

# WatchTime

YouTube Reimagined

## 1. Description

### 1.1 The reputation of YouTube

In our day and age, YouTube is the most used entertainment platform, with content made by people for people.

However, YouTube has a very dark side of abusing new/small content creators, having systems that can be abused by the big corporations where 1 second of audio can completely remove the revenue from a video without warning, and many more.

Not only that but the trending algorithms used by YouTube reward short and lazy content posted frequently, meaning that the overall quality of the content on YouTube is going down in order to be picked up more by the algorithm.

### 1.2 Target demographic.

The target of this application is small and new creators from YouTube that have been denied the chance to showcase their content by the unfair algorithms and new creators that want a better chance at recognition.

### 1.3 Proposed changes in order to make WatchTime better than YouTube

- **Reward creators for high quality content.**

In order to reward the creators who put time and effort into their content, a new system needs to be implemented.

Also, to make this system as user friendly and community integrated as possible, I think that a new rating system should be implemented for videos, called Quality.

Of course, this rating system can be abused, but a report system can also be introduced in order to find people who abused it.

- **Reward good videos, and punish lazy long content.**

Using the previously mentioned Quality rating system, we can identify the good videos using algorithms and promote them. We can also punish content that is lazy and long in order to get watch time on their channel.

- **Help new creators.**

YouTube doesn't like new creators; this is common knowledge for people who try to make content for YouTube. My idea for fixing this is having a Discover section, where new creators will be showcased based on the Quality rating and other things.

This will give users an easier time finding new content, while also giving a chance to small and new creators.

- **Better communication tools between creators and admins.**

If you have a problem on YouTube, good luck solving it within a month. The only way to contact YouTube is either through e-mail or unorganized tickets, and both take a lot of time to get answers.

YouTube's solution was to assign personal contact employees to the biggest of creators, however this showcases the fact that they do not care enough about their smaller (still big) creators.

The proposed solution is to have a more complex ticket system, where the problems can be organized into different urgency levels. The abuse of this system will lead to the creator having their future tickets not as important as the others.

- **Better communications for DMCA/Copyright claims**

Currently on YouTube, creators have no way to respond to a DMCA/Copyright claim. This means that even if the claim is false, they lose the video and/or revenue.

## 2. User Stories

User

As a(n):	I want to:	So that:
User	Create an account	I can access the website's functionality.
User	Customize my experience	I don't have to see content I don't like
User	Be able to watch videos	I can be entertained
User	Be able to pause videos	I can take a break
User	Be able to rate videos	I can express my opinion
User	Be able to change my rating on videos	I can express my change in opinion
User	Be able to comment	I can express my opinion
User	Be able to reply to comments	I can engage in discussions
User	Be able to report videos	I can help remove toxic content
User	Be able to become a content creator	I can post my videos
User	Be able to search by tags	I can find what interests me

### Content Creator (CC)

As a(n):	I want to:	So that:
CC	Be able to upload my videos	I can showcase my work
CC	Be able to view the ratings on my videos	I can know which videos do well and which don't
CC	Be able to delete/hide my videos	I can remove my own videos that I do not like
CC	Be able to make Tickets	I can contact the admin team regarding help

### Admin

As a(n):	I want to:	So that:
Admin	Be able to view and reply to tickets	I can help users
Admin	Be able to remove toxic videos	I can keep a toxic-free environment
Admin	Be able to ban users	I can remove toxic users

