

Bookmarking System

Requirements

Bookmark Brigadiers

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Sponsor

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- school teacher for Havasupai Tribe
- a unique learning environment



Class Time spent on the Web?

Problems with using the web in class . . .

- coordinating student activity
- younger students and the UI
- older students and academic research
- time wasted on non-educational content
- the Internet is a dangerous place...

Class Time spent on the Web?

Teachers need ways to:

- share useful web pages
- share the browsing experience
- focus student attention
- encourage academic research
- identify/prevent academic dishonesty

Current Solutions:

- social bookmarking tools
 - missing functionality
 - designed for Internet communities, not classrooms

Teachers need a guided web browsing environment

Requirements Acquisition

- Video conferences conducted through Skype
- Two conferences
 - 1st:
Free form, open ended
 - 2nd:
Highly detailed agenda
Specific questions
Mock-ups
Clarification

Requirements

- Profiles & Authorization
- White-list & Notifications
- URL Library
- URL Notes
- Bibliography
- Anti-Plagiarism

Profiles & Authorization

User Profiles:

- Remotely accessible
- Store all relevant information
 - browsing history
 - bookmarks with notes
 - comments
 - shared content

Authorization:

- User profiles require authorization
- User name and password
- Teachers vs Students
- Various groups

White-list & Notifications

White-List:

- Websites that students are allowed to visit
 - Specific URLs
ex. <http://www.youtube.com/watch?v=lg6qpFFc0t8>
 - Domains
ex. <http://www.math.com/>*
- Keeps students focused on task at hand
- Teachers maintain white-list
- Statistics kept about white-list

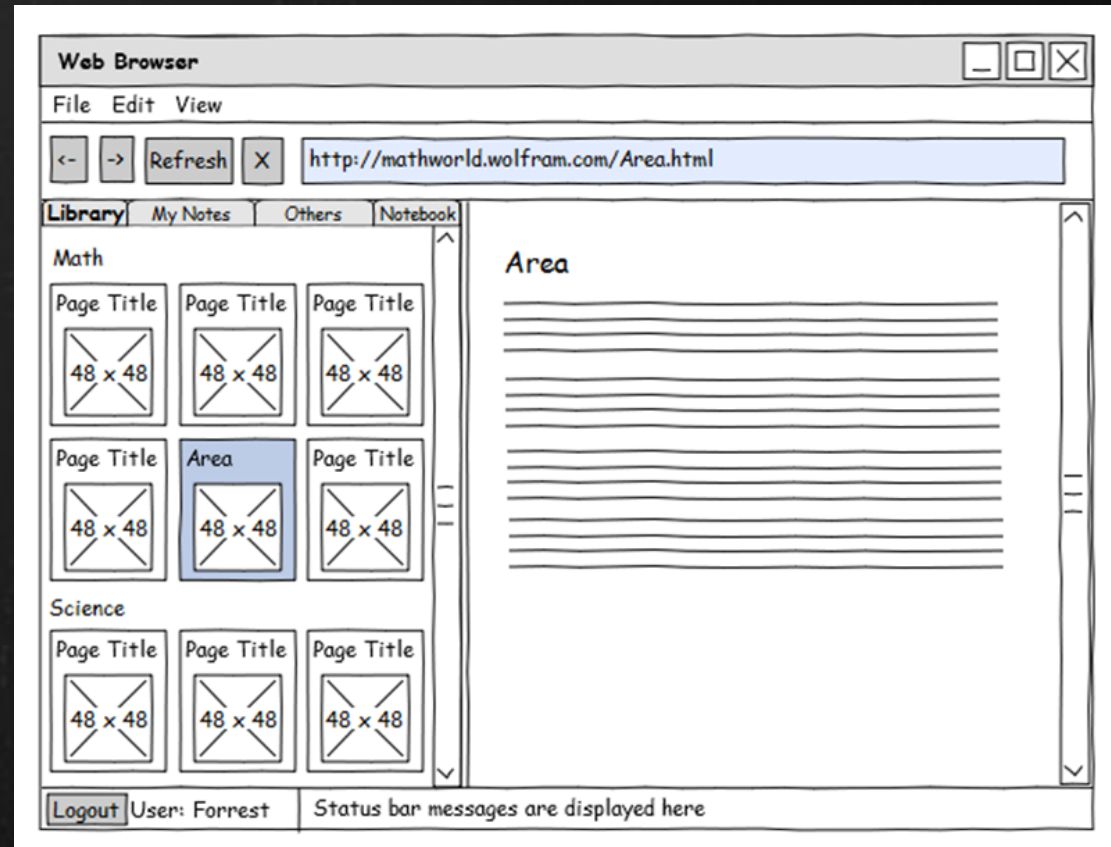
Notifications:

