



IMAGE SEARCHING AND RETRIEVING USING OPTIMAL SOLUTIONS

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Abstract: *Advancements in the field of image processing and mining have increased a significant growth in this field. Images always help to provide useful information to the user. Image mining is defined as the technology which helps in searching profitable information from huge image data. It deals with the retrieval of knowledge, relationships between them that are stored in the database. Image mining is not only the add-on for data mining but it is an approach that is used for various other applications like image processing and retrieving, artificial intelligence, computer vision etc.^[9] Image mining includes image searching, image retrieval and then storing the image at a particular location.^[6] Many technologies have already been defined in context to this. But the research in image mining is still at the beginning. In this, I have presented a technique for searching an image from the database of two servers, retrieving the image from that server which is near to the location of user and then providing the download link to the user. I have also mentioned some future scope in order to research further in this field.*

Keywords: *Image mining, Image searching, and Image retrieving.*

I. Introduction

Image mining arrangements with the extraction of understood knowledge, image data relationship. Image mining is an indispensable system which is utilized to mine knowledge straight far from an image. The primary period of image mining is image division. Image mining is an enlargement of data mining in the image processing. Image mining arrangements with concentrating concealed knowledge, taking up with image data and extra patterns which are not said unmistakably in the images.^[9] It is an interdisciplinary field that joins together strategies like machine learning, computer vision, data mining, database, artificial intelligence, image processing. The fundamental point of the mining is to create patterns without former data of the patterns. Image mining is unique in relation to low-level machine vision and picture preparing procedures. Image mining is a method which handles the mining of data, image data cooperation, or extra patterns not unambiguously put away in the images.^[6] The point of image mining is create all significant patterns without any data of the image content, the patterns sorts are diverse like spatial patterns, arrangement patterns, association patterns, worldly patterns and portrayal patterns. Image mining deals with characteristics of enormous dataset of an image which comprise of image recovery, indexing routines, image storages.

II. Related Work

Image data mining is a current hot topic in the field of research. The innovations is keep on growing however not finish to recover capable and solid comes about so might be further expand as for interest, time and research around there. Image mining is the dynamic field of data mining system. It has a huge test to take care of the issues of various frameworks. The principle destination of image mining is to dispense with the data misfortune and recover the serious effects to client wanted needs. Many methods and techniques have already been defined for image search, image retrieve but as a coin has two sides each technique have some pros and cons. There are techniques that are time and again used in previous researches i.e. recognizing an object, retrieving an image, image indexing, and classification of an image and clustering, mining the associated rules and neural networks. Image mining is perplexing in light of the fact that it needs the requisition of a collection of methods from image extraction and indexing plans to example distinguished and data mining. Many techniques have already been defined for image searching and retrieving. Many systems have been designed for searching and retrieving images from large data sets but some issues still are expected to be solved in order to achieve better results and better performance. There are some issues that are required to be solved in case of heavily broken and touching characters in case of image retrieval. A technique used for image mining depends on texture which is vitality, entropy and difference which is not quite the same as existing systems for inquiry preparing and get the effects. Image mining is an ensuring field for investigation, regardless, it is still at the beginning and for future change the going with issues need to be recognized are changes on image preprocessing developments, including trademark extraction, image division, and article conspicuous verification, propose an united image representation model and representation techniques, devise incredibly beneficial and extensible image mining computations, for standard frameworks are unreliable to explicitly apply on image database, bring space data into image mining, which are principal for understanding mining conclusions. Image mining is a characterized as the strategy which mines the data, cohort the data or extra examples. Image mining is an incorporated field

which is utilized to consolidate diverse innovations like data mining, workstation vision, machine taking in, manmade brainpower, database and image processing. Image mining characterizes diverse characteristics like indexing strategies, image extraction, and image stockpiling. There are two procedures for principle mining. The primary is to mine from gigantic measure of images and second is to mine from incorporated accumulation of images.

