MeTube Report

CPSC 4620 — Spring 2022

Harper Corpus, Ciara Morrissey, Raj Patel

Introduction

For this semester's end of term project, our team has collaborated in order to develop our own iteration of the popular streaming website, YouTube. Using our webapp, users may create accounts, favorite videos in order to compile playlists, upload media files, download media files and message other users. Registered users, after signing in, have the privilege to access multiple features.

System Design

Our team's MeTube project took advantage of many different programming languages and tools to deliver a strong final product. We used MySQL to query our database. This allowed us to implement back end functionalities. We used php files to assist in manipulating our database information as well as implement other functionalities.

For the front end of our MeTube project, we utilized a CSS style sheet that complies with WCAG guidelines. This ties in a professional skill of accessibility for users. Part of the accessibility compliance has to do with the contrast used in our color library, the size of our text, and our line spacing. Many of our features also change colors when the mouse hovers and text decorations such as italicize and underline are enacted when items are selected.
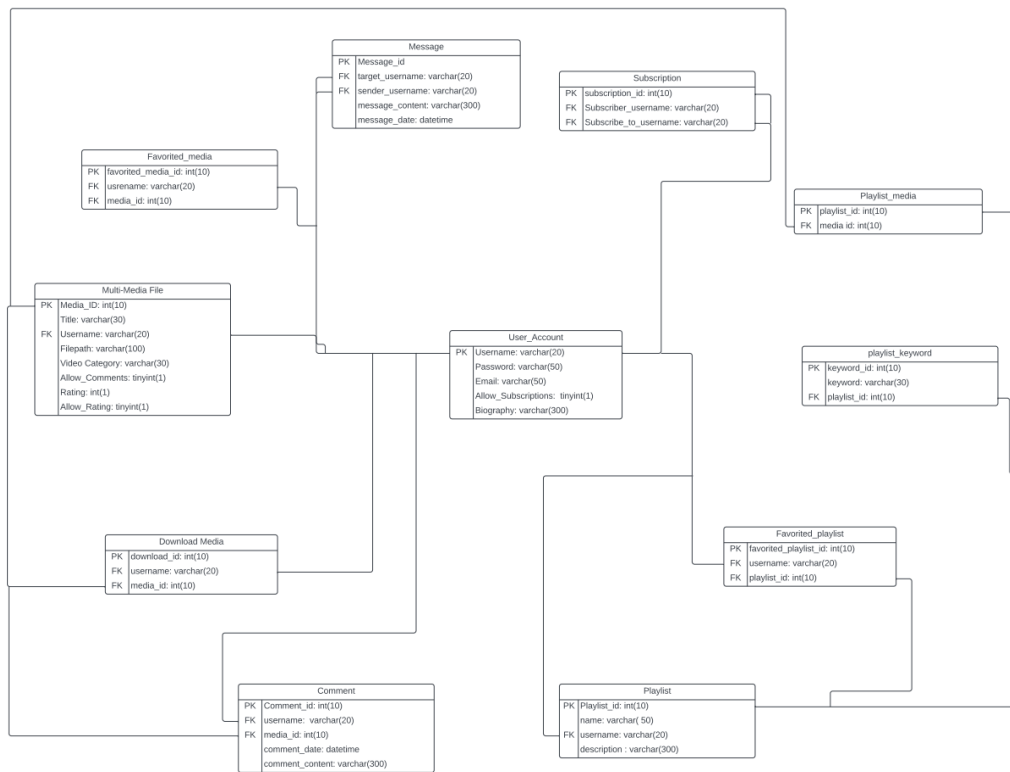
Message

PK	Message_id
FK	target_username: varchar(20)
FK	sender_username: varchar(20)
	message_content: varchar(300)
	message_date: datetime

Subscription

PK	subscription_id: int(10)
FK	Subscriber_username: varchar(20)
FK	Subscribe_to_username: varchar(20)

Favorited_media

PK	favorited_media_id: int(10)
FK	usrename: varchar(20)
FK	media_id: int(10)

Playlist_media

PK	playlist_id: int(10)
FK	media id: int(10)