- Message of the day from teacher
- Pop-up messages from teacher
 - To single student
 - To specific group

URL Library

URL Library:

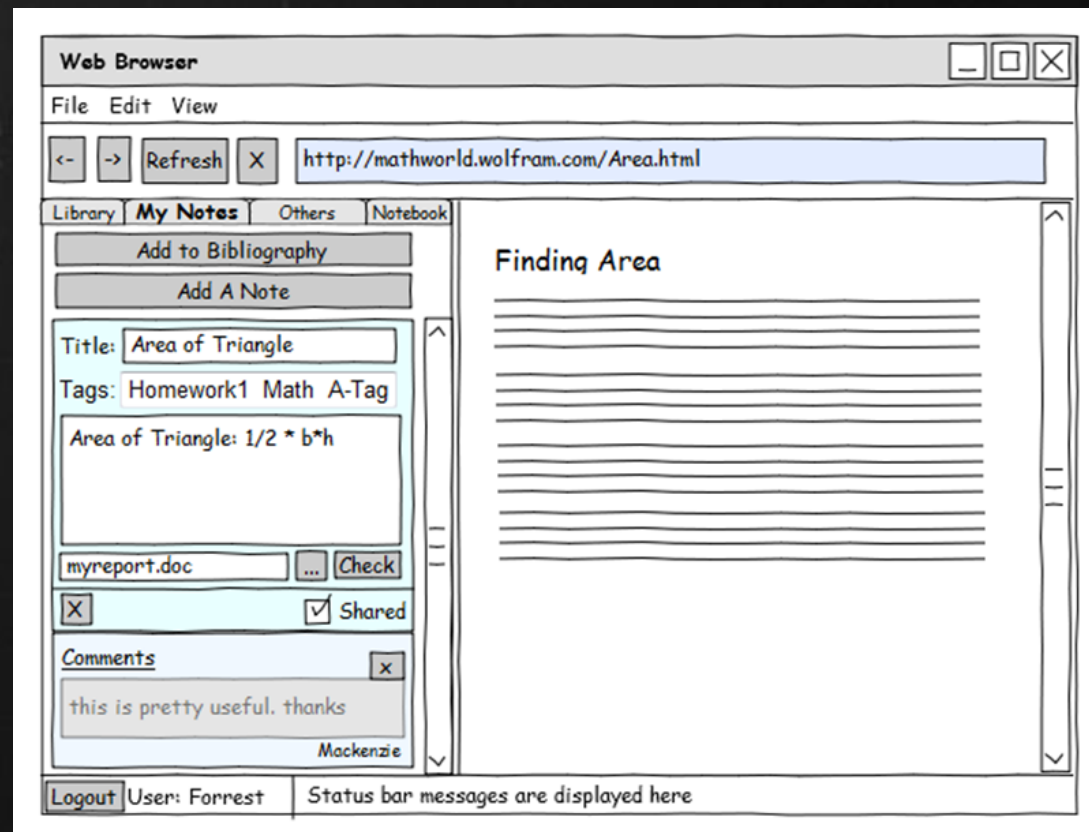
- A display of URLs to students
- A subset of the white-list
- Keeps students within grade level content
- Split based on grade level
 - K - 6
 - Middle school
 - High school
 - Other groupings possible
- Maintained by teachers



