The Krusty Krab
"MixList"
Spring 2018

A DJ Mix Sharing & Listening Application

Github Repository

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Overview:

Our project is a website that allows users to upload and listen to DJ mixes. It is designed for long-form audio files that have more than one track in them, like a DJ mix, a radio show, or a podcast. The application allows for users to see a tracklisting of a mix and access the individual track on their preferred platform (SoundCloud, Spotify, Apple Music, YouTube, etc).

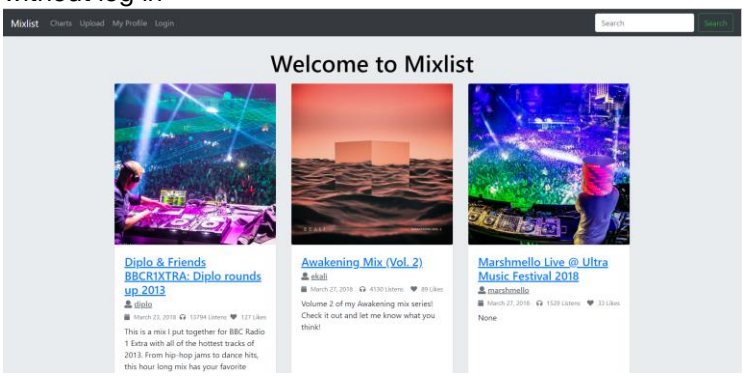
User Interface:

View	**Description**
Main Page	First page a user would see. Greets user with fixed sample videos along with an area for recently played mixes. Users can click on the mixes to follow them to the mix-detail page.once user login, it shows user's icon in nav-bar, and recent played list at bottom as well.
Mix Detail	This is the main view for the mix player. It shows the selected mix in the main bootstrap card with information on the mix and the audio controls. There is a side area that keeps track information of the mixes that links to the starting point of that track in the audio. The current track is displayed below the mix detail card. Below this is a designated space to display comments. The heart on the mix-player is add to favorite function.
Log In	Standard page to log in. Contains standard username & password fields, along with a log in and a sign up button.
Sign Up	Standard page using a form to get all relevant data to register a new user.
Search	An HTML page generated by what is entered into the search bar prior to clicking the search button (query). Generates lists of both profiles and mixes. The profile list is generated by any exact matches followed by all other profiles that contain the query in alphabetical order. The list of mixes are by exact match followed by matches that contain the

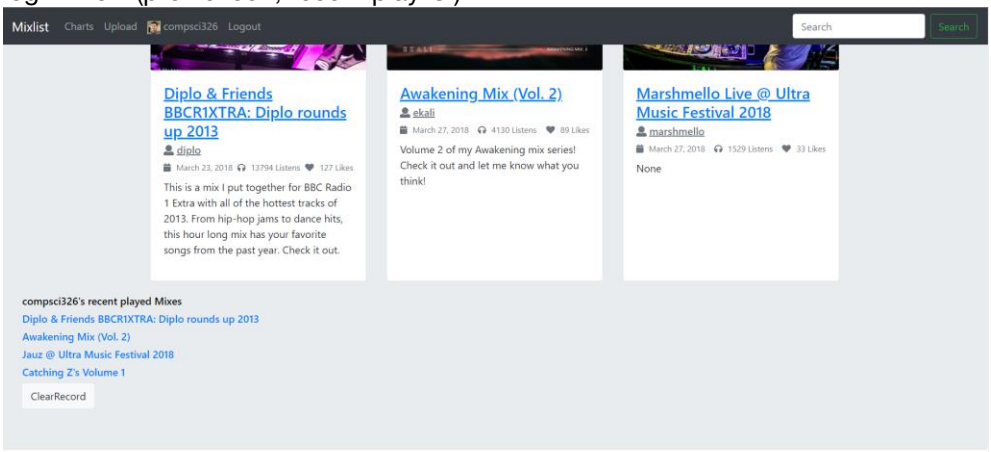
	query sorted by view count.
Add Comment	Page that uses a basic form to record a comment that is tied to the mix when submitted.
Charts	Page that displays lists of mixes with links to both the uploader's profile page and the mix itself.
Profile	Displays a user's profile image and information, as well as their favorites, following, and uploaded mixes.
Mix Upload	Page that provides a form for the first step of uploading a mix. This page takes in the title, mp3 file, and behind the scenes calculates the file duration before submission. This then redirects to the mix editor page where the rest of the tags and metadata can be filled in.
Edit Profile	Page where user can edit profile information, such as Name, Email, About, etc.
Editor Upload	Page where users can edit the artist and description, as well as scrub through the audio and add information about the tracks in the mix.

