INFO201 Final Project Proposal
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TikTok Addiction: Revealing the dynamic relationship between information quality and system quality.

Story Pitch:

In the ever-evolving world of social media, the short-video app TikTok has become a global phenomenon, attracting millions of users with its addictive content. Our data-driven stories set out to explore the addictive behavior surrounding TikTok, delving into the intricate relationship between information quality and system quality. This exploration not only addresses a universal problem that affects millions of people but also provides a unique perspective on the impact of social media on users' lives.

The narrative addresses important life topics like social dynamics, mental health, and the influence of technology on day-to-day living. TikTok is a problem of tremendous societal significance because of its addictive nature, which impacts millions of users worldwide. Our main goal is to expose the addictive tendencies connected to TikTok from the standpoint of system and information quality. We aim to identify the features that contribute to the platform's general appeal and any potential downsides by investigating these facets.

Rather than replicating the past, our analysis offers well-informed insights into how system quality (algorithms, application design) and information quality (content) interact to cause user addiction. This viewpoint offers a deeper comprehension of the mechanisms of action and goes beyond common sense. We will measure how information and system quality affect addictive behavior by thoroughly examining user engagement patterns and content trends. We might also think about whether a comparison of TikTok with other social media sites will offer a more comprehensive framework and useful information for scholars and decision-makers.

The idea that interesting material alone causes social media addiction is called into doubt by our research. We will use the statistics to offer compelling evidence about the impact of systemic quality, challenging readers' preconceived notions about digital addiction.

In conclusion, our data-driven stories present a unique viewpoint on the TikTok phenomena in addition to highlighting a widespread social issue. Our goal is to educate readers with a comprehensive grasp of the dynamics of addiction and encourage them to consider the role that social media plays in their lives by fusing real-world examples with sound statistical analysis.

GitHub link: https://github.com/TonySUW/INFO201_FinalProject_tiktok

Background Research:

1. *The addiction behavior of short-form video app TikTok: The information quality and system quality perspective*

https://www.frontiersin.org/articles/10.3389/fpsyg.2022.932805/full

Examining TikTok addiction behavior is important because of several reasons:

- TikTok is one of the fastest-growing apps, surpassing other social media platforms in terms of user numbers and usage intensity
- TikTok has the most advanced algorithm system, especially in terms of participation, content, and types of interaction, which makes the addiction problem of TikTok more severe than the other popular social media
- TikTok's target audiences are adolescents and young adults with short attention spans.

2. *Explaining the link between technostress and technology addiction for social networking sites: A study of distraction as a coping behavior*

https://onlinelibrary.wiley.com/doi/full/10.1111/isj.12253

- It integrates three theoretical strands: the concept of feature-rich Information Technology (IT), the theory of technology frames, and distraction as a coping behavior.

- The paper investigates the relationship between stress from the use of social networking sites (SNS) and addiction to the same SNS

3. *Consumer adoption of mobile TV: Examining psychological flow and media content*

https://www.sciencedirect.com/science/article/pii/S0747563208001441?casa_token=_4k2iWQ70V8AAAAA:SYgid-K0Ve98C34wZkdmVOW2s1TpgcuCNoiOrQKT_DMgOsnDN1SxydB--Pqb26pN9dyMXfdztg

- Information quality refers to the assessment of the credibility, timeliness, sufficiency, and relevance of the information provided by a content provider.
- Cognitive concentration and content play a significant role in consumers' intention to use hedonic information technology.
- Content has a critical impact on cognitive concentration
- The definition of content includes the amount and variety of content, as well as the use of text, graphics, and multimedia .

4. *Analysis on the "Douyin (Tiktok) Mania" Phenomenon Based on Recommendation Algorithms*

https://www.e3s-conferences.org/articles/e3sconf/abs/2021/11/e3sconf_netid2021_03029/e3sconf_netid2021_03029.html

- The recommendation algorithm used in tiktok caters to users' needs by using a hierarchical interest label tree, user persona, and partitioned data buckets strategy to recommend accurate and personalized content.
- The algorithm also uses collaborative filtering and low-cost interaction design to create traps for users, contributing to addiction.
- There is a closed-loop relationship between Tiktok addiction and algorithm optimization. The more frequently users use tiktok, the more accurate the algorithm becomes, potentially exacerbating addiction.

5. *The Impact of TikTok User Satisfaction on Continuous Intention to Use the Application*

https://www.mdpi.com/2199-8531/8/3/125

- Self-expression, informativeness, a sense of belonging, and trendiness significantly affect satisfaction with TikTok. However, factors like sociability, affection, and past time in TikTok do not significantly impact satisfaction
- Social media is used for both social and business purposes, including management and marketing, to influence customers' intention and satisfaction

Data

1. Tiktok_dataset.csv
   https://www.kaggle.com/datasets/yakhyojon/tiktok

2. top_users_vids.csv
   https://github.com/datares/TikTok_Famous/blob/main/Analysis/TikTok%20Videos/top_users_vids.csv

3. sug_users_vids_all.csv
   https://github.com/datares/TikTok_Famous/blob/main/Datasets/TikTok%20Video%20Data%20Collection/sug_users_vids_all.csv

TikTok User Engagement Data, a dataset authored by Yakhyojon, has data on users of published videos.

top_users_vids and sug_users_vids_all are two datasets from Github's Tiktok_Famous, whose contributors include Ivan Tran, Madison Kohls, Kaushik Naresh, and Isha, with data on the popular video tiktok used by background music, and what the hashtags are.

Observations (rows) are in data

sug_users_vids_all.csv : 41702

Tiktok_dataset.csv : 19382

top_users_vids.csv : 12559

Features (columns) are in the data

sug_users_vids_all.csv : 13