Story-Wall

Supporting Agile Software Development in a Distributed Context

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Overview

- Project Objectives
- Research Method
- Requirements Management
- Tool Requirements
- Agile Software Development
- Current Tools
- Story-Wall Concept and Prototype
- Conclusions and Next Steps
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Project Objectives

- Acquire knowledge about agile methods
- Determine essential features of a requirements management tool
- Gather information about current requirements management tools
- Develop concept and prototype of requirements management tool for agile methods
- Get feedback from practitioners

2006-2007
Research Method

- Literature on agile methods, requirements management and software engineering
- Formal and informal interviews with software development practitioners
- Questionnaires on agile practices and tool use
- Requirements management tool critiques and use
- Feedback from practitioners
Requirements Management

- Requirements define what the customer wants from a system
- Requirements changes (a fact of life and leading cause of project failure when this cannot be handled)
- Requirements management is about maintaining relationships between requirements and other project artifacts to help deal with change (and other tasks)
- Tools have been developed that claim to support requirements management - companies buy them!
Tool Requirements

▷ Store requirements (and other artifacts)
▷ Prioritize requirements (meta-data)
▷ Requirements traceability:
  – Track progress of requirements (vertical)
  – Track changes to requirements (horizontal)
▷ Process configurable
▷ Other…
Agile Software Development

- Agile Manifesto created in 2001 by 17 software development thinkers
- Attention to customer collaboration and responding to changes over requirements/process-driven methods
- Originally co-located and centered on the story
- Lightweight and nimble approach
- Distributed implementations?
Current Tools

 Erot Most requirements management tools are:
 – Expensive and start-up costs
 – Traditional
 – Heavyweight
 Erot Requirements (story) management tools for agile:
 – Change ways of working
 – Lose the metaphors
 – Poor traceability

AnalystPro, Cradle, DOORS, ExtremePlanner, in-Step, Leap SE, Optimal Trac, ProjectCards, Rally, RaQuest, Requisite Pro, RMTrak, TopTeam Analyst, TRUEreq (free), Xplanner, etc...
Story-Wall Vision

- Use by projects using agile methods (esp. XP in a distributed setting, retaining and sharing stories)
- Address shortcomings of requirements management tools
- Concept - prototype - develop
- Open-source, wiki-based, Web 2.0
Stories in Real Life
Story-Wall Concept

- Digital metaphor of wall of story cards
- Virtual story cards - not forms!
- Direct manipulation for sizing
- Visual representation of prioritization
- Drag and drop selection per iteration
- Track contributors (personalization)
- Media and pre-requirements traceability
Stories

- Keep me
- Annotate me
- Flip me
- Stretch me
- Order me
- Place me
- ...
- And, share me virtually!
## Manipulate Me

### Project Details

**Name:** Sending warnings

**Description:** The system must be able to automatically send notices and warning to students, professors, and the librarian to inform of due dates and deadlines.

**Developers Assigned:**

**Estimation:** 10

**Status:** To Do

### Story Management

- Create Candidate Stories
- Edit/Change Candidate Stories
- Edit/Delete Stories
- View stories waiting to be estimated
- View stories waiting to be added into an iteration

### Virtual Wall

- Save Changes to Story
- View/Add Comments
- Undo Changes

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**Test Case**

Create user test accounts with late books. The accounts of these test users must appear in a notice at the iteration.

**Tasks**

- Warning message must be a pop-up
- Notification must appear on the homepage of this user once they login.

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**Home | My Projects | My Account**

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**Logout**
VIRTUAL WALL FOR CURRENT ITERATION

**Project Details**
- To Do
  - Sending warnings
  - Locking accounts
  - Add e-book
  - Add report
  - Modify library policy

**In Progress**
- Deleting books
- View who borrowed
- Viewing popular resources

**Completed**
- Librarian Account
- Add new accounts
- Deleting users
- Adding new books
- View borrowed books

**Other**
- Auto completion
- Viewing popular

**Virtual Wall**

**Reports**

**Story Management**

**Home | My Projects | My Account | Logout**

**VIRTUAL WALL FOR CURRENT ITERATION**

- Start: 01/22/2007
- End: 05/01/2007

**SIZE ORDER PEOPLE**
Fill Up Containers

Story Management for Project: Library System
Stories waiting to be added into an iteration
Drag and drop the stories into the iteration container. Change stories within an iteration by selecting the iteration bucket.

Submit changes
Not Now
Changes saved

Iteration 1
Iteration 2
Iteration 3
Story Wall: A Concept for Lightweight Requirements Management

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Motivation

Requirements management is the process in which requirements are maintained throughout the software development lifecycle. Requirements management helps prevent the software from changing without the approval of the stakeholders. Without requirements management, there can be issues with the software, leading to problems later in development.

Research

Research Findings

- There are essential features for Requirements Management tools.
- Current Requirements Management tools do not always have these features.
- Requirements Management tools are complex and heavyweights.
- Most Requirements Management tools are not attractive to agile practitioners.

Concept

To provide a lightweight solution to some current issues found in Requirements Management tools, "Story Wall" was evolved.

Why still this tool be better than current Requirements Management Tools for Agile Software Development?

- It will be a lightweight tool, no need to install various components.
- It will have all the essential features of a Requirements Management Tool.
- It will be less prone to understanding and use.
- It will cater to community needs.
- It will be open source.

Key Features

- Digital management of visual artifacts
- Visual representation of changing requirements
- Visual representation of the evolution of the amount of requirements
- Simulate scenarios with potential changes in the list of story cards

Future Work

Implementation of the concept has started and in this future, it will be released in 2023. The tool will be implemented using Ruby, AJAX, and SQL.

Successful validation will lead to a second development phase and release. Stakeholders are excited and will be targeted to Agile teams like the IBM Corporate Initiatives’ Agile team who helped to develop and execute these ideas.

Contact

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Conclusions and Next Steps

- Story management tools now emerging -- rarely lightweight, not tactile
- Outstanding research questions on how requirements/story management and traceability is undertaken in distributed settings
- Storing up integration and longevity issues?
- Prototype the concept to get more feedback
- Influence of ideas…
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