EMPLOYEE MANAGEMENT SYSTEM

Submitted in partial fulfilment of the requirements of the

Degree

BACHELOR OF ENGINEERING IN **INFORMATION TECHNOLOGY**

By

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(Academic Year 2020-21)

CERTIFICATE

This is to certify that the Mini Project entitled "**Employee Management System"** is a bonafide work of **Aryan Dubey (6), Shubham Rawool (40), Ashish Shingade (52) , Aaryan Swami (56)** submitted to the University of Mumbai in partial fulfilment of the requirement for the award of the degree of **"Bachelor of Engineering"** in **"Information Technology" .**

(Prof._____)

Supervisor

(Prof._____)

Head of Department

(Prof._____)

Principal

Mini Project Approval

This Mini Project entitled **Employee Management System** by **Aryan Dubey (6), Shubham Rawool (40), Ashish Shingade (52) , Aaryan Swami (56)** is approved for the degree of **Bachelor of Engineering** in **Information Technology.**

Examiners

1……

(Internal Examiner Name & Sign)

2……

(External Examiner name & Sign)

Date: 23/05/2021

Place:

Contents

1. Introduction

Introduction:

This gives us a brief theoretical preview upon the existing Employee Management System and goes through the essence of the problem that should be resolved.

Motivation:

We took upon this project because the existing system did not meet the need of the clients because it was too time consuming and difficult to keep record of. This project aims to simplify the task of maintaining records of the employees of Company.

- To develop a well-designed database to store employee information.
- Provides full functional reports to management of Company.
- The objective of this project is to provide a comprehensive approach towards the management of employee information.

Problem Statement:

- Employee Management System is a Desktop application, developed using Python and SQLite to maintain the details of employees working in any organization.
- The EMS has been developed to override the problems prevailing in the practicing manual system.
- The system works locally. It maintains the information about the personal and official details of the employees.

2. Literature Survey:

- **Manual System**
  - The records are maintained in registers.
  - Time consuming process.
  - Complicated searching, editing & updating.
- **Proposed System**
  - Helps in maintaining the computerized employee details.
  - Create new Department in the system accordingly.
  - Create, View, Update, Delete Employee records in the System

Mini Project Contribution:

Aaryan Swami - ER diagram, Frontend, Report, Survey, Analytics.

Shubham Rawool - Backend, Database, Functionalities of project, automation, web scraping.

Aryan Dubey - Backend, Database, Problem statement, Analytics.

Ashish Shingade - Frontend, Flow diagram, Logbook, Objectives, Ppt

3. Proposed System (eg New Approach of Data Summarization)

Architecture/Framework:

- Our system has main interface of Admin Login which provides confidentiality of the system. Beyond this we have other interfaces which can be discussed as follows:
- Main Page:
    - Admin can either choose to manage Department or Employees from this page.
    - Also, the page shows the current location of Admin and its temperature.
- Department:
    - Admin can create a new Department as per the company's requirements
    - Also, admin can view Departments present in the company.
- Employee:
    - Admin can add, view, update, delete and search Employee records from the database.
- Analytics:
    - Admin can visualize total number of employees working in each department through a pie chart.
    - Admin can view Salary bar graph of all employees and compare them.
    - Admin can view the performance of all the Employees comparatively.
    - The Graph is plotted using the package matplotlib.pyplot by retrieving the data of Employees from the database.

AUTOMATION IN PROJECT:

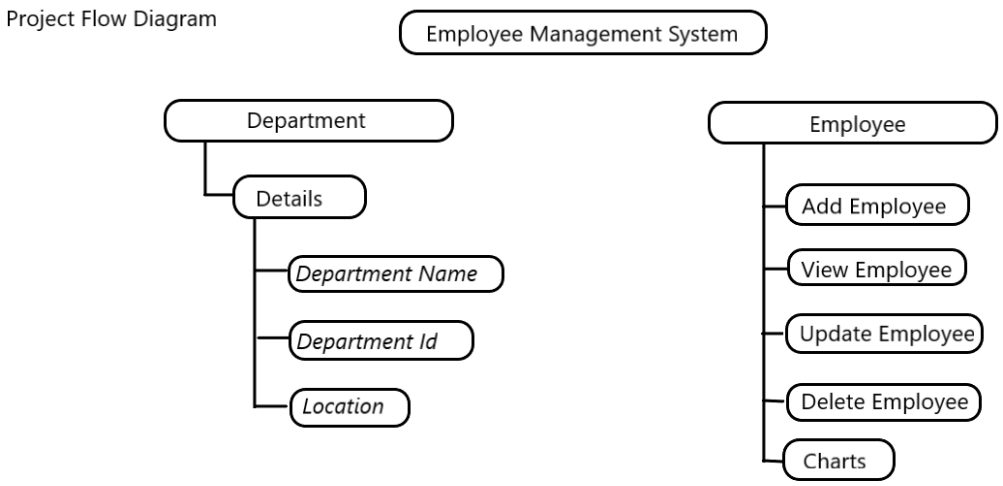
- Automated Email to the Employee:
    - An automated email is sent to the Employee on Addition of his records into the Database.
    - The Email ID of the Employee is retrieved from the database and the email is sent successfully which keeps the Employee up-to-date with his Records.

