

Breaking Down the Code: An Examination of User Feedback on YouTube Programming Tutorials



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Abstract/Introduction

There are thousands of videos on YouTube about a plethora of coding topics, but not all tutorials are made equal. Some may have millions of views but are extremely unhelpful while others may only have a few hundred views and be helpful but not deemed successful by the YouTube algorithm. My mentor and I aim to analyze the factors that contribute to the success or failure of YouTube videos in the software developer and programming tutorial niche. By collecting and analyzing data on viewership, engagement, and other relevant metrics, the project seeks to identify key characteristics of successful videos, such as video length, presentation style, and topic.

Additionally, the project will examine unsuccessful videos to understand what factors may have prevented them from achieving their desired level of engagement. The results of this study will provide valuable insights for content creators seeking to produce high-quality, engaging programming tutorials on YouTube, and may also inform the development of recommendation algorithms that can help viewers discover relevant and valuable videos. Ultimately, the project will contribute to the ongoing effort to improve the quality and accessibility of software engineering/programming tutorials, making it easier for people to learn and grow in this field.

Methods

My role in this research project was to analyze the comments on the top 10 programming tutorial videos on YouTube. I reviewed the first 100 relevant comments for each video and entered the data into an Excel sheet.

To ensure impartiality, I accessed the videos in incognito mode and signed out of my YouTube account before searching for the videos. I searched for the programming language I was studying and the word "programming" to find the videos.

In the Excel sheet, I classified the comments as either positive or negative towards the video. I also added more descriptive information to each comment, such as whether the video had good explanations, was well-organized, included good examples, was too long, etc.

After analyzing 10 videos, I created a document summarizing the trends I had observed and shared my personal opinions on a few of the videos.

References

Kody Simpson. (2019). *How to Install Visual Studio 2019 for C++ Programming*. Retrieved February 26, 2023, from <https://www.youtube.com/watch?v=IsAoIqnNia4>.

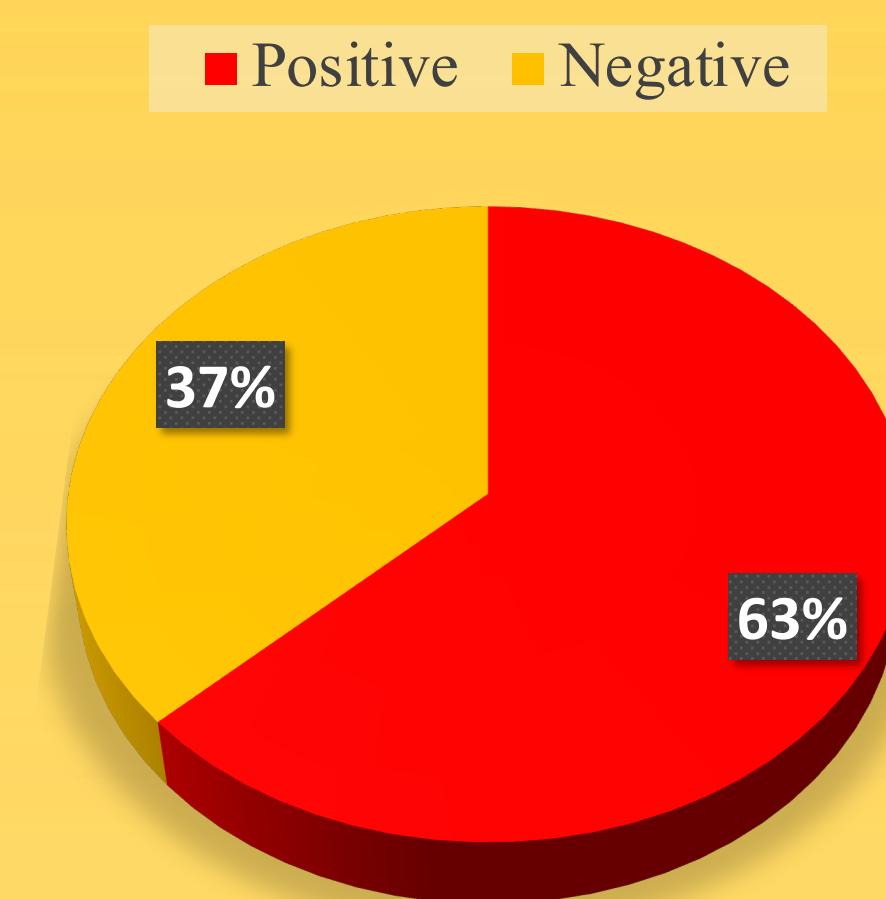


Figure 1: Comparison of the average ratio of positive to negative relevant comments

