Migrating To SysML
A Story

Ways To Look At Usability
Ron Lyells
October 10, 2010

Honeywell

Introduction

- **As We Embark On Usability of SysML and It's Tools A Few Questions Come To Mind**

- **A Quick Look At Usability Assessment Methods**

- **A Strawman Usability Improvement ConOps**

A Few Questions

- **What Do We Mean By The Term Usability?**

- **Is There A Framework Available That We Can Leverage To Help Us Organize Issues?**

- **What Criteria Are We Going To Use To Evaluate Recommendations?**

- **How Are We Going To Test Any Improvement?**

Usability Engineering- There Is Such A Thing! **Honeywell**

- **Quick Search Found Most Usability Practices Aimed At Web Site Design....But It Seems That The Practices Should Be Applicable To A Computer Based Modeling Activity**
  - **Both Are Task Oriented**
  - **Both Are Aimed At Solving A Problem**
  - **Albeit One Is About Searching/Manipulating Knowledge and Data**
  - **The Other Is About Searching/Manipulating Knowledge and Data**
  - **Both Have User Environments**
  - **Both Have New Language Terms**

A Couple Of References:

1) Good 'OL US Government:

http://www.usability.gov/

2) Usability Engineering (Interactive Technologies) By Jakob Nielson (http://www.librarything.com/work/16846)

Using The Gov's Method

- ## Usability Basics

  - **In general, usability refers to how well users can learn and use a product to achieve their goals and how satisfied they are with that process.**

  - **A key methodology for carrying out usability is called <u>User-Centered Design</u>.**

- ## What Does Usability Measure

  - **Usability measures the quality of a user's experience when interacting with a product or system-whether a Web site, a software application, mobile technology, or any user-operated device.**

  - **It is important to realize that usability is not a single, one-dimensional property of a user interface. Usability is a combination of factors including:**

  - Ease of learning **- How fast can a user who has never seen the user interface before learn it sufficiently well to accomplish basic tasks?**

  - Efficiency of use **- Once an experienced user has learned to use the system, how fast can he or she accomplish tasks?**

  - Memorability **- If a user has used the system before, can he or she remember enough to use it effectively the next time or does the user have to start over again learning everything?**

  - Error frequency and severity **- How often do users make errors while using the system, how serious are these errors, and how do users recover from these errors?**

  - Subjective satisfaction **- How much does the user *like* using the system?**

Above Text From Usability.gov site

Methods For Eliciting VO User

Usability Methods

There are multiple methods that fit into each of the steps of the user-centered design process. Theses methods can help improve the usability and usefulness of your site. The following table organizes usability methods according to where they take place in the user-centered design process.

	Analyze	Design	Test
Card Sorting	✓	✓	✓
Contextual Interviews	✓		
Focus Groups	✓	✓	
Heuristic Evaluation	✓		✓
Individual Interviews	✓	✓	✓
Parallel Design		✓	
Personas	✓		
Prototyping		✓	✓
Surveys (Online)	✓	✓	✓
Task Analysis	✓		
Usability Testing	✓	✓	✓
Use Cases		✓	
Writing for the Web		✓	

Example - Usability By Diagram Type,Concepts,Tasks,

honeywell

	bdd	ibd	par	sd	act	pkg	Defn vs Usage	Model Mgt
Ease of Learning								
Effeciency of Use					why are operations in bdd not available as activities			
Memorability			Ref mtl must be close					
Error Frequency Severity	Lower level bdd's get reflected in upper level bdd							
Satisfaction								