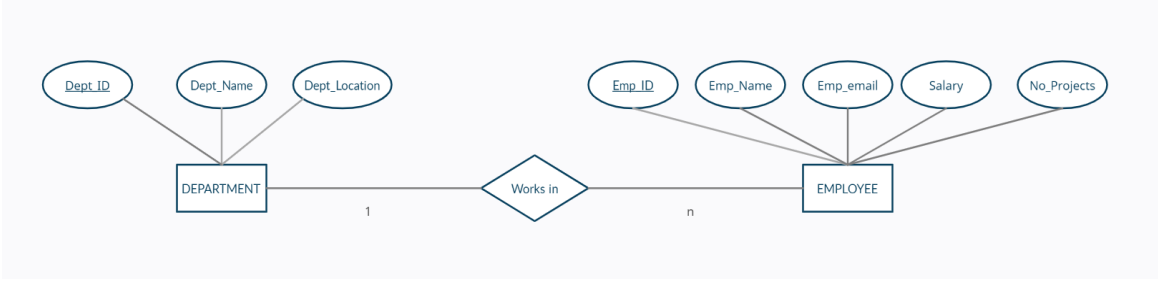
- Location using API:
    - The current location of the admin is traced using his IP Address by the API "ipinfo.io"

- Temperature using API:
    - The temperature of current location of admin is found using the API "api.openweathermap.org"

- Quote of the Day using Data Extraction:
    - Quote of the Day is extracted from the website "brainyquote.com" using BeautifulSoup.
    - Reading new Quotes everyday will provide some motivation to the reader.

Algorithm and Process Design:

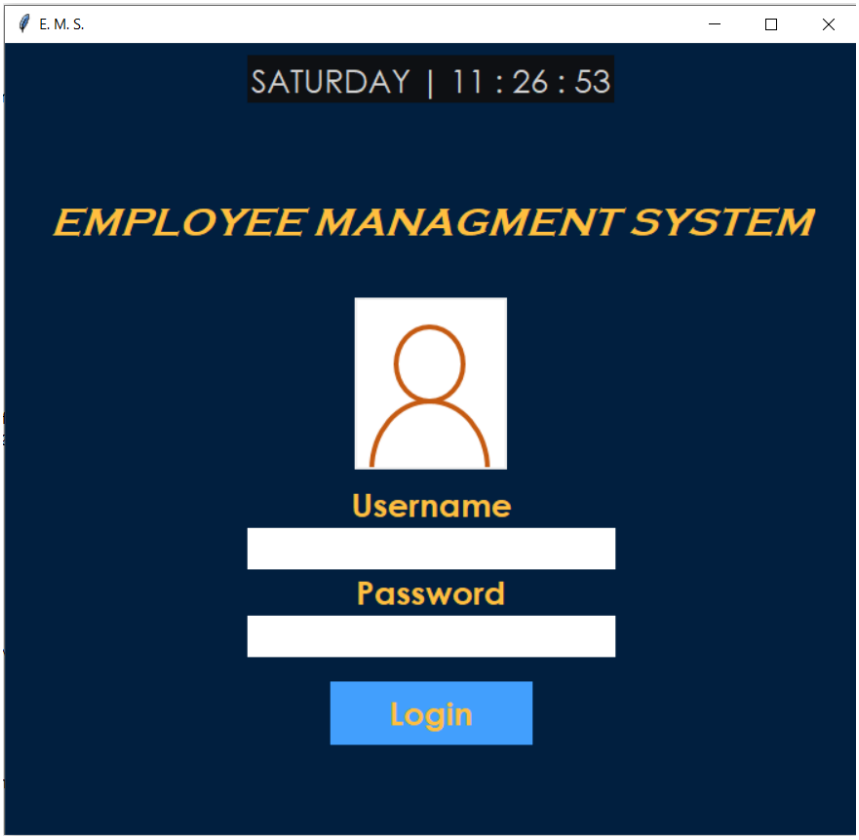


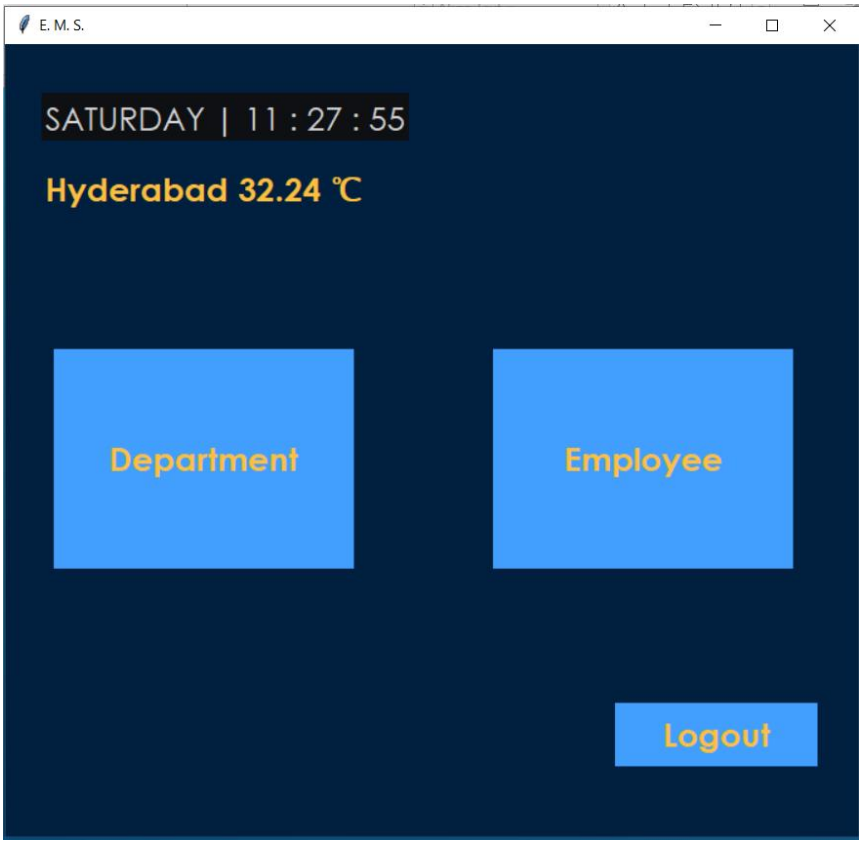


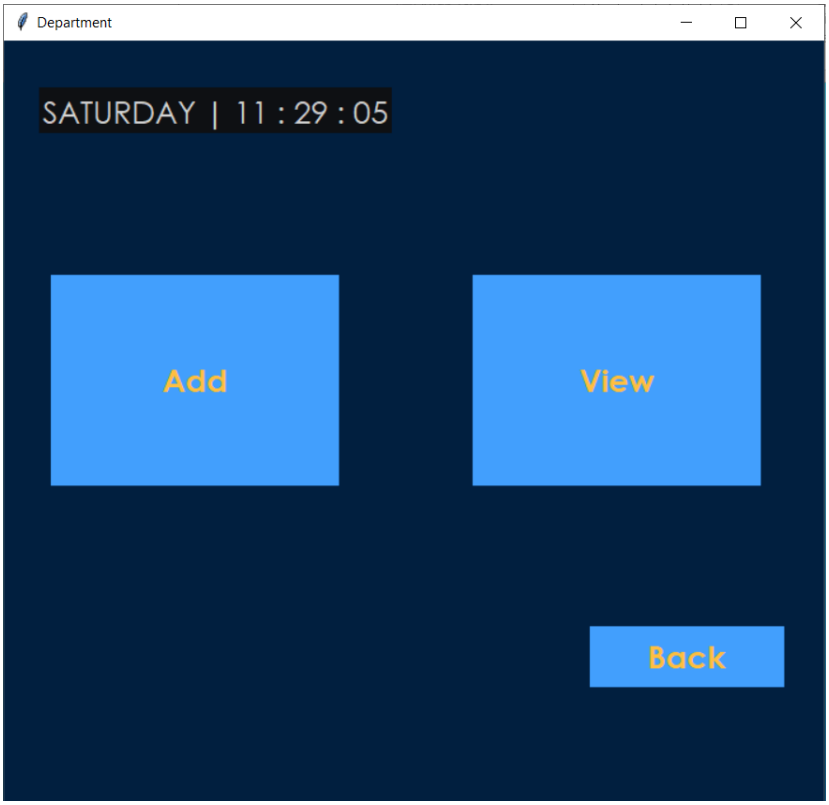
Details of Hardware & Software:

