1. Report No: 3
2. Report Date:12/01/2018
3. Project Title: Face Recognition
4. Company Name: MSBC Solutions (India) Pvt. Ltd.
5. Tools/Technologies: Python , Flat Database
6. Work Done: 1. Requirement Gathering

2. Overview

3. Development Work Plan

4. Implementation through OpenCV

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1. Remarks (External Guide), if any
2. Remarks (Internal Guide), if any

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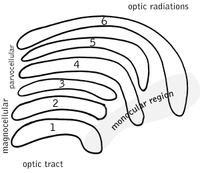
**Difference among image, photo and images**

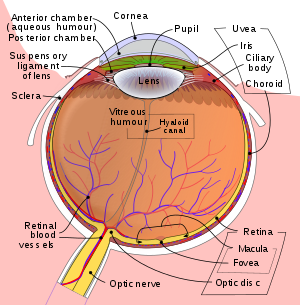
**Image:**   
Image is the picture which are saved in electronic form e.g. in our phone's gallery.

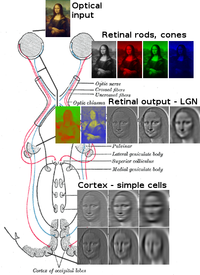
2-Dimesional Representation of visible light spectrum.  
  
**Photo:**   
Photo is a short form of photography. Basically photos are those pictures which are captured via camera.  
  
**Pictures:**   
Pictures are the paintings or drawings of anything created by humans.

How Human See Image.

Six Layers of visual processing of Human Visualization. Human can do more better image processing than current image processing system that are available.







Above image shows that processing of the getting optical output from the simple cells.

How Computer Store Images?

OpenCV uses RBG color space by default.

Each Pixel coordinate (x, y) contains 3 values ranging for intensities 0 to 255(8-bit).

* Red
* Green
* Blue

Mixing different intensities of each color gives us the full color spectrum.

* **Example** :- Yellow
  + **Red** – 255
  + **Green** – 255
  + **Blue** – 0

Images Are Stored In multi-dimensional arrays.

Black and White images are stored in 2-Dimensional arrays.

There are two types of B&W images.

* **Greyscale:** ranges of shades of grey
* **Binary:** pixels are either black or white

Image Processing Can done by many techniques and methods.

**2. Software Requirement Specification:**

**Project Title: Face Recognition**

**INTRODUCTION:**

**Purpose:**

Purpose of Building Face Recognition System is for the identifying the faces from image capturing devices or from the images and videos.

**Scope:**

The detailed scope of the project is described as below:

* On Boarding
  + Enable self-registration for consumer-facing scenarios and onboard partners using an on-behalf registration capability.
* Integrate securely
  + Authenticate cloud users with their on-premise credentials and use this service as proxy to other cloud or on-premises identity providers.
* Authentication with user name and password
* Single sign-on to app Users can log on to applications with their user name and applications on Single sign-on to applications on password.
  + Users can access multiple cloud applications in the current session by authenticating just once in the Identity Authentication.
* Customized privacy policy and terms of use management
  + Administrators can add customized terms of use and privacy policy, which users have to accept before registering. They are shown on the registration and upgrade forms.
* User import functionality
  + Administrators can import new users into Identity Authentication or can update data for existing users.
* User export functionality
  + Administrators can download information about existing users in the current tenant.
* User Management
  + Administrators can manage the users in the tenant. User Management
* Administrator Management
  + Administrators can add new administrators and edit administrator authorizations.
* User Groups
  + Administrators can create and delete user groups, and assign and unassign users.
* Self-services
  + Users can use services to maintain or update their user profiles and to log on to applications

**Objectives of the System Development**

The current existing systems have some difficult problem so for that reason we want to develop Identity authentication web portal.

* To manage the details of user.
* To transform in single sign on login.

**Goals of implementation:**

The goal of this system is to tackle these problems in an effective and optimal manner by:

* Make the system user-friendly by providing an intensive user interface.
* Easy access through queries and reports.
* Restricted data access to user thus providing additional security to data.

**Intended Audience and Users:**

* The user of the System are:
  + Admin
  + User

**Overview:**

**Environmental Characteristics:**

* **Hardware :**

Personal Computer, Laptop

* **Software:**

Text editor: Sublime,CMD

Database: PostgreSQL

Browser: Google Chrome, Mozilla Firefox

OS: Any

**Feasibility Study:**

Feasibility Study is the measure of how beneficial the development of information system will be to an organization. The feasibility analysis is categorized under four different types.

* Operational Feasibility
* Technical Feasibility
* Schedule Feasibility
* Economic Feasibility

**Operational Feasibility:**

The system will provide advantageous and reliable services to user. The system can be run within suitable environment, system will do operation under environment of limited resources.

**Technical Feasibility:**

It is planned to implement the system using Sublime, Window 10 Operating system, Database PostgreSQL.

Definitely these tools and technology has fully command and maintenance and development for this project in today and future in web designing. All tool done different work like HTML used for built a basic structure of this project, CSS for the design of this project, JavaScript used for different alert, php used for database connectivity like insert,view,delete and update the data.

**Schedule Feasibility:**

We give time round about 4 month for the development of this project.How much time on every task is spent shows on this Gantt chart.

**Economic Feasibility**: Economic feasibility have more two type.

Cost Estimation, further two types in which 1. One time cost 2. Recurring Cost.

1.One time cost: Before the development of project in which we used Laptop, OS,

Application: Sublime, Google Chrome.

Total cost before development is round about 50000.

2.Recurring Cost: There are two type ongoing estimation 1.Operational Cost 2. Maintenance Cost.

We have our own website and we also have extra tools and technology. If there occur

any fault in these components then its cost round about 10000.

**Functional Requirements:**

**1.Admin:**

* Login:

Description: Admin can login into system by entering username and password.

I/p: Admin Username & Password

O/p: Successful or unsuccessful message

* Manage Users:

Description: Admin can manage user.

I/p: Add user, Remove user.

O/p:User details

**2.User:**

* Registration:

Description: User can register into system.

I/p: user register

o/p: registration successful.

* Login:

Description: user can login into System by entering username and password.

I/P: User Username & Password

O/p: Successful or unsuccessful message

**Non Functional Requirements:**

**Performance:**

The system must be interactive and the delays involved must be less .So in every action- response of the system, there are no immediate delays. In case of opening windows forms, of popping error messages and saving the settings or sessions there is delay much below 2 seconds, In case of opening databases, sorting questions and evaluation there are no delays and the operation is performed in less than 2 seconds for opening ,sorting, computing, posting> 95% of the files. Also when connecting to the server the delay is based editing on the distance of the 2 systems and the configuration between them so there is high probability that there will be or not a successful connection in less than 20 seconds for sake of good communication.

**Reliability:**

As the system provide the right tools for discussion, problem solving it must be made sure that the system is reliable in its operations and for securing the sensitive details.

**Availability:**

If the internet service gets disrupted while sending information to the server, the information can be send again for verification.

**Usability:**

As the system is easy to handle and navigates in the most expected way with no delays. In that case the system program reacts accordingly and transverses quickly between its states.