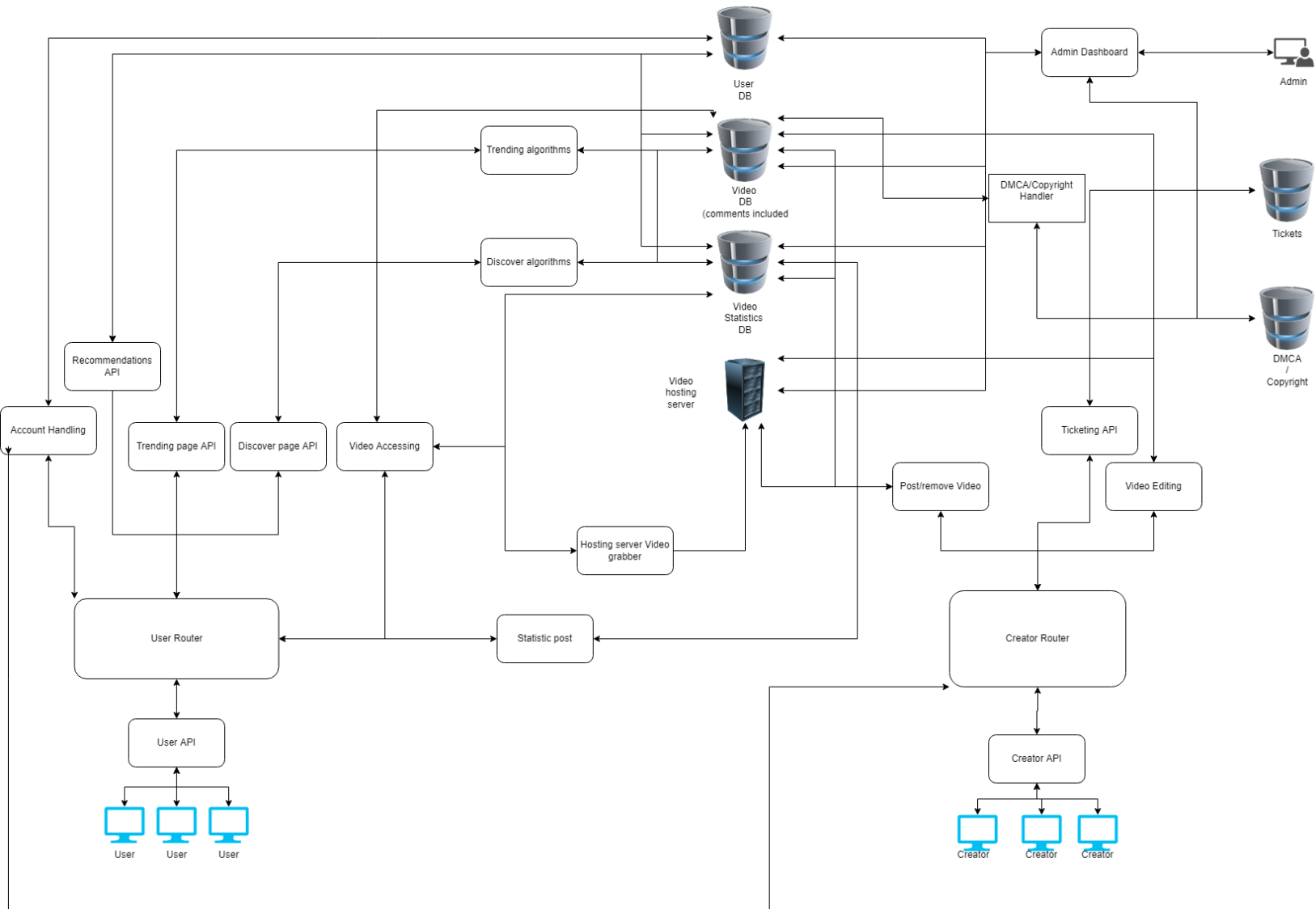
### Outside Company (OC)

As a(n):	I want to:	So that:
OC	Be able to copyright videos due to copyright issues.	I can keep my Intellectual Propriety safe

### 3. Building the application.

#### 3.1 Architecture

For a project like this, I think Microservices would be the way to go, below there is present a visualization of the proposed architecture.



### **3.1 Technology & Performance**

Since the service will be implemented as microservices, I will be using different languages in the back-end based on what the most efficient one is for the task. A good example is that I will be using a Python API for uploading the video to the server, since Python is one of the fastest languages for file uploading.

This will be the same for the Databases, I will use the one most suited for the task.

For the front-end, React will be used.

### **3.2 Storage**

Due to the nature of the project, storing videos takes a lot of storage data, so for this project I will be mostly using a few dummy videos with different lengths in order to showcase the algorithms.

### **3.3 Security**

Security is an important part of every application in this day and age, 2-factor authentication will be present together with a JsonWebTokens implementation for the accounts.

### **3.4 Scalability**

Due to the microservice implementation of the project, the project will be easily expandable by updating the routers, creating new services, or modifying the already existing ones.

The Microservice architecture offers infinite potential in scalability by design.

## **4. Challenges**

In my opinion, this project is the perfect fit for Enterprise SD, as the main point of it, is to build an application that will be used by potentially millions of people, so the design has to accommodate for that.

- Have good security.
- Create a design that can accommodate potentially millions of people.
- Implement a microservice system that can easily be scaled and replaced.
- Make the services easily maintainable.
- The use of many different technologies.

## 5. Constraints

The biggest constraint during this semester is time. Personally, I do not think I will have enough time to implement all the features.

The following features will not be developed if time does not allow it:

- Video Editing
- DMCA/Copyright handling
- Discover Algorithms
- Ticketing system

## 6. Initial Ideas

In no particular order:

- Use React for front-end (Easy to set up and uses JavaScript)
- Use Python for video Uploading
- Split User and Creator APIs so in case of high website traffic creators can still upload without fail.
- Use JWT for Users
- Implement E-mail 2FA
- Algorithms based on watch time, quality rating and like/dislike ratio