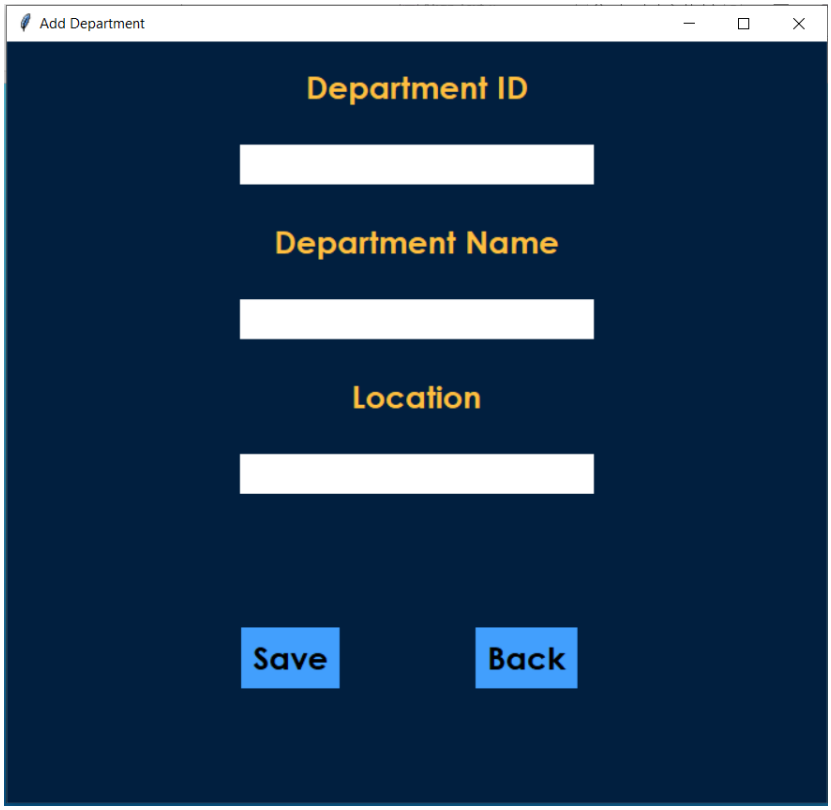
- Python Tkinter For GUI (FRONTEND).
- Sqlite3 For Database (BACKEND).
- Libraries used:
  - matplotlib library for plotting Graphs.
  - requests, bs4 for data scraping.
  - smtplib for automation.
  - datetime for Date and time.

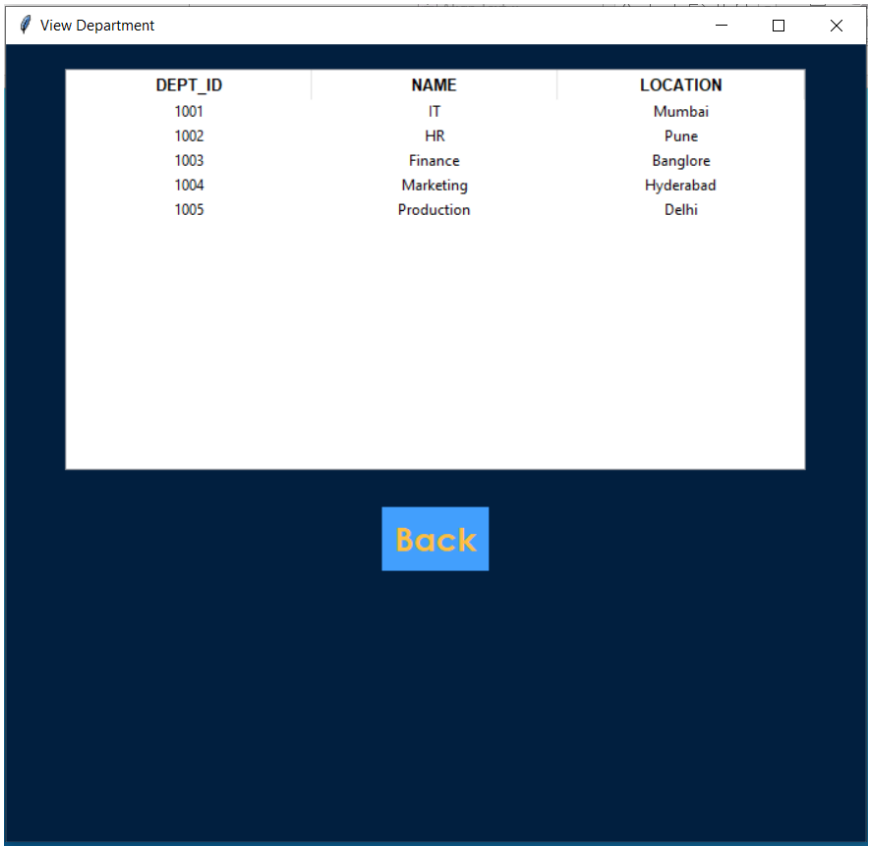
Experiment and Results:

