Real-Time Big Data Analytics Project Preproposal

- **Project Title: VideoCeption**
- **Team 2**
- **Team Members:**
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- **Project Goal and Objectives**
    1. **Motivation:**
       Our main motivation is create a video searching web application similar to youtube. But we wanted to be different in terms of the search algorithms and the search criteria and techniques.
    2. **Significance/Uniqueness:**
       Our application is significant because it changes the video search to whole another level. We display the search results based on the actual content in the video instead of the names or the tags associated with the video. It is a unique application because there is no video search web application currently available on the web that performs a similar operation. Though there might be few paid services, we plan on making the project freely available online with a possibility of open sourcing as well.
    3. **Objectives:**
       The main objective of VideoCeption is to revolutionize the video search. We want to achieve this by analyzing the videos using our video engine based on artificial intelligence and machine learning algorithms.
    4. **System features:**
        i. **Smart Search:** The search is based on the content of the video. The video is analyzed based on the video (visual) content and the audio content in the uploaded video. Hence it is smart way of searching the video instead of the conventional name based search.
        ii. **Smart Tags:** The tags can be given by the user while uploading the video but our video engine analyzes the actual content of the video and gives the smart tags that actually pertain to the video. The video search is heavily depended on these generated smart tags to perform a smart search.
        iii. **Spam Filtering:** There are many spam videos uploaded every day to the video websites like youtube and others. But there is no way to identify which video is genuine and which one is spam going just by the name of the video. As we analyze the actual content of the video we can label (or at least try to label) a particular video as a spam and not display it in the search.
        iv. **Video Recommendations:** This is similar to any other video recommendations that other applications out there use but we give smart video recommendations based on the smart tags generated by our engine.

v. **Parental Control:** We try to categorize videos based on the content and alert a flag called “this may not be suitable for children”. So if the parents chose to turn on the parental control feature, all the videos under this category would be filtered out in the search.

vi. **Content based Navigation:** The user can also instantly navigate to the particular entity or the content in the video using the content based navigation feature.

- **Related Work:**
  Our projected is slightly inspired by dextro (https://www.dextro.co/)
- **Backup project - GetAware:**
  - This project is related to video surveillance. Generally, surveillance cameras are used to record the video so that if anything happens then it can be used to find the evidence from the recorded video.
  - But it’s not preventing the incident in the first place. So with real time analysis of surveillance video, the proposed application can find out abnormal patterns in real time so that the alerts can be generated and notified to the user so that the probability of preventing the incident will be more.
  - And in some cases, the time for the reaction can be greatly reduced. This kind of application can be very useful as it enhances security in real time.
- **Bibliography:**

1. Real-Time Stream Processing as Game Changer in a Big Data World with Hadoop and Data Warehouse (https://www.infoq.com/articles/stream-processing-hadoop)

2. Video Discovery (https://www.dextro.co/discovery)

3. Easy, Real-Time Big Data Analysis Using Storm (http://www.drdobbs.com/open-source/easy-real-time-big-data-analysis-using-s/240143874)