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كلية هندسة وعلوم الحاسب
قسم نظم المعلومات

stc tv Dashboard

Decision Support Systems

IS LAB (4251)

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1. Introduction

In this project all the plots and visualizations are made in dashboard style, and interactive plots. The dataset and the details are given below.

1.1 What is STCTV?

STC^{TV} is a streaming entertainment service that provides the best movies, TV shows, documentaries, kids' programming, and more from major partners such as STARZPLAY, discovery+, Wide Khaliji, Fox+, Cartoon Network, Boomerang, and others. You will also be able to watch exclusives and original productions that cannot be found anywhere else, as well as the top free-to-air & encrypted live TV channels from regional & international networks and broadcasters including MBC, Rotana, OSN, Fox, and others. All of this and more in one spot, making it simple to explore and search for your favorite content.

1.2 A bit about Dataset

This data set describes the behavior of different users of STC^{TV} for 2017-2018 year with different features and contains 1048575 rows [1].

1. Column1: Counter for the number of users in the data.
2. Date_: The date the user viewed a particular content.
3. User_id_maped: The special ID for the stc^{tv} user
4. Program_name: The name of the program watched by user.
5. Duration_seconds: How long the user watches a specific program in seconds.
6. Program_class: Whether its movie or series.
7. Season: User watched the program in which season.
8. Episode: User watched the program in which episode.
9. Program_desc: Describe of the program
10. Program_genre: Genre of programme means Action/Animation/Biography/ Comedy/Crime/Documentary/Drama/Family/Horror/ NOT_DEFINED_IN UMS/Thriller.
11. Series_title: Title of the series.
12. Hd: whether if user watch the program in HD or SD quality.
13. Original_name: The original name of the program.

1.3 Objectives

1.3.1 Studying the user's consumer behavior to ensure that all customers' desires are met and the desired content is provided.

1.3.2 Appropriate methods for classifying and analyzing categories of viewers according to the category of the program: movie or series.

1.3.3 Study the different viewing patterns of users and determine the category that watches STC in standard quality versus the category that watches it in high quality.

2. Data Exploration and Explanatory Data Analysis

With Data exploration we can know about all the hidden things about a dataset. So, to achieve the objectives of this project, first we got to understand the basics of the data we are handling, Then things like data summary, data shapes, data samples. One objective of this project is to use plotly to bring interactivity. So, what's plotly? Plotly's graphing in excel makes interactive, publication-quality graphs. Examples of how to make line plots, scatter plots, area charts, bar charts, error bars, box plots, histograms, heatmaps, subplots, multiple-axes, polar charts, and bubble charts.

2.1 Color Palette for the Project

For keeping the consistency of flow and control of visual aspects of visualization, we will use the same STC ^{TV} color palette throughout the dashboard [2].