User Interface Screenshots:

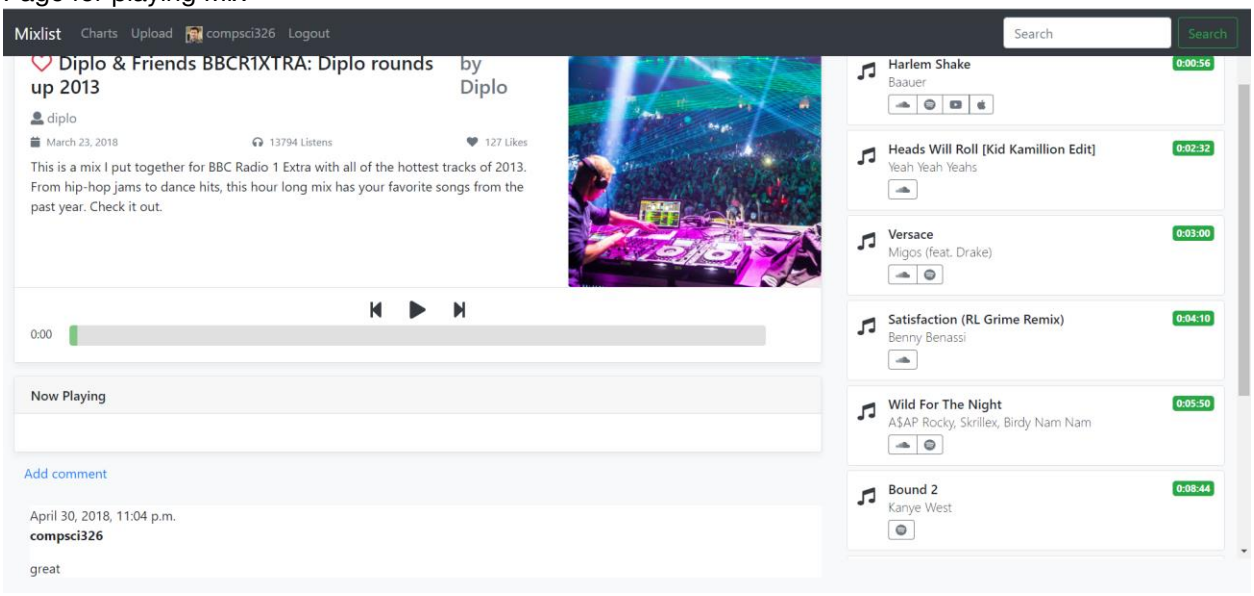
without log in



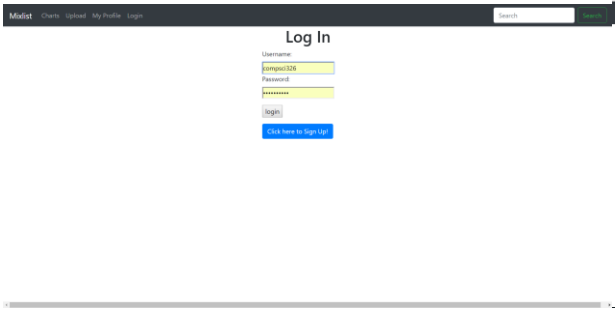
log in view (profile icon, recent playlist)



