Project Research Document

Video Sharing Platform with Screen Recorder

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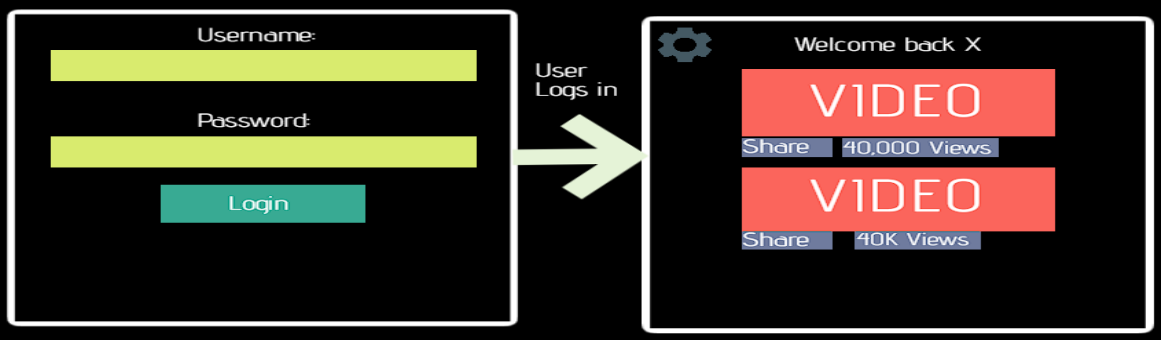
DETAILED DESCRIPTION:

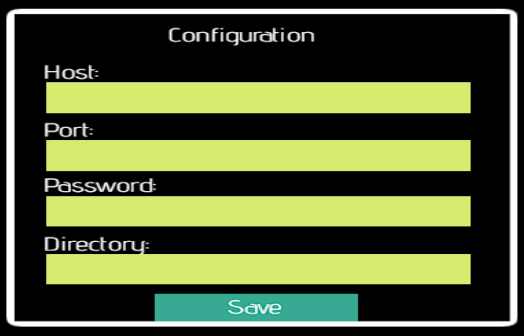
In my final year project, I would like to develop a fully working video sharing platform with core functionalities of a screen clipper and a web application to support profile customization, video uploads, data analytics for users and social followings.

Screen Snippet Recorder:
In this functionality the main purpose of this software is to record the last X interval specified by the user using the recording software. This piece of software will be built on top of Open Broadcaster Software as the main recorder. This software is excellent for content creators or normal users to clip a duration without having them to look through hours of recordings for the piece they're looking for. This is good as this saves time for the user. Essentially when a User hits a hot key for example F2 it will record the last X duration specified by the user and it will get saved to a local directory and will trigger a POST request to the custom API to upload that clip to the web application. For security reasons we will set the video to PRIVATE status so that only the owner can see that video on the web application unless they set the status to PUBLIC. For the software I would like to make a graphical user interface for the user to configure the settings such as the duration they want to clip.

How I want the recorder to work:

GUI Design





How it works:

User hits hot key

Recording stops
Trims the last X
duration of the
recording into a clip

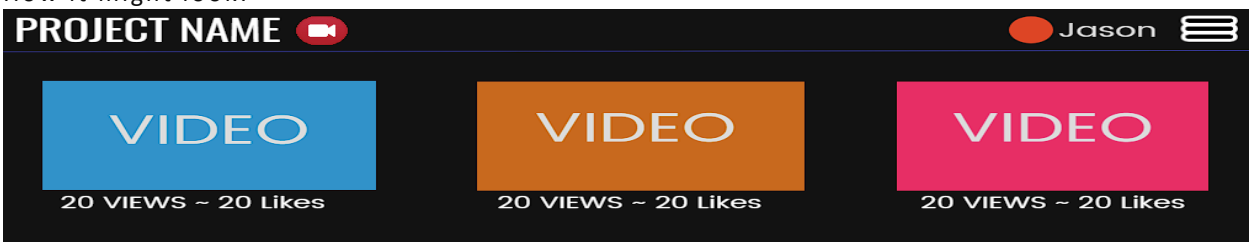
Saves the raw and
trimmed clip into seperate
directories

