

MICHIGAN STATE
UNIVERSITY

Project Plan
Learning Activity Capture
The Capstone Experience

Team TechSmith

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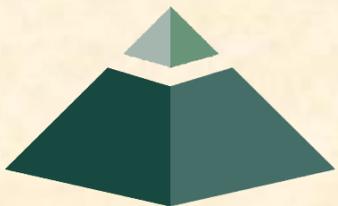
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From Students...
...to Professionals

Project Overview

- Learning Activity Capture
 - Record Online & Offline Learning Experiences
- Store Data in ADL Learning Record Store (LRS)
 - Open Source, Runs on Ubuntu Server
- Three Main Interfaces
 - Chrome Extension, Desktop App, TechSmith Smart Player



Functional Specifications

- Observes and Records User Learning Activities
 - Chrome Plugin Can Send Website Information
 - Windows App Monitors Desktop Activity
 - TechSmith Smart Player Sends Quiz and Video Information
- Reports Learning Activities to Database
- Give User Summaries of Learning Information
 - Webpage Organizes Activity Reports
- Connect Users Together (Public Information)



Design Specifications

- Chrome Extension (Browser Button)
 - Connect User to the Reporting Webpage
 - Sends Browser Experience to User Account
- Windows App
 - Once Active, Runs In Tray
 - Monitors User Activity Without Interfering With User
- TechSmith Smart Player
 - HTML5 App For Video/Video Quizzes
 - Smart Player Reports Video and Quiz Information
- Website
 - Reports User Information Publicly
 - Allows Users to Group Activities Together



Screen Mockup: Chrome Extension

The screenshot shows a Chrome browser window displaying the Wikipedia article for 'Computer science'. The address bar shows the URL 'en.wikipedia.org/wiki/Computer_science'. The page content includes the Wikipedia logo, navigation links, and the article text. A 'TECHSMITH LEARNING ACTIVITY CAPTURE' extension is overlaid on the right side of the page. The extension has a dark header with the title and a close button. Below the header are three buttons: 'ADD TO PUBLIC FEED', 'ADD TO FEED', and 'GO TO WEBPAGE'. At the bottom of the extension are two input fields labeled 'LOGIN' and 'PASSWORD'. The background page shows the 'Computer science' article with a 'Contents' table of contents.

en.wikipedia.org/wiki/Computer_science

WIKIPEDIA
The Free Encyclopedia

Article Talk

Computer science

From Wikipedia, the free encyclopedia

Computer science (abbreviated CS or CompSci) is the scientific and practical and mechanization of the methodical processes (or algorithms) that underlie the information is encoded in bits and bytes in a computer memory or transcribed as the design of computational systems.^[2]

