Requirements

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ABSTRACT:

The consumption of media via video streaming services is higher than ever. With video streaming platforms such as Netflix, Twitch, and YouTube growing continuously, consumers of these platforms have an endless amount of content to watch. Often times, consumers who may watch multiple video media or platforms at once, have to change between multiple screens or browser windows. Proposed is a multimedia platform which will all the consumer to watch multiple video streaming services at once, on a single screen, to alleviate the need to switch between screens or windows.

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LIST OF FIGURES:

Use Case Name	Description
UC_1	Use case 1 for one of the functional requirements.
UC_2	Use case 2 for another functional requirement.
UC_3	Use case 3 for another functional requirement
SC_1	Whole view of the system.

1. INTRODUCTION:

1.1. Purpose

This video streaming service will give users the ability to experience many types of video media, from multiple different platforms, at the same time. The streaming will provide on demand service for the customers. This includes Live TV and Sports streams as well on demand service from streaming platforms like Youtube, Twitch, Netflix and many more. This will allow users to never miss their favorite entertainment. People that are into betting will love the implementation as their bets are based on every game with every second being crucial.

1.2. Description

This document will describe all functional and non-functional requirements of the RedFlix video streaming service, as well as provide a visual representation of the relationship between the functional requirements via a use case model. Everything can be found in the table of context so the reader can quickly navigate around this document with ease.

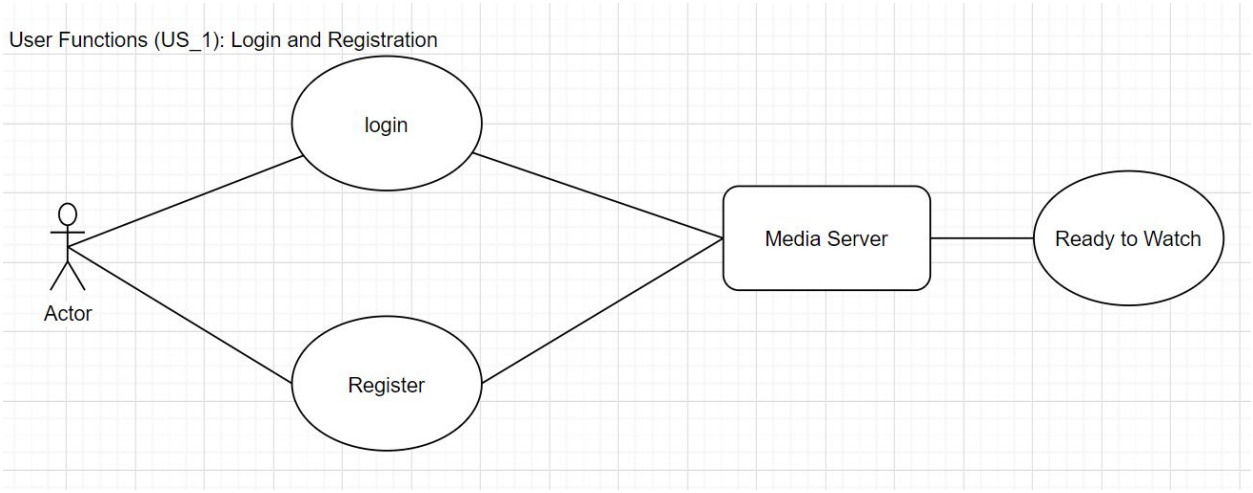
For our service our system offers a live feed which will be presented to the user with a 0.2 second difference in time frame. We accomplish this by having a fast network speed with an easy to use User Interface design. The main large screen that the user will be watching from will have a higher refresh rate of 0.2 seconds because it will be the screen that the user is putting most of their focus on. The five other mini screens will have a refresh rate of about 0.5 seconds, because these screens are the ones that the user will not put too much focus on. The reason we want these high refresh rates for the screens is because the user will be watching the stream services live, so as a company we want to provide out users with the best possible service that we can provide.