URL Notes

URL Notes:

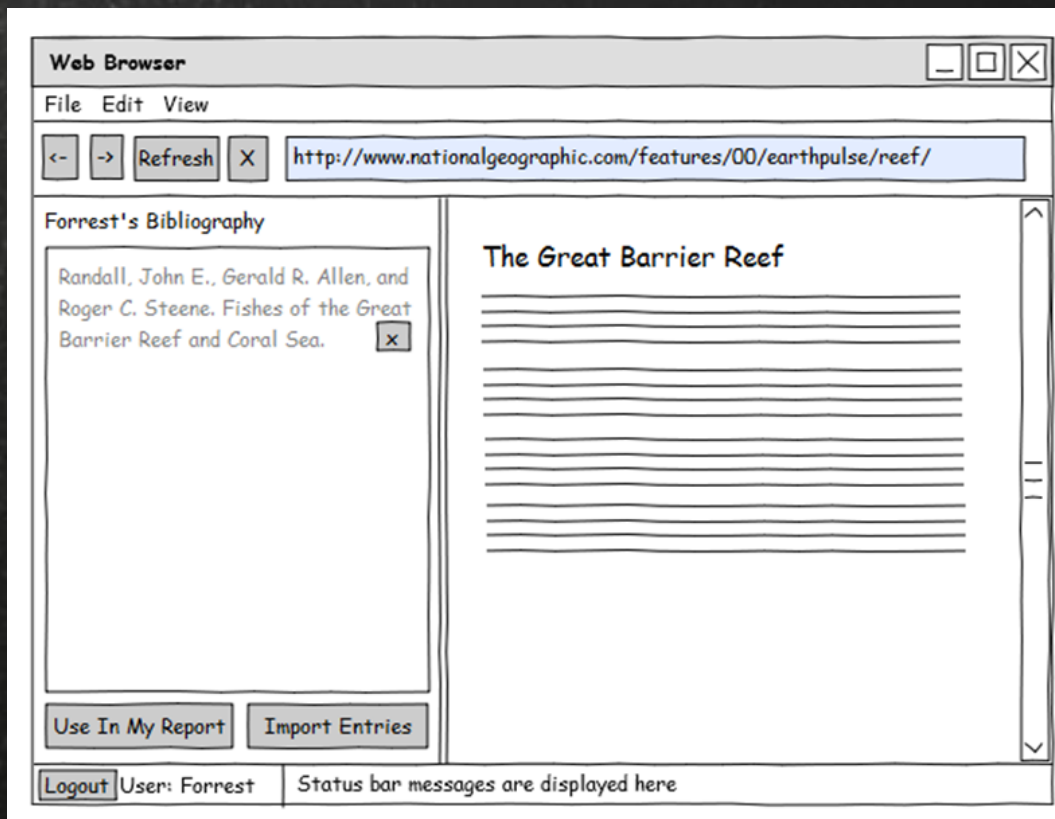
- URLs on the white-list can have notes attached to them
- Notes can be shared or private
- All notes are seen by teachers
- Teachers can comment on notes, Students can comment on shared notes
- Notes can be given tags for organization



Bibliography

Bibliography:

- One global bibliography
- Easy adding / removing of pages
- Entries link to their associated page
- Easy exporting to text