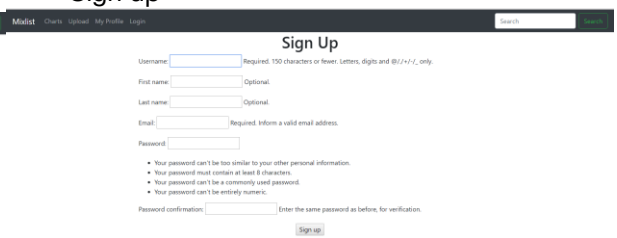
Page for playing Mix



Log in

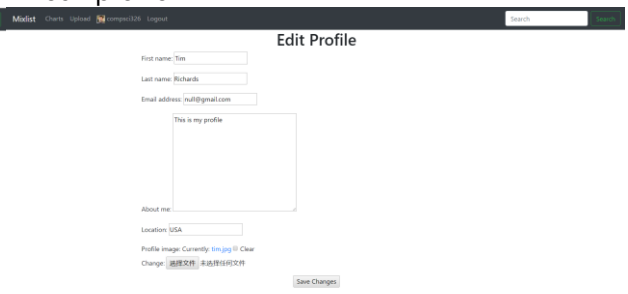


Sign up



Search

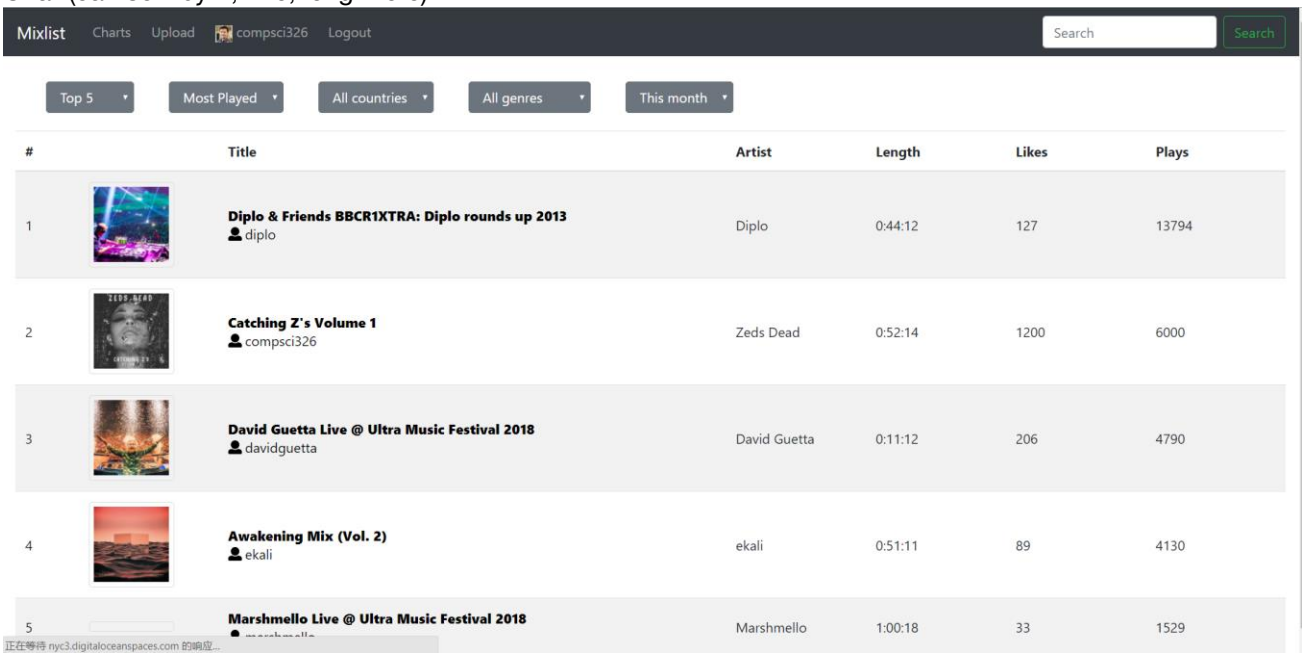
