

FINAL REPORT : METUBE

A MULTIMEDIA DATABASE PROJECT

TEAM NUMBER : G2

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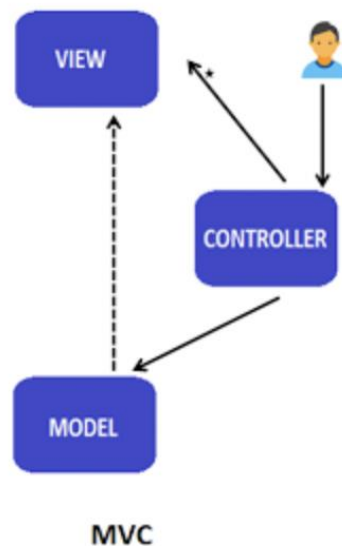
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INTRODUCTION

MeTube is a modified version of the popular Youtube website. It hosts a variety of multimedia such as videos, audio, images and animation clips. We have two types of users : Registered and Unregistered. Unregistered users can simply view or download the media. Registered users can upload video, view the media, modify their profile etc., after signing in to their account. Registered users can also subscribe to channels, build playlists and use the inbuilt messaging system to send and receive messages from each other.

SYSTEM DESIGN

This system uses the MVC architecture to implement the functionalities of MeTube. MVC design pattern divides an application into three major aspects: Model, View, Controller as shown below:



Model means data that is required to display, it corresponds to all the data-related logic that the user works with. This can represent either the data that is being transferred between the View and Controller components or any other business logic-related data. For example, a User object will retrieve the user information from the database, manipulate it and update it data back to the database or use it to render the data.

The View component is used for all the UI logic of the application. For example, the Customer view will include all the UI components such as text boxes, dropdowns, etc. that the final user interacts with.

Controllers act as an interface between Model and View components to process all the business logic and incoming requests, manipulate data using the Model component and interact with the Views to render the final output. For example, the User controller will handle all the interactions and inputs from the User View and update the database using the User Model. The same controller will be used to view the User data.

MVC is popular as it isolates the application logic from the user interface layer and supports separation of concerns. Here the Controller receives all requests for the application and then works with the Model to prepare any data needed by the View. The View then uses the data prepared by the Controller to generate a final presentable response. The MVC abstraction can be graphically represented as follows

