CS 6460 Project Milestone #1

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1 OVERVIEW

For the project, I selected a content track and wanted to create educational videos on YouTube providing guidance on how to accomplish data analysis tasks in Python and Excel.

In this milestone, I will provide an overview of the content that has been created thus far, comment on the traffic data, and feedback from viewers.

I'll close out this discussion with unforeseen challenges and roadblocks that I've encountered and my thoughts on how I will try to tackle them.

2 CONTENT

2.1 Learn, Install, and Use Anaconda for Data Science in 5 minutes!

Video Link

This video walks the viewer through the steps in getting Anaconda installed on their computer and running a jupyter notebook with some simple coding samples.

Despite the simplicity of being an intro video, this video incorporated almost all of the features highlighted to increase viewer retention and engagement: (Guo, Kim, and Rubin, 2014) (Kim et al., 2014)

1. Pre-written script to improve the flow of the lesson and video.
2. Short video length of under 10 minutes to reduce viewer dropout
3. Facial camera and introduction to create a personalized feel with the viewer
4. A mix of presentation mediums to keep viewers engaged (PowerPoint, screen share, and hands-on examples)
5. Large video editing to cut to highlighted points for instruction.

2.2 How to use Regular Expressions in Excel VBA!

Video Link

This video provides an explanation of regular expressions, and how they can be

implemented in Microsoft Excel.

2.3 Understanding the SQL Join and Union Operation

Video Link

This video incorporates the drawing board and colored excel spreadsheet to visually illustrate how the SQL join and union operator work on data.

2.4 Beginner's Guide to SQL Queries with Examples

Video Link

This video provides a detailed introduction to people with no SQL experience on how queries are written, and uses an excel spreadsheet with color coding to illustrate examples of various query operations.

2.5 Hypothesis Testing, Error Types, and Likelihood Explained!

Video Link

In this video, I diverged from my previous video formats to try to experiment and see if I could get better results from previous videos.

1. I did not incorporate a shorter video span, and tried to fit many topics into the video
2. I used a drawing board for the entire video

2.6 Gentle Introduction to VBA in Excel

Video Link

Based on feedback I received from viewers on previous videos, I incorporated more video editing methods such as zoom and panning. One of the issues I did not predict was that my video might be viewed on smaller screen devices such as phones, so the text and drawings I created would be very difficult to view and follow.

The video itself provides viewers with a walkthrough and some examples on how to get started with writing their own macros in VBA and some tips and advice on how to find info on things like environment variables built into VBA.

Understanding what a matrix determinant is Video Link

This video provides users with an understanding of what a matrix determinant represents in the physical world when a matrix multiplication occurs, such as increase in size, reduction in dimensions, and such.

3 CHALLENGES

3.1 Video Noise

I underestimated the difficulty involved in the process of video editing, and recording. During recording sessions, the quarantine caused my entire apartment complex and surrounding neighborhood to stay at home. There was a large amount of background noise in many videos I had, causing me to delete and restart the recording process while also trying to find opportune windows for recording.

I eventually chose to move to a quieter complex which allowed me to dramatically improve the production quality and ease of producing videos.

3.2 Low Traffic

I presumed that the videos I created would be in niche areas which I felt did not provide adequate information on the topics I was covering.

Despite this, or perhaps because of it, the traffic to these videos has been low and as a result I have very little viewer data to draw meaningful conclusions.

The small amount of data I do have indicates a positive reception, with all videos receiving only likes and no dislikes.

4 CONCLUSION

The production issues I had with my videos were resolved by changing my recording setting. The traffic on my initial videos incorporating the features highlighted in (Guo, Kim, and Rubin, 2014) and (Kim et al., 2014) performed at about the same level as my other videos which all had relatively low traffic.

What I've drawn from this is that the features mentioned might be key in keeping audience retention for a classroom setting, but for a more casual environment like YouTube, it might require me to change my appraoch.

Next steps I plan to address the following:

1. Improve video tags, title, and banner in order to improve conversion rate of impressions into views.
2. Rather than making a fixed format with an intro in every video, try creating compact micro lessons which jump straight into the details with no explanation and see how these videos do.
3. Utilize a single display channel for these shorter videos, and incorporate less face camera as this seems to not have any meaningful impact on viewer perception of the lessons.

The scripts and materials I produced are located at the following repository: here

5 REFERENCES

[1] Guo, Philip, Kim, Juho, and Rubin, Rob (2014). "How video production affects student engagement: An empirical study of MOOC videos". In: pp. 41–50. DOI: 10.1145/2556325.2566239.

[2] Kim, Juho, Guo, Philip J, Seaton, Daniel T, Mitros, Piotr, Gajos, Krzysztof Z, and Miller, Robert C (2014). "Understanding In-Video Dropouts and Interaction Peaks In online Lecture Videos". In: *Proceedings of the First ACM Conference on Learning @ Scale Conference*. L@S '14. New York, NY, USA: Association for Computing Machinery, pp. 31–40. ISBN: 9781450326698. DOI: 10.1145/2556325.2566237. URL: https://doi.org/10.1145/2556325.2566237.