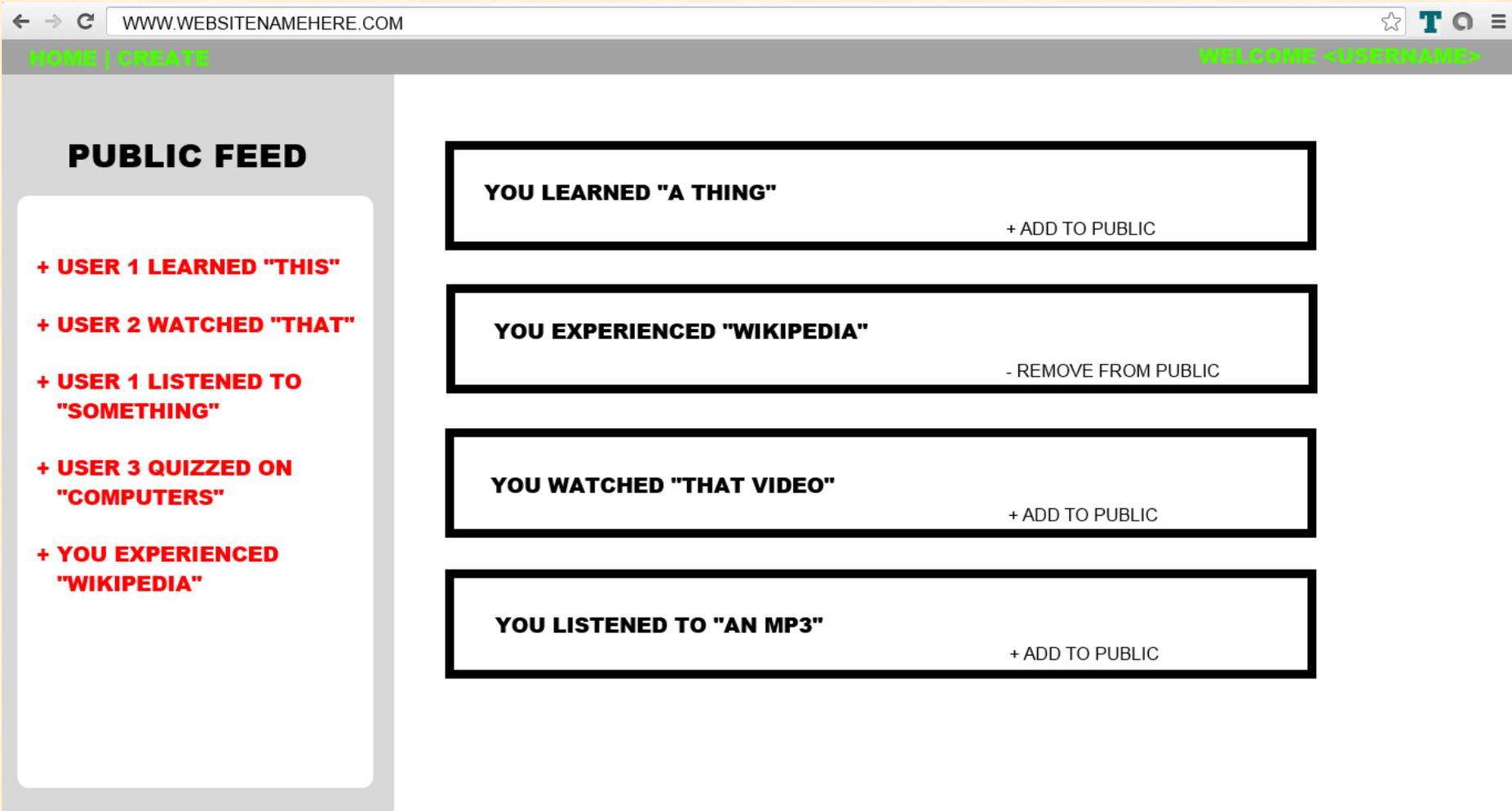
Its subfields can be divided into a variety of theoretical and practical disciplines. computational problems), are highly abstract, while fields such as computer graphics and computation. For example, programming language theory considers various aspects of the use of programming language and complex systems. Human-computer interaction is a field of study that is accessible to humans.

Contents [hide]