Multi-Media File

PK	Media_ID: int(10)
	Title: varchar(30)
FK	Username: varchar(20)
	Filepath: varchar(100)
	Video Category: varchar(30)
	Allow_Comments: tinyint(1)
	Rating: int(1)
	Allow_Rating: tinyint(1)

User_Account

PK	Username: varchar(20)
	Password: varchar(50)
	Email: varchar(50)
	Allow_Subscriptions: tinyint(1)
	Biography: varchar(300)

playlist_keyword

PK	keyword_id: int(10)
	keyword: varchar(30)
FK	playlist_id: int(10)

Download Media

PK	download_id: int(10)
FK	username: varchar(20)
FK	media_id: int(10)

Favorited_playlist

Pt	favorited_playlist_id: int(10)
FK	username: varchar(20)
FK	playlist_id: int(10)

Comment

PK	Comment_id: int(10)
FK	username: varchar(20)
FK	media_id: int(10)
	comment_date: datetime
	comment_content: varchar(300)

Playlist

PK	Playlist_id: int(10)
	name: varchar(50)
FK	username: varchar(20)
	description : varchar(300)

Figure 1. Database schema reflecting our relationship between tables in our MySQL database.

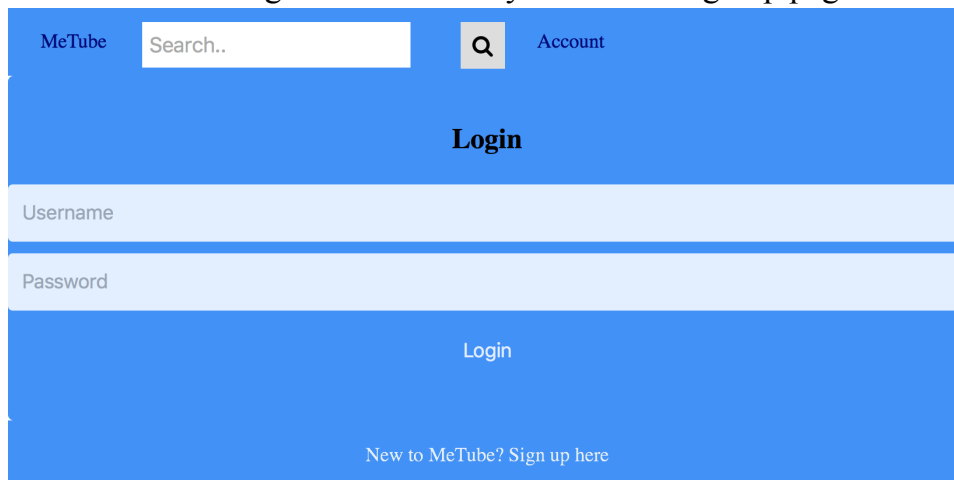Function Design and Implementation Details

1. Navigation Bar on Homepage
   a. The search box, pictured below, allows users to search for media based on keywords and categories. This is the first visible feature on the MeTube system upon opening the application. To the right of the search box, there is a button to navigate to the account page.
   b. The account button will bring users that are not logged in to the login page.
   c. The navigation bar is visible on all pages of the website.
   d. Users may also access the home page at any time by clicking on the MeTube logo in the top left corner of the navigation bar.

Figure 2. Navigation bar is displayed at all times except the log-in page.

2. Login Page
   a. Users will be led to the login page to sign in using information for an existing account.
   b. Unregistered users may access the sign up page for MeTube, as well.

Figure 3. Log-in page will be used for users to sign in to the MeTube system.

