

The goals of the project –

1. To write a program to take numerous images, videos and put them together into a hierarchical set of collages
2. To design an interface that can help browse through this in a visually efficient manner.

With advances in inexpensive digital image, video (and audio) capture devices, media data has become commonplace now. There is a lot of digital video information, and images that people personally archive on their disks, store or post on online websites such as google drive, Facebook, flickr. These visual images and videos (with audio) are often organized in folders or albums. Due to the numerous folders and albums that users use to save and share their data, arises the need for quick browsing metaphors to look at the media dataset and explore details only of the media of interest to you.

This is a problem that deals with the design of an interface to quickly and efficiently visualize “all” the media that you have, and further more to hone down on specific images/video media files that you can then go and explore. For this project, we have used input datasets in a folder which contains numerous images and video files. In theory, the folder may well be a web http pointer that contains referenced images or even media objects that are stored in a distributed manner, but organized in a single folder. It is important how to visually display all the information to the user so that quick exploration of the media information can be performed.

Tasks performed-

- Write an offline program that will take all the files in a folder (images and video) and organize them into clusters or sets based on how similar they are. Use image properties such as Entropy and Histogram to compare and group images. In case of videos, analyze the video to find the best representative frames.
- Organize the cluster of images/video frames into a collage to form one image of a fixed size. Rank the images/video frames in each cluster and use a few ranked images of each cluster to create a “super collage”.
- Encode information needed for browsing or exploring so that clicking on a (x,y) location in this “super collage” will either show another collage, or the full image or play the corresponding video.
- Finally design a simple interface to showcase and interact with your created collages.

Technologies used-

Eclipse (Java)