How to Install Visual Studio 2019 for C++ Programming



Figure 2: YouTube C++ tutorial thumbnail

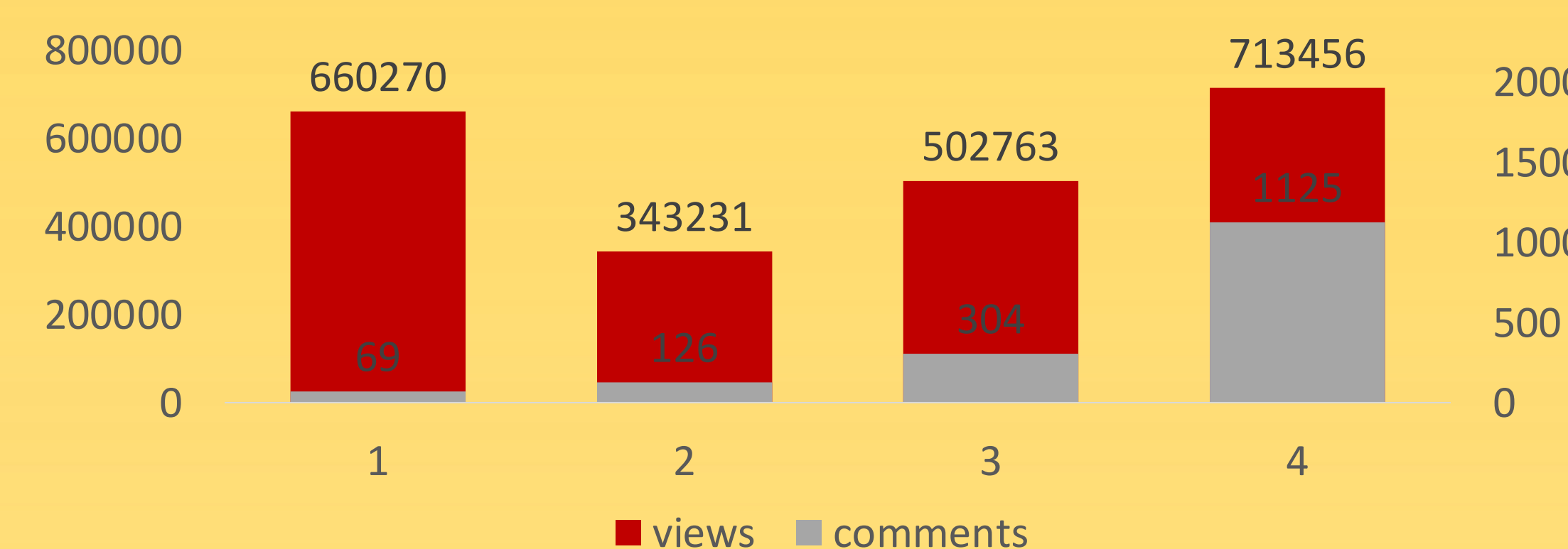


Figure 3: The views and comments of four completely analyzed videos contrasted to show the ratio of each category

Results

Our preliminary findings come from an analysis of the top 10 C++ programming tutorials on YouTube, where we examined over 5,000 viewer comments to understand their positive and negative feedback. Our study highlights that viewers of these tutorials valued the instructor's clear explanations and step-by-step demonstrations, as well as their teaching style. The tutorial videos were generally regarded as informative and easy to follow, with many expressing appreciation for the valuable content provided, especially considering it was free. However, some viewers felt that the tutorials lacked advanced concepts, were too basic, and had pacing issues.

Moreover, for videos exceeding six hours, some viewers suggested that the video could be split into smaller chunks, with timestamps provided for ease of navigation. Overall, our study suggests that C++ programming tutorial videos that offer clear explanations and informative content are well-received by viewers, while excessively lengthy videos may not always be appreciated.

Discussion

Upon analyzing the comments from these videos, we encountered several minor issues, one of which is YouTube's inability to display every single comment, especially when the video has a large number of comments. For example, when we were analyzing a video with over 10,000 comments, we were unable to load additional comments beyond 4,000+; therefore, we were unable to obtain more relevant comments. Additionally, analyzing the first 100 relevant comments proved to be challenging. It was rare for us to find 100 relevant comments, as most commenters praised the tutorial for being more informative than their professors, shared their coding journey for others to relate to, or even had bots in the comment section.

Positive

- Good teaching style
- Good explanations
- Has good examples
- Well organized
- Well detailed
- Has a dark background

Negative

- Video is too long
- Does not cover enough information
- Video needs subtitles
- Video needs timestamps

Conclusion

To summarize, we found that most viewers appreciated the tutorial's clear explanations, practical applications, and code-along format. However, some viewers expressed disappointment with the lack of detail and coverage of more advanced topics. Despite this, the tutorial has been helpful to many learners in improving their C++ programming skills.

Overall, this research study emphasizes the importance of quality educational content that provides value to learners of all levels and abilities. By creating content that meets the needs of diverse learners, educators, and content creators can foster a more inclusive and accessible learning environment for all.