E-R DIAGRAM

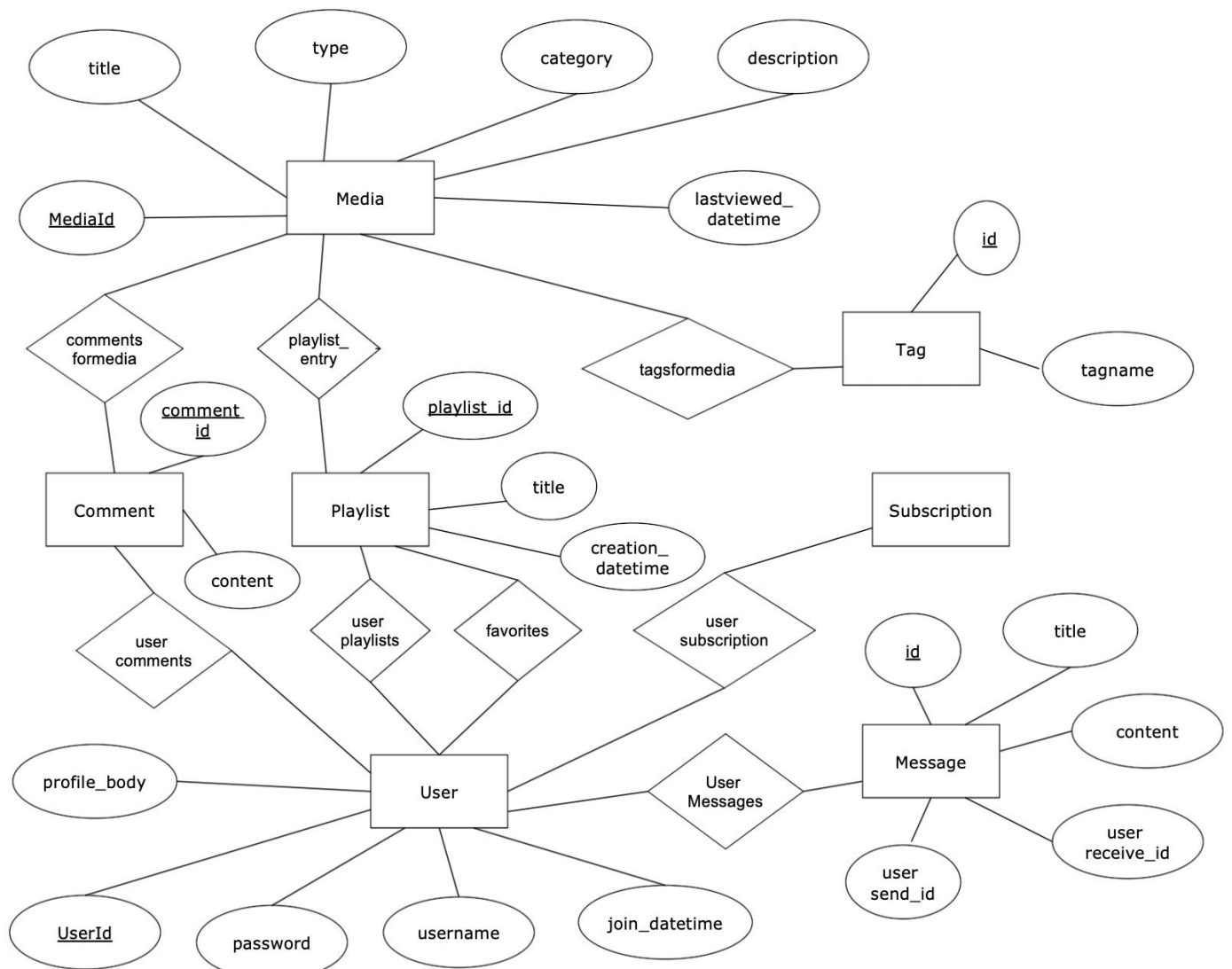


FIG 1. ER Diagram

DATABASE SCHEMA

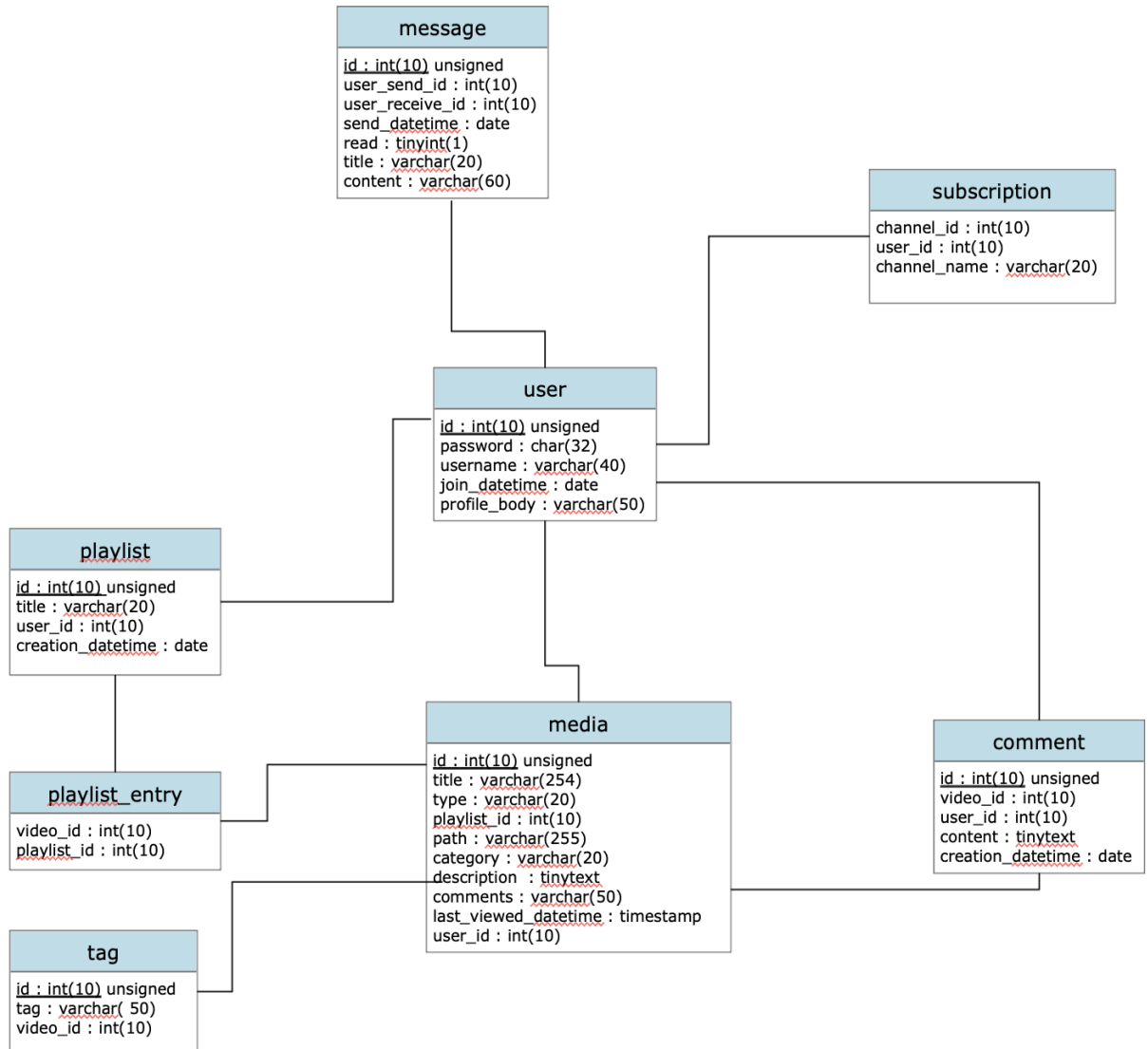


FIG 2. Database Schema

FUNCTION DESIGN

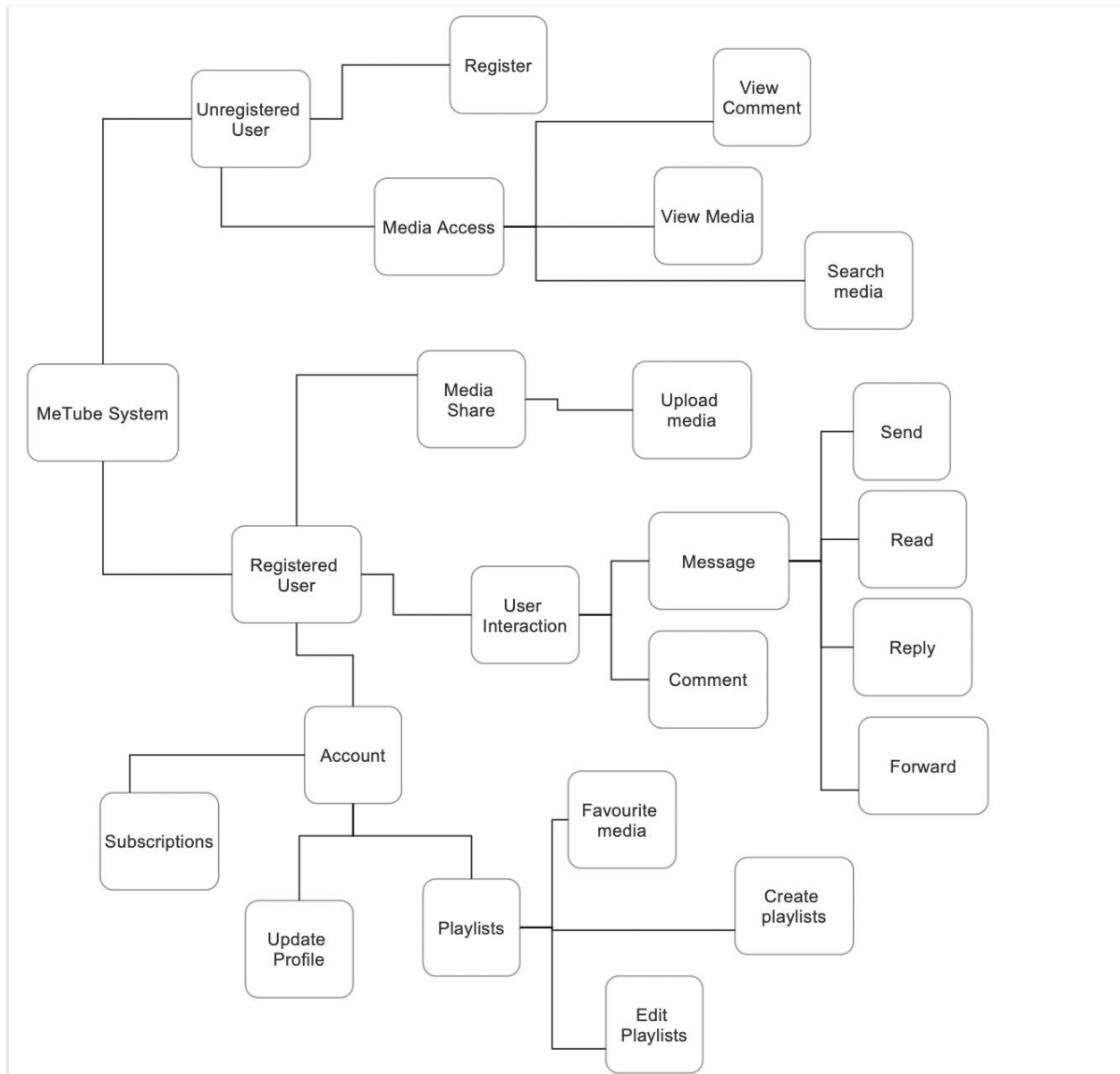


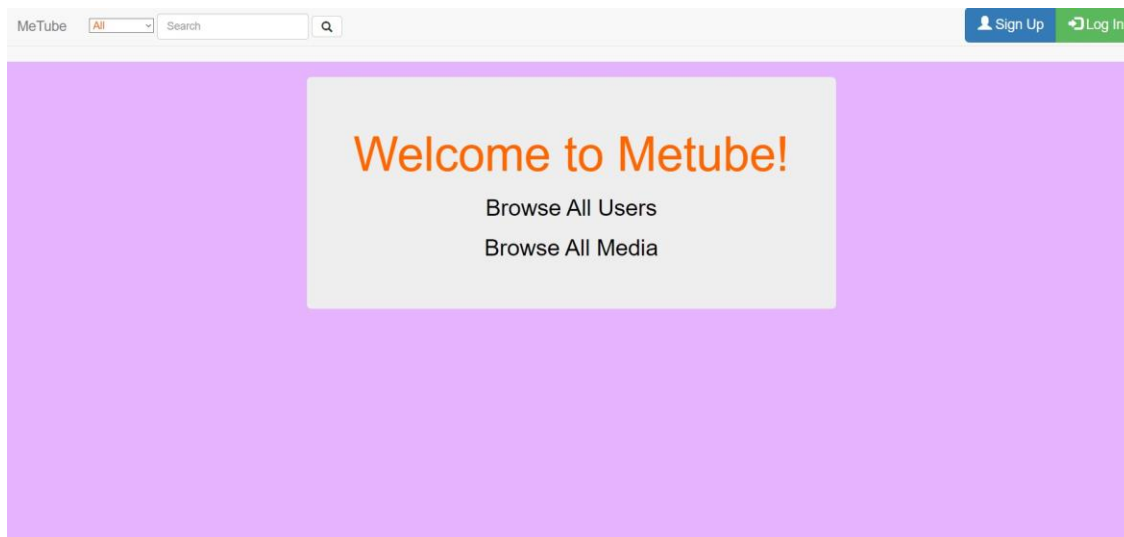
FIG 3. FUNCTION DESIGN

FUNCTIONAL SPECIFICATION AND TESTING

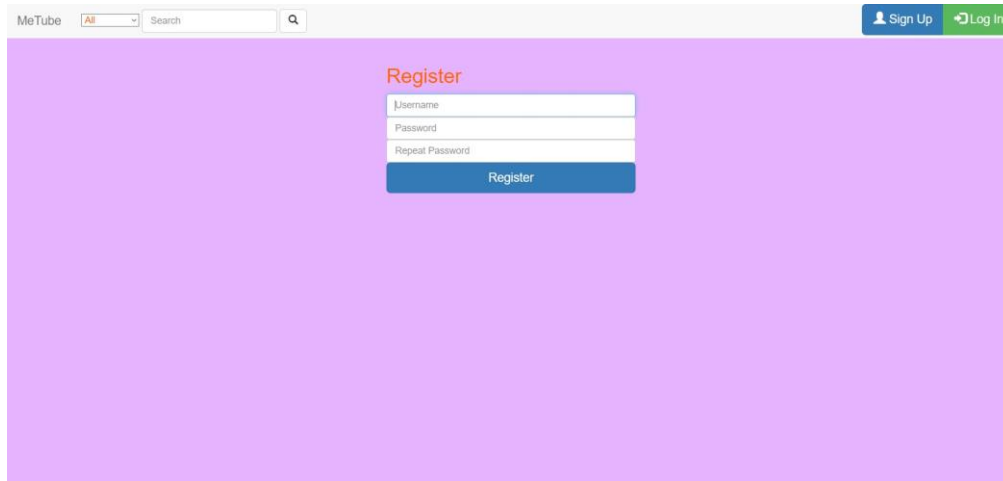
1. USER ACCOUNT:

a. User registration:

According to the requirements, the user can click on the “Sign Up” button to register as a new user.



On clicking this, they are redirected to the registration page where the user is asked for their Username, Password and to repeat the password



