



**Ahmedabad  
University**

## **ECE501- Digital Image Processing Weekly Report 4**

### **Section 1**

Submitted to faculty: Prof. Mehul Raval

Topic: Content-Based Image Retrieval (CBIR)

Week Duration: 19th Oct - 25th Oct

**Group no.: 6**

<b>Enrollment No.</b>	<b>Name</b>	<b>Name of the Program</b>
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2025-2026 (Monsoon Semester)

## Objective

To design a Content-Based Image Retrieval (CBIR) system capable of retrieving visually similar images from a custom dataset using classical Digital Image Processing techniques such as colour histograms, texture analysis and edge detection, test and verify the results on images from the collected dataset, and retrieve meaningful data.

**Input:** a query image and a dataset

**Output:** a set of images from the dataset with a rank which are visually similar to the input image.

## Work Done This Week

- We conducted discussions to decide specific domains for datasets – medical scans, natural sceneries and drawings. This is because, our earlier implementation involved a huge dataset that took longer to compile.
- Reviewed the results from earlier implementation and analysed to make the necessary improvements.
- We also planned and decided upon how shall we combine different features and obtain greater image similarity.

## Next Week Plan

- Focus more on improving accuracy rather than spending more time processing and compiling(possible with domain specific and smaller dataset)
- Combine the features – colour, edge and texture to obtain similar images through feature fusion.
- Try HOG method (Histogram of Oriented Gradients) for shape and structure based feature extraction.

## Challenges Faced

- It was difficult to get consistent results with a mixed dataset, as their requirements for the extraction of similar images were bit different.
- In general, the run time while testing the code was too long, which tested our patience and slowed down our progress.