



Top Ten Thrills

Saketh, Andrey, Ayaan, Harshil

The ultimate ranking of roller coasters worldwide



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Problem Statement



Problem Statement

There are a lot of Roller Coaster ranking sites online to help consumers figure out where they want to go. However, there is one inherent problem with these sites; they rely heavily on subjective data as opposed to prioritizing objective measures. Therefore, the need for a model that can objectively rank rollercoasters arises. When creating this model and ranking system, focus on roller coasters that are currently operating. Furthermore, do not include the following types of coasters as the data doesn't correspond to these coasters: family coasters, kiddie coasters, bobsled coasters, and mountain type coasters.

The background features a red and white sunburst pattern. A central blue-bordered box contains the word "Assumptions" in a black serif font. The box is decorated with yellow stars along its top and bottom edges. Faint illustrations of a roller coaster, a Ferris wheel, a carousel, and fireworks are visible within the box. Outside the box, a roller coaster track with colorful cars is shown in the top right and bottom left corners.

Assumptions



1


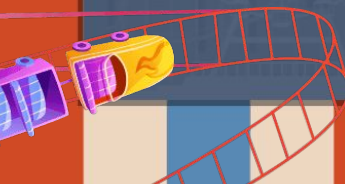
Weights were on a scale of 1 (least important) to 10 (most important)

2

All data correlated with Name, Park, and Region (City + Country) was completely disregarded since our primary goal revolved around the thrill of the ride itself.

3

Type of roller coaster was disregarded because that is too subjective, and we wanted to make our data more on the objective side





4

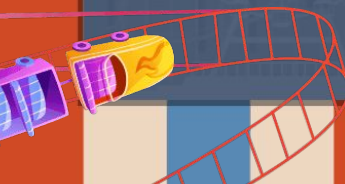

Construction was scored either 0 (Wood) or 5 (Steel) because steel is more durable and resistant to weather and other conditions, making it safer

5

Year opened was on a scale of 0 or 5. 0 was coasters that opened in 1999 or earlier, and 5 was years after 1999. The more recent coasters are more safe than older ones.

6

Safety Score was the total of the Year score and Material score multiplied by the weights.





7

Speed was given a weight of 10 because it was the most important factor towards the thrill of the ride

8

Length was given a weight of 7 because it's not the most important factor, but it still has significance toward the thrill of the ride

9

Inversions was given a weight of 7 because similar to length, it has significance toward the thrill of the ride.

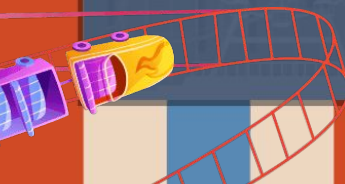
10

Height was given a weight of 8 since it contributes a great amount towards the thrill of the ride.

11

Drop Height was given a weight of 4 because there was a lot of missing information for a majority of the roller coasters, so it shouldn't have that much weight when determining the top 10 rides