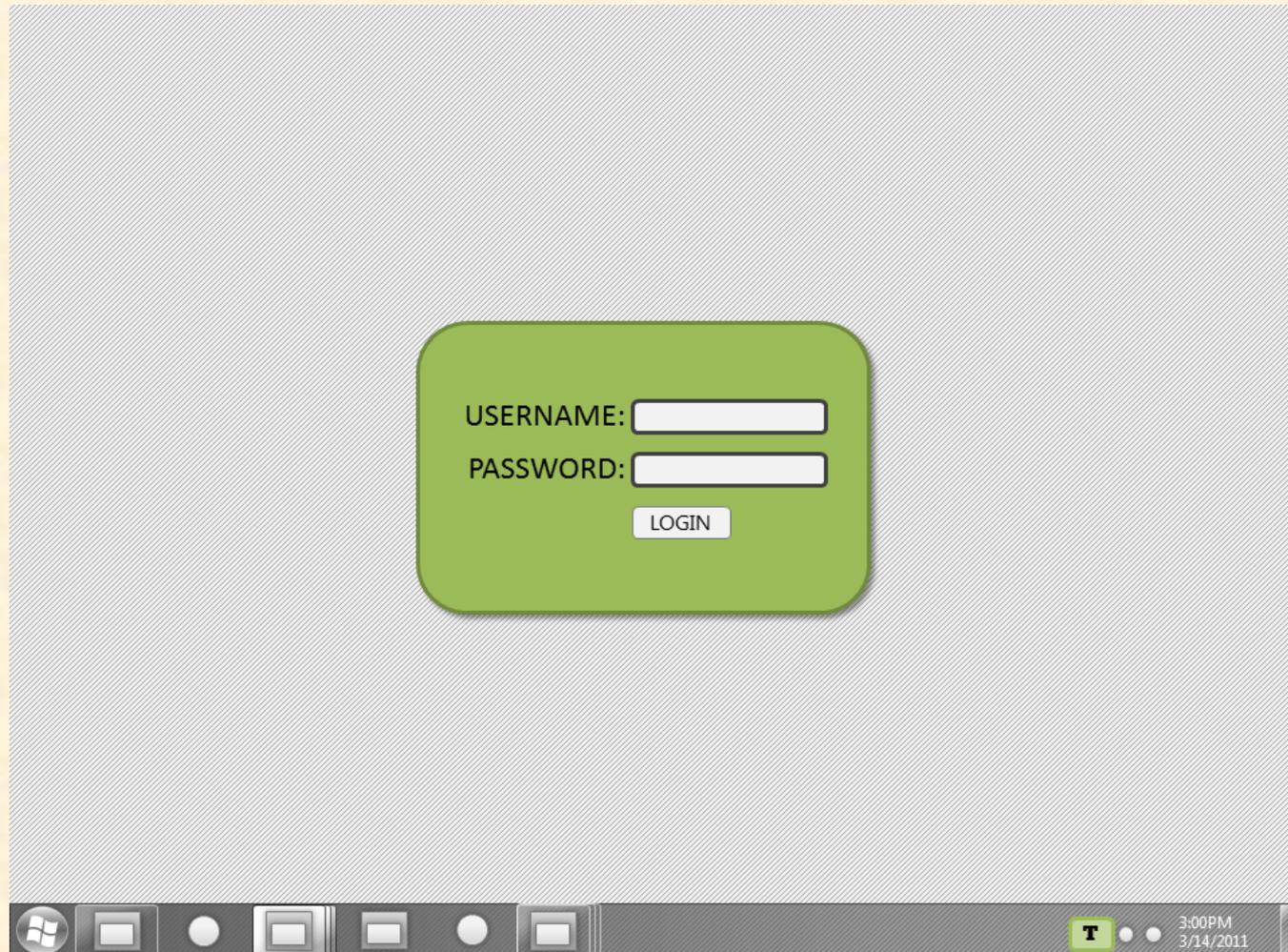
- 1 History
 - 1.1 Major achievements
- 2 Philosophy
 - 2.1 Name of the field
- 3 Areas of computer science
 - 3.1 Theoretical computer science
 - 3.1.1 Theory of computation
 - 3.1.2 Information and coding theory
 - 3.1.3 Algorithms and data structures
 - 3.1.4 Programming language theory
 - 3.1.5 Formal methods
 - 3.2 Applied computer science
 - 3.2.1 Artificial intelligence



Screen Mockup: Website



Screen Mockup: Desktop App



Technical Specifications

- Ubuntu 12.04 LTS Server
 - SQL Database
 - ADL Learning Record Store
 - Open Source Project – Developed in Python 2.7.3
 - Security Options Limited
- Tin Can API
 - Reports JSON Data Statements to Server
 - “Actor”-“Verb”-“Object”
- .NET Desktop App
 - Designed Using C#
 - Windows UI Automation
 - Monitors User Programs