3. Sign up Page
    a. Users will access the sign up page by clicking Sign up here at the bottom of the login page.
    b. Unregistered users will be prompted to enter personal information in order to register.
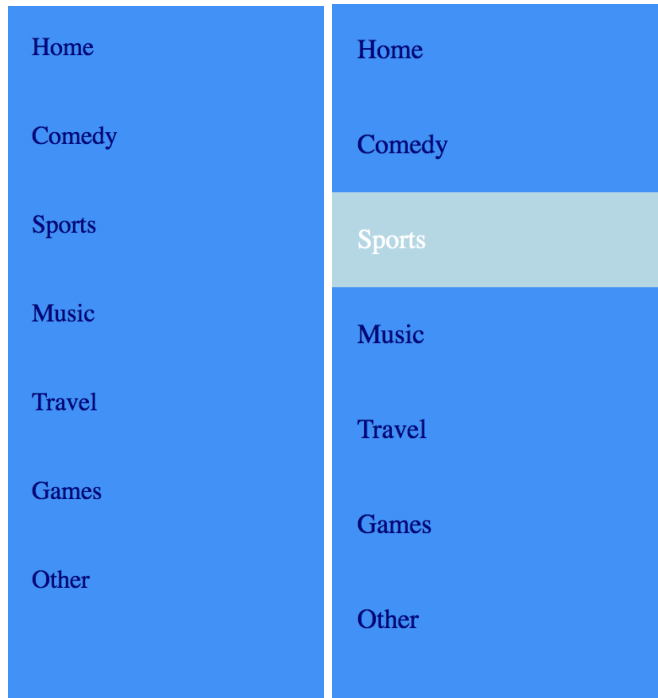

Figure 4. The Sign Up page will be used for users to register in the MeTube system.

4. Category Navigation Bar
    a. Users will use the category navigation bar to access media types based on categories.
    b. This is displayed at the left of the page and will exist on each category page navigated to.
    c. The text on the bar and surrounding area will change color when hovered over to aid in accessibility.

Figure 5. Categories on the navigation bar will change color when hovered over and selected.

5. Home Page
   a. Users will land on the home page when accessing MeTube
   b. The home page possesses all previously mentioned features along with a preview of a view media files in the system.
   c. Users may access the home page at any time by selecting the MeTube text in the lop left corner of any page
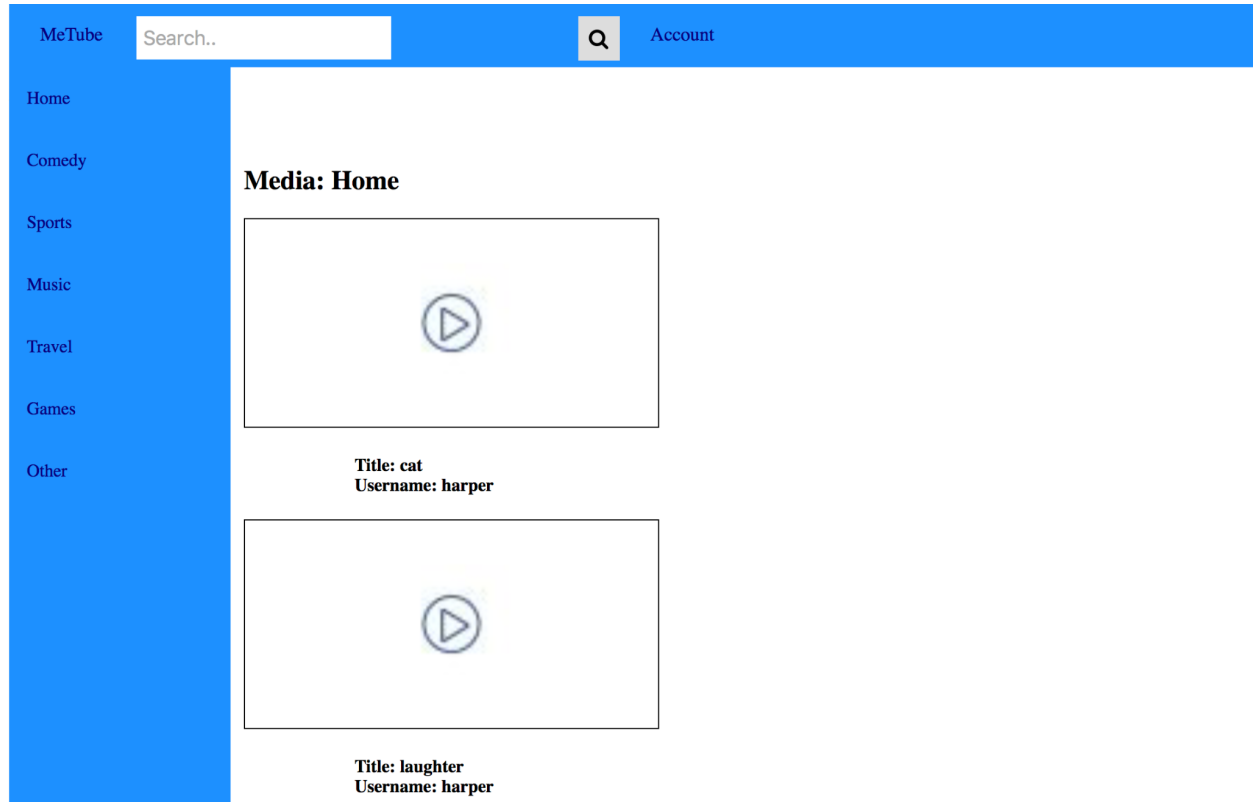