All other scores were calculated and simplified later in the presentation





Variables

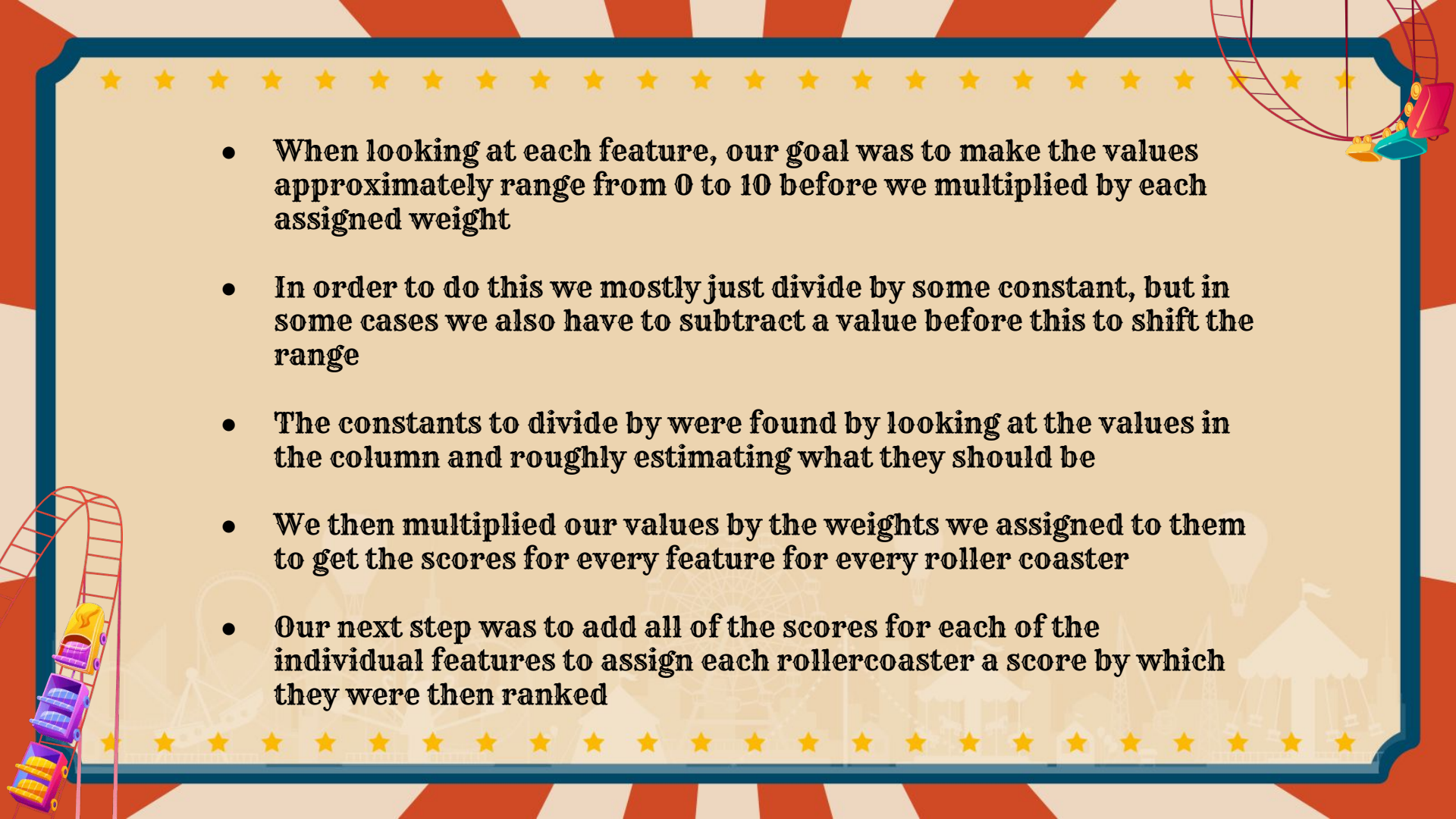
Based off the assumptions we made earlier, we were able to determine the variables we were going to take in account to create this model.

They were:

- All safety considerations
 - Height
 - Speed
 - Length
 - Inversions
 - Drop Height
- 
- 

