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HashTag Generator

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Abstract - Social media marketing faces many challenges on finding the required content. It is difficult to get the market value of a product. With enormous amount of content posted on social media, using hashtags help the product reach the audience. Hashtags help people find the relevant content based on their preferences. It helps marketers and buyers in effective selling and buying of products. As hashtags are powerful, they help us to find the brands and keep an eye on trending brands and products. This proposal will help deliver the high-value content.

***Key Words*: hashtag, social media, marketing**

1.INTRODUCTION

Hashtags are preceded by '#' symbol. It is a keyword where it can be found anywhere in the social media or internet. It is mainly used for description or identification. By using hashtags in our posts the popularity and reach of the posts get increased. It is easy to find the trending content by specifying simple hashtags. If focuses on specific content that will reach specific users.

However, the majority of them have trouble determining which hashtags are the most important and hot at any given time. The user's main issue is the "lack of a platform designed for clients that can analyse the user content and fetch trending hashtags that are unique to the relevant post and then generate a meaningful caption, and categorise the hashtags in accordance with the user's preferences.

Hashtags automatically categorizes people's preferences in a very attractive way as it helps the way to organize the enormous amount of information available in the social media. Because of it's many advantages in social media marketing, many organizations and associations use hashtags as a main promotional asset.

This project proposal provides a good platform to ensure the products reach the target audience.

2. LITERATURE SURVEY

Mohd Aliff Faiz bin Jefry and Hazinah Kutty Mammi have analyzed the usage of metadata by exploring images using digital watermarking. They discussed about how to insert particular metadata into the image using watermarking method. These images were used in many platforms like social media for development of the proposed watermarking techniques. This discussion of the literature has helped in knowing the originality of the image using metadata.

There are still some problems to be dealt with hashtag recommendations based on the content in social media platforms. Suggesting wrong hashtags explicitly has emerged has an issue.

Natural Language Processing is the ablility of a computer program to understand human language how it is spoken and written. It is a component of AI. It also enables computers to understand natural language as humans do. Even if the language is spoken or written this NLP uses AI to take real world input, process it and make the computer understand easier.

X. Huang, Q. Zhang and Ding researched on NLP and probability based algorithms. They published "Hashtag recommendation for micro-blogs using topic specific translation" by using key phrase extraction. E.Zangerle,W.Gassler,G.Specht published "Recommending Hashtags in twitter" which targets microblogs.

Weston, S. Chopra, and K. Adams proposed Semantic embedding from hashtags using NLP and ML based CNN for hashtag recommendation.

Social media data mining is the process of extracting information from social media networks. There are three main methods for gathering data from social media platforms. They

are APIs,Persoanl archives,Scraping. Because most social media networks have revised their data extraction limits owing to various privacy concerns, personal archiving is becoming more popular.

Data extraction is the process of getting data so that it can be reproduce to a destination such as a data warehouse for online-analytical-processing.The first step in data extraction is a data injection process called ETL (Extract,Transform,Load). There are different types of data extraction like update notification, incremental extraction, full extraction.

Image captioning is an application of Deep learning which takes image as an input and produces a short text summary describing the content of the image. It makes use of three primary components – image sequence decoder, image feature encoder, sentence generator.

E. Denton et al., "User Conditional Hashtag Prediction for Images," al. [12] is a method that combines machine learning and hashtags & information about the user's context to conduct hashtag. For a user-supplied image, make a forecast. Simply put, how does user meta-data work?. When utilised in conjunction with images obtained from a CNN, it can be used to predict the use of hashtags

The Natural Language Toolkit is a collection of computer modules,data sets,tutorials and exercises for symbolic and statistical NLP. The GPL open source licence governs the Python-based NLTK. Over the last three years, NLTK has increased in prominence in both education and research. The Nave Bayes classifier is used to classify data in the suggested research application.

3. METHODOLOGY

Requirement analysis

The analysis phase focused on obtaining information on current systems and analysing the various systems' faults and strengths, which led to the concept of developing a new system. During the analysis phase, the new system's requirements were well recognised.