Figure 6. The home page serves as the landing page for the Me Tube system

6. Account Settings pages
    a. Registered users will be able to access their account setting page after logging in
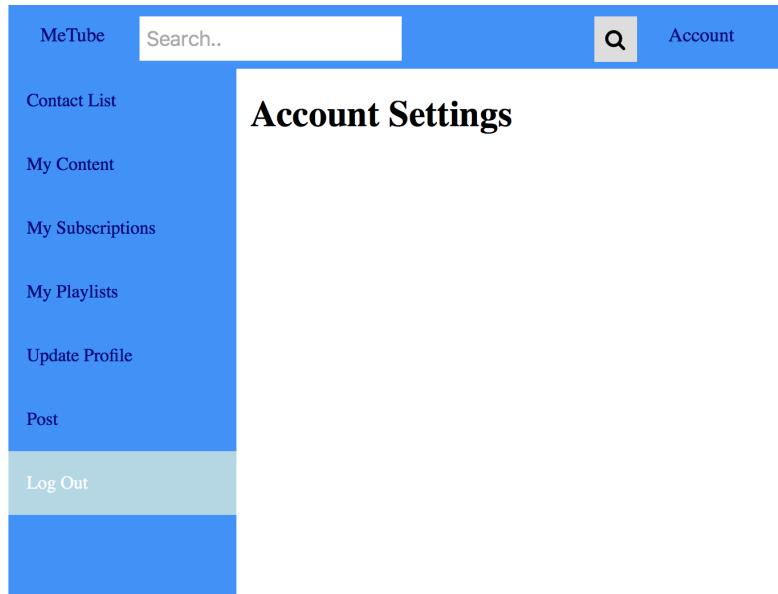   b. The account settings page has its own menu with features pictured below

Figure 7. The account settings page accompanied by the menu on the left is only visible to users who are logged in.
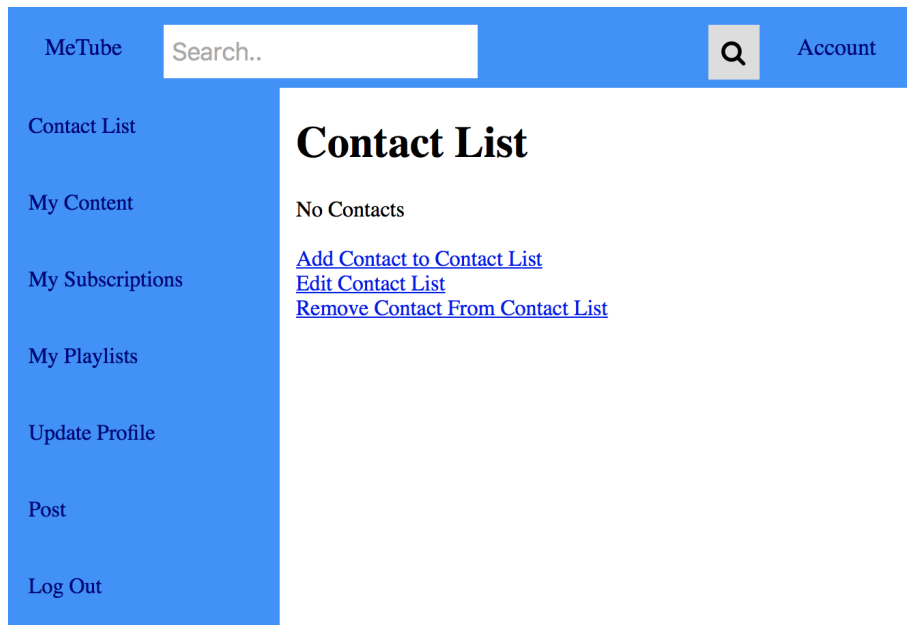

