include:

- Reduction in shrinkage due to internal theft
- Greater accuracy of items-on-hand information
- Reduction in time required for regular reporting processes

Example Implementation:

A county in a southwestern state is required by law to account for all items purchased on an annual basis. The IT Department of the county utilizes the employee resources of the whole of the county to perform their item search every year. Typically this consists of printing lists of items assigned to each employee or department, distributing the lists and requiring each person to individually account for the items that IT thinks are in their possession. This process takes 24 hours per employee, 1000 employees each year, at a cost of approximately $480,000.00.

The TurnStone deployment for this county was estimated at an initial cost of $117,000.00 (for handhelds, cloud setup, infrastructure improvements and initial licenses) and ongoing annual costs of $33,000.00 (user licenses). The estimated time savings on an annual inventory process is 18,000 employee hours with an overall first year savings of $210,000.00.

Example Implementation:

A small jewelry retailer in Ohio performs a quarterly inventory that requires 40 employee hours to perform. They realize a loss of $40,000.00 in merchandise "lost" each quarter.

The TurnStone deployment for this store's several locations was performed for an initial cost of $24,000.00 (for handhelds, cloud setup, external connections and initial licenses) and ongoing annual costs of $5,000.00 (user licenses). They are now performing a weekly inventory and daily display case inventories as part of their normal procedure and operations. Losses from misplaced items have been reduced to nearly nothing and the management reports available from TurnStone have decreased the workload of the Inventory Control department.

About Pelican Technologies

Pelican Technologies is a Dayton Ohio based company dedicated to building systems that help other companies increase productivity, efficiency and profitability.

Founded in 2005, Pelican Technologies has traditionally developed unique software applications for specific customer needs centered around 3rd party system interoperability, RFID, video surveillance and incident management.

Now with the introduction of TurnStone, Pelican is helping a wide variety of businesses and organizations keep track of the physical things that are important to them.

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