"Movie Madness"

Project Proposal

CS 5630
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Project Repository:
https://github.com/ethramos22/dataviscourse-pr-moviemadness

Background and Motivation

Growing up we loved watching movies, and have also struggled trying to find what movie to choose. There are so many options in today's world with streaming platforms as well as cable and weekly releases at the theater. We want to stay in the know of pop culture by focusing on what is popular, relevant, and rated well to help us and others decide what to watch.

Project Objectives

Benefits:
- Help users determine what show or movie to watch, by filtering data by genre, popularity, score, platforms, and more

Accomplish:
- See trends amongst popular and highly rated movies based on budget, genre, revenue, and more
- Point users to streaming platforms and places that currently offer a selected movie
- Show movies profits and losses based on budget and revenue
- Show which countries had produced a selected a movie

Answer:
- What movie is the most popular and has the highest reviews and vice versa?
- What movie is the most popular with the lowest reviews and vice versa?

Data

We'll be collecting our data from 'The Movie Database' aka TMDB (https://developers.themoviedb.org/3/getting-started). This movie database is free to use, and contains massive amounts of data related to movies, tv shows, streaming platforms, actors, geographical location, etc. We'll utilize multiple endpoints, the most relevant being the following:
- /movie/{movie_id}
- /movie/{movie_id}/images
- /movie/{movie_id}/similar
- /movie/popular
- /movie/top_rated

Data Processing

Using TMDB will require minimum data cleanup with its clean and easy to use API. Our main derivation from the TMDB API will be for a movie Id. One of our main API calls will be a movie title. From the result we can take the "id" field to make additional queries on the details of that movie. This will lead us to the details API call for a movie. From this response we can retrieve things like genre, budget, revenue, poster url for an image of the poster, popularity rating, and runtime.

Another main query for our project will be "Get Popular" to retrieve an array of the most popular movies. This query can return an array of the movies most popular by view count,

and is updated on a daily basis. Similarly we will use "Get Top Rated" and "Get Upcoming" to populate our movie list with relevant data.

For our data processing we can use the returned json objects to bind to d3 elements and javascript objects. Packaging the movie into its own object for later use on multiple visualizations.

Visualization Design (Kaden & Ethan)