Figure 8. The contact list allows users to add contacts to their account. Contacts are friends they wish to connect with using the MeTube application.
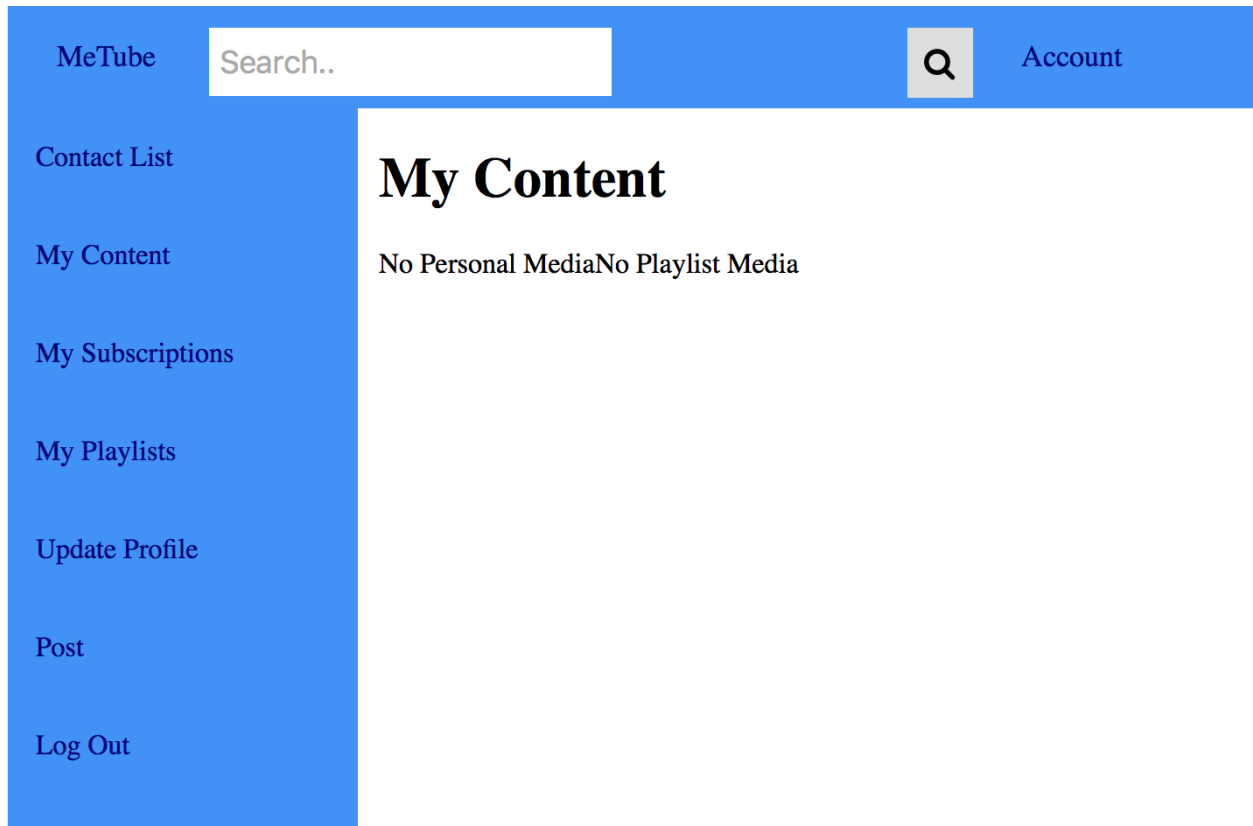
MeTube   Search..   🔍   Account

