

CmpE 131 SRS

Group 11

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## **Software Requirement Specification**

### **Preface**

- I. Readership: For users/customers who want to use our web app to watch and share their movies collections or videos with their friends and family at the comfort of their home.
- II. Version history:

V0.9: To be completed with essential displaying function.

### **Introduction**

A web application (Name: TiaoTiaoXiong TV) for movie watching with family and friends during the age of COVID-19.

### **Glossary**

JavaScript: an object-oriented computer programming language commonly used to create interactive effects within web browsers.

Database: A database is an organized collection of data, generally stored and accessed electronically from a computer system.

Web application: A program or piece of software designed and written to fulfill a particular purpose of the user and running on a web browser.

### **User Requirements Definition**

- Our web application shall be able to receive videos/movies uploaded by users and share/stream them to all users who have access to their online media room simultaneously.
- Users shall be able to chat or text during movie displaying/sharing time for interpersonal communication among friends and family.
- Users shall be able to store these videos/movies for future watching.

## Product/Service Description

- **Product Context:** In the COVID-19 age, people are isolated at their home and outdoor activities/entertainments like seeing movies in the theater are limited.
- **User Characteristics:** People who like social communications.
- **Constraints:** Copyright of movies titles may not be shared to our web app, such that those movies can't be displayed on our website.
- **Dependencies:** Depends on web browsers and search engines. Web browsers will impact the performance of our web application. Search engines could impact the possibility that people find our website when surfing on the internet.

## Use Cases

**Initial Assumption:** Used by customers who want to share their movies/videos to their family or friends during COVID-19 age. Because people are isolated at their home alone, people need some interpersonal interaction through some online entertainment. Watching movies is a nice way but theaters are closed due to quarantine.

**Normal:** Users go to our website and sign up for an account. Then they can create a media room and have a special access code to share with their friends. Their friends can use the code to enter the media room and watch movies together. At the same time, they can voice chat or text as if they are in a theater.

**What Could Go Wrong:** There may be copyright issues that cause some movie titles unable to be shared through our web application.

**System State on Completion:** Our completed website shall be able to display most movie titles if we solved copyright issues.

## System architecture

The web application is designed with front-end and back-end, and the front end takes user's input and receives feedback from the back-end. Then display the result on the screen. The back-end proceeds the user's input from the front-end and query the corresponding data from the database then send back feedback to the user.

Front-end: Contains two pages, which is the login page and media room page. Pages use JavaScript to send requests and listen to responses. And the media player components load the media file from the path contained in the response

Back-end: Uses JavaScript framework to parse requests from front-end and query from database to authentic users or send back a media list.

Database: Contains 2 tables. First one stores each room's name, password and a unique ID. The second one stores each media file uploaded with the ID of the room it belongs and its stored path.

## **System requirements specification**

### **I. Functional requirements**

- A. Users shall be able to create a media room with a unique name and a password.
- B. Users shall be able to join a media room after they enter the correct name and password.
- C. Users shall be able to quit the media room while they are in one.
- D. Users should be able to upload media files to the media room while in the room.
- E. Users should be able to see the list of media files uploaded in the media room while in that room.
- F. Users should be able to play or delete the media files uploaded in the media room while in that room.

### **II. Non-functional requirements**

#### **A. Product requirements**

This product shall be open to users all day. The time taken to join the room and load the media list should be less than 5 seconds.

The time taken to upload or load the media file should depend on the user's internet speed.

#### **B. Organizational requirement**

Users shall keep their room name and password by themselves.

### C. Portability requirements

This app shall be access-able to users from all platforms that can have access to the web browser or run on a web browser.

#### System models

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#### System evolution

The web application's performance is based on the web browser's ability and user's devices' processors' performance. Therefore the web application shall have no constraints for its

future development and upgrades, as long as the JavaScript framework still remains as an internet industrial standard. The future development may include IoT sharing in one residence and/or communication with other smart-home devices. These potential upgrades shall mainly depend on the internet development.

## Appendices

### Hardware requirements:

Operating System: Windows® 7 / Windows® 8 / Windows® 10 64-bit (latest Service Pack)

- CPU: Intel® Core™ i5 or AMD Phenom™ II X3 or better
- GPU: NVIDIA® GeForce® GTX 660 or AMD Radeon™ HD 7950 or better
- RAM: 6 GB RAM
- Storage: 30 GB available hard drive space
- Internet: Broadband Internet connection
  - Based on our own tests on various connections, a minimum 5 Mbps download, 1 Mbps upload is recommended.
- Display: 1024 x 768 minimum display resolution at 60 Hz

**Database requirements:** Contains 2 tables. First one stores each room's name, password and a unique ID. The second one stores each media file uploaded with the ID of the room it belongs and its stored path.

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CPU: The part of a computer in which operations are controlled and executed.

Database: a structured set of data held in a computer, especially one that is accessible in various ways

JavaScript: An object-oriented computer programming language commonly used to create interactive effects within web browsers.

RAM: Random access memory.

Web application: a program or piece of software designed and written to fulfill a particular purpose of the user and running on a web browser.