

Project Plan

Collaborative Video Captioning

Team 7: TechSmith
CSE 498, Collaborative Design

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Functional Specifications



- User Database
 - User login
 - Video upload to web.
- Captioned Playback
 - Video can be streamed with respective captioning.
- Collaborative Editing
 - Wiki-style collaboration between users to correct captioning errors.
- Search Function
 - Users can search across the video database and within video captions.

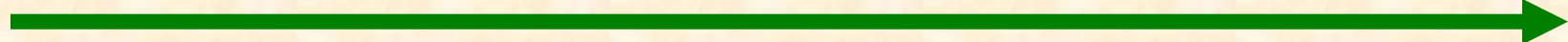


Design Specifications

- Website
 - User login page
 - Profile page
 - Contains:
 - User videos
 - Favorite videos
 - Account settings
 - Upload video page
 - Search box at top of every page
 - Editing box underneath video player
 - Only displayed in “Edit” mode



Screen Mockups



Video Caption System

A video player interface with a blue border. The video shows a man in a grey shirt standing in front of a chalkboard. The chalkboard contains handwritten text: 'rry Cain', 'ry@cs.stanford.edu', '9:00 - 10:30 am', 'les 192', 'cs167@c', 'su.class.e', 'Facebook', 'Twitter', and 'mailing list'. A black caption box at the bottom of the video contains the text: 'rather than scaling do this and pressing the address of soon object'. Below the video is a video control bar with a play button, a progress bar, and a volume icon. A second black caption box at the bottom of the player contains the text: 'rather than calling do this and passing the address of some object'. At the very bottom of the player is a button labeled '[Submit Changes]'.

Video Caption System

A video player interface with a blue border, identical to the one on the left. It shows the same man and chalkboard. The caption box at the bottom of the video contains the text: 'rather than calling do this and passing the address of some object'. Below the video is a video control bar with a play button, a progress bar, and a volume icon. At the very bottom of the player is a button labeled '[Edit this video]'.

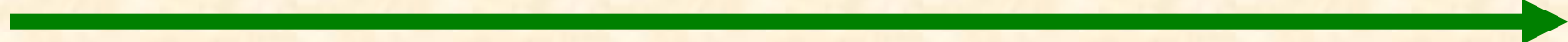


Technical Specifications

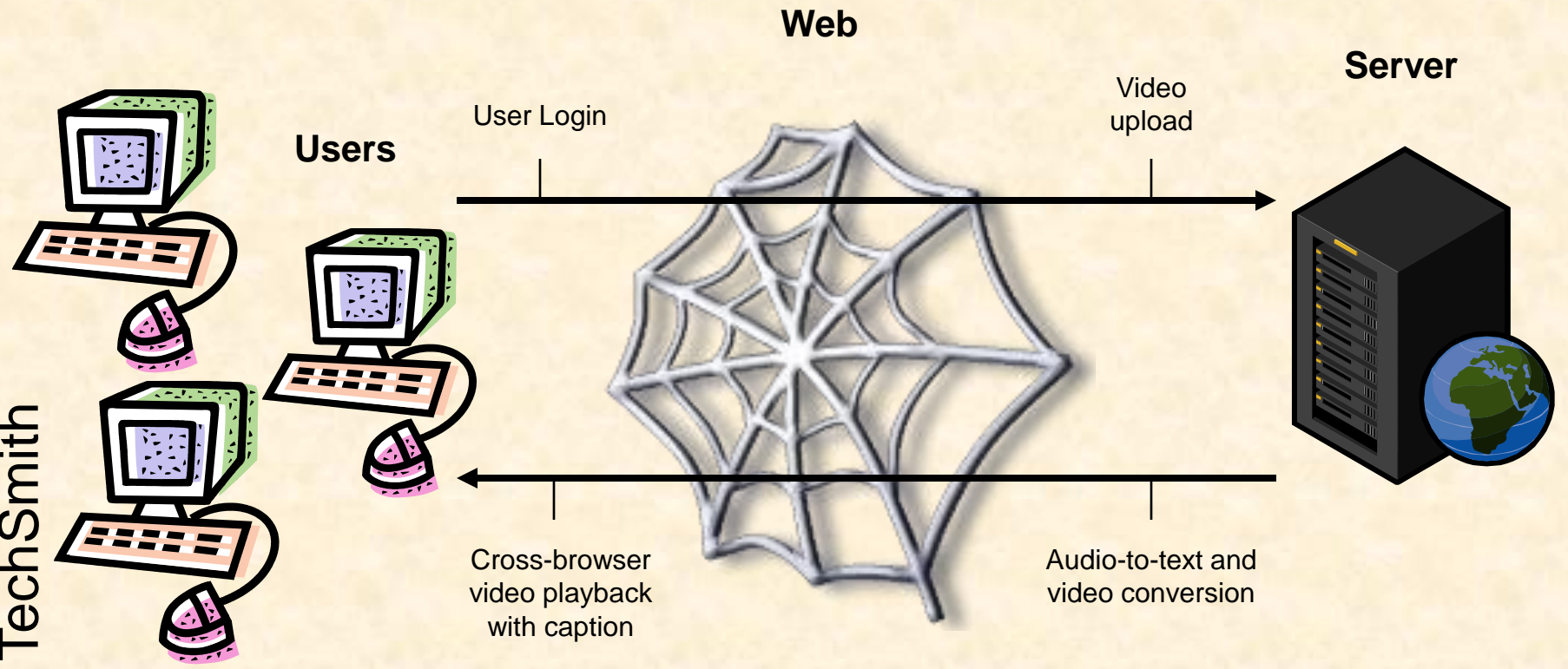
- User Database
 - Use MySQL to store video information
- Captioned Playback
 - Audio stripped from uploaded video.
 - Audio converted to text using SRE.
 - Text used to create XML file for playback.
- Collaborative Editing
 - Use Flash & AJAX to create user-friendly editing system
- Search Function
 - Store captions and keywords in database for easy access



Architecture Illustrated



Team 7: TechSmith





System Components

- Hardware Platforms
 - Windows XP
 - Windows Server 2003
- Software Platforms / Technologies
 - Windows Speech Recognition Engine
 - Windows Speech API 5.1
 - Adobe Flash
 - C#
 - FFMPEG
 - MySQL



Risks

- Synchronization
 - Using XML schema to display text at appropriate times during video playback.
- Editing
 - Method of storing unconfirmed caption-edit requests.
- Timed Text
 - Linking words to an appropriate time in the video.
- Video Upload
 - Design efficient queuing scheme for uploading videos to the server