AN AR NATURAL MARKER SIMILARITIES MEASUREMENT ALGORITHM FOR E-BIODIVERSITY

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ABSTRACT

In the last few decades, different techniques have been studied and proposed for flower species classification. Nonetheless, the outcomes of these research are particular in term of the assessed stages of classification conduit, the adopted data for assessments, and in the comparative baseline methods. The objective of this research is to comparatively evaluate the effectiveness of different algorithms, method combination procedure, and their parameters towards classification accuracy. Algorithms of investigation starting with span from extraction, matching and classification to determine the interest point of flower species, like colour and shape features information. This research has been found out that the feature extraction process in Augmented Reality (AR) system can be combined into Content-Based Image Retrieval (CBIR) system yield higher classification results in efficiency and accuracy. The accurate identification of image features can reduce the computational complexity, time consuming and enhance the accuracy of the identification and classification for flower species. The proposed method can successfully reduce the number of interest point by 89.98 percent. In addition, the computational complexity can be reduced from $O(n \log n)$ to $O(n)$, and the percentage of average accuracy for classifying flower species had reached 98.8 percent.

Key words: CBIR; AR; Computational Complexity; Time Consuming; Classification Accuracy; Similarity Measurement