edit profile



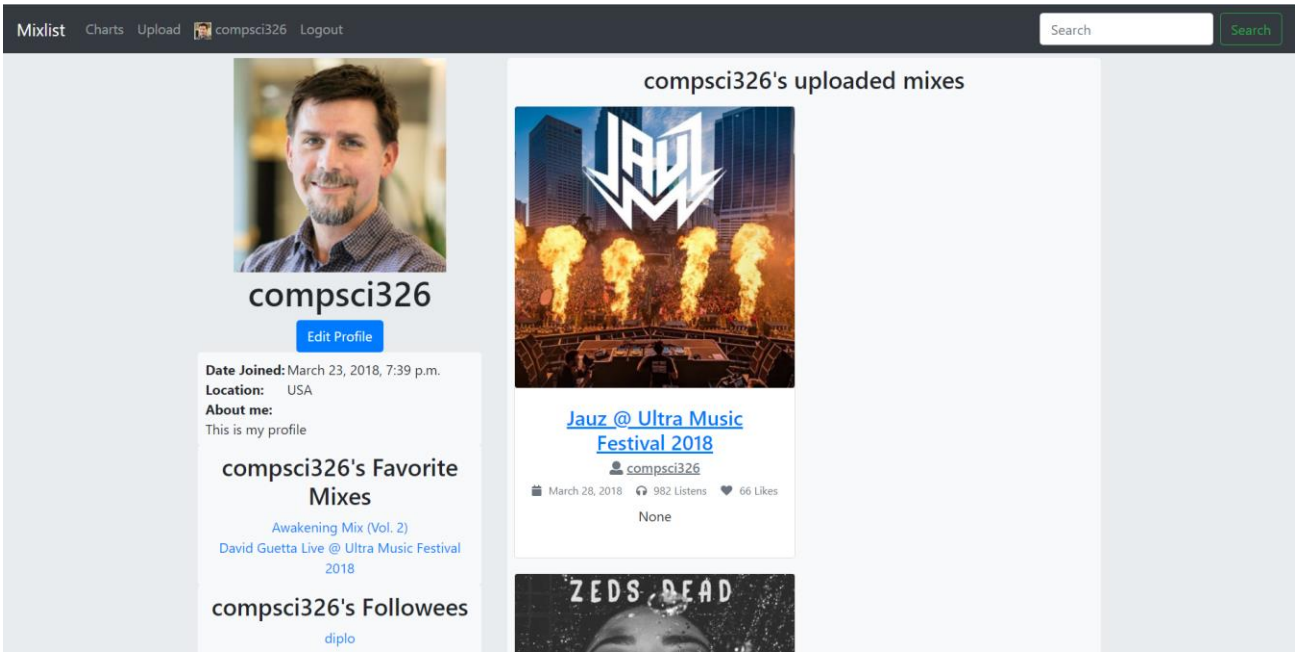
Comment

Upload

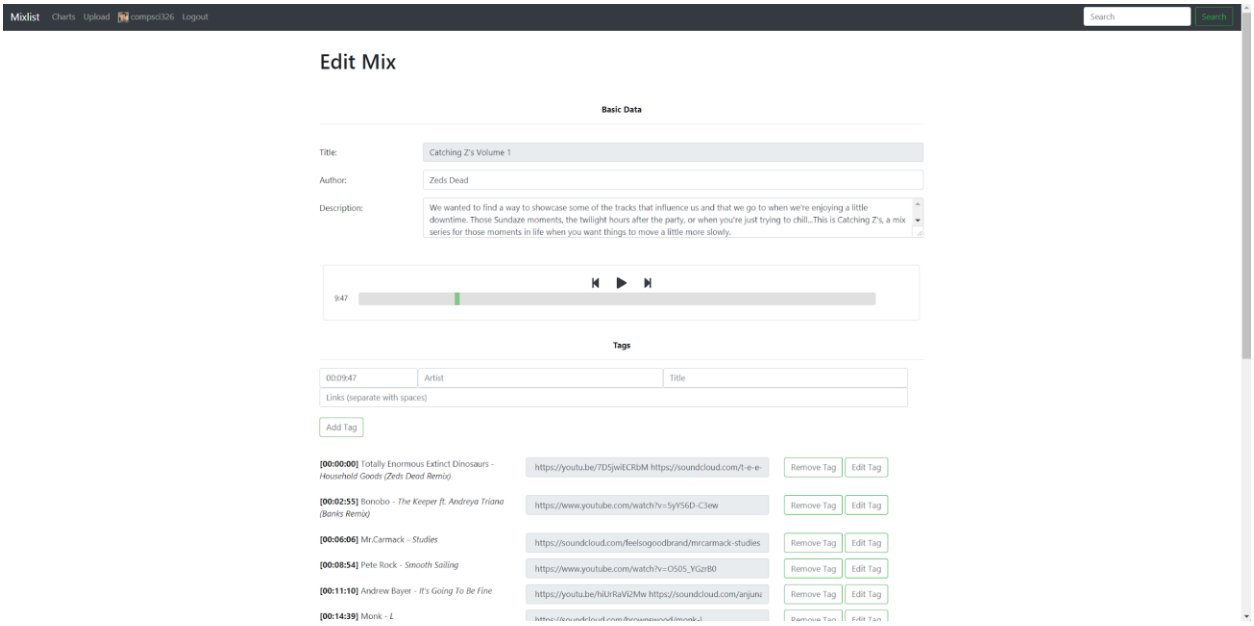
Chart(can sort by #, title, length etc)



