SENTIMENT ANALYSIS OF BETWEEN US

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INTRODUCTION

Between Us is an online game released in 2018, but it only gained its popularity in 2020 when popular Twitch streamers and Youtubers played and shared about it. In September 2020, there are more than 100 million downloads, and in a short span of 2 months, it reached 350 million downloads in November 2020. With the surge in the number of downloads in 2020, Between Us was crowned the most downloaded mobile game of 2020. However, in 2021, there is a decline in the game's popularity.

OBJECTIVE

With the decline in the game's popularity, we would like to find out the player's opinions and attitude (emotions) towards the game and determine their level of satisfactory of the game.

APPROACH

1 Retrieving tweets
Retrieving 1500 tweets on Twitter with #amongus.

2 Building corpus
Building of corpus such that the tweets can be cleaned up for further analysis.

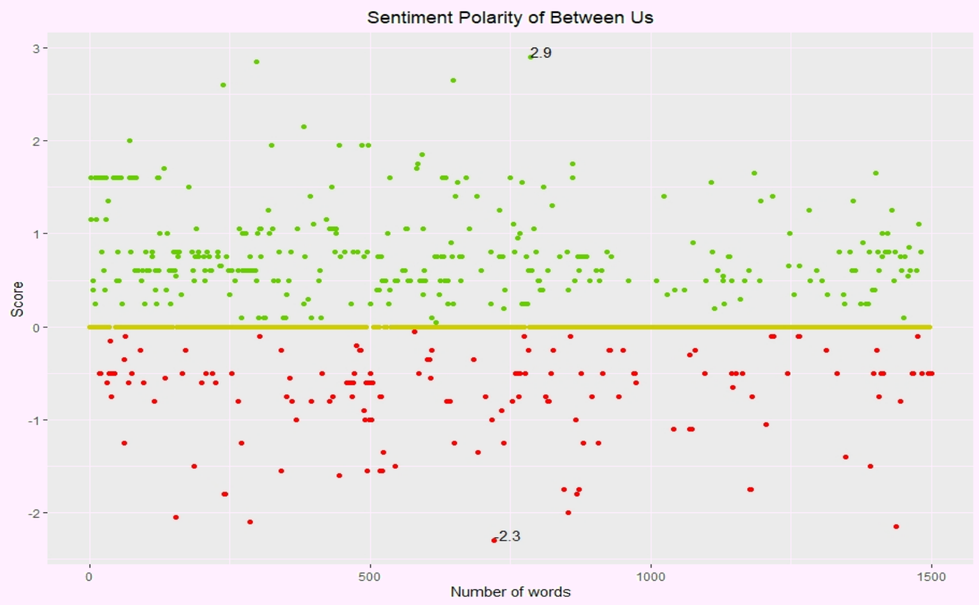
3 Text Pre-processing
Cleaning the data such that it will be suitable for text analysis. The text pre-processing steps involved includes: Removal of special characters, links, unnecessary newline characters, common English words, HTML tags, punctuation, numbers, white spaces, and converting all tweets to lowercase.

4 Stemming
Certain words can be modified such that the inflectional endings are removed and it returns to the word base form. This allows the word to be analysed as a single item only. For instance, the word 'playing' is converted to it's base form 'play'.

5 Term Document Matrix (TDM)
Tweets are unstructured data. In order to do further analysis, there is a need to convert the tweets into structured data, which can be achieved by creating a TDM.

FINDINGS

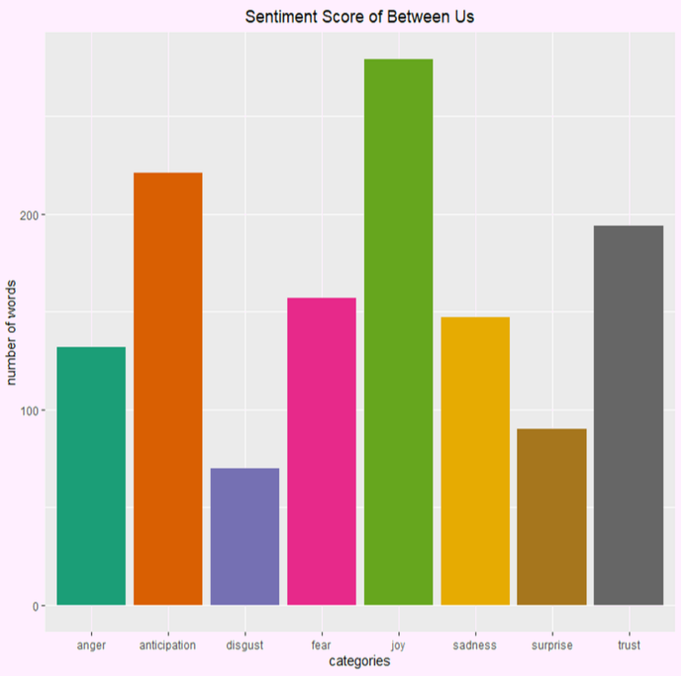
From the word cloud, verbs such as 'stream' and 'decide' are used frequently, and these words are commonly used in the actual game itself. Streaming is used when people live-stream themselves playing the game, whereas decide is used when determining who the imposter is. There is also common lingo used during the game, such as 'sus' and 'imposter'. Positive words such as 'fun', 'best', and 'love' are also commonly used, reflecting that people **enjoy playing** the game, the game is **well-received** by most.



