▶ Dataflix
a Visual Exploration of Netflix

Information Visualization
Beatriz Sousa Santos
Paulo Dias

Practical Assignment: Application for the visual exploration of a data set

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Artur Romão, 98470
Eva Bartolomeu, 98513

Software Engineering
Department of Electronics, Telecommunications and Informatics
University of Aveiro

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01 **Introduction**
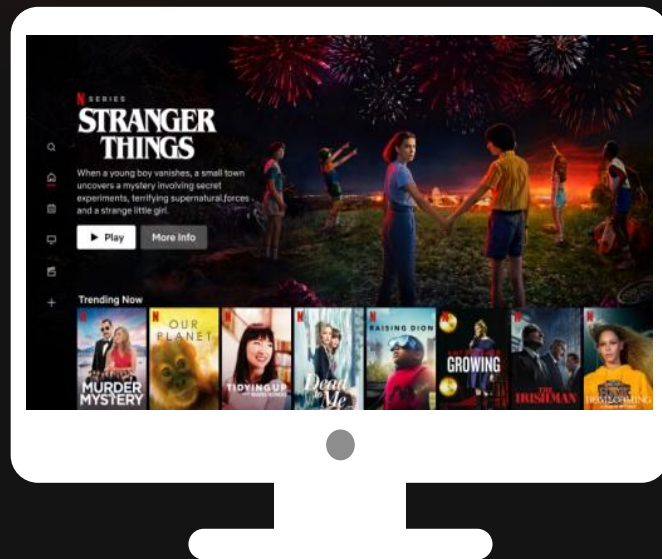
| Introduction

What is Dataflix?

Contextualization

Why this idea?

Personal interest
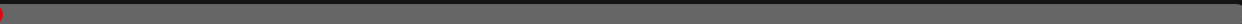
| Objectives

Goals

Organize Netflix's content in many different ways (ex: age restriction, country, etc.)

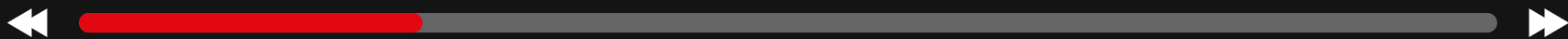Provide a dynamic and visual way of displaying Netflix's content using d3 graphs.

Benefits

Useful for curious users to visualize information about Netflix's content in many different ways

Open source solution for a more complete data visualization experience of Netflix's content
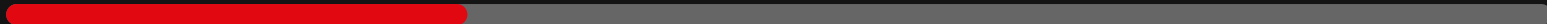
02 Analysis of the data set

Analysis of the dataset

The dataset that we used consists on listings of all Movies and TV Shows available on Netflix, from all the attributes available, we used the following ones:

- Type (Movie or TV Show)
- Country
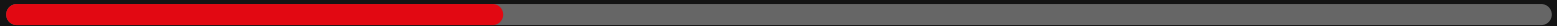- Date added to Netflix
- Age group rating
- Genres

Dataset:
https://www.kaggle.com/datasets/shivamb/netflix-shows

03 Personas and main questions to answer

| Persona - Netflix's Customer

Name

Inês Amorim

Job Title

Student

Demographics

- Aveiro
- 16 years old
- She is a cinephile

Goals and task

She wants to check the number of adequate movies for her age

She wants to know where most of Netflix contents come from

Environment

Inês is an everyday Netflix's user. As a result, she wants to be able to explore Netflix's content in different ways.
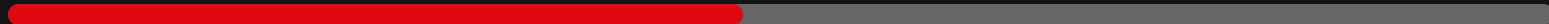
Some questions the app should help to answer regarding this persona