III. Description

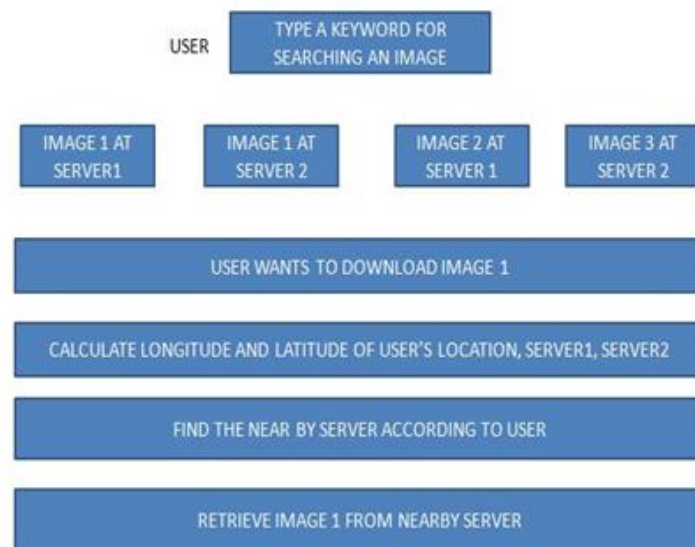
A. Problem Formulation

Many images have been uploaded daily to different servers of one website. It is not necessary that only single copy of an image is stored at different locations of different servers. Multiple copies of a particular image can be stored either on different locations. User wants to search an image from one location. Our job is to satisfy the user. Try to find out the different locations of particular image present on the web at different servers. Then by considering some parameters try to find out the exact location from where image can be searched out easily for a user. This will lead to less time consumption, more accuracy and high performance. Earlier research has been done by defining certain techniques for image search and image extraction. My main focus is to satisfy the user by allocating the image as soon as possible and from the nearby location. Work has been done as follows:

- User enters any keyword to search the relevant images.
- We searched the images of that keyword in our database. It is possible that there can be multiple copies of a particular image on different locations of different servers.
- We calculate the distance between the user and the location of the server.
- Accordingly we found the nearest location of the server with respect to the database.
- Retrieve the image by using best suitable path.

B. Methodology

Many techniques have already been defined for image searching and image retrieval, my aim was to define such a technique which should be easily chosen for fast image searching and retrieving it. My main motive was to search an image that is located at different locations of different servers and then trying to retrieve it according to user's perspective. The technology exists but is not such that image can be downloaded from nearby location. My research methodology requires gathering relevant data required for solving the problem. It requires a deep knowledge of all the concepts, methods and techniques that are already been defined in context to image searching and retrieving. It requires creating a large data set of the entire images that are being stored at different locations.



IV. Implementation

I have developed an application in .net where I have worked upon my problem formulation. I have developed a database in Sql Server 2008. I have developed a database in Sql Server which stores the images in two servers. Images are stored in the form of bytes. I have implemented an application in which image can be searched from two server's databases. There are two panels. First is Admin Panel where Admin can login into his account. Images can be uploaded in two databases of two servers. Admin can add images and delete images from the database. Admin can decide whether to download the image on server1 or sever2. Admin can view all the images by searching also. Second is User Panel where user can download image by simply typing a keyword. User enters the keyword whose image he or she want to download. Then I have used the technique of comparing the postcodes of the server with that of the user. I have used the concept of postal code and longitude-latitude for calculating the shortest path. I have calculated the longitude and latitude of two servers and the user's location.

Then I have compared the distances. Image will be displayed from the server which is close to the user. All the images present in the database of nearest server according to user's location is displayed. Then user can download the image from that location. On the user panel I have also used geo map locator which tells the location of a user where it is present. In this application I have used a function known as geolocator, geomaps, geocoder, latlong method, googlemaps. These functions are defined in my application for comparing the location of user with server1 and server2.

