

HOLLYWOOD



CHOOSE THE GENRE



Milestone 2

1. Project Goals

1.1 Determine patterns of what kind of movie is more profitable

Instead of visualization focused on the connections that exist between the votes and the movies, our primary concern is whether or not the movie will make money. We are attempting to create a website where our users, most of whom are investors, are able to select actors, directors, and so on for their own movies, according to the profitability of movies over the past two decades.

1.2 Provide an interesting experience to our users

The users may consider our website as online shopping for a movie. The users can choose their movie's Genre, Actor, Country, Keywords in the description, Director, and Published season, as if they are putting items into their shopping carts.

Extra ideas: If time permits, after the user choose all he/she want, we want to give an estimated profit for the new movie they have decided on our website.

2. Visualizations

2.0 Home page & Entrance page

The home page (cover page) is shown as a direct road to Hollywood. The user is sitting in the car, heading towards Hollywood. There are six signs along the road, equivalent to six aspects of a movie. With each option completed, the investor is one step closer to Hollywood and his/her own profitable film.

When the user clicks on each sign on the road, he/her can see the entrance page (Figure 2.0.1) of each choice on the windshield. Here is the Actor page as an example. The user can view more detailed information by clicking the "info" button.

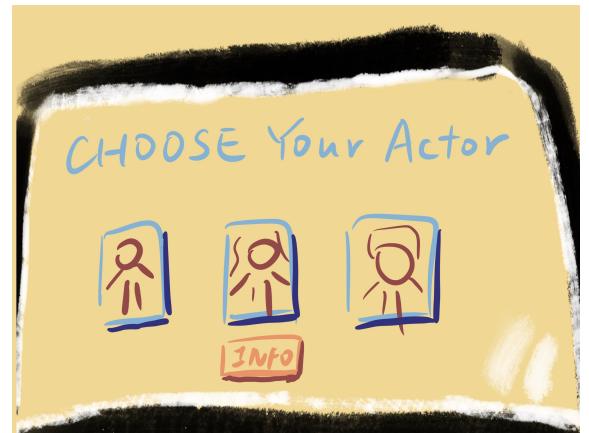


Figure 2.0.1 Entrance page (actor as an example)

2.1 Genre

Figure 2.1 depicts the relationship between the movie genre and the budget, American income, and international income. This plot enables the user to see which genre is the most profitable and choose the genre for his/her own movies.

Tools: Parallel coordinates, Most basic parallel coordinates chart in d3.js (https://d3-graph-gallery.com/graph/parallel_basic.html)

Lecture: 11_1_Tabular_data

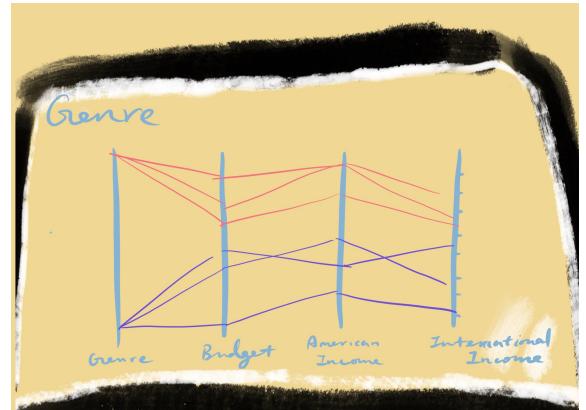


Figure 2.1 Genre info page

2.2 Actor

We sort the actors by their average profit from largest to smallest. In Figure 2.2, each bar represents an actor, and the actor's photo is placed at the top. The whole chart looks like a podium for the actors. Higher profits they made, higher positions they are. There will also be a hover effect when the user puts the mouse on one bar: a tiny stickman will hold the photo of the actor above his head to highlight it.

Extra idea: We want to use a 3D-stacked bar chart to show the profits difference between different years of each actor.

Tools: Ordered bar chart, Ordered barplot in d3.js (https://d3-graph-gallery.com/graph/barplot_ordered.html)

Lecture: 5_interactive, 11_1_Tabular_data



Figure 2.2 Actor info page

2.3 Country

In this visualization, the map with different colors for each Country represents the average of all movie profits in the Country. The user could have detailed numbers by putting the mouse over a country on the map.

Extra idea: There will be a timeline with a slider for the user to select a year.