When the passwords don't match the page displays a warning error

MeTube All Search

[Sign Up](#) [Log In](#)

Register

register_error:Passwords don't match. Try again?

The system also displays a warning when you choose an already existing username

MeTube All Search

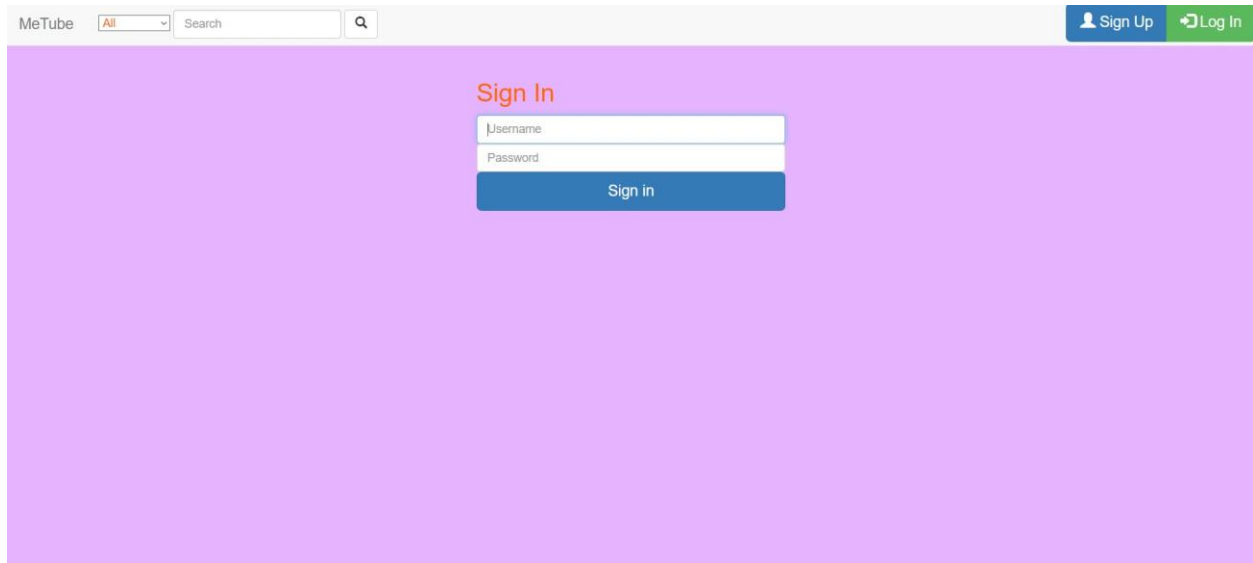
[Sign Up](#) [Log In](#)

Register

register_error:Username already exists. Please user a different username.

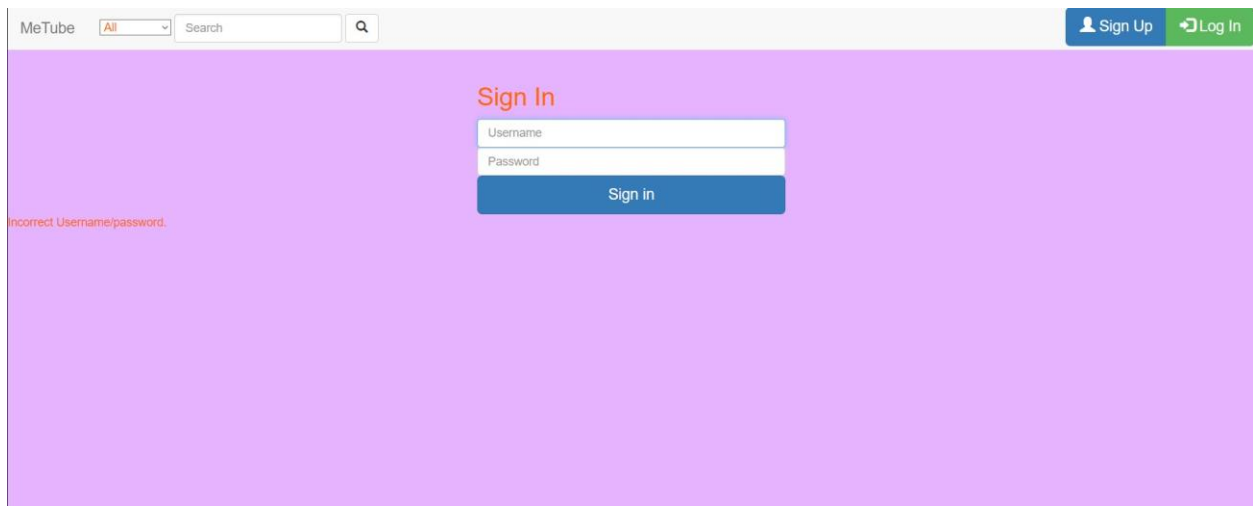
b. Sign-In

The user can use the “Log In” button to sign in from the homepage. They get redirected to the log in page which asks for their username and password.