Our video streaming service also offers other platform streaming services like Netflix, Youtube and Twitch. Customers can watch all their favorite entertainment needs on demand. Plus side of our service is that it comes with multiple UI Screens which enable you to stream multiple different content under one screen. It also has an AI feature which will detect when something “interesting” is happening at one of the UI screens and will make it as a main display(bigger display screen) so the user can be up to date with current streams.

2. USE CASE MODEL FOR FUNCTIONAL REQUIREMENTS:

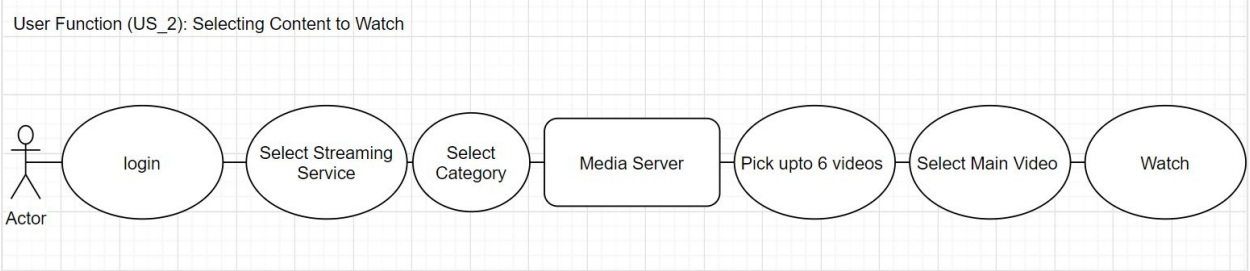
2.1. Use case name: UC_1

Participating Actors: User, Media Server
Scenario: New users registering or if already registered, logging into the system.



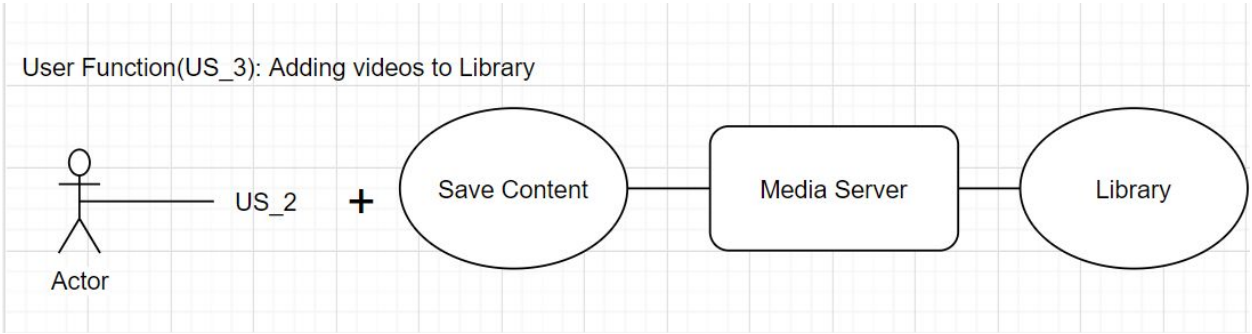
2.2. Use Case name: UC_2

Participating Actors: User and Media Server
Scenario: Once the user logs in, the user may browse our service. In this use case, it shows how the user can start watching videos. First the user logs in, then proceeds to select streaming service and type of video to watch from. Then the search result is sent to the media server to provide output to the user. After this the user can select up to 6 videos to project and can choose one main video out of 6 to emphasize it.