- Does Netflix have more focus on TV shows than movies in the past few years?
- What are the countries that produce more content for Netflix?
- How many adequate movies does Netflix provide for children? And how many TV shows for teenagers under 16 years old?
- What are the most common genres among Netflix contents?
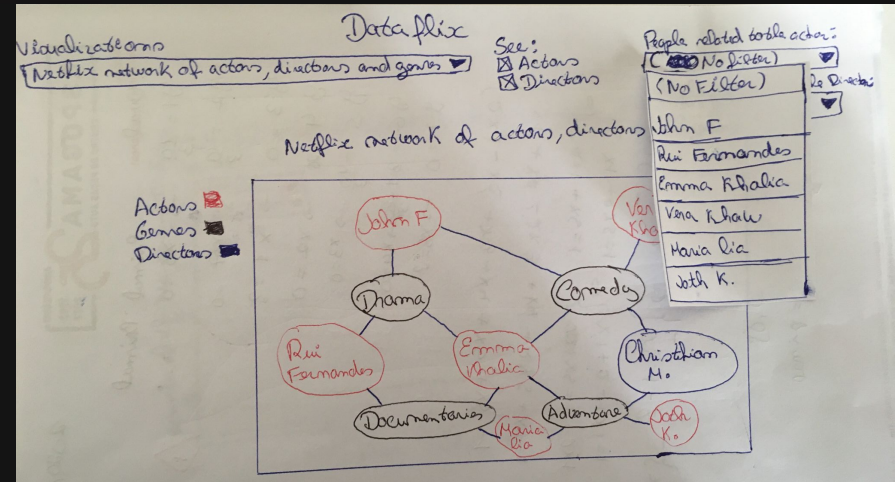- How many movies were added in Netflix between 2010 and 2014? And what about TV shows?
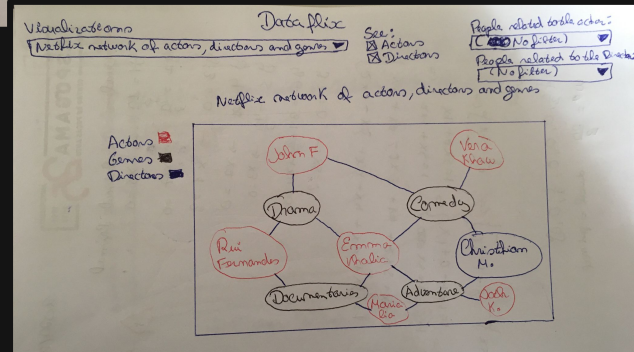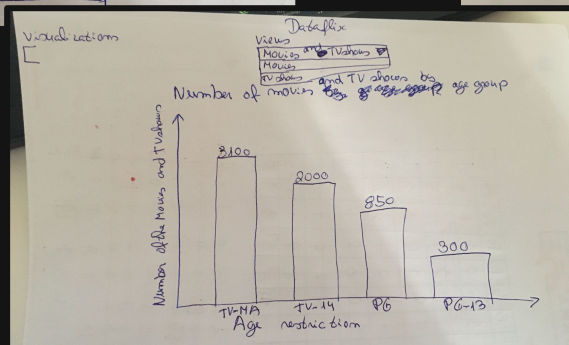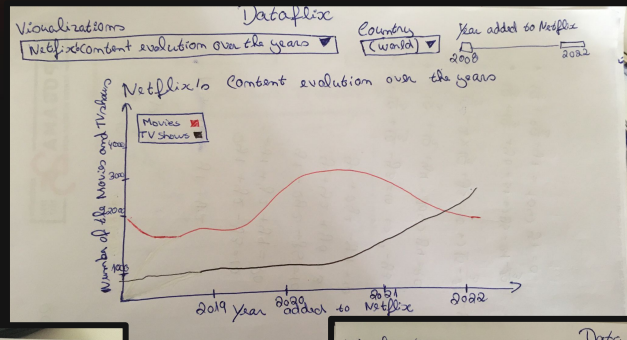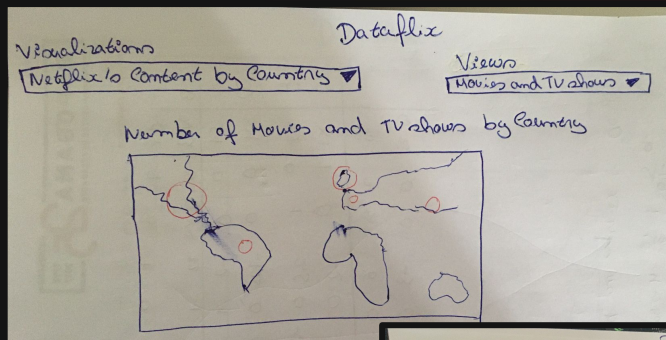
04 Low fidelity prototype

| Low fidelity prototype

- Paper Prototype

- Main functionalities:
  - View the amount of content produced in different countries.
  - Analyze the evolution of Netflix content over the years.
  - Find actors and directors with the same interests.

Low fidelity prototype

Questions of the usability tests

These usability tests counted with three participants.

After-Scenario Questionnaire

1	Overall, I am satisfied with the ease of completing the tasks in this scenario.
2	Overall, I am satisfied with the amount of time it took to complete the tasks in this scenario.
3	Overall, I am satisfied with the support information (online help, messages, documentation) when completing the tasks.