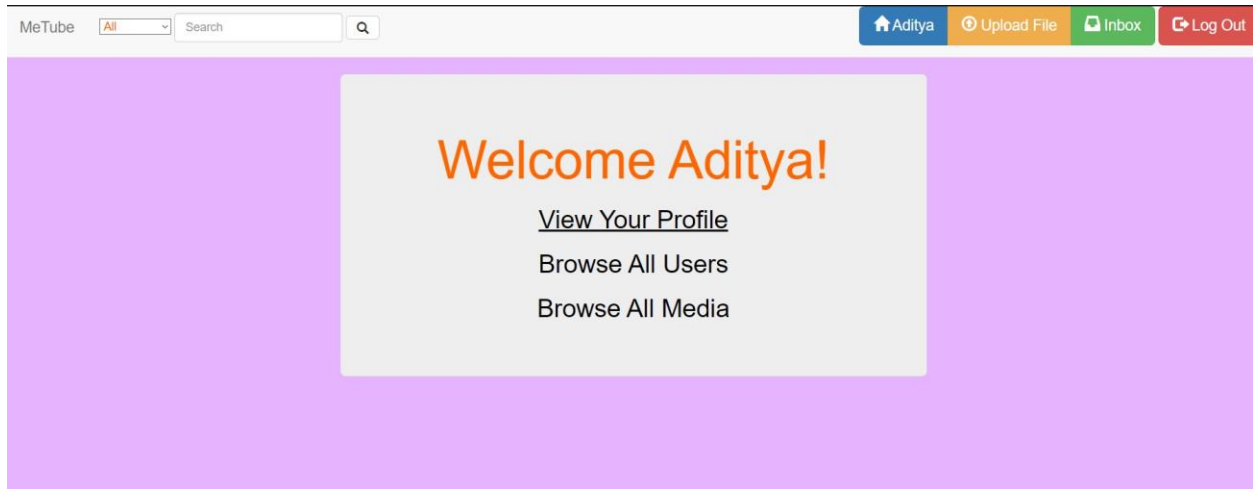
The screenshot shows the MeTube website's sign-in page. The header includes the MeTube logo, a language dropdown set to 'All', a search bar, and 'Sign Up' and 'Log In' buttons. The main content area has a light purple background with the title 'Sign In' in red. Below the title are two input fields for 'Username' and 'Password', followed by a blue 'Sign in' button.

On using a non existent username or incorrect password it displays an error message



This screenshot shows the same sign-in page as above, but with an error message. The text 'Incorrect Username/Password.' is displayed in red on the left side of the page. The 'Sign In' form and header elements remain the same.

If sign-in is successful the user is redirected to a homepage welcoming them back. This page shows further links to view their profile, browse all users/media, upload file, inbox, search bar and an option to log-out.



On clicking “View your profile” button, the user info such as profile body, uploads, playlists, favourites, subscriptions and settings are displayed.



c. Sign-Out

Clicking on the “Log Out” button on the top right corner of the website helps you log out of the profile and redirects you to the MeTube homepage we initially start with.

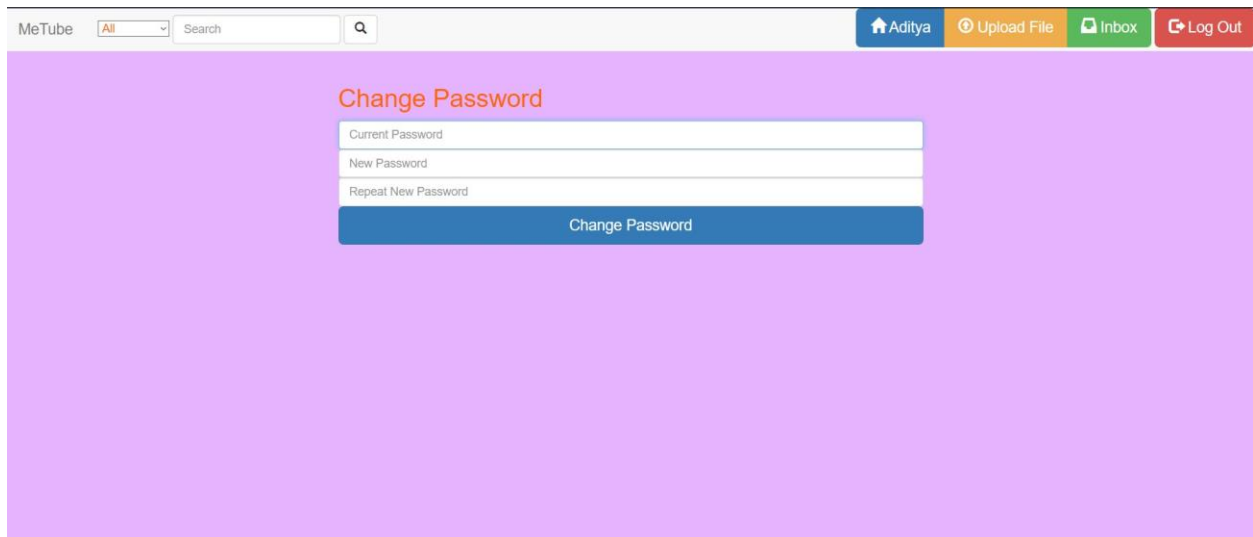
d. Profile Update

The profile tab in the user's homepage has an option to edit the user's profile.



The screenshot shows the user profile page in MeTube. The header includes the MeTube logo, a dropdown menu set to 'All', a search bar, and navigation links for 'Aditya', 'Upload File', 'Inbox', and 'Log Out'. The main content area has a purple background. A central white box contains the title 'Aditya's page!' in orange. Below the title are tabs for 'Profile', 'Uploads', 'Playlists', 'Favorites', 'Subscriptions', and 'Settings'. The 'Profile' tab is active. Below the tabs, it says 'User since 2021-11-22'. A text input field contains 'Hey i am Aditya!!'. Below the input field is a green 'Save' button with a download icon.

The settings tab has an option to change your password.

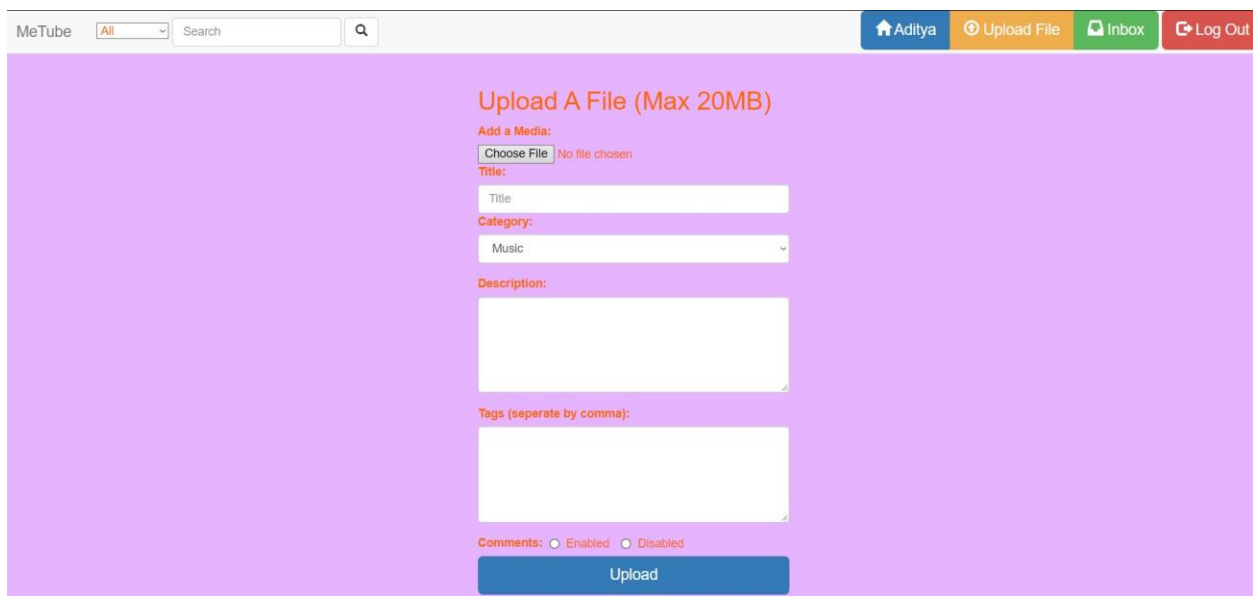


The screenshot shows the 'Change Password' form in the settings tab. The header is the same as the previous screenshot. The main content area has a purple background. The title 'Change Password' is in orange. Below the title are three text input fields labeled 'Current Password', 'New Password', and 'Repeat New Password'. Below the input fields is a blue 'Change Password' button.