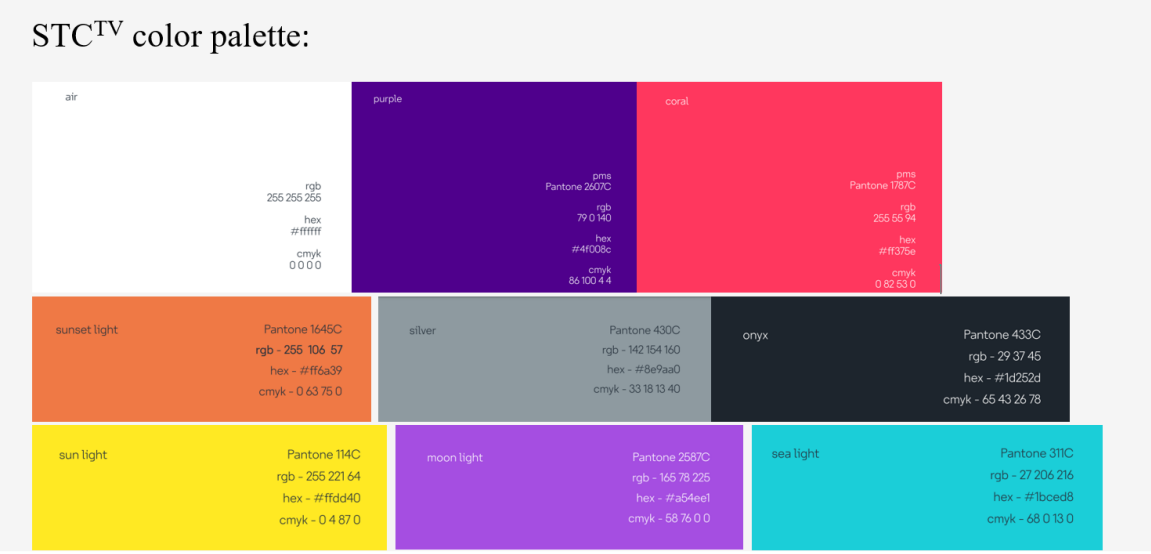

Figure 1. STC^{TV} color palette

2.2 Data cleaning

We removed data that was erroneous, corrupted, poorly formatted, duplicate, useless, or incomplete from a dataset.

The data has thirteen columns before cleaning and ten columns after cleaning. We removed unnecessary columns and added more useful columns, such as splitting the date column into three columns (day, month, and year) to make it easier to see changes throughout the month and year.

The figure below depicts the data prior to cleaning, while the figure 3 depicts the data after cleaning.