Tools: Maps, Most basic choropleth map in d3.js (https://d3-graph-gallery.com/graph/choropleth_basic.html)

Lecture: 8_Maps

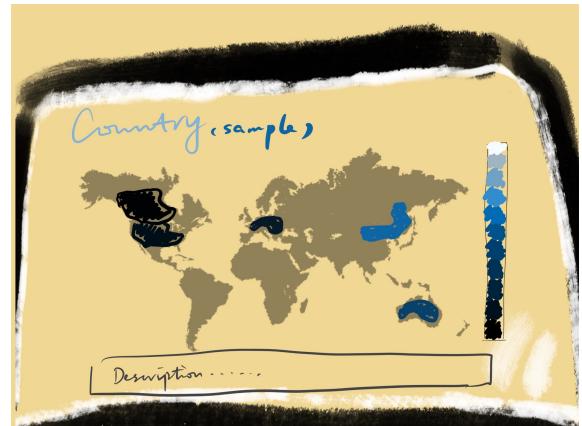


Figure 2.3 Country info page

2.4 Keywords in description (Content)

Using the keywords extracted from the description, we would like to visualize common words that appear in those most profitable movies. For example, if movies with the keyword ‘family’ in their description gain higher net profit in total, then in the word cloud, the word ‘family’ will be presented in the larger font size compared to other words. The user can click on the word to see an approximate value of net profit in total. Based on the keywords, one can construct the main content of a movie.

Extra idea: The user can interact with the word cloud for detailed information by clicking on some words to see all related movies.

Tools: Word cloud, wordcloud2.js
(<http://timdream.org/wordcloud2.js/>)

Lecture: 9_Text

2.5 Directors and their published movies

We will create a scatter plot where the user can find the director they are interested in, as well as his works from various periods. The x-axis represents time which consists of dates which movies are published on, while the y-axis represents the movie's net profit. The user would be able to interact with the chart by hovering over the point to see more information about the movie, meanwhile all movies by the same director will be highlighted.

Tools: Scatter plot

Lecture: 5_interactive, 11_1_Tabular_data

Reference: d3.example.global temperature trend
(<https://observablehq.com/@mbostock/global-temperature-trends>)

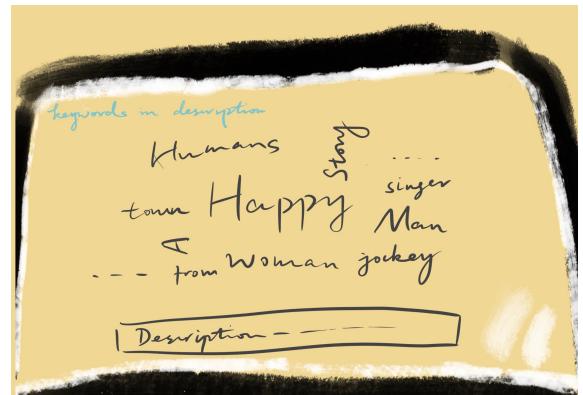


Figure 2.4 Keywords in description info page

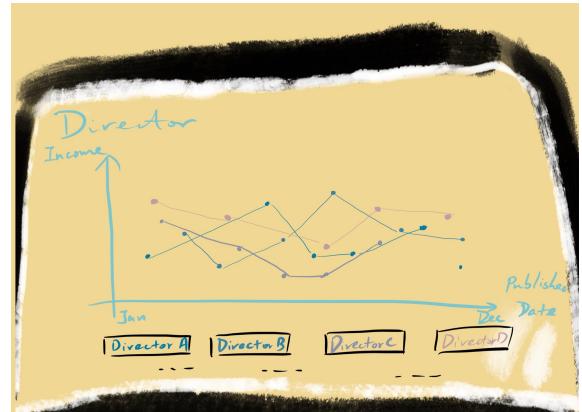


Figure 2.5 Director info page

2.6 Publish quarter

We divide the published date of movies into four quarters and calculate the average quarterly profit from 2013 to 2020 separately. The x-axis represents publish year, while the y-axis is the average profits. The users could see the differences of net profits between each quarter in a year.

Tools: Grouped bar chart

(<https://observablehq.com/@d3/grouped-bar-chart>)

Lecture: 11_1_Tabular_data

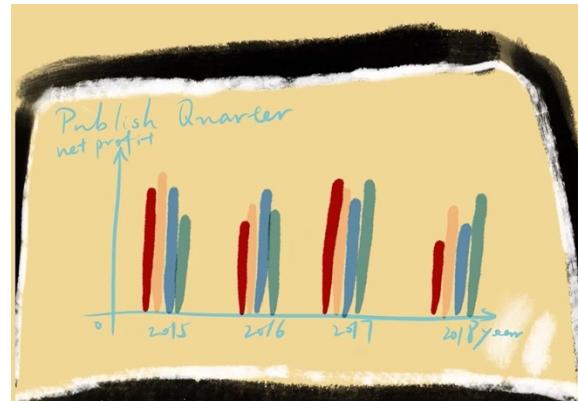


Figure 2.6 Published quarter info page