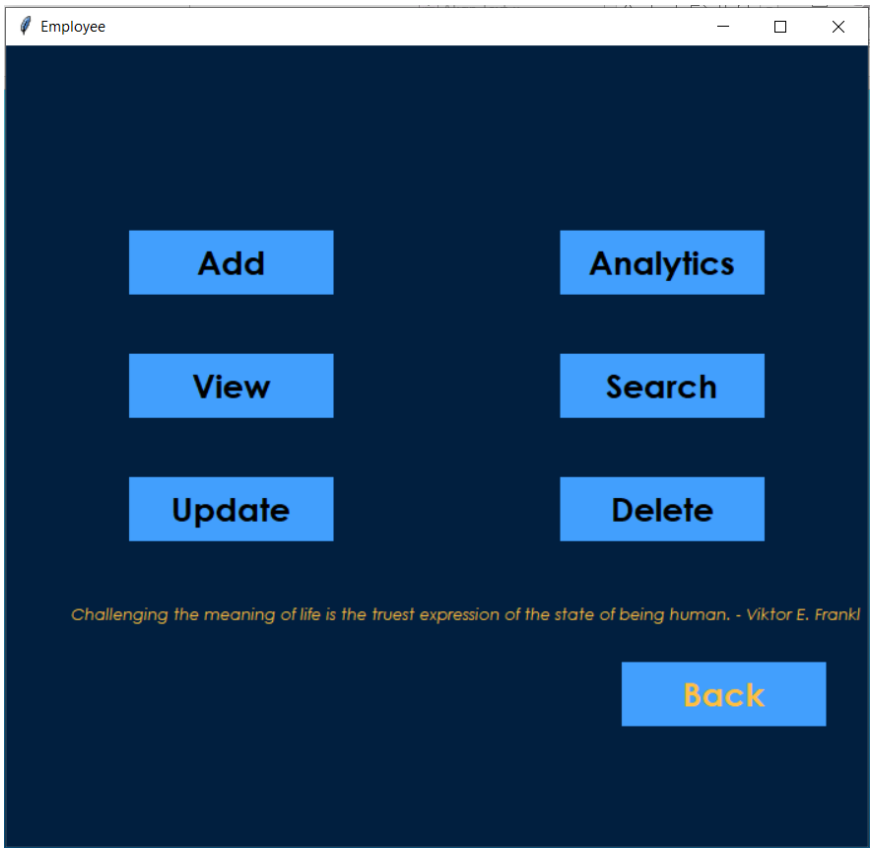


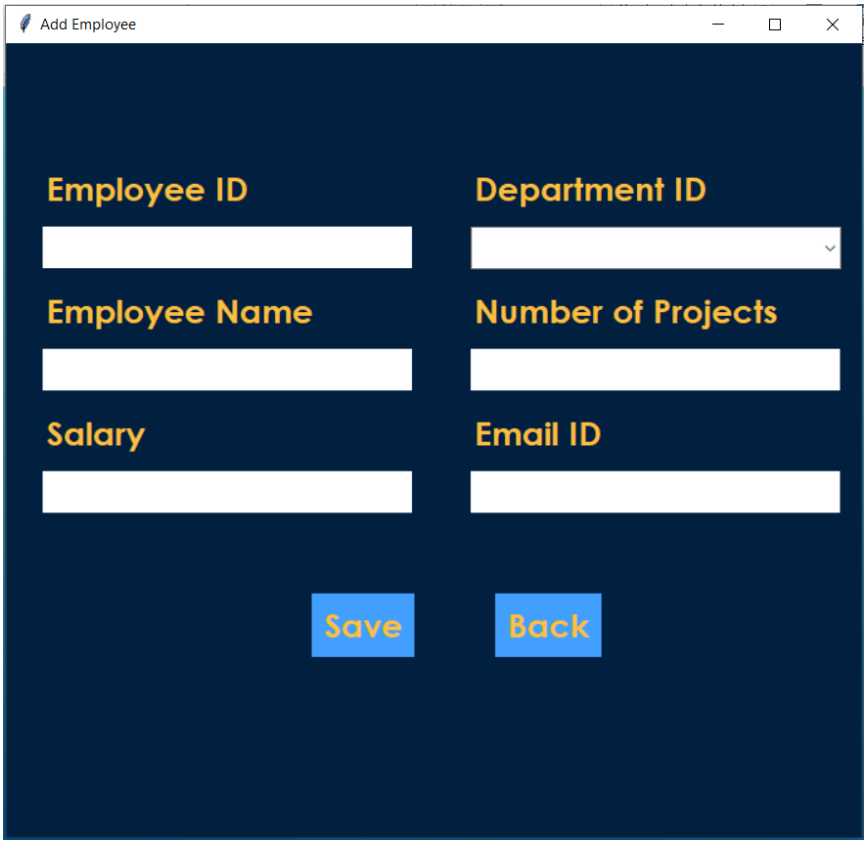



Department
SATURDAY | 11 : 29 : 05
Add
View
Back


Add Department
Department ID
Department Name
Location
Save
Back


View Department
DEPT_ID
NAME
LOCATION
1001
IT
Mumbai
1002
HR
Pune
1003