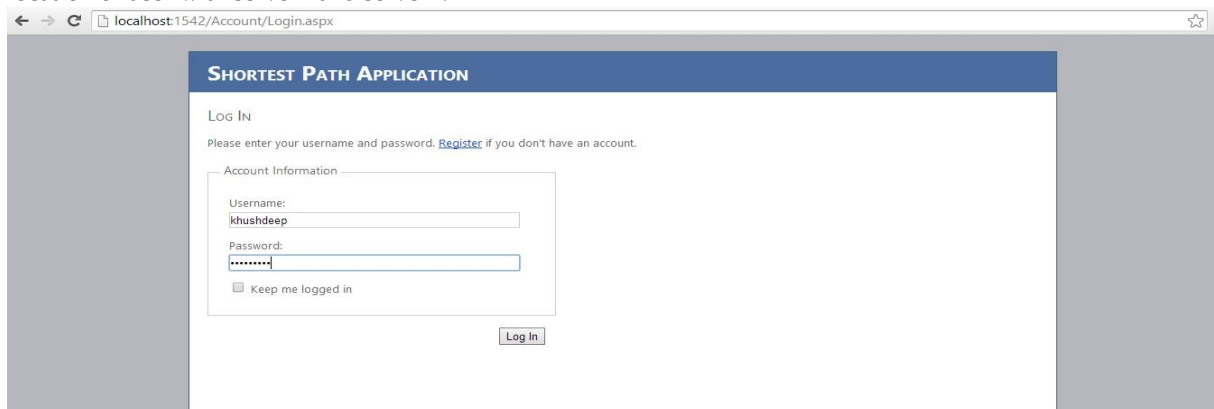


Figure-1 Admin Login Form



Figure-2 Image Upload at Server1

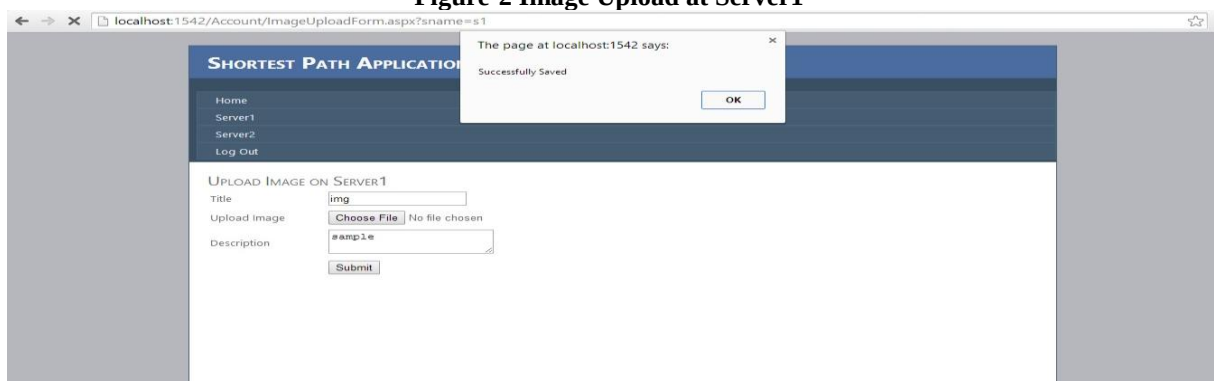


Figure-3 Image uploaded successfully

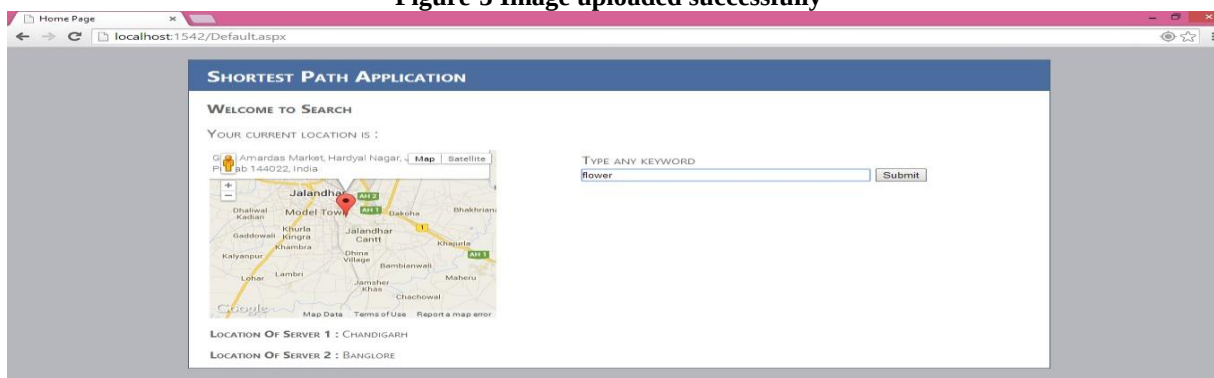


Figure-4 User types a keyword

All the images present in database of that respective keyword is displayed. It also mentions the location from where image can be downloaded.



Figure-5 Images retrieved from nearby location according to user's location

V. Conclusion and Future Scope

This paper presents image searching and retrieving according to user's perspective. Firstly I have stored the images in two databases of two servers. As per user's requirement image is retrieved from the location that is near to the user's location. I have developed an application that completes my research and shows the results appropriately.

VI. Future Scope

There are many techniques for searching and retrieving an image. I have defined a technique for image search and retrieval according to user's requirement. Many techniques for image search and retrieval according to user's perspective can be defined. I have used longitude latitude method and postcode method for retrieving the location, some different method can be defined in order to retrieve or compare the locations of different servers.

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