2. DATA SHARING

a. Upload multimedia files :

A user must be signed in to the system to be able to upload multimedia files. After signing in, the user is redirected to their home page that has an “Upload File” button on top. Clicking on that takes them to the “Upload a File” page. The following screenshot shows the fields that are to be filled while uploading a file. It includes Title, Category, Description, Tags and options to enable/disable comments.

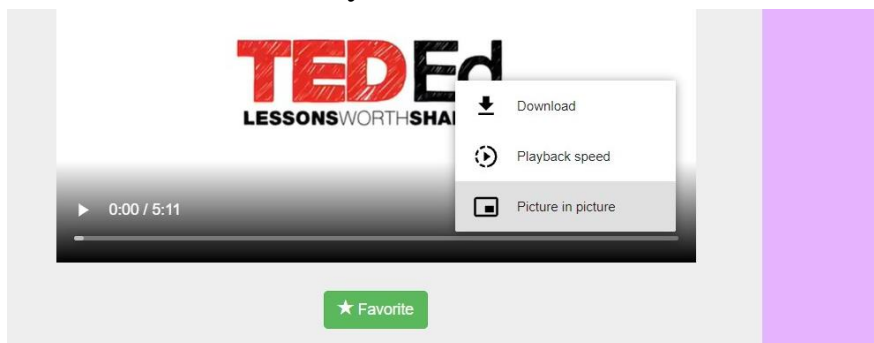


The screenshot shows the 'Upload A File (Max 20MB)' page in the MeTube system. The page has a purple background. At the top, there is a navigation bar with the MeTube logo, a search bar, and buttons for 'Aditya', 'Upload File', 'Inbox', and 'Log Out'. The main content area contains the following fields and options:

- Add a Media:** A 'Choose File' button and a 'No file chosen' message.
- Title:** A text input field.
- Category:** A dropdown menu with 'Music' selected.
- Description:** A large text area.
- Tags (separate by comma):** A text area.
- Comments:** Radio buttons for 'Enabled' and 'Disabled'.
- Upload:** A blue button at the bottom.

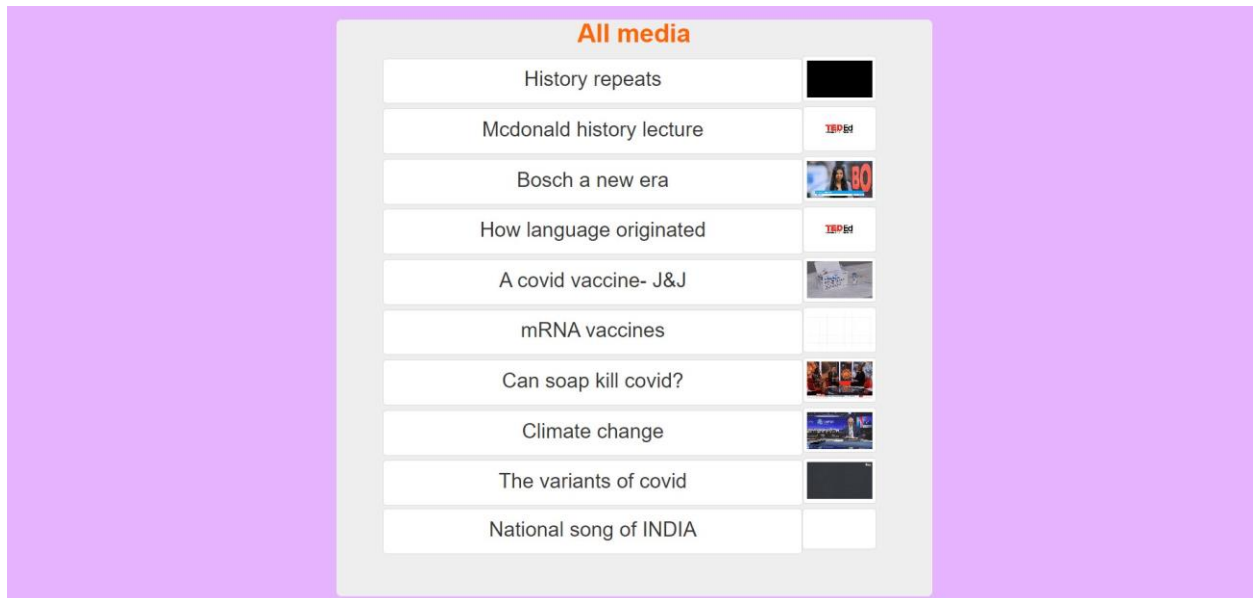
b. Download :

Any user with a web browser will be able download and view the multimedia files in the MeTube system.

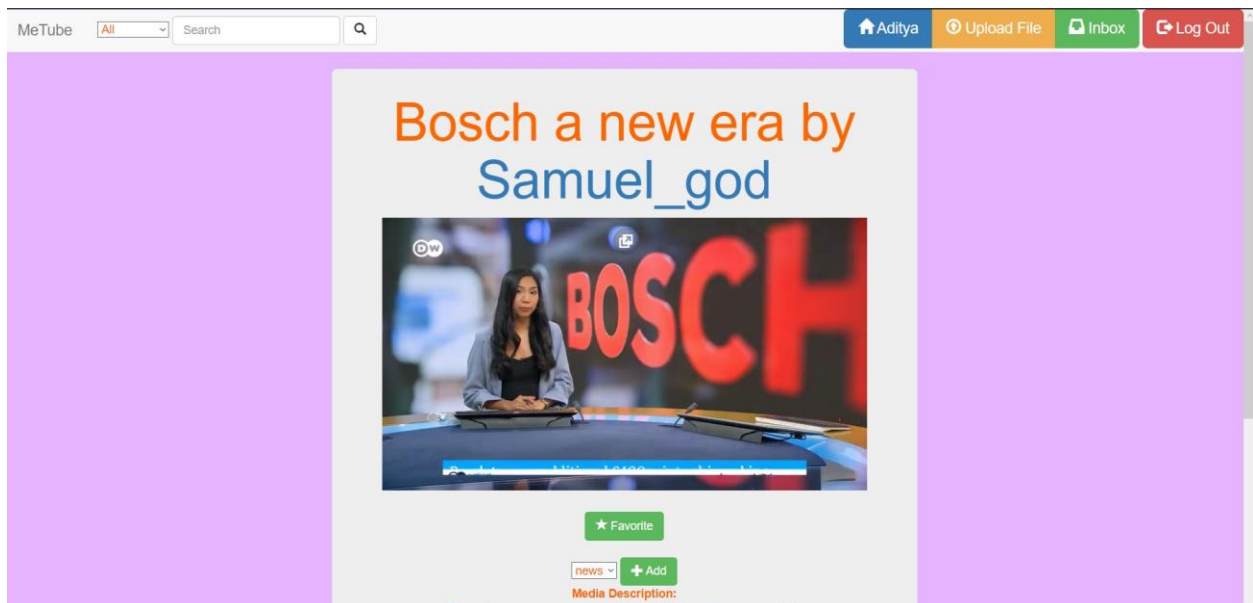


c. View media files :

A user can view all the media files in the Metube system by clicking on the “Browse All Media” button or by searching for it in the search bar on the top left corner in the MeTube homepage irrespective of whether they are signed in or not.