- Interactive feature (in the shape of a card) on the left (choose genre, actor, industry, media type, etc.) on the right we get interactive visualizations related to the feature you chose (profit, budget, rating, popular actors)
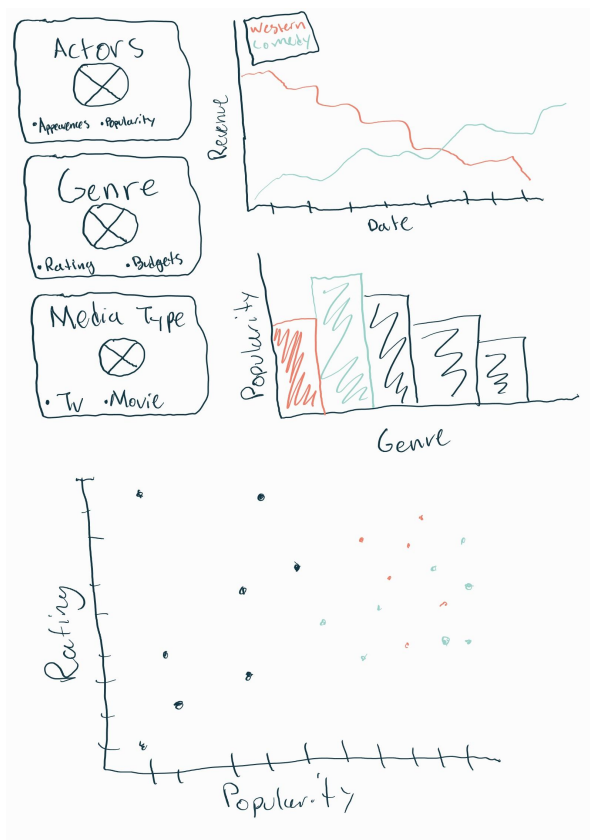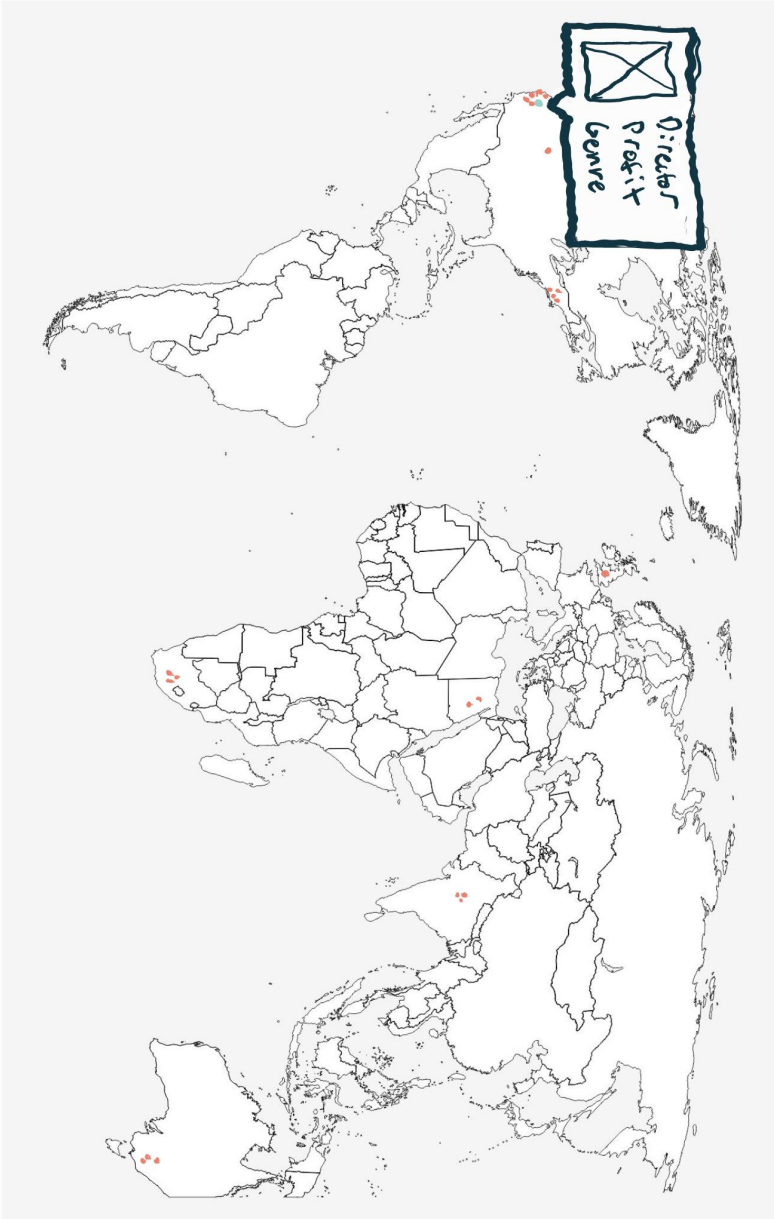
Movies

- Title
  - .Profit • Genre
- Title
  - .Profit • Genre
- Title
  - .Profit • Genre
- Title
  - .Profit • Genre
- Title
  - .Profit • Genre
- Title
  - .Profit • Genre

