Title of the Thesis : Development of Software for Flower Recognition using Image Processing Technique.

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**ABSTRACT**

Flower is most vital part for plant identification. Identification of flower is important as it helps natural resource managers in identification of similar plants where flowers are their differentiating factor. It also allows us to assess many important rangeland or pasture variables that may help horticulture experts and taxonomists. Great efforts have been done to develop machine vision system for this purpose. The main purpose of this proposed system is to recognize a flower from its scanned image with white background. It compares the uploaded image with the images already present in database and provides you with appropriate result by using image processing techniques. This comparison of flowers is done using three mechanisms which includes colour, shape and stamen/ pistil comparison. The colour of flower image uploaded is compared with the colour of flowers present in the database by calculating histogram for H value. The flowers matching the colour of the scanned image are separated. Then the shape of the flower is analysed and compared with the separated flowers by using technique called colour image segmentation. These leftover flowers are finally compared with the scanned digital image of the basis of stamen and pistil. The flower whose all the features best match with the scanned flower is given output as result. The proposed software allows the user to select the appropriate result if there are more than one flower matching the uploaded image. It is seen that when a prototype of this proposed software was developed, it gave 83 percentage of recognition rate when tested on 24 species of flowers.

**Keywords:** Flower Recognition, Image Processing, Histogram, HSV Color Model, Color Image Segmentation

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