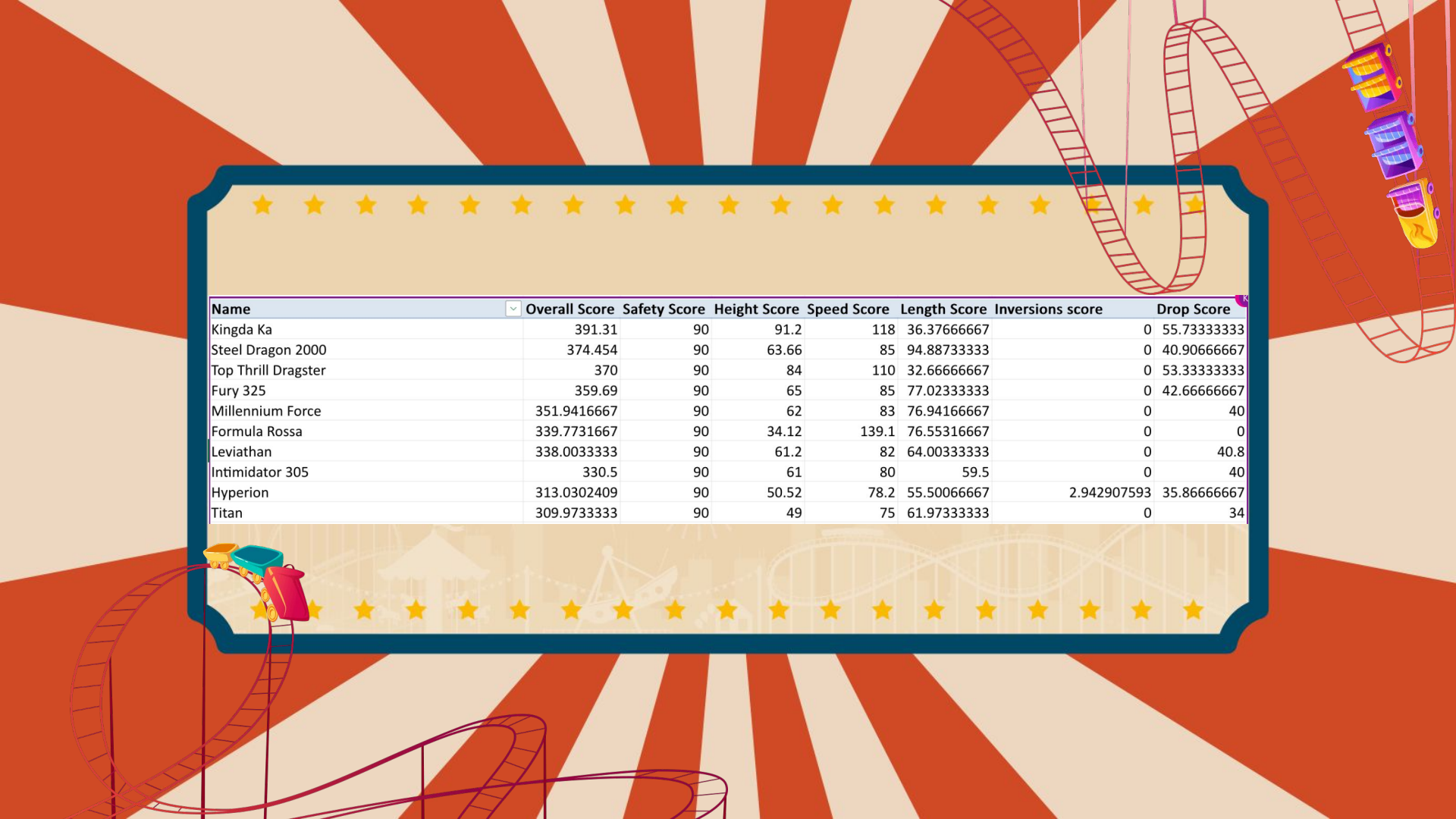


Model
Development/
Justification

- 
- When looking at each feature, our goal was to make the values approximately range from 0 to 10 before we multiplied by each assigned weight
 - In order to do this we mostly just divide by some constant, but in some cases we also have to subtract a value before this to shift the range
 - The constants to divide by were found by looking at the values in the column and roughly estimating what they should be
 - We then multiplied our values by the weights we assigned to them to get the scores for every feature for every roller coaster
 - Our next step was to add all of the scores for each of the individual features to assign each roller coaster a score by which they were then ranked



Solution



A decorative banner with a blue border and a yellow background featuring a row of yellow stars at the top and bottom. The banner contains a table of roller coaster statistics. The background of the entire image is a stylized red and white sunburst pattern with a purple roller coaster track and train visible on the right and bottom edges.

Name	Overall Score	Safety Score	Height Score	Speed Score	Length Score	Inversions score	Drop Score
Kingda Ka	391.31	90	91.2	118	36.37666667	0	55.73333333
Steel Dragon 2000	374.454	90	63.66	85	94.88733333	0	40.90666667
Top Thrill Dragster	370	90	84	110	32.66666667	0	53.33333333
Fury 325	359.69	90	65	85	77.02333333	0	42.66666667
Millennium Force	351.9416667	90	62	83	76.94166667	0	40
Formula Rossa	339.7731667	90	34.12	139.1	76.55316667	0	0
Leviathan	338.0033333	90	61.2	82	64.00333333	0	40.8
Intimidator 305	330.5	90	61	80	59.5	0	40
Hyperion	313.0302409	90	50.52	78.2	55.50066667	2.942907593	35.86666667
Titan	309.9733333	90	49	75	61.97333333	0	34



Future Steps

Future Steps:

- We can move towards creating an app that can help consumers figure out what the best roller coasters are
- We can also help users match rollercoasters to locations near them
- To do this, we need to take location into account
 - It wouldn't make sense for a person who lives in the USA to go to a roller coaster in China
- The design should be user-friendly
- In addition, the app would indicate the expected popularity of the park on the given day based on historical trends





THE END