Anti-Plagiarism

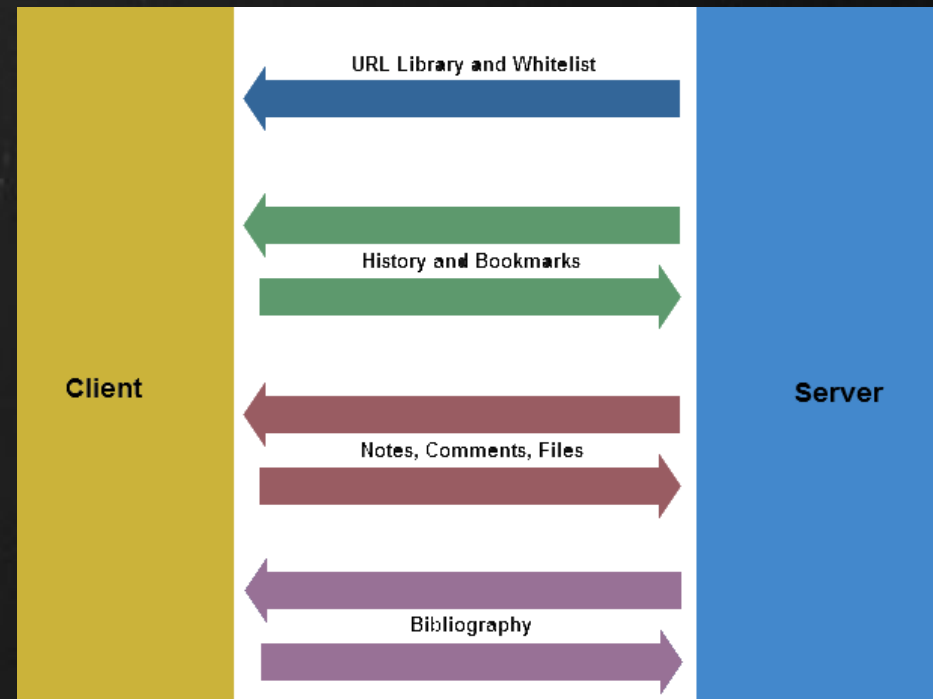
Anti-Plagiarism:

- Plagiarism checker
- Checks documents against student's history
- Can check notes for plagiarism
- Options for checking
 - Number of words to check
 - Skipping words
 - Excluding quotations