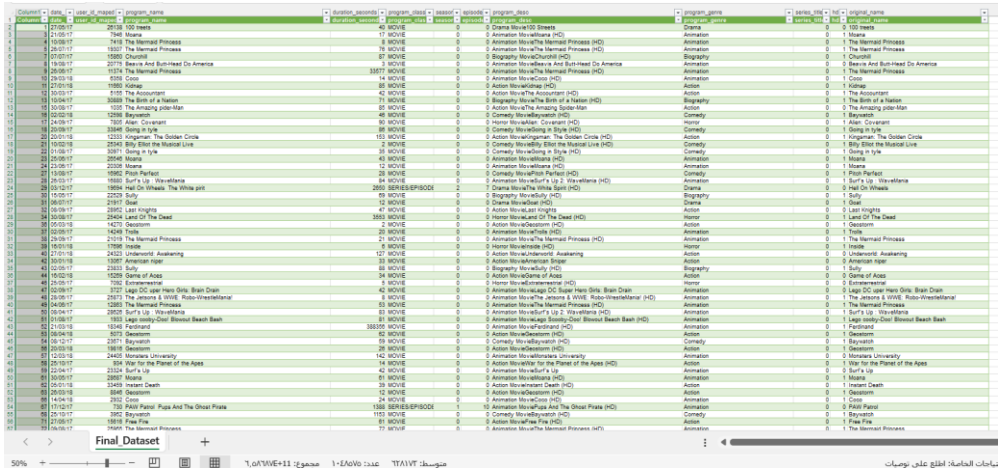

Figure 2. Data before cleaning

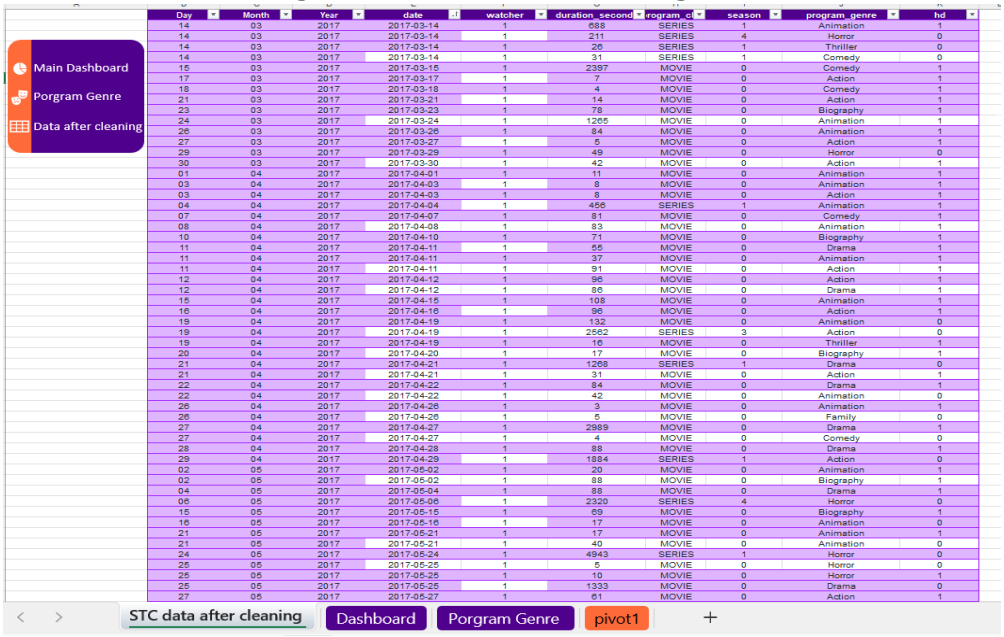

Figure 3. Data after cleaning

2.2.1 Data Sampling

We analyzed representative subset of all data in order to uncover the meaningful information in the larger data set. Our subset contains 219 rows.

3. Insights

3.1 Top 3 program genre

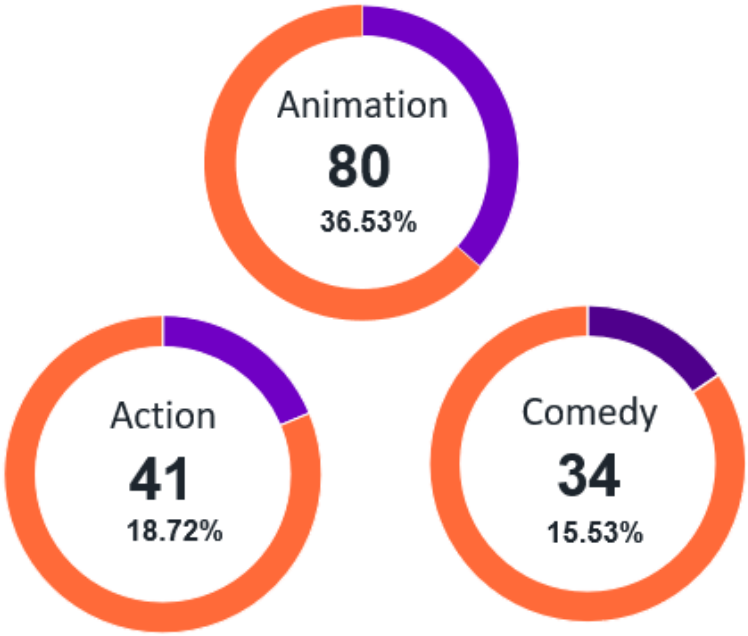

Figure 4. Top three program genre

See here that after viewing the data it is easy and obvious to know the highest and lowest percentage of favorite movies by users.

3.2 Program class

Total watchers were 184.00 for movies and 35.00 for series, a total duration in seconds of 478,830.00 for movies and 39,396.00 for series.
So, users prefer movies over extended series and spend much longer watching movies than other series of all kinds.

4. Excel Dashboard

A dashboard is a clear visual depiction of KPIs, important business measures, and other complicated data. and often the basis for managers and decision makers, so it is an important requirement in any work that requires a decision and through our project we have been able to make an integrated and clear dashboard through the good use of Excel

