Implementation of HUBzero as a Knowledge Management System in a Large Organization

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Gaurav Nanda, Jonathan Tan, Peter Auyeung, Mark Lehto School of Industrial Engineering, Purdue University

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Organizational Data

Overview

Knowledge Management principles:

- Knowledge is captured using intranets, extranets, groupware, web conferencing, and document management systems.
- Organizational memory formed by refining, organizing, and storing knowledge using structured repositories.
- Knowledge is distributed through education, training programs, automated knowledge based systems etc.

Challenges:

- Digital objects are difficult to find.
- When found, objects are difficult to assess.



Features for Knowledge Management

- Mechanism for Uploading New Resources
- User Groups for Private Collaboration
- Ratings and Review
- Content Tagging
- Wikis and Blogs
- Online Presentations
- Interactive Simulation Tools



Current Implementation

- Knowledge Base for Reliability Engineering group of a large organization.
- Employees use reliability engineering tools at various locations, many times to analyze a similar problem.
- Earlier they were not able to search previously done analysis for a particular problem.
 - HUBzero implementation made it possible!



Reliability Tools

Implemented in this study

- Failure Mode Effects and Criticality Analysis (FMECA)
- Reliability Growth Analysis
- Shakedown Testing
- Unified Problem Solving
- Loss Allocation
- Functional Block Diagrams



Implementation Challenges

- Collecting data from people
- Getting owner's consent before publishing
- Selecting good quality resources for publishing
- Interfacing HUBzero with other Software/Groupware
- Access Control of the files
- Server to host HUBzero(HUB-in-a-box version used)
- Maintaining security of the HUBzero server



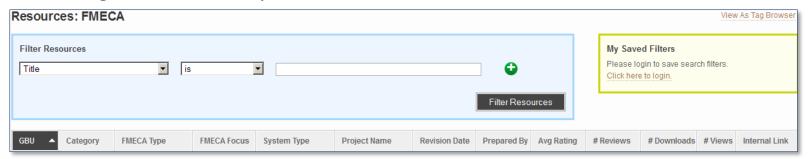
Customizations

- Sophisticated search mechanisms using metadata.
- Multiple views of the information
- Different navigation layouts (Tag Browser, Lists, Filters)
- Automated tagging based on content
- Social networking features of reviews and comment
- User interface enhancements based on layout principles of some popular websites like YouTube, Amazon etc.

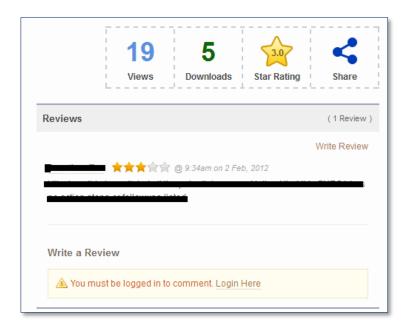


Customizations

Navigation Made Easy



Customization done to provide quick summary of the quality and popularity of a resource





Implementation - Summary

- Completely automated the process of acquiring, publishing and sharing data.
- Linked HUBzero with existing software in the organization.
- Developed new navigational features on HUBzero to improve search and review process.
- Limitation: All RE tools implemented are MS excel based.

Implementation – Future Work

- Beta testing is under progress and usability study is planned for the enhanced interface.
- Get users from different groups within the organization to collaborate through HUBZERO.
- Develop measures of effectiveness and metrics for HUB in an enterprise setting.
- Develop a generic template of requirements analysis for HUBZERO implementations.



Thank You

Questions?