Extraction of Image Features

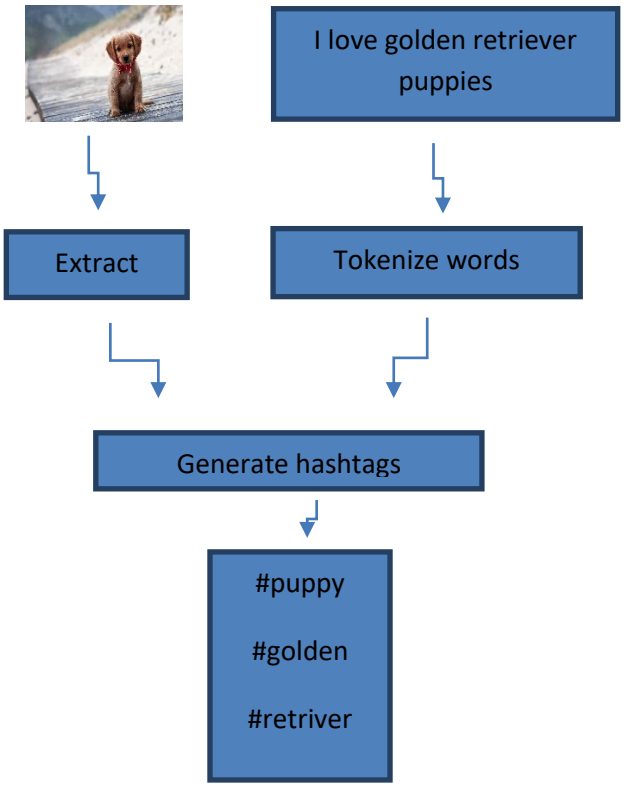
The major goal of this method is to see if the photographs that the user has uploaded are already on the internet. The feature transformation is used to identify and extract local features in images and is used in the image feature extraction process. As a result, the pace has increased for object classification, recognition and picture regression, robust feature approaches are applied. Feature extraction is carried by using photos obtained from a web crawler as well as photographs submitted by the publisher. Both features will be retrieved and compared to find a match. The image's interest spots and the RGB values will be recognized by the feature extraction method.

Analysis of Text

Natural Language Processing is used in this proposal. NLP methods are written in pyhton. Whenever user enters a text content. Using NLP libraries the special symbols, stopwords , punctuation marks are removed. Then a list of important keywords is formed. The list is then lemmatized which categorizes all the nouns,pronous,adjectives separately. Then the list is converted to set to get the unique words. All these words are examined and classified into different topics. After that, each unique word is appended with a hashtag '#' to get the required hashtag.

Recommending hashtags

The main goal of recommending hashtags is to suggest the best and unique hashtags for the given content. For further analysis, a dataset containing hashtags with description data has been produced. To extract hashtags, python was utilised in conjunction with social media public APIs and site scraping algorithms. Data is pre-processed and modified into the desired format after data extraction.
Because image categorization is a large research area that is outside the scope of this study, VGG16 is utilised to analyse images along with many other machine learning technologies.



4.RESULTS

The images will be given to the image analysis component, which will develop a list of essential keywords that are related and unique to each image. When a user provides text instead of an image, the text is examined and essential keywords are identified.

Additionally, the trained keywords model suggests the most related keywords to the user. The trained model, which

consists of the data that is collected using unique keywords, will be used to assess keywords and suggest relevant hashtags in the following phase. In the last phase, the proposed hashtags will be categorized and sorted, allowing the user to choose his or her favourites based on their interests.

The Text Analysis step creates a caption for user-uploaded text material and ensures that the essential keywords are generated and considered at the same time, assisting the business organizations in gaining more audience attention. The unique dataset is designed to suggest terms that compete with the current social media marketing game.In this process, the keywords are extracted from the input text using tokenizer. This tokenizer extracts the weighted keywords into specific groups and generates the specific hashtags.

5.CONCLUSION

Hashtags make things easier– When you search for a hashtag, you'll see results for every post that uses that hashtag. Using a hashtag allows you to connect with your target audience while also making it easy for others to find your content.
They compel an action–When a person finds a post that piques their attention, they are likely to spend time browsing the hashtag's material.
Hashtags evolve–As more platforms employ hashtags, the amount of information presented directly in front of social media consumers changes.
They reward the unique–Hashtags make it easier for social media users to find content. Users that find the hashtag useful will notice your message if it has a unique hashtag.

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