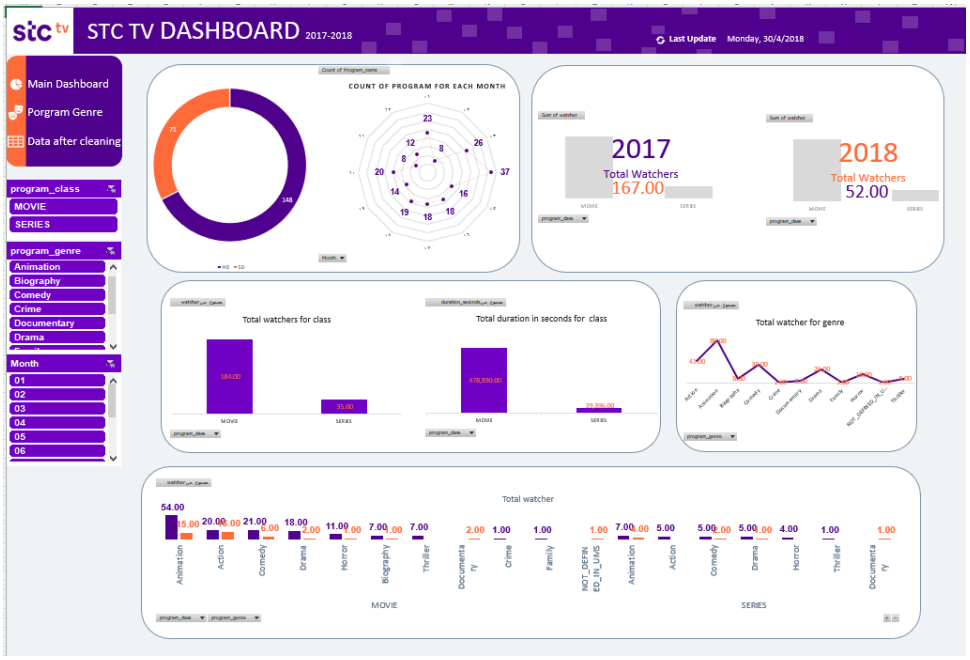

Figure 5. Interactive Dashboard using excel part1

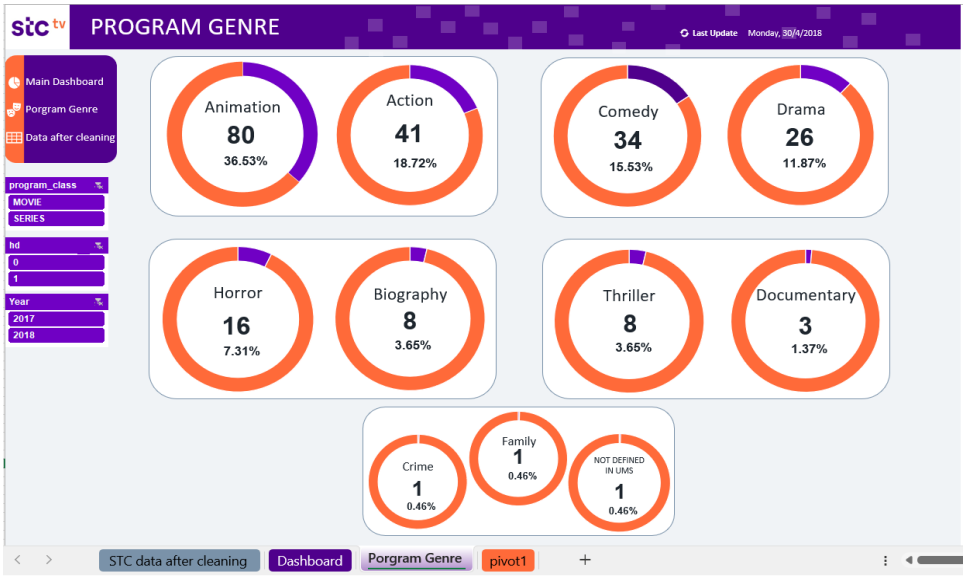

Figure 6. Interactive Dashboard using excel part2

5. Summary

This Project is a pure visualization work where the customization and plotting features of Ploty were explored with STC^{TV} 2017-2018 Dataset.

We have seen how the three types of movies that have received the highest attention from users can be known and whether they prefer series or movies and how long it takes to see them all. It was just a quick look at the perceptions that we made using Excel and by knowing them can make successful decisions.

What have we done so far?

Analyses the data

Presented the understanding in an interactive dashboard format

Bring the excel dashboard into this paper.

References

[1] *stc TV Data Set_T1.xlsb*. (n.d.). Google Docs. https://drive.google.com/file/d/1dMLR-YsabGbsvPMBGfVZwzgkjx97sfWM/view

[2] *Brand Guide*. (n.d.). https://www.stc.com.sa/content/stcgroupwebsite/sa/en/media-center/brand-guide.html