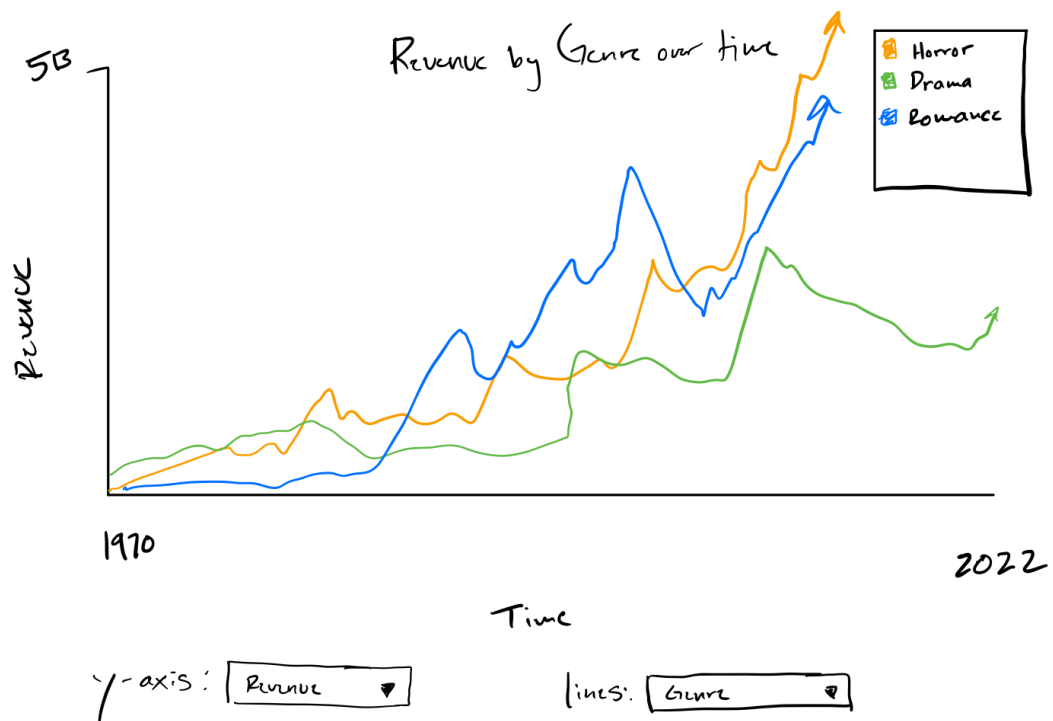x-axis ▼   Y-axis ▼

Comedy
Drama
Western

Rating

Popularity
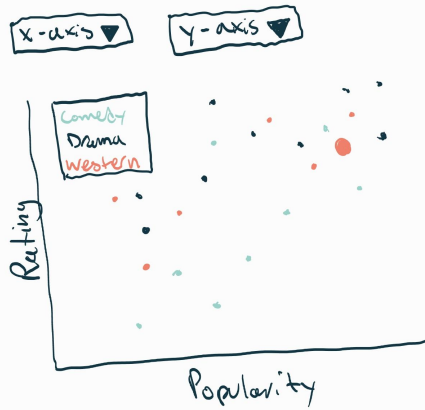
- Map with pins on production location of popular movies. When a location gets clicked, a view appears with more detailed information about the movie/movies that were produced in that country.

- Line chart that maps quantitative movie data over time for different genres (ie. change in budget/revenue/production time/ etc. over time for drama movies). This visualization could allow changing in the y axis or in the data show by manipulating a dropdown menu

Revenue by Genre over time

Legend:
- 🎬 Horror
- 🎬 Drama
- 🎬 Romance

5B

Revenue

1970   2022

Time

y-axis: [Revenue ▼]   lines: [Genre ▼]

- **Final Design:**
  - Will contain a list of movies that can be filtered by popularity, top rated, upcoming, etc. The list will contain visualizations about the movie info (rating, genre, language, adult content, etc.). A panel in the middle of the screen will display the movie, and all the details we can find about it. The panel on the right of the screen will display several visualizations, and will highlight the currently selected movie in each of the visualizations - to show it compares to the other movies in the list. Potentially, we can create another visualization on the bottom of the screen that will show geographical or timeline data. Maybe even actors being connected to one another.

All   TOP Rated   Popular

img.	movie name	genre	rating
☐	～～	—	✱✱✱
☐	～～	—	✱✱✱
☐	～～	—	✱✱
☐	～～	—	✱✱✱✱
☐	～～	—	✱✱
☐	～～	—	✱✱✱✱

Movie Details

image, title,
production, budget,
revenue,
rating,
genre,
popularity.