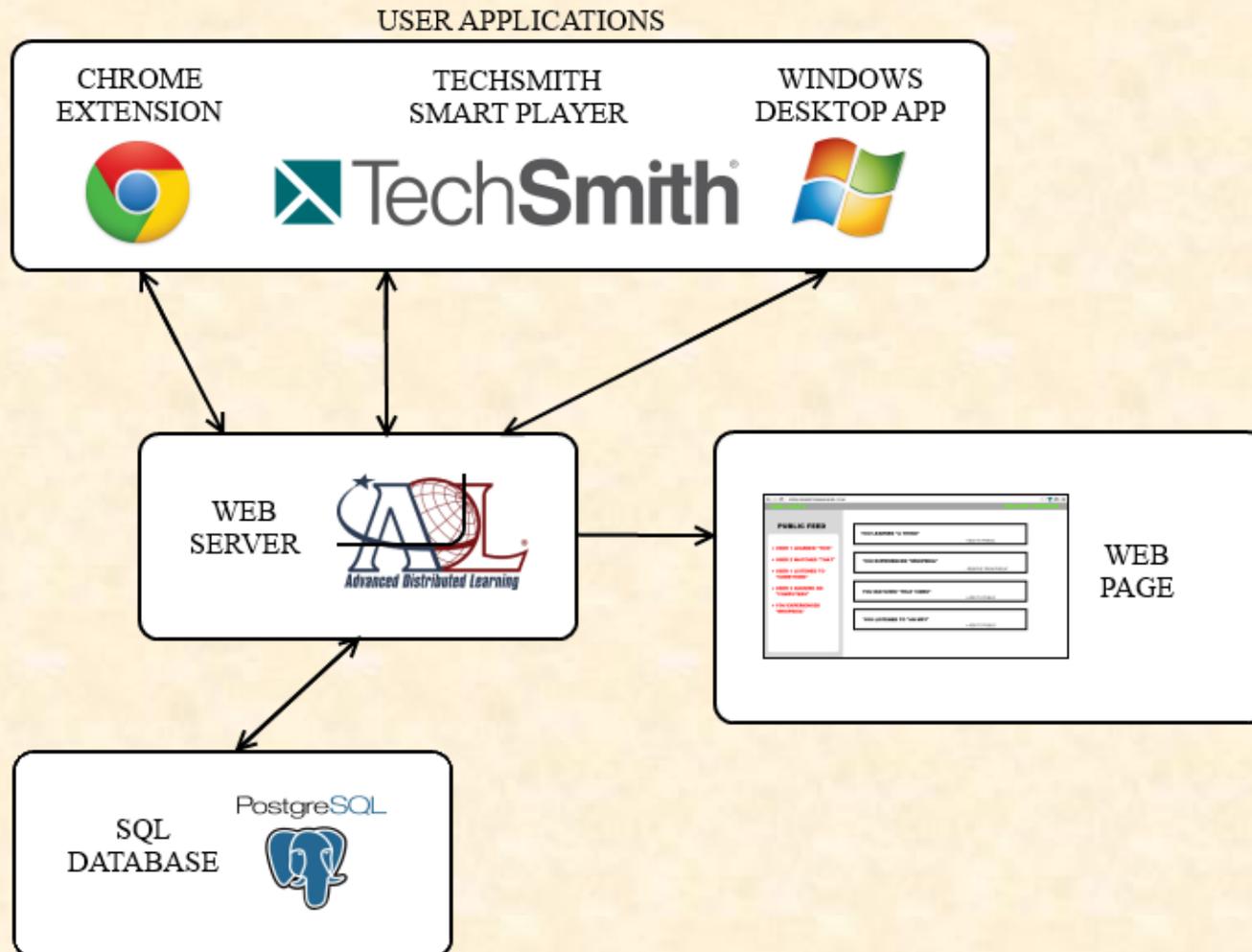


Technical Specifications

- Chrome Extension
 - HTML Pop-Up w/ JavaScript Wrapper (JSON Manifest)
 - Permissions With Server
- Webpage Development
 - HTML5, CSS, JavaScript (jQuery, AngularJS)
- TechSmith Smart Player
 - JavaScript-based HTML5 Application
- Login Information
 - Authentication
 - HTTP: Desktop App
 - localStorage: Chrome Extension



System Architecture



System Components

- Hardware Platforms
 - Ubuntu Server 12.04 LTS
 - ADL Learning Record Store
- Software Platforms / Technologies
 - Google Chrome
 - Visual Studio 2012
 - Windows 7
 - Sublime Text 2
 - Tin Can API
 - TechSmith Smart Player
 - Camtasia Studio 8



Testing

- Set Up Database, Ensure It Is Persistent
- Test Accounts and Dummy Data
- Unit Testing of .NET App
- Functional Testing w/ Plugin
- Test Quiz w/ TechSmith Smart Player
 - Use Camtasia to Make Quizzes



Risks

- Unfamiliar Technology
 - Developmental Technologies
 - Mitigation Through Existing Documentation/Samples
- Sending Information To And From Server
 - Learning Process of Securely Sending/Receiving Data
 - Using Networking Examples/Information
- Scope of Learning Activities
 - What Is Considered A Learning Activity?
 - Limit Initial Scope of Learning Activities, Widen As Project Progresses
- TechSmith Smart Player
 - Using Existing Code, Cannot Change Too Extensively
 - Work Within Existing Framework of Smart Player