After Test

1	I think that I would like to use this system frequently.
2	I found the system unnecessarily complex.
3	I thought the system was easy to use.
4	I think that I would need the support of a technical person to be able to use this system.
5	I found the various functions in this system were well integrated.
6	I thought there was too much inconsistency in this system.
7	I would imagine that most people would learn to use this system very quickly.
8	I found the system very cumbersome to use.
9	I felt very confident using this system.
10	I needed to learn a lot of things before I could get going with this system.

1 - Strongly disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly agree

LFP - Usability Tests Results (After-Scenario Questionnaire)

Task	Q1	Q2	Q3
Visualize the number of Movies and TV shows of the United States	5	5	4,6
Analyze the number of Movies and TV shows added to Netflix between 2017 and 2019	5	5	4,3
Visualize the network of actors, directors and genres and filter related nodes to actor "John F"	3,6	3	3,3

LFP - Usability Tests Results (After Test)

Questions	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Average Score	4,6	1	4,6	1,3	4,3	1,3	5	1	4,6	1

1	I think that I would like to use this system frequently.
2	I found the system unnecessarily complex.
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| LFP - Heuristic evaluation

	0 = I don't agree that this is a usability problem at all
	1 = Cosmetic problem
	2 = Minor usability problem
	3 = Major usability problem
	4 = Usability catastrophe

Heuristic	Problem	André	Filipe	Marta
Help and documentation	Lack of context and information in each chart	3	3	2
Flexibility and efficiency of use	Network Diagram is not that useful after all	2	3	-
Aesthetic and minimalist design	Bad navigation between the different pages	-	-	1

| LFP - Feedback from users

- Choropleth Map instead of a Bubble Map
- The Network Diagram wasn't that useful after all
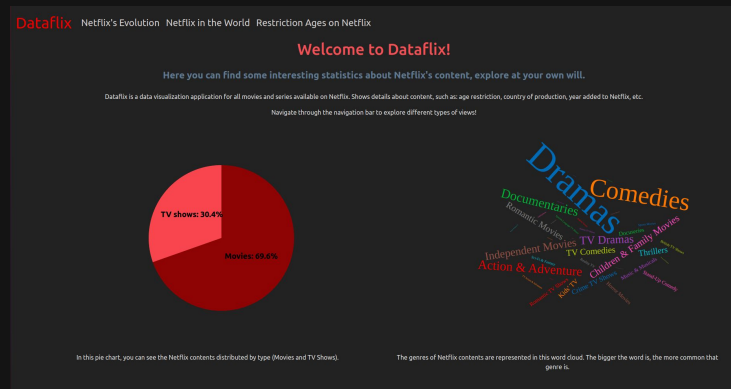- Lack of information about the website functionalities
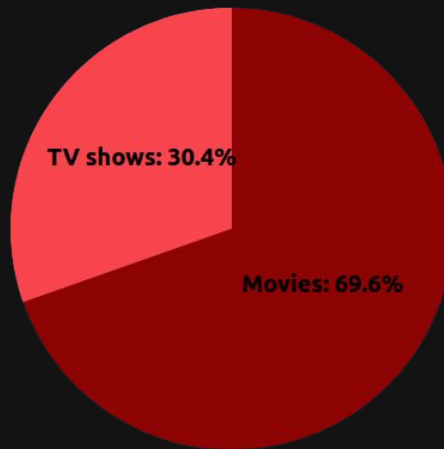
05 High fidelity prototype

High fidelity prototype

- Developed in React and D3.js

- Main functionalities:
  - View the amount of content produced in different countries.
  - Analyze the evolution of Netflix content over the years.
  - Insight about the Netflix content distribution when it comes to age restrictions.

| Pie chart

A simple pie chart to inform about the content distribution (Movies and TV Shows)
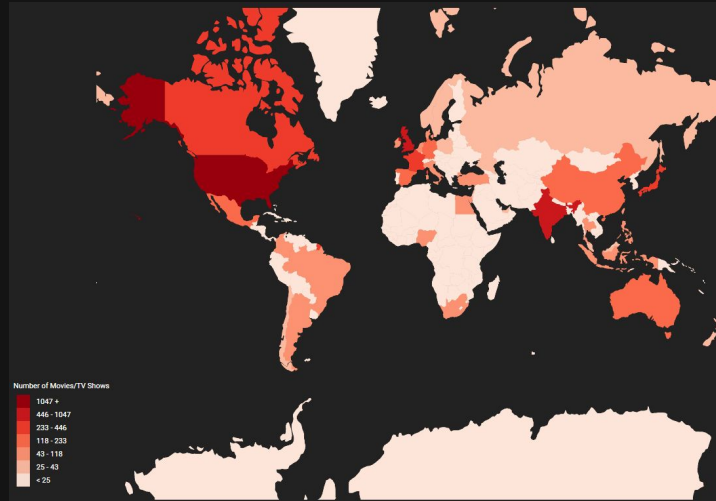
TV shows: 30.4%