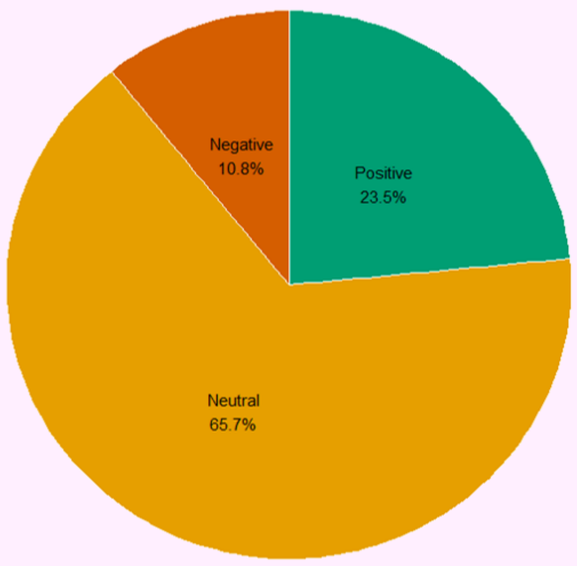
To determine the positive, negative, and neutral sentiment of the players, polarity analysis was performed. The positive sentiments are plotted in green, whereas negative sentiments are plotted in red. Based on the scatter plot, there are **more positive sentiments** about the as compared to negative sentiments. This means that people are generally happy with the game. The degree of happiness received for the game is **higher** as compared to the degree of unhappiness.

Highest sentiment score: 2.9 ☺

Lowest sentiment score: -2.3 ☹



The top 3 emotions are **'joy', 'anticipation', and 'trust'**, reflecting **positive emotions** based on the sentiment score. Despite the decline in the game's popularity, it shows that people **still enjoy playing it**. From the word cloud, the word 'upgrade' was commonly used as well, and in relation to the emotion 'anticipation', since the game has been launched for quite some time, people hope that there will be changes/updates made to the game. Even though the top 3 emotions are positive, **negative emotions** such as 'fear,' 'sadness,' and 'anger' also have a relatively high sentiment score. This could be because the new update was released late, and the new map was **not impressive** for many as players find it too large and complex. The **bugs and glitches** could have also contributed to the negative emotions the players are feeling.



Percentage of positive sentiments: **23.5%**

2 in 9 players are happy with the game

Percentage of negative sentiments: **10.8%**

1 in 10 players are unhappy with the game

Percentage of neutral sentiments: **65.7%**

2 in 3 players felt neutral about the game

LIMITATIONS

- Inability to correctly classify the user's emotion based on the words they use. There are difficulties identifying words that have been expressed in the form of sarcasm or exaggerations, hence resulting in wrongly classified emotion. For instance, the term 'best' can be expressed positively and negatively.
- Multipolarity: Some texts might have exhibited multipolarity, resulting in certain key information being left out
- Word ambiguity: There is limited contextual information, and some words might have several meanings, depending on the sentence context. Hence, knowing the context of the text is needed to classify these words correctly.

CONCLUSION

From the sentiment analysis performed, we can conclude that the overall opinion about the game is **neutral and positive;** Players are enjoying the game. While many felt positive and happy about the game, a high percentage of players are feeling neutral about the game, which might not be a good sign as they are likely to stop playing the game. Hence, **further analysis** needs to be done to determine the pain points the players are feeling and the areas of improvement such that players will feel enthusiastic about playing the game, like before.