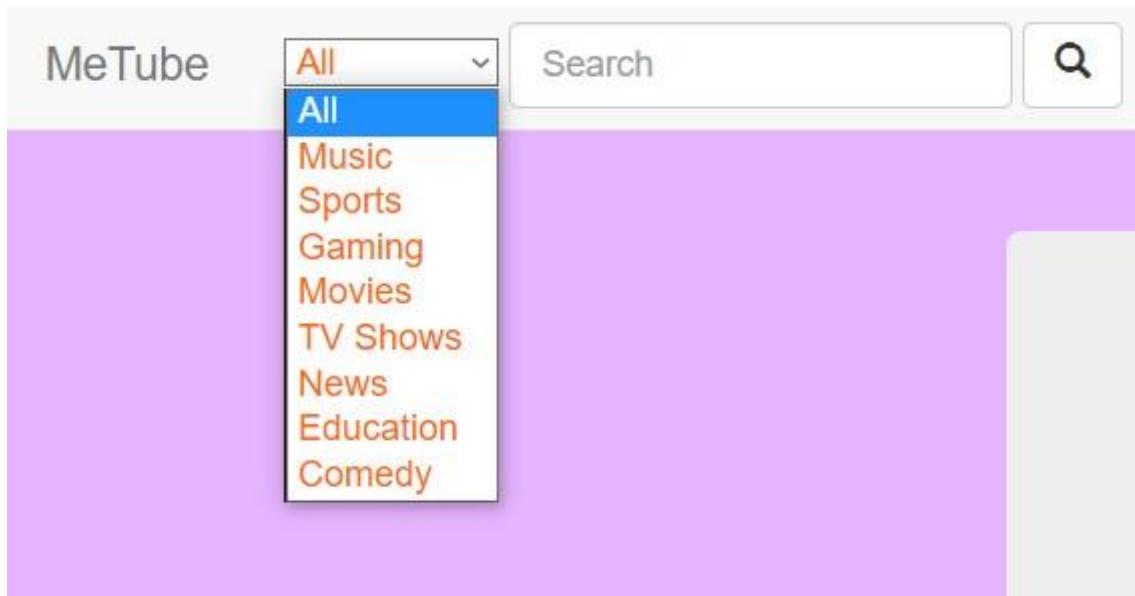
Clicking on the name of the video will take them to a web interface that plays it.



3. MEDIA ORGANISATION

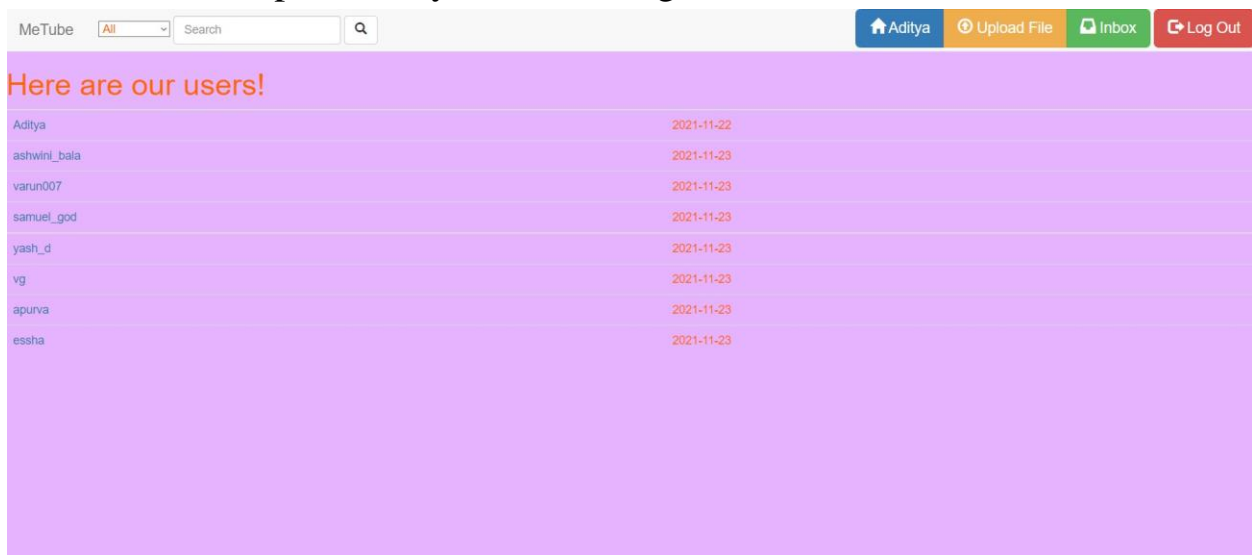
a. Browse by category :

Users can browse media files based on categories. There are 8 categories and an “all” category to choose from on the top left corner near the search bar.



b. Channels :

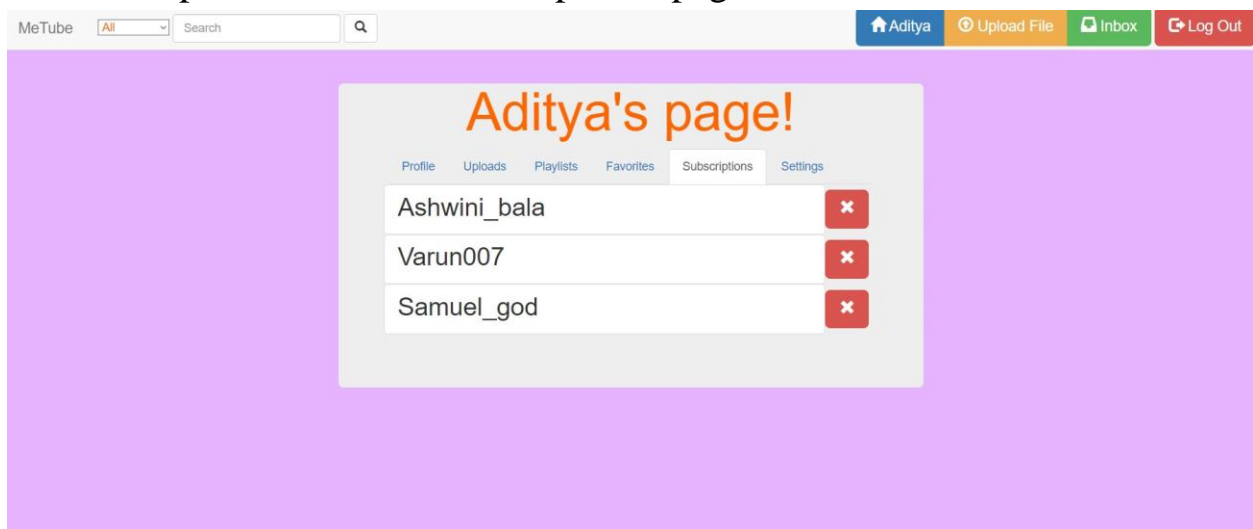
All media files uploaded by a user are organised as a channel.



All users can subscribe/unsubscribe to channels publicly at any time.

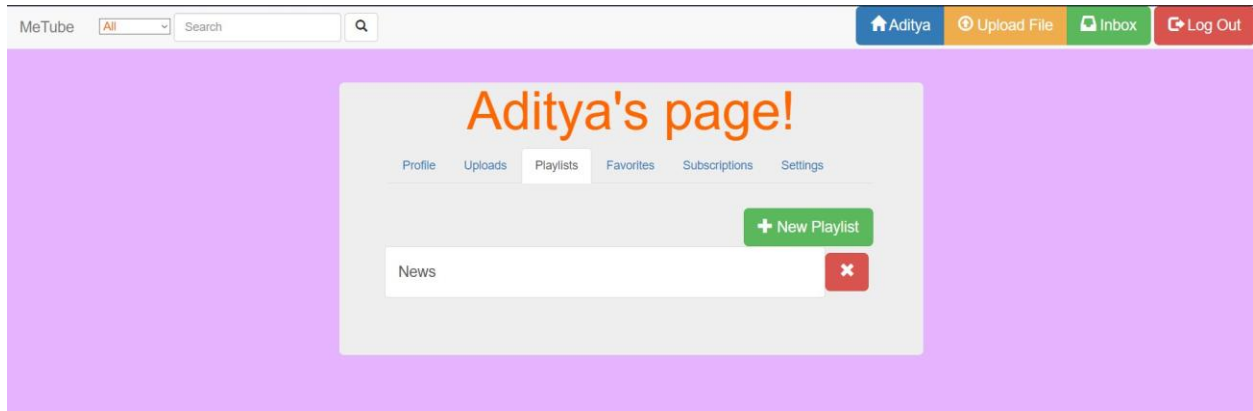


Users can also view list of all channels they are subscribed to by clicking on the subscriptions tab on their user profile page.



c. Playlists :

The user can view all their playlists by clicking on the “Playlists” tab on their profile page. Clicking on the “New Playlist” button redirects you to a playlist creation page. Here the user creates a playlist which will reflect on your “Playlist” tab.



