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## **ABSTRACT**

Image can be described as photographed, painted or sculptured. Nowadays, images are extremely shared throughout the Internet. Annotating or captioning can be used to classify images. However, manual annotation is time consuming for large database and there is no standard in caption an image by manual annotation because it is based on human perception. The objectives of this project are to implement automatic annotation for images using K-means clustering, to develop an automatic image annotation prototype using color segmentation and to test the efficiency of the automatic image annotation prototype. The scope of this project is digital image of beach photographs with JPegs format. This project is implemented using a basic K-Means clustering as the algorithm for color segmentation and using direct technique to annotate the colors with the appropriate words by using predefined colors. The color model used is RGB (Red, Blue, Green) color model. The experimental results show that the images would be captioned with SKY, SEA, BEACH, GRASS, TREE, HILL, ROCK or CLOUD. In the future, this project needs enhancement to produce better result with implementing advance clustering techniques.

**Keywords:** Image annotation, Captioning, Clustering, K-Means, RGB Color

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