Contact List

My Content

My Subscriptions

My Playlists

Update Profile

Post

Log Out

My Content

No Personal MediaNo Playlist Media

Figure 9. The content page will give users a preview of their previously uploaded media files. This user has not yet uploaded anything to the site.
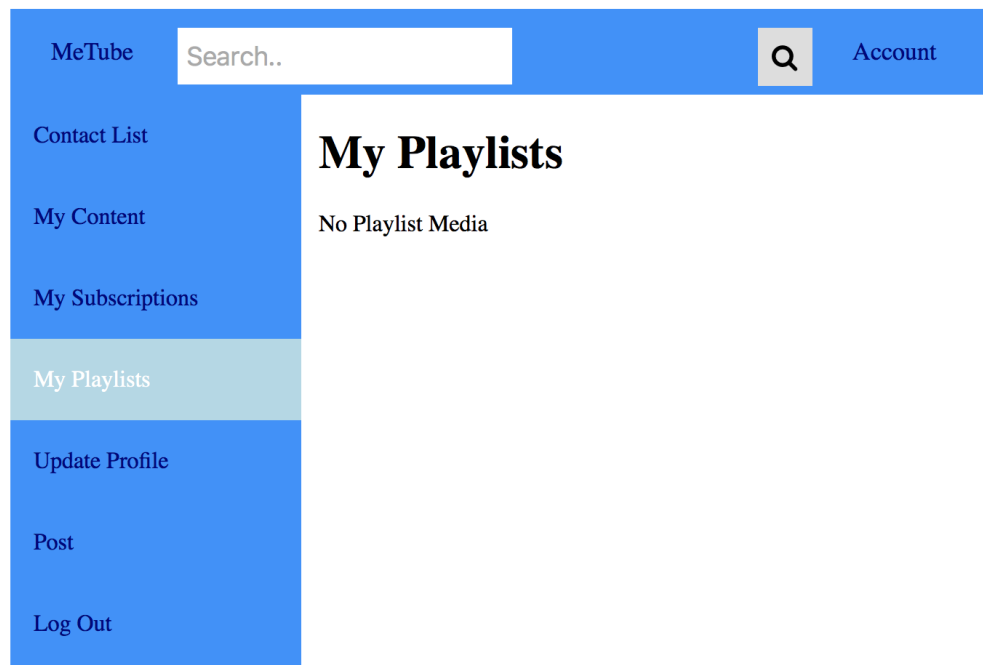
MeTube   Search..   🔍   Account

Contact List

My Content

My Subscriptions

My Playlists

Update Profile

Post

Log Out

My Playlists

No Playlist Media

Figure 10. The playlist page is somewhere that users can access previously subscribed to videos, sorted into playlists. This user has no playlists.

MeTube	Search..	🔍	Account

Contact List	# Update Profile
My Content	
My Subscriptions	[Edit Password](#) [Edit Email](#) [Edit Description](#)
My Playlists	
Update Profile	
Post	
Log Out	

Figure 11. The update profile page will allow users to maintain current information for their account.

MeTube	Search..	🔍	Account

Fill out Form below to upload media

Media Title:

☐**Allow Comments?**

☐**Allow Rating?**

Video Category:

○**Comedy**

○**Sports**

○**Music**

○**Travel**

○**Games**

○**Other**

Enter Keywords for file (space separated):   [Choose File] no file selected   [Submit]

Figure 12. The figure above is the post page accessed from the account information page. This will allow users to upload media files and specify the credentials.