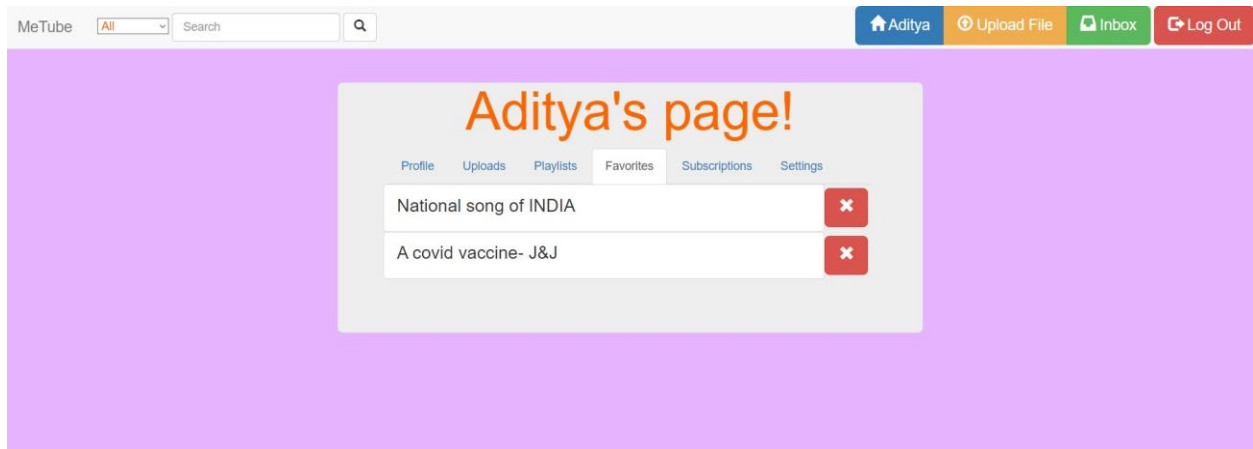
Clicking on a playlist's name redirects you to the page which displays all the videos on the playlist.

d. Favourite Lists

User can put the videos he/she saw on a favourite list by clicking on the “Favourite” button under the video.



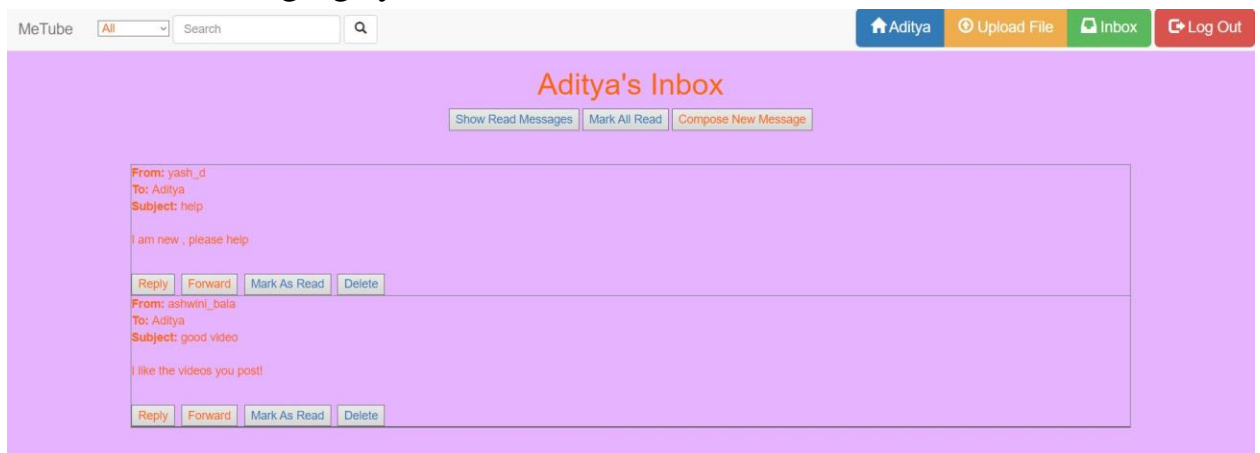
The user can also view the videos they favoured by clicking on the “Favourites” tab in their profile page.



4. USER INTERACTION


a. Message Exchange between users :





This system allows users to send and receive messages between each others. This is organised in an “Inbox” that can be accessed by clicking on the Inbox button on top of the user’s homepage. This redirects the user to the messaging system shown below.



Each message has four buttons the user can choose from:


- Reply: Reply button opens a new window with the page to compose a reply to that specific message and send it.

MeTube All 


 Aditya  Upload File  Inbox  Log Out





ashwini_bala
RE: 2021-11-23

Message

 Send


- Forward: Forward button opens a new window with a page to forward the message to a specific user.