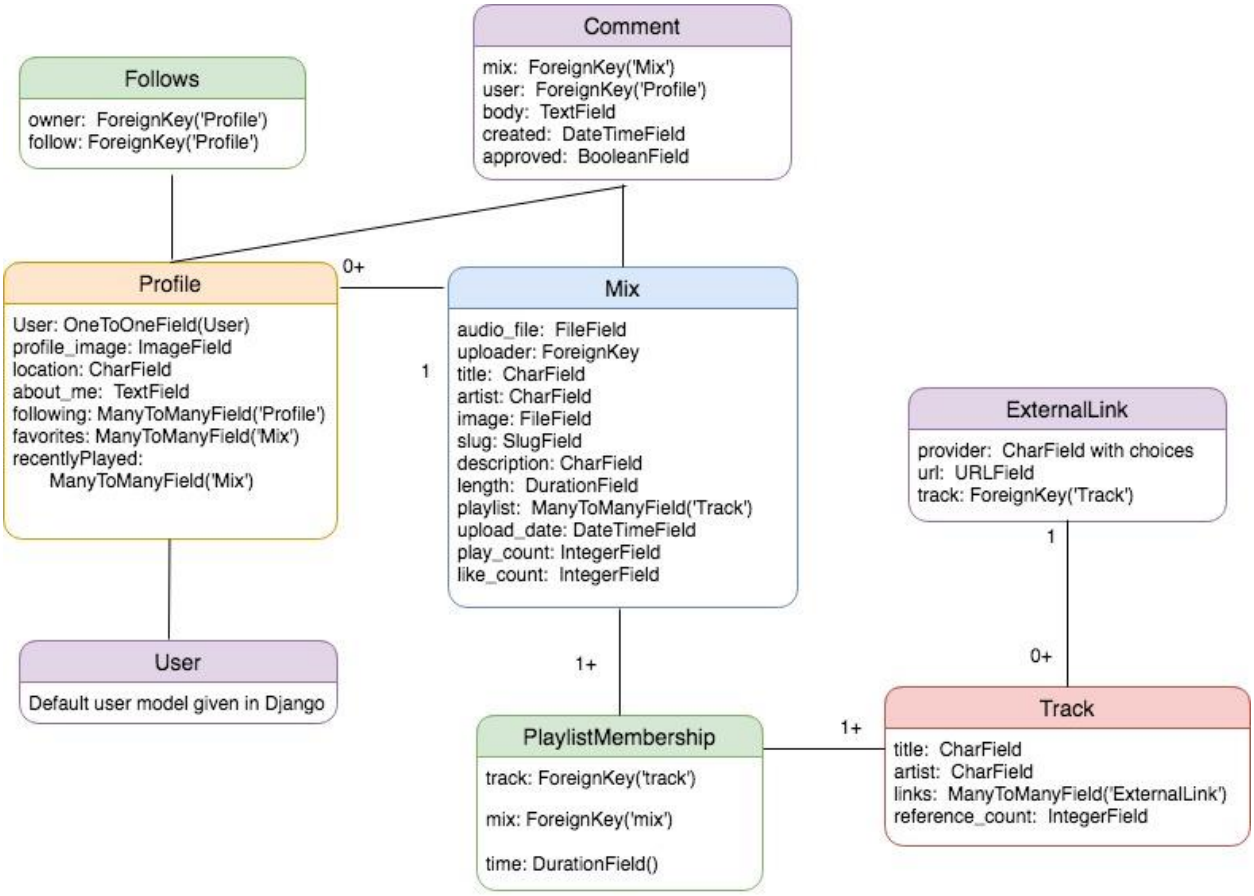
Profile



Edit Mix


Mixlist
Charts
Upload
compsci326
Logout
Search
Search
Edit Mix
Basic Data
Title:
Catching Z's Volume 1
Author:
Zeds Dead
Description:
We wanted to find a way to showcase some of the tracks that influence us and that we go to when we're enjoying a little downtime. Those Sundaze moments, the twilight hours after the party, or when you're just trying to chill...This is Catching Z's, a mix series for those moments in life when you want things to move a little more slowly.
9:47
Tags
00:09:47
Artist
Title
Links (separate with spaces)
Add Tag
[00:00:00] Totally Enormous Extinct Dinosaurs - Household Goods (Zeds Dead Remix)
https://youtu.be/7D5jwiECRbM https://soundcloud.com/t-e-e-
Remove Tag
Edit Tag
[00:02:55] Bonobo - The Keeper ft. Andreya Triana (Banks Remix)
https://www.youtube.com/watch?v=5yYS6D-C3ew
Remove Tag
Edit Tag
[00:06:06] Mr.Carmack - Studies
https://soundcloud.com/feelsogoodbrand/mrcarmack-studies
Remove Tag
Edit Tag
[00:08:54] Pete Rock - Smooth Sailing
https://www.youtube.com/watch?v=O505_YGzrB0
Remove Tag
Edit Tag
[00:11:10] Andrew Bayer - It's Going To Be Fine
https://youtu.be/hiUrRaVi2Mw https://soundcloud.com/anjunc
Remove Tag
Edit Tag
[00:14:39] Monk - L
Remove Tag
Edit Tag

Data Model:



Mix: The central model for this site. This contains the full mix audio file and metadata associated with the mix.

Track: A reference to a song that can be contained in a mix. There can be many tracks in a mixes playlist.

Playlist Membership: A utility model that captures the many to many relationship between a track and a mix, with a *time* field that stores the location in the mix that the track occurs.

External Link: A link to an external provider ie: Spotify, Soundcloud, Apple Music, Youtube. There can be many external links for a single track

Profile: an extension of the Django user model that stores more user metadata for the /profile page, as well as the favorites list and recent listening history

Follows: a utility model to capture the ManyToMany relationship of a user following another user for updates on their posts.

Comment: a model for holding comments on a mix that are displayed on the mix detail page below the mix.

URL Routes/Mappings:

admin	The Django admin site
mix/<slug:slug>	Mix detail
profile/<int:pk>	Profile detail
upload	Upload form
edit/<slug:slug>	Edit Mix page
	Home page
charts	Charts page
editprofile	Edit Profile Form (for logged in user)
mix/<slug:slug>/addcomment	Comment Form for specified mix
search	Search page

Authentication/Authorization:

