

CS298 Proposal

Online Video Chatting Tool

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Abstract:

The aim of this project is to develop an online video chatting tool that enables users to share their live video. It provides options to share their video to a selected set of users. It will also have methods to add and delete new members into the access list. The main technology used in this project is Flex. Flex is an Adobe product used for the development and deployment of cross platform, rich Internet applications based on Adobe Flash platform. Interactivity is achieved through the use of ActionScript. ActionScript is a scripting language based on ECMAScript. ActionScript supports Video and Camera classes to process and control the webcam. This project requires a central server, Adobe Flash Media Server which will work as hub. The server can send and receive data to and from the connected users using the sever-side ActionScript code. Remote procedure calls are used to send request between clients and server. One main advantage of this online video chatting tool is that we only need a browser and an internet connection in order to start the video conferencing. There is no need for additional hardware or software installation. Another main advantage of the online video chatting tool compared to the existing tools is that it enables sending offline video or audio messages to the members.

CS297 Results

- Learned about Adobe Flash Media Server and ActionScript which is one of the main scripting languages used to implement this project.
- Implemented a pre-recorded audio streaming using Flash Media Server
- Implemented a webcam output streaming via Flash Media Server
- Researched about scalability and load balancing issues of Flash Media Server

Proposed Schedule

Week 1: Aug 25-Sep 1	Write CS 298 Proposal
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Week 2-3: Sep 2-16	Create front-end of the project using MXML and HTML. Authenticate users using PHP.
Week 4-5: Sep 17-30	Implement video chat and create public and private chat rooms.
Week 6-8: Oct 1-21	Implement video messaging, voice messaging and text messaging.
Week 9-10: Oct 22-Nov 4	Implement searching members based on name.
Week 11-12: Nov 5-Nov 18	Start writing report.
Week 13: Nov 19-25	Finish CS 298 report
Week 14-15: Nov 26-9	Submit draft to the committee and prepare for presentation
Week 16: Dec 10-16	Final Presentation

Key Deliverables:

- Software
 - Create a website as the front-end of the project. User interface is created using MXML and HTML. PHP is used for user registration and sign-up. MySQL will be used as the back-end database.
 - List all the public chat rooms in the main page. MXML will be used for listing the public chat rooms.
 - Create an online video chatting tool using ActionScript and Flash Media Server. Provide public video chat rooms and private video chat rooms. Owner who created the private chat rooms have the ability to invite new members to join chat rooms.
 - Create an interactive user interface for leaving video message, voice message or text message for offline members. Flex will be used for providing these functionalities.
 - Provide option to search members based on name. MXML will be used for accepting user-supplied keywords and display members.
 - Perform user interface testing.
- Report
 - Document the code
 - Write final report

Innovations and Challenges

- Extending the Flash Media Server capabilities for video chatting.
- Designing a highly interactive user interface that facilitates end to end online or offline communication.

- Using user interface testing deliverables appropriately.

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