

FISMArts

Improving Retention of FISMA Guidance Details with Mnemosyne

A solution for effective memorization
and recall of federal Information
Assurance guidance

About Me

- Founder of FISMApedia.org and FISMArts
- Employed by Tantus Technologies
- FISMA Instructor with Potomac Forum
- Blogger with www.Guerilla-CISO.com
- Twitter: @danphilpott

Agenda

- The Need
- The Solution
- The Process
- Demonstration
- Resources

The Need

- Federal Information Assurance staff must be familiar with and cognizant of a large amount of detailed information.
- Not all staff practicing federal Information Assurance are trained for the task.
- Specific details are critical to success.

The Need – By the Numbers

- Example: NIST SP 800-53 Revision 3
 - 198 Security Controls
 - 415 Security Control Enhancements
 - 144 Terms
- For each Security Control and Security Control Enhancement there is text describing the control plus supplemental guidance.
- Without understanding all of a control and enhancements misinterpretations are common.

The Need – By the Library

- The Core Documents:
 - NIST FIPS Publication 199
 - NIST FIPS Publication 200
 - NIST Special Publication 800-18
 - NIST Special Publication 800-30
 - NIST Special Publication 800-37
 - NIST Special Publication 800-39
 - NIST Special Publication 800-53
 - NIST Special Publication 800-53A
 - NIST Special Publication 800-59
 - NIST Special Publication 800-60 (two volumes)

The Need – By the Library

- NIST Special Publication library: ~116
- OMB Memoranda: ~20
- Plus hundreds of additional NIST Interagency Reports, Security Bulletins and FIPS Publications

This is a large Body of Knowledge

The Need – By the Gaps

- Classes present excellent overviews
- Independent Study can fill in details not covered in the overviews
- On-the-Job Training will provide detailed knowledge in a piecemeal fashion

How does an information assurance professional systematically memorize pertinent guidance?

The Solution - Mnemosyne

Flashcards? Really?

The Solution - Mnemosyne

- More than flashcards
 - Memorization based on the spacing effect
 - Research based spaced repetition algorithm
 - Handles text, images and sound
 - Open source software
 - Cross-platform (Windows, Mac and Linux)
 - Learn at your own pace

The Solution – FISMArts

- Focused on providing FISMA and federal Information Assurance training material
- Uses authoritative source documents from NIST and OMB to create Mnemosyne content
- Development is simple and flexible
- Simply asks questions that can be answered by information in authoritative documents
 - User rates their response
 - If they do poorly they are asked more frequently
 - If they do well they are asked less frequently

The Solution – FISMArts

- Content is sourced strictly from:
 - Published Federal documents (public domain)
 - Data sources with Creative Commons compatible licenses
 - User generated contributions
- Content is licensed under the Creative Commons Attribution-Share Alike 3.0 United States License



The Process – One Use Case

- Moving from source document to Mnemosyne
 - Review document to identify important details
 - Find line which describes the detail
 - Formulate question answered by line
 - Write question and line to a single line in a text file, separated by a tab character
 - Import file into Mnemosyne
 - Save file and distribute

The Process – Anything Is Possible

- Want to provide a tool to train staff to spot physical security problems?
 - Take a picture of an example and ask staff to rate their response
- Want to help staff learn organizational policy?
 - The authoritative document is your policy

Development is **simple** so testing different solutions is **easy**.

Demonstration

Resources

- FISMArts –
 - <http://fismapedia.org/index.php?title=FISMArts>
- FISMApedia –
 - <http://fismapedia.org>
- Mnemosyne Project–
 - <http://www.mnemosyne-proj.org/>

Questions?

Contact Information

- Daniel Philpott

Email: danphilpott@gmail.com

Twitter: @danphilpott

Telephone: (301) 825-5722

<http://fismapedia.org>