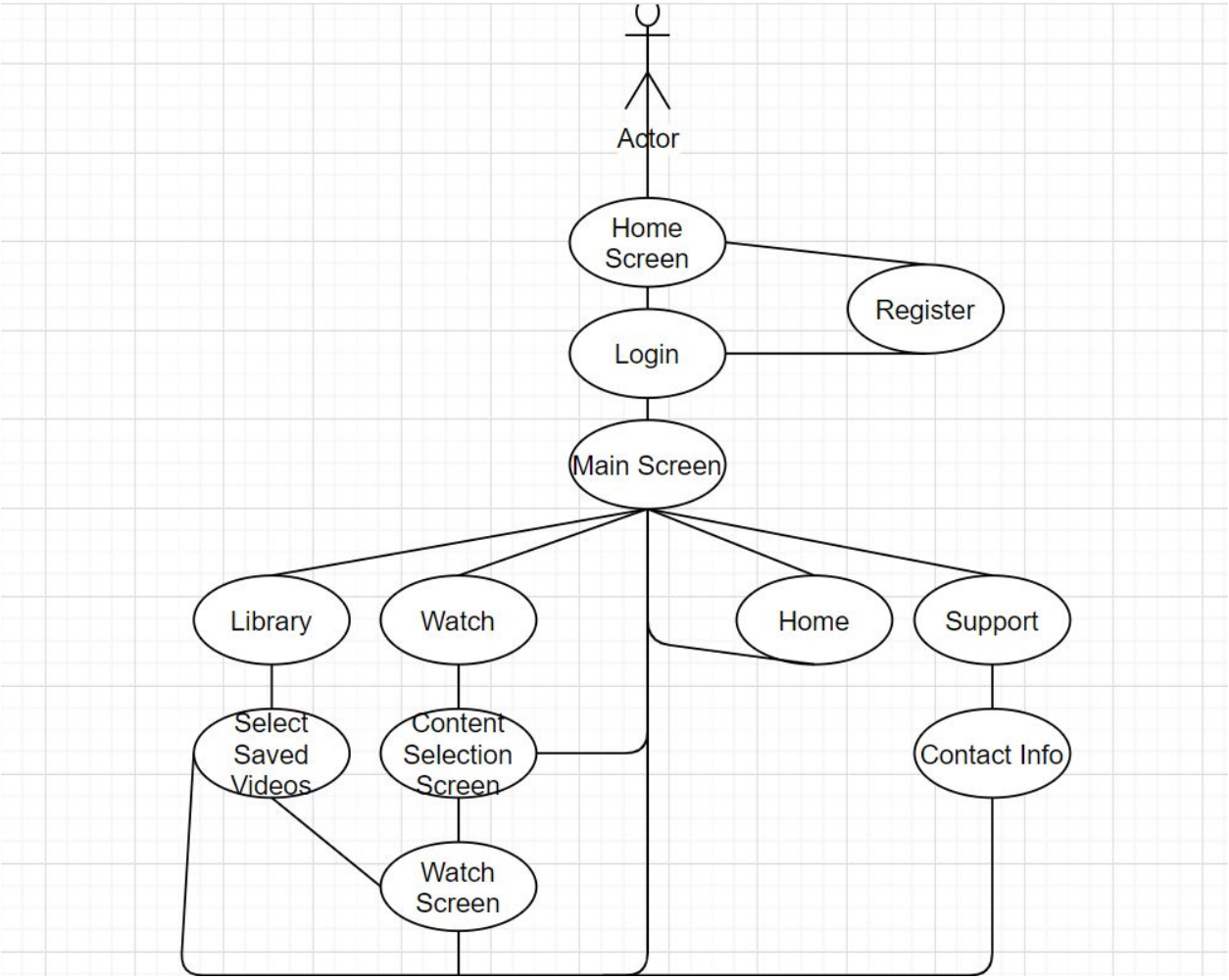
2.3. Use Case name :UC_3

Actors: User, Media Server
Scenario: This case shows how the user can save a video to the library. This step involves all the steps in UC_2 and then from the watch screen, the user can add the videos by an option provided. These videos will be sent to the media server to save for later and the user can access it via the library option.