Movies: 69.6%

| Word Cloud

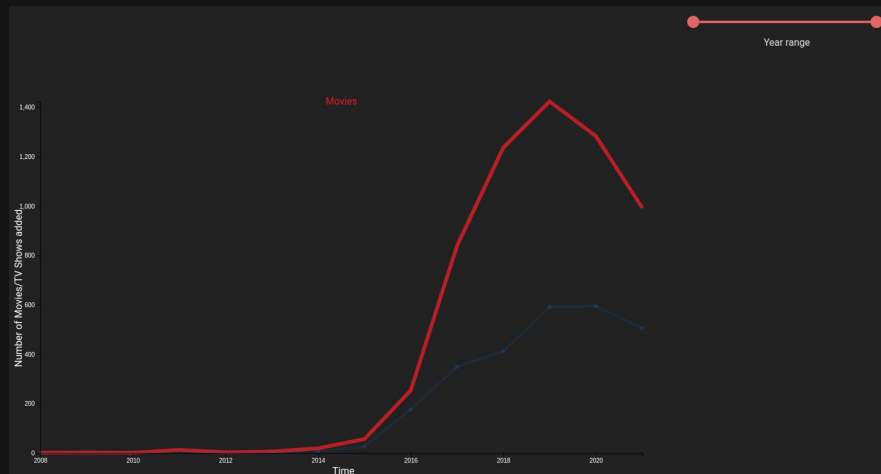A word cloud to visualize the most common genres

Choropleth Map

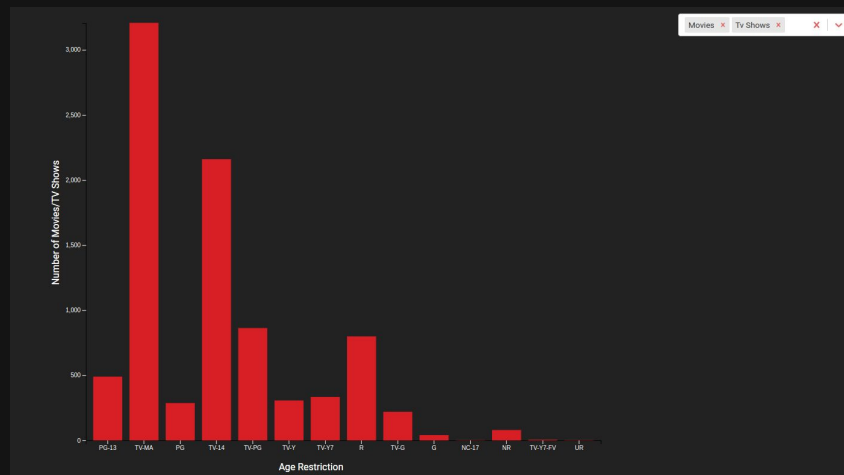Have a look at Netflix's content produced in different countries

| Line Graph

Understand Netflix's focus on series and movies over the years

Bar chart

A bar chart to know the amount of content for each age group

HFP - Usability Tests Results (After-Scenario Questionnaire)

Task	Q1	Q2	Q3
Visualize the number of Movies and TV Shows of the United States	4,3	4,6	4,3
Analyze the number of Movies and TV Shows added to Netflix between 2017 and 2019	5	5	4,6
Visualize the number of Movies classified with the restriction age of TV-MA	5	5	4,6

HFP - Usability Tests Results (After Test)

Questions	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Average Score	4,6	1	4,6	1	5	1	5	1	5	1

1	I think that I would like to use this system frequently.
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| HFP - Heuristic evaluation

Heuristic	Problem	André	Filipe	Marta
User control and freedom	Zoom in Choropleth Map is not possible	-	3	2
Help users recognize, diagnose, and recover from errors	Bar Chart filters for both type of contents when none is selected	1	-	-

| HFP - Feedback from users (Future Work)

- Zoom in Choropleth Map
- More filters in the charts:
  - Choropleth Map filter by type of content (Movie and TV Show)
  - Line Graph filter by country of origin

06 Demo

DEMO

https://artur-romao.github.io/dataflix-vi-project/

THANKS!

Do you have any questions?