7. Media Viewing
    a. When users view the media, they are ankle to view comments (if there are any)
    b. MeTube will also provide suggested content on the right side of the page for videos that fall in the same category or are tagged by the same key word.
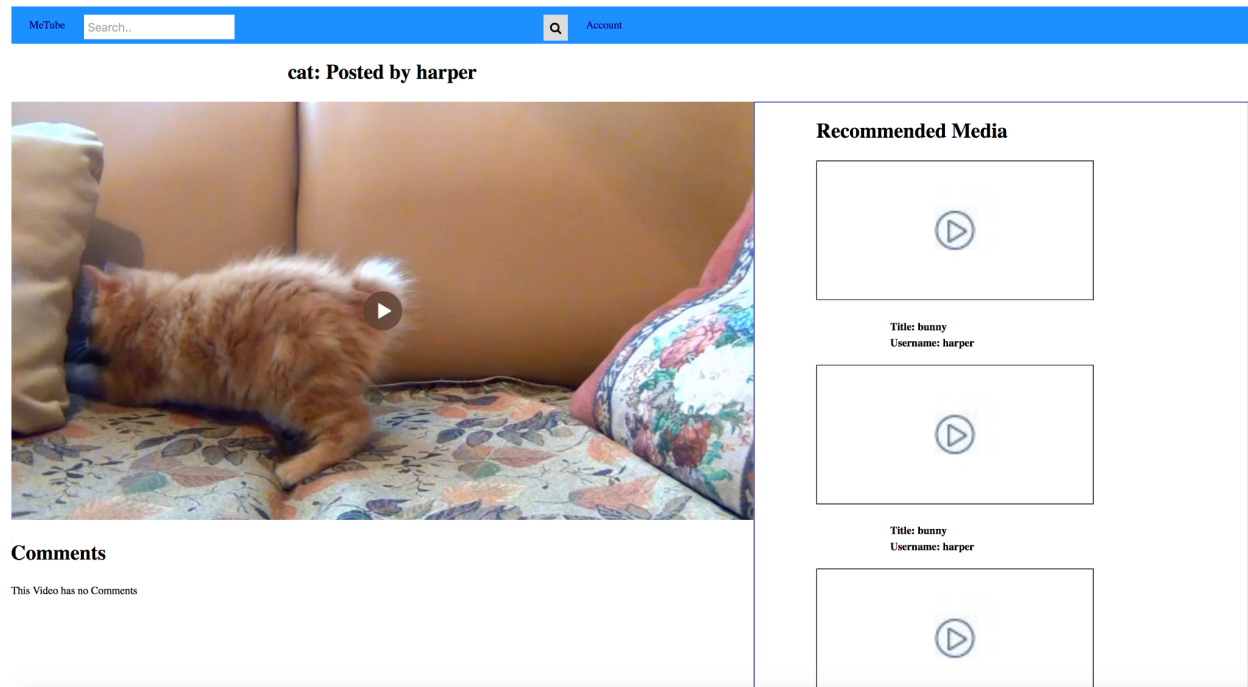

Figure 13. The account settings page accompanied by the menu on the left is only visible to users who are logged in.

Test Cases and Results

To test our project, we took into consideration the criteria specified by Dr Wang's rubric.

Function	Features	Comment
User Account		
	User registration	Success
	Sign-in	Success
	Sign-out	Success
	Profile update	Success
	Contact List	Success
	Contact list organization (friend, family, favorite, etc.)	Failed
	Blocking a user in the contact list.	Failed
Data Sharing		
	Upload multimedia files	Success
	Web interface for Meta data of uploaded files such as title, description, keywords, category, etc.	Success
	Download:	Failed
	View media files:	Success
	Sharing Mode:	Success
	Blocking:	Failed
Media Organization	**Browse by category**	Success
	Channel	Success
	Playlists	Success
	Favorite Lists	Failed
	Most viewed	Failed
	Most recently uploaded	Failed
	Ordering media files in different ways (such as name, size, uploading time)	Success
User interaction	**Messaging Exchange between user**	Failed
	Commenting on media file	Success
	Media rating	Failed
	Group discussion related to a certain topic or some multimedia files:	Failed
Search	**Keywords-based search**	Success
	Word cloud	Failed
	Media recommendation	Success
	Feature-based media search (such as file size, type, and other image properties)	Success

MeTube Setup Guide
Clemson Users may access the MeTube app at
http://webapp.computing.clemson.edu/~ecorpus/MeTube/

User Manual

1. View Media
   a. Users may explore the MeTube category pages in order to view media
2. Login/Register Account
   a. Users may login by using the Account button at the top of the homepage
   b. New users may register an account by selecting the account button and then following the prompt and guides for new users
3. Searching for media
   a. Users may use keywords to search for media using the search text box located in the navigation bar
4. Uploading Media
   a. Once registered and logged in, users may upload media from the post page under account
5. Account Management
   a. Users may manage their account information from the account page once they are logged in

Conclusion
Over the course of the semester, the team collaborated using many new languages and development features. Php was a new concept to all members of the team as well as MySQL. We were successful in many implementations and learned a lot from this experience. We will move forward from this project with more knowledge and experience in developing a webapp connected to a database.