2.4. System View: SC_1

Scenario: The user will initially be shown the home screen listing what services we offer. The home screen will provide the user to login or if new, the option to register for service. Once the user logs in, the user can select from the library, watch, home or support option. The library option will let the user watch the saved content he/she has saved before. The watch option will take the user to another screen where the user will select the content to watch. In this screen the user can select from which platform he/she wants the videos streamed from and also select the category of video. The user can select upto 6 videos to play simultaneously on one screen and then select one of those videos to make stand out from others. Once the user selects which video to stand out, the final watch screen will be displayed with all 6 videos. All of these sectors will have a home button to get back to the homepage.


Actor
Home Screen
Register
Login
Main Screen
Library
Watch
Home
Support
Select Saved Videos
Content Selection Screen
Contact Info
Watch Screen

3. RATIONALE FOR USE CASE MODEL:

3.1. A user shall be able to log in
3.2. A user shall be able to click a Support tab despite membership status
3.3. A user shall be able to click an About Us tab despite membership status
3.4. A user shall be able to register via facebook, google, or preferred email
3.5. A user shall be able to select a subscription plan
3.6. A user shall be able to browse available content
3.7. A user shall be able to search available content
3.8. A user shall be able to select videos for playback on six screens simultaneously
3.9. A user shall be able to expand one of six selected videos
3.10. A user shall be able to switch expansion of either six screens
3.11. A user shall be able to organize selected videos/categories
3.12. A user shall be able to stream videos
3.13. A user shall be able to fast-forward videos
3.14. A user shall be able to pause videos
3.15. A user shall be able to rewind videos
3.16. A user shall be able to scrub videos
3.17. A user shall be able to adjust stream volume
3.18. A user shall be able to access the home screen at any point
3.19. A user shall be able to log out
3.20. A user shall be able to unsubscribe
3.21. A user shall be able to edit payment information
3.22. A user shall be able to add videos to a Watch list
3.23. A user shall be able to remove videos from watch list
3.24. A user shall be able to stream videos from supported platforms
3.25. The system shall be able to accept payments via credit/debit card
3.26. The system shall show a description of the platform when the mouse hovered over that specific platform
3.27. The system shall redirect the user to the Watch screen when the user clicks on a platform in the Main screen
3.28. A user shall be able to contact customer service in the Support tab via email/phone number
3.29. The system shall display FAQs in the Support tab
3.30. A user shall discover company details in the About Us tab
3.31. The system shall offer a search service based on platform, category, and or text search
3.32. The system shall stream search results to screens based on search order
3.33. The system shall exit the full screen mode via the esc key
3.34. The user shall be able to rearrange screens via drag and drop

3.35. The user shall be able to collapse and expand the dashboard

4. NON-FUNCTIONAL REQUIREMENTS:

4.1. Security

4.1.1. The system shall be secure with 99.9% certainty

4.1.1.1. The system shall accomplish this by outsourcing all security related implementations and problems to another software company

4.1.2. The user data will be stored securely on a cloud based system.

4.1.2.1. The cloud based storage should provide about 200TB worth of storage.

4.1.3. The system shall require users to use a password that is 8-20 characters long

4.1.3.1. The system shall require at least 1 uppercase letter, 1 lowercase letter, and 1 number

4.1.4. Access rights authorizing on who is allowed to watch both live as well as on demand streams has to be possible on per stream basis (AD group based or individual AD members)

4.1.4.1. The system shall only authenticate users if the subscription is paid in full and is not breaking the policies set by Redflix standards.

4.2. Availability

4.2.1. The system shall be available 24/7

4.2.1.1. If a user forgets there login credentials the system will send a reset password email within 4 seconds to the accounts email address

4.2.1.2. The streaming system must be designed and delivered in high availability configuration with built in redundancy to ensure smooth operation even when one component fails.

4.3. Scalability

4.3.1. The system shall be able to reach over 100,000 users

4.3.1.1. The media server should be able to withstand a minimum of 100,000 concurrent users at a given time.

4.3.2. The Audio Video Streaming System has to be scalable for up to 2000 simultaneous users from within the IAEA at all locations plus up to 500 additional but external users connecting through the Internet.

4.3.2.1. For connection of up to 500 external users, Cloud based services are allowed but all internal connections have to be streamed from on premise systems.