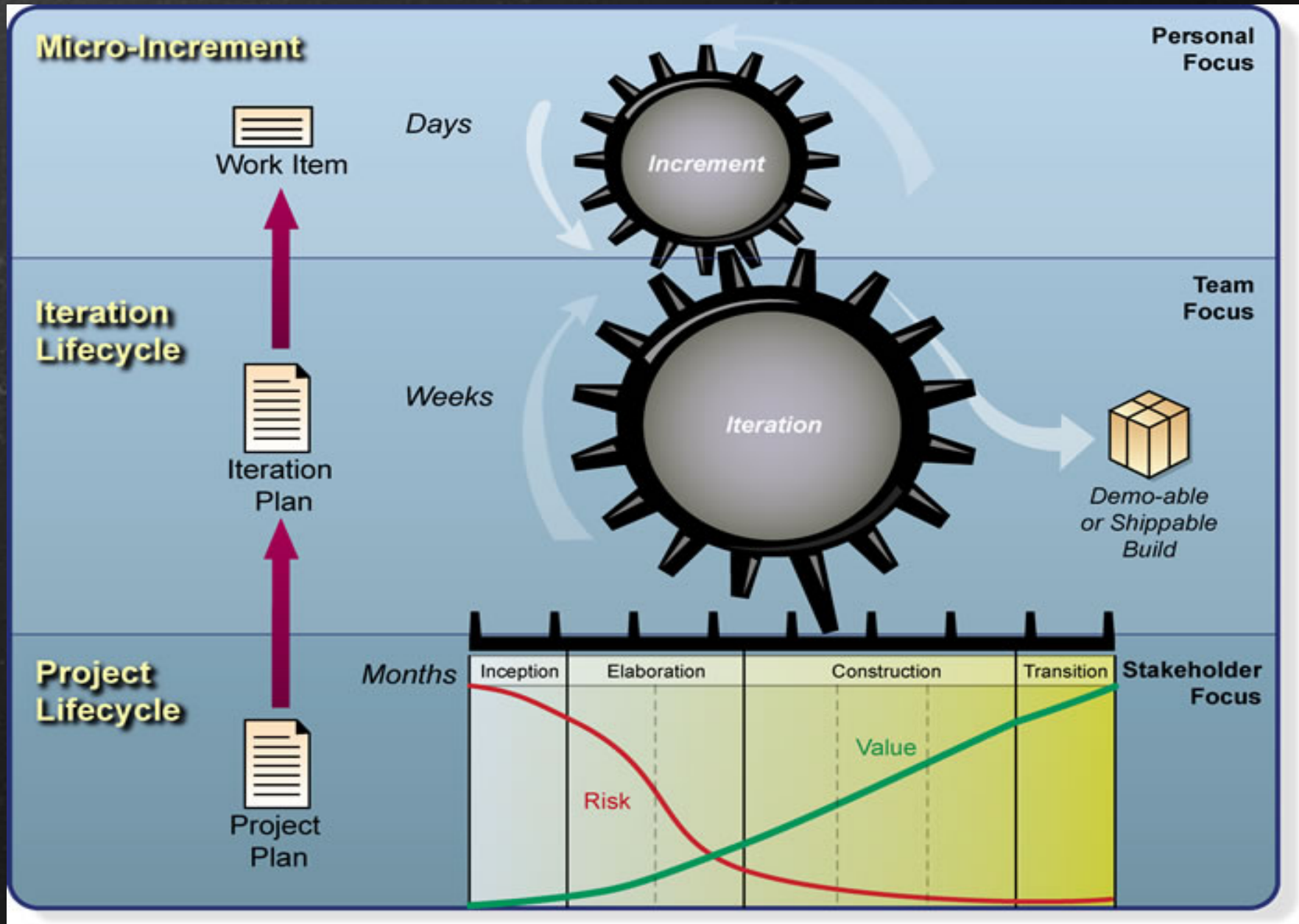
Solution Overview

Client Server Architecture

- Server
 - One server to rule them all
 - White list
 - User accounts
 - User account information
 - bookmarks
 - comments
 - browsing history
- Client
 - Controls web page viewing via global white list
 - Handles note taking, comments, sharing.
 - Shows library
 - Performs plagiarism checking when requested



Process: OpenUP



Design Challenges

- large and diverse set of requirements
- user interfaces that must include:
 - a very "gooey" web browser for students
 - a powerful config interface for teachers
 - multiple revisions using real world testing

Implementation Challenges

General Challenges:

- efficient implementations and scalability
- undetermined server configuration
- undetermined authentication mechanism
- undetermined client interfaces

Implementation Challenges

API Related Challenges:

- Browser Extensions
 - Mozilla-based solutions: multiple extension types
 - Compatibility with future releases
- Standalone Application
 - Qt Webkit-based solutions: features from scratch

Testing / Deployment Challenges:

- remote installation
- remote user interface testing

Capstone dates:

- 02/07 : Requirements and Execution Plan: 02/07
- 02/08 : Design Review I: Plan and Requirements
- 02/22 : Software Design Specification
- 04/05 : Design Review II
- 04/29 : Final Presentations and Posters
- 05/06 : Final Report

Our dates:

- 02/15 : Alpha 1.0 Prototype
- 02/16 : Testing Database
- 02/24 : Alpha 2.0 Prototype
- 03/10 : Beta 1.0 Prototype
- 03/24 : Beta 2.0 Prototype
- 03/28 : Usability Testing
- 04/12 : Acceptance Testing
- 04/19 : Deployment

Schedule

Conclusion

- Educational tool needed to improve efficiency of internet use
 - Limit available web pages for targeted browsing
 - Allow for saving and sharing of notes and links
 - Plagiarism checker
 - Usable by many ages and educational requirements
- We propose an application which will
 - Allow for white listing pages
 - Have subject or grade level targeted libraries with in this
 - Provide non site specific accounts with
 - Histories, notes, links, shared content
 - Plagiarism checker with customizations
 - All in a intuitive and usable package