MeTube All 

 Aditya  Upload File  Inbox  Log Out

varun007
FWD: 2021-11-23

0

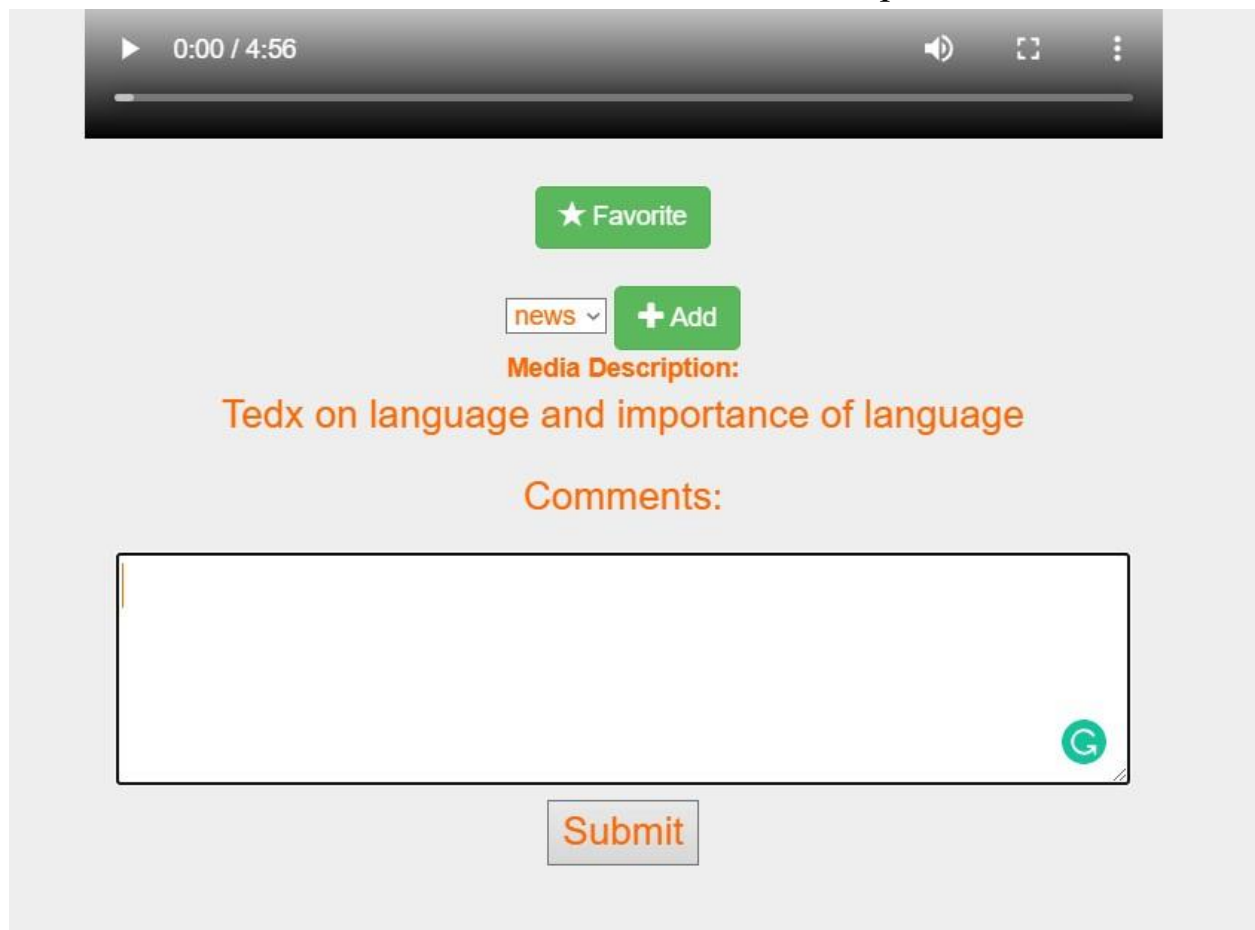


 Send

- Mark as Read : This puts the message in the “read” category and hereon the user can view this message by clicking on the “Show Read Messages” button on top of the inbox.
- Delete : This deletes the message from the user’s inbox.

b. Commenting on media file :

Each video has a comment box below it. Users can fill in the textbox with their comment and click the “Submit” button to upload their comment.



The screenshot shows a video player interface. At the top is a video player with a progress bar showing 0:00 / 4:56. Below the player is a green button with a star icon and the text "Favorite". Underneath that is a dropdown menu with "news" selected and a green button with a plus icon and the text "+ Add". Below these is the text "Media Description:" followed by "Tedx on language and importance of language". Underneath that is the text "Comments:". Below the text is a large white text input box with a green circular icon containing a white 'G' in the bottom right corner. At the bottom of the form is a grey button with the text "Submit".

After this that user's comment is visible to everyone watching that video below it.

Media Description:

Tedx on language and importance of language

Comments:

Submit

X

Aditya: Very insightful video.

Posted at: 2021-11-23

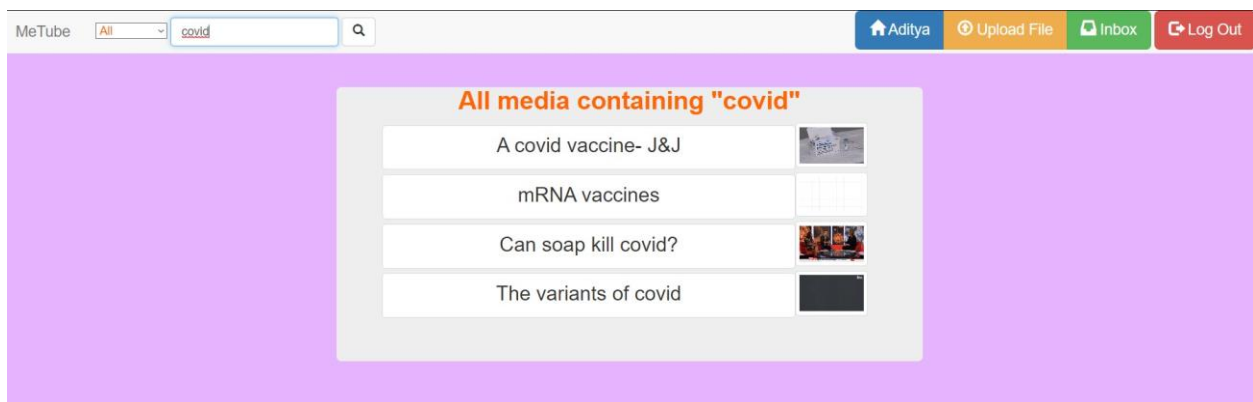
5. SEARCH

a. Keyword based search :

The user can use the search bar on the top left corner to search based on keywords found on the title and description of a video

b. Tag :

Users can add Tags to their media while uploading it. These tags can also be used on the search bar which will result in the display of all videos that were uploaded using that tag.



IMPLEMENTATION DETAIL

We used the following to implement the front end of this project

- HTML
- CSS
- Javascript.

To implement the backend of the project we used:

- PHP.
- MySQL

The main project file:

- MeTube_try > MeTube-master

The database:

- MeTube_try > MeTube-master > metube_3m9k.sql

The directories:

```
D:\xampp\htdocs\MeTube_try\MeTube-master>tree
Folder PATH listing for volume DATA
Volume serial number is 66FD-6C78
D:..
|_css
|_fonts
|_js
|_Scripts
|_uploads
|   |_Aditya
|   |_ashwini_bala
|   |_samuel_god
|   |_varun007
|   |_yash_d
```

USER MANUAL

- The users can create an account in the website by registering using the “Sign Up” button where the user needs to enter a username and password and also confirm the password.
- The user can also sign in to the account if he/she already has an account by using the “Log In” button where the user has to enter the username and the corresponding password that were used to register the account.
- After getting in to the account, the user can choose to view his/her profile, browse all users or browse all media as indicated by the options in the home page.
- Upon choosing to view the profile, the user can see the profile body which can be edited by the user to suit his/her personality/interests. This space also indicates when the profile was created on top of the profile body.
- From here, the user can choose to go to “Uploads” which displays all the content that was previously uploaded by the user in this account. This content can be filtered using the drop-down menu on the top-left corner of the uploads body. The categories available are “All”, “Music”, “Sports”, “Gaming”, “Movies”, “TV Shows”, “News”, “Education” and “Comedy”. They can also be searched for through the search bar.
- The user can also go to the “Playlists” tab, where they can create their own playlists.
- The users can go to the “Favorites” tab where all the content marked by them as favorite through this account can be seen.
- On going to the “Subscriptions” the user can view the list of accounts he/she has subscribed to.
- In the “Settings” tab, the user can change their password using the “Change Password” button.

- On clicking the “Browse all users” option in the home page, the user will be redirected to a page which has a list of all the users in the website.
- When the user clicks on the “Browse all media” option in the home page, the user can see all the available content on the website posted by users from all the different accounts on the website.
- The user can always click on the “MeTube” logo on the top-left corner of the web page or the button on the top-right which has a home symbol and the username on it to get back to the home page.
- If the user directly wants to search for any particular content, he/she can set the filter on the top-left in the drop-down menu which have the options, “All”, “Music”, “Sports”, “Gaming”, “Movies”, “TV Shows”, “News”, “Education” and “Comedy” and start typing the keywords in the search box.
- On clicking on the “Upload File” button on the top-right, the user is redirected to a page where he/she can upload content of their choice by choosing a file by clicking on the “Choose File” button and by filling in the field of “Title”, choosing a category for the file, filling in a description for the file, setting up some tags(key words) for the file by entering them in the given field and separating them by a comma and setting the comments to enabled or disabled for the file. The user can then click on the “Upload” button to upload the files.
- When the user clicks on the “Inbox” the user is redirected to a page where there are 3 options given, “Show Read Messages”, “Mark All Read”, “Compose New Message” and the received messages are displayed below. When the “Show Read Messages” option is chosen, the previously read messages are shown. When the “Mark All Read” option is chosen, all the messages that are received are marked as read. When the “Compose New Message” option is selected, a new tab pops up where the user can send a new message to the other users by entering into the fields a “username”, “subject” and “message” and hitting on the “Send” button.

CONCLUSION

As described in this report, we have made it possible for users to register an account, log into it, upload media files like audio, video, images and animation clips while also allowing them to comment on these files, disable comments on their own files, send and receive messages from other accounts and create their own playlists.