

INFORMATION ASSET INVENTORY WEB APPLICATION

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Summary: *This article informs about the concept and purpose of an information asset inventory as a part of an information security management system. It also gives a representation of an implemented application; which purpose is to automatize and ease asset inventory process.*

Introduction

An Information Security Management System (ISMS) is a systematic approach to the process of managing sensitive data at an organization. Commonly, it is based on a set of security policies and procedures. The main purpose of an ISMS is to minimize risk, limiting the impact of a security breach. Typically, an ISMS works with technologies, data, processes and human resources in an organization. An ISMS might be aimed to a particular data type, as customer data, business secret, employee data. Or it might also be implemented in a comprehensive way that becomes part of the company's culture.

There exists a specification, also called standard, for creating an ISMS – ISO 27001. ISO 27001 does not mandate specific actions, but includes recommendations for documentation, continual improvement, internal audits, corrective and preventive actions. That specification focuses on the integrity, availability and confidentiality provision. Inherent part of an ISMS process, according to ISO 27001 is asset inventory. Only knowing everything that has value to an organization it is possible to calculate and minimize risks and ensure business continuity.

The concept of an asset inventory (also called asset register) is based on collecting and classifying any object, person or information that is part of an organization with the condition that it might be valuable for business. Manually the easiest way to register assets is technique called “describe what you see”, which implies interviewing heads of each department about listing that includes: any person at their department, any personal computer, laptop or work station, any physical or digital files, any hardware or software, any equipment they see.

According to ISO 27001 every asset has an owner – the person that is responsible for asset protection and operates that asset. Without knowledge about who is responsible for any kind of valuable information in an organization it's basically impossible to ensure security and information protection.

Application details

Asset Inventory Web Application is based on PHP, using MySQL database and AJAX based template for the interface. The main menu is represented in the figure 1.

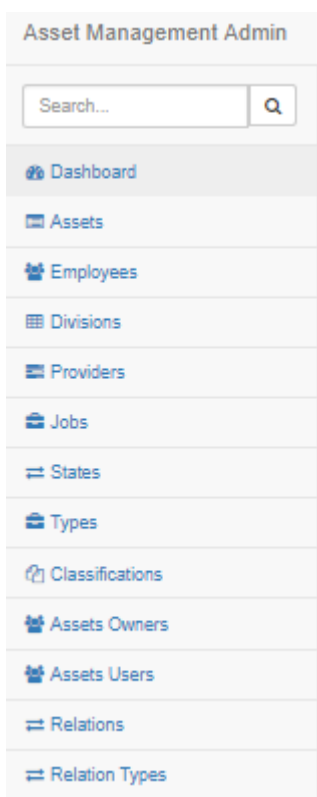


Figure 1 – Main menu

That software contains the most valuable information about any kind of assets in the organization:

- name – name of the asset, that is used for an asset subsequently;
- type – describes the type of asset, for example: hardware, software, human etc.;
- state – describes current state of an asset, for example: in production, in use;
- provider – describes provider of an asset;
- classification – describes current classification type of an asset, for example: critical, important, ordinary, not important;
- date of creation – contains creation date of an asset;
- date of last review – contains review date of an asset;
- relations between the assets – describes relations between assets, for example: PC1 uses Printer HP5;
- level of confidentiality, integrity, availability – describes the level from 1 to 5,
- resource value – is based on the level of confidentiality, integrity, availability and calculates automatic from 1 to 10.

On the figure 2 is represented dashboard which allows users to see statistics about the levels of availability, confidentiality and integrity of the assets, number of assets by states, types and classification.

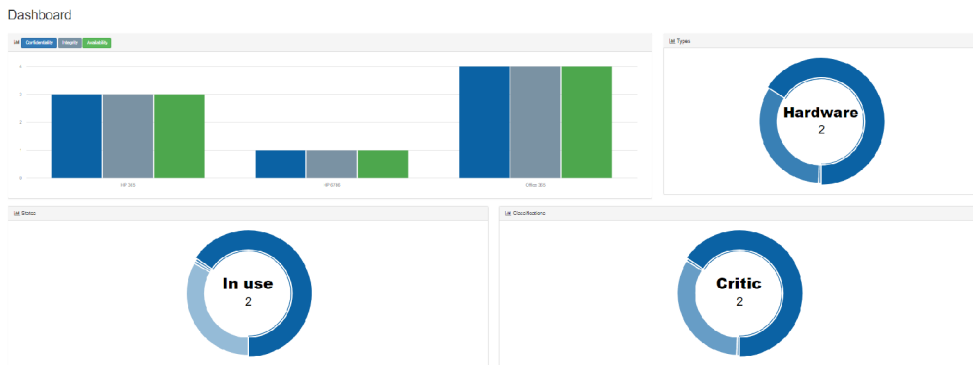


Figure 2 - Dashboard

An administrator or system manager has access to create the new asset, name it, choose the type and fill other fields as described above. On the figure 3 is shown a diagram, which represents the main functions of an administrator.