Similar movies

☐ ☐ ☐ ☐

Revenue / Budget (scatter plot)

Popularity / Budget

data / data
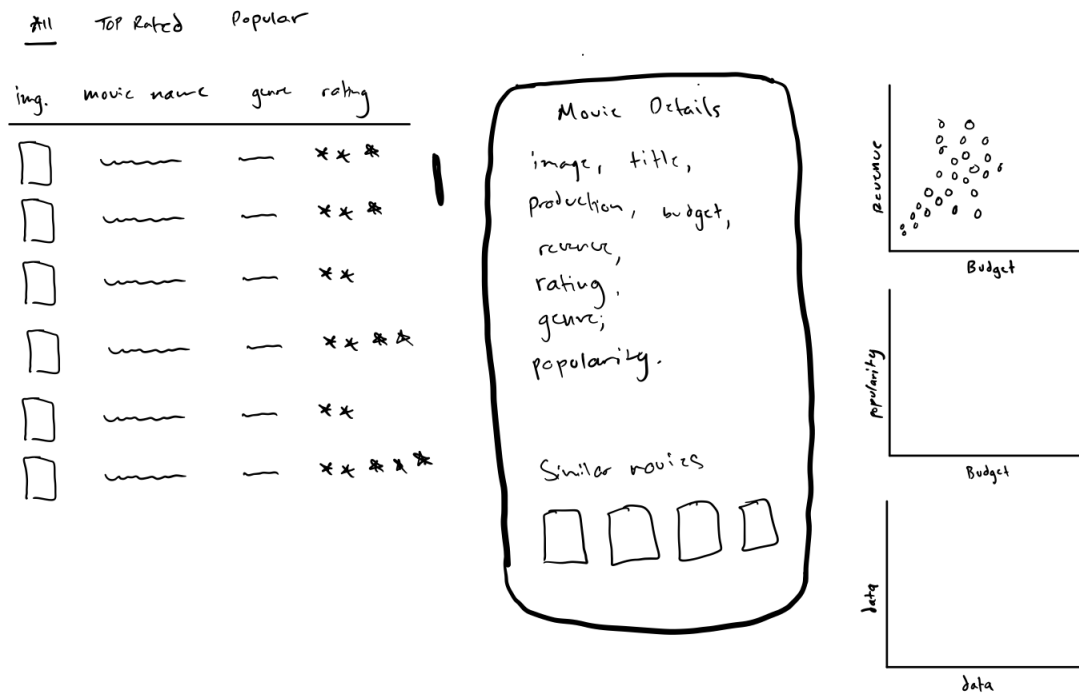
Actor Connectedness
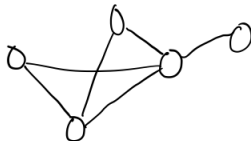
Must-Have Features

- Our names, emails, and UID's at the top of the page
- List of most popular, top rated, and upcoming movies with poster pictures, release dates, rating, and popularity scores
- Dot plot of movies based on variable changing axis like budget vs revenue, and revenue vs genre.
- Filter movie data by popularity, rating, and release date.

Optional Features

- A way to show users if a movie is currently on a streaming platform
- Ability to search for individual movies by name
- A way to show users if a movie is playing in the movie theater
- Tree graph visualization of actors connected each other based on number of times they've worked with each other
- Map of the world displaying which movies or selected movie was produced for which countries

Project Schedule

Week 1 (10/24 - 10/28):
- Flush out exact data needed for visualization (Kaden & Ethan)
- Get connected to API (Ethan)
- Query and wrangle data (Kaden)
- Begin contributing to process book. Keep track of vis inspiration, data clean up strategy, etc.

Week 2 (10/31 - 11/4):
- Populate scroll table with movies and movie data (Kaden)
- Present movie detail card with breakdown of movie details (not interactive) (Ethan)
- Plots should be mapping all movie data, but should not be interactive yet (Kaden & Ethan)

Week 3 (11/7 - 1/11): **Project Milestone Due**
- Add ability to switch between lists of movies (all, popular, most recent, in theaters) (Ethan)
- Add ability to filter movies by genre, rating, popularity, adult content, etc. (Kaden)
- Spend extra time working on the connected actors or geographical location idea (Kaden)

Week 4 (1/14 - 11/18):
- Make scroll table and detail card interactive (Ethan)
- Make plots interactive, and highlight the selected movie (Kaden)
- Finish views for extra visualization (geographical/connected actors) (Kaden)

Week 5/6 (11/21 - 12/2), fall break: **Final Project Due**
- Make extra visualization interactive (Kaden)
- Bug test to ensure all visualizations are working as expected (Ethan)
- If time add (in order of highest to lowest priority)

- Streaming platforms
- Search capability
- Similar movies to the one selected