4.3.3. The systems bandwidth shall have a minimum bandwidth of 65 Mbps

4.3.3.1. This shall be best achieved if the user has a fiber optics connection or ethernet cable.

4.4. Reliability

4.4.1. When the user registers and sets up a account with the system there private information secure with us

4.4.1.1. There information will be available to them upon the request of the user request

4.4.1.2. If the user desires to cancel their subscription with the system then the system will delete their credit card information but keep their name, email, and phone number.

4.4.1.2.1. After 2 years of inactive use from the user, the system will permanently delete all records from the system

4.4.2. The user must be able to log into the system with their credentials (email and password)

4.5. Usability

4.5.1. Front end

4.5.1.1. The system shall clearly display a button/click option for the home page

4.5.1.2. The system shall showcase a drag-and-drop feature when ordering currently playing media

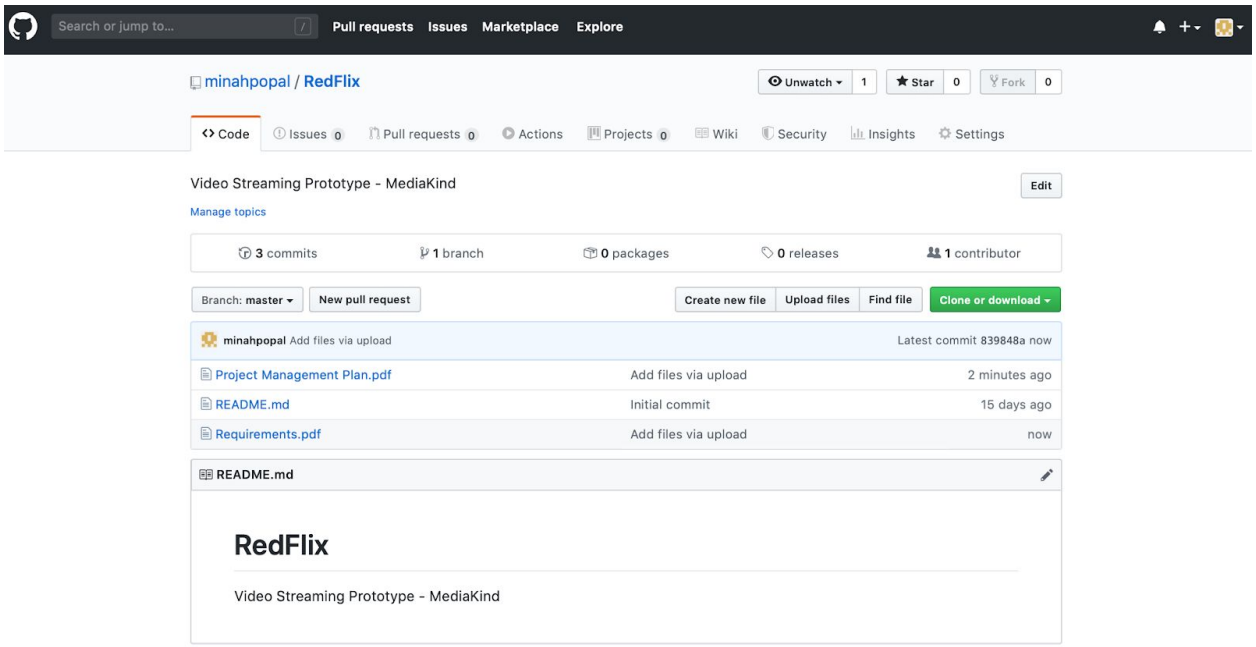
4.5.1.3. The system shall clearly display a search feature

4.5.2. Back end

4.5.2.1. The system will use AWS to store customer data in a secure manner that is easily accessible to the user upon request

4.5.2.2. Languages that the system will use for backend will be Javascipt

5. EVIDENCE THE REQUIREMENTS HAVE BEEN PLACED UNDER CONFIGURATION MANAGEMENT:



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