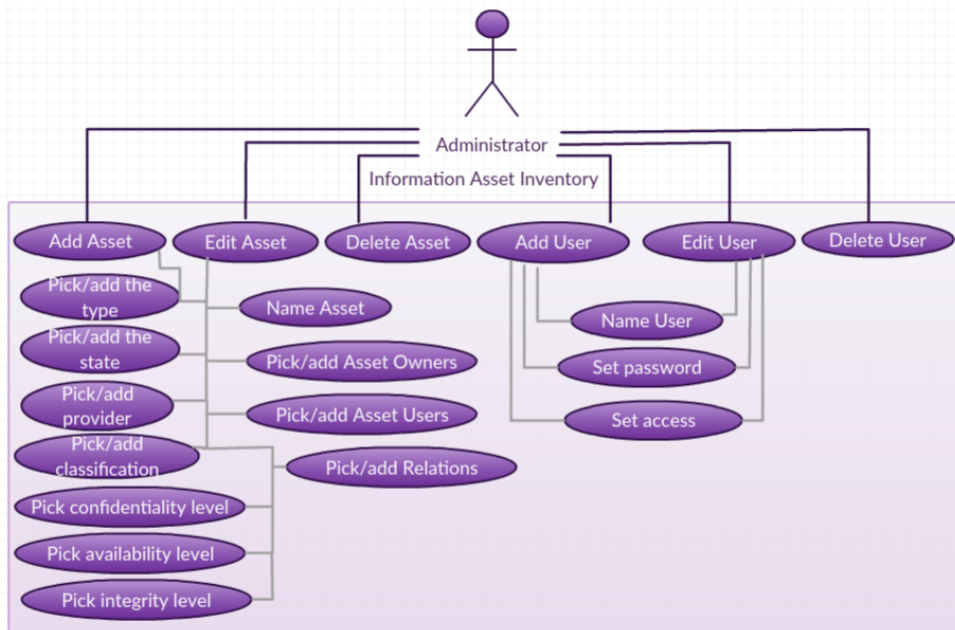


Figure 3 – Use case diagram for an administrator

Any part of the asset description might be modified by administrator, for example, an administrator can insert, edit or remove new types, states, relation types and all other fields. System manager is able to change only the limited number of fields or add an asset.

Application allows to choose the asset owners, as well as asset users, which can also be modified by an administrator or manager. Asset owners and asset users are chosen from the employee table, which might be filled by an administrator. On the figure 4 is shown list of the assets.

Asset Management Admin

Search...

Assets

List of Assets List of Assets + add

Show 10 entries Search:

Name	Type	State	Provider	Classification	Date of creation	Date of review	Confidentiality	Integrity	Availability	Resource Value	Actions
HP 365	Hardware	In use	Mordcell	Critic	01 Jan 1970	01 Jan 1970	3	3	3	9	edit remove
Office 365	Software	In transit	Microsoft	Ordinar	16 Feb 2018	17 Feb 2018	4	4	4	12	edit remove
HP 6780	Hardware	In use	Mordcell	Critic	01 Jan 1970	none	1	1	1	3	edit remove

Showing 1 to 3 of 3 entries Previous 1 Next

Figure 4 – List of the assets

There also exists an instrument, called `Asset Explorer` by Manage Engine, which allows user to discover all the assets in the network, manage and monitor software and hardware assets, manage the complete IT asset lifecycle, ensure software license compliance, make informed decisions about hardware and software purchases throughout the entire it life cycle, track purchase orders and contracts, know the total cost of ownership of an asset.

Within the `Information Asset Register` software system by Informu Solutions user can establish a Business Classification Scheme, apply rules for retention periods, then tag the information assets to this scheme, with retention policies inherited. These assets could be applications and databases, electronic records, physical filing and backup tapes, computer equipment and mobile devices, books and magazines, audio and video materials etc. It also has the concept of asset collections that group together related sets of information.

Conclusion

On the first view, asset register seems to be a bureaucratic process, but in practice it the powerful and indispensable instrument in risk evaluation and protection of an organization.

As the plan for the future, Asset Inventory can wide to an Asset Inventory and Risk Management Processes, which should include risk identification (additional threats and vulnerabilities), analysis (impact and likelihood) and treatment part.