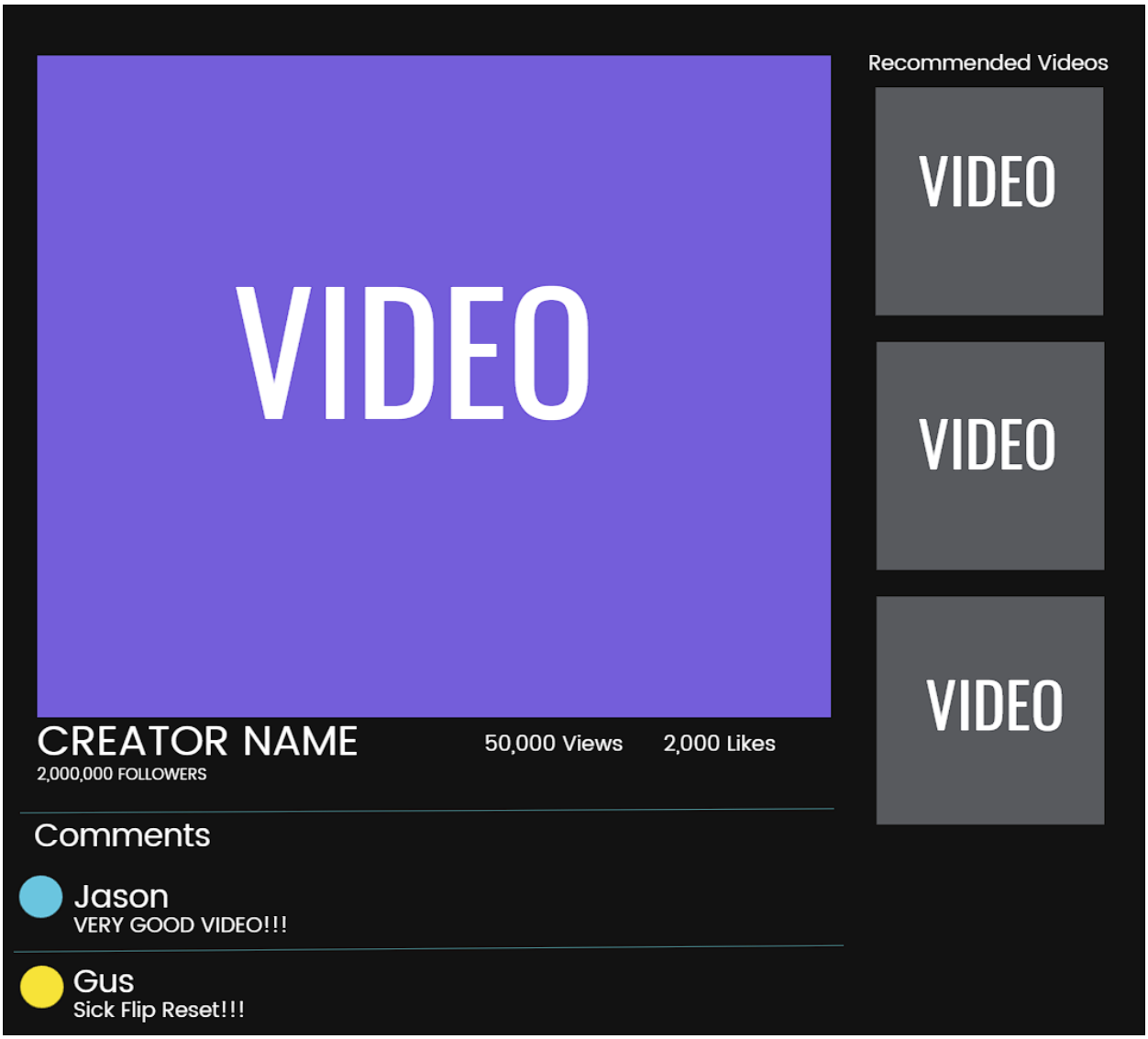
POST request sent to
upload the clip to
users account

WEB APPLICATION:

For the web application the main purpose is to let users watch videos on the platform. The user can interact with the videos by commenting their reactions and liking the videos. For the content creator (I.E the recorder they can share their unique video link with friends to watch their awesome clips using the software). The creator can see video analytics and channel analytics this contains the number of views their videos achieved and statistics of likes on their videos. This provides the creator with some valuable information about how their personal channel is doing. The main functionalities I want to complete in this project for the web application contains, A user profile where a user can sign up to create content or watch content, Video sharing this is where users can send a unique link corresponding to that specific video with friends or family members, An interactive user experience where the user can comment and also like other people's content to show amazing support, A video uploading section where a user can upload videos without using the software itself and lastly transcription generation.

How it might look:





Nice to haves:
Mobile Application for IOS and Android, Verification Badges, File compression, Video Categories by Image Recognition and Subscription for exclusive content.

RESEARCH OF SIMILAR PROJECTS CURRENTLY:

PROJECT NAME	DIFFERENCES	Link:
GIF YOUR GAME	Gif your game only allows specified games on their list	https://www.gifyourgame.com/
MEDAL	Captures specified	https://medal.tv/

	games on their list.	
Shadow Play	You cannot install this without a Nvidia GPU	https://www.nvidia.com/en-gb/geforce/geforce-experience/shadowplay/

TECHNOLOGY STACK:

Languages I will hopefully be using:
Python; JavaScript; HTML & CSS; Terraform; JenkinsCore;

Libraries I will hopefully be using:
OBS Websocket, pyautogui, tkinter, moviepy, requests, keyboard, winotify, logging, time, Django, pillow, Django rest API;

Platform I will hopefully be using:
OBS, AWS Microservices and PythonAnywhere.

Screen Recorder Software:
Python, OBS, OBS WebSocket, Tkinter, Pyautogui, Requests, Keyboard, Winotify, Logging, Time, and AWS.

Web Application:
Python, JavaScript, HTML AND CSS, Django Web Framework, Django Rest API, Logging, Time, AWS Microservices, Pillow.

RISKS:

Possible Risks Identified During Research:

Security would be a concern regarding the project as if we don't encrypt the users specified data it could cause a concern for a breach. To ensure that it is safe I started looking at ways to encrypt specified data like the ports and password from the OBS WebSocket by hopefully using Bcrypt.

I'm relying on Tkinter for the main library to create a GUI, if anything doesn't work on this library it could mean I won't have a GUI and will just have a web application setting for the user to configure which means it is way more annoying and not user friendly.

Another Risk to consider this recording software fully relies on the computer specs and settings of the recorder on OBS. Therefore, meaning it could cap out the recording meaning it will have low resolution when clipping. However, with the right settings configured I believe it could work out with some testing.

Another risk would be that the user's storage locally could be filled up quickly if they have the toggled options on for local storage of the raw recording and clipped recordings. This can hopefully be solved by going cloud using AWS S3 storage therefore letting the user download the clip on the web application. This will save the user a lot of space on their local machine as this will be stored on the cloud.

Finally, after doing some analysis on the complexity of this project time constraints could be a massive factor, but after some consideration the above functionalities with some estimation of time I believe I can finish this project with the core functionalities.