The login functionality in our app is located in the toolbar on every page. When a user is logged in, their username and profile picture are displayed in the toolbar. Our application does not have any special user permissions -- every user can upload, listen, favorite, etc. We extended django's built-in UserCreationForm for implementing the sign up process.

Team Choice:

Part of our team choice component was to figure out how to host our audio files with a third party cloud storage provider. This became necessary early on as we wanted to keep our static files out of version control (slows down git synchronizations) while still sharing the same database, as creating a single mock mix model is a longer process than most other data models. We used Digital Ocean Spaces, an inexpensive storage bucket that allows us to upload files and store references to the remote file in our database. This provider is AWS-compatible, meaning we were able to use a very popular library called 'django-storages' which provides an SDK for interacting with a cloud provider. The configuration for this is located in our settings.py and settings.secrets.py files. This process was pretty straightforward, with the bulk of the work learning about how the 'django-storages' package works and how to configure django's static media back end.

Conclusion:

We are very happy with the result we were able to achieve this semester. Although we had a few small hiccups (including git issues and deciding who should do what), the project started going very smoothly by the second half of the semester. We would have liked to know how the form system in Django was going to work when we were designing our UI, as some pages (such as the Edit Mix page) had to go

through several iterations in order to make it compatible with Django. Our data model also changed as our project grew, and it would have been nice to know how certain components (such as our playlists) would translate to a network of objects. Some coverage of jQuery in class would have been helpful too, as it quickly became a central part of our front-end design. This project taught us so many useful skills such as front-end and back-end development, data modeling, working with databases, general knowledge of the way the web works, and the languages of HTML, CSS, Javascript, and Python. We had a lot more ideas that we didn't have time or resources to implement, which gives this idea a lot of room to grow if it were pushed further. We are grateful for the opportunity to work together and bring our vision to reality.

Notes:
In order to run this project, you may need to install these packages:
pip install boto3
pip install django-storages

Also, the service that hosts the audio files and images can be slow (or not work) at times. Since it is free, that is to be expected. You may need to be patient or refresh pages multiple times to load all assets.