Finance
Banglore
1004
Marketing
Hyderabad
1005
Production
Delhi
Back

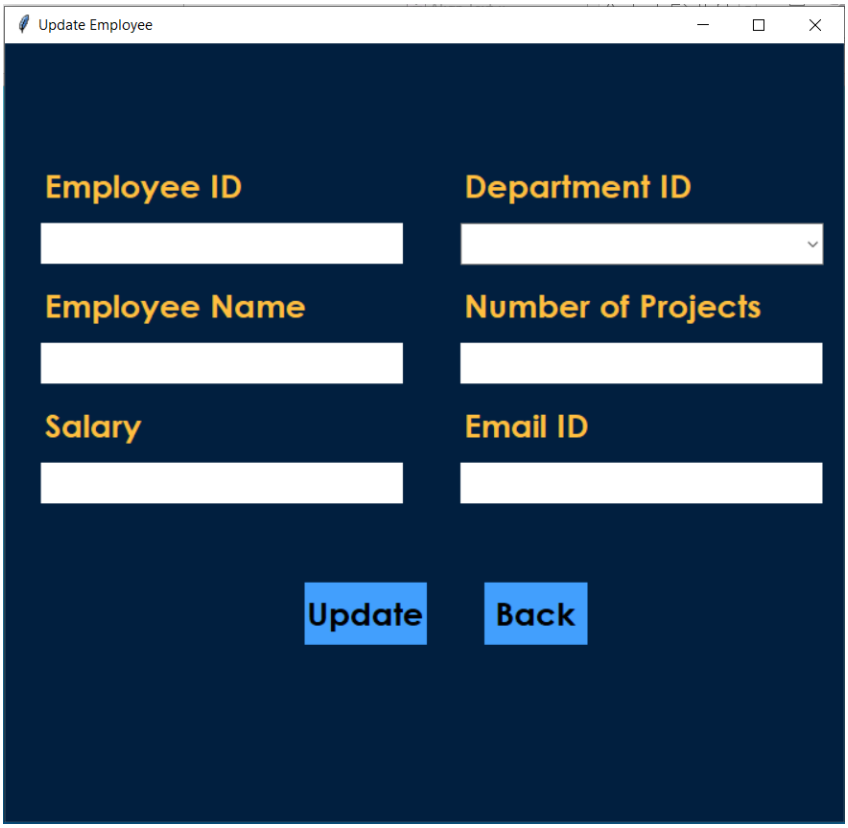

Employee
Add
Analytics
View
Search
Update
Delete
Challenging the meaning of life is the truest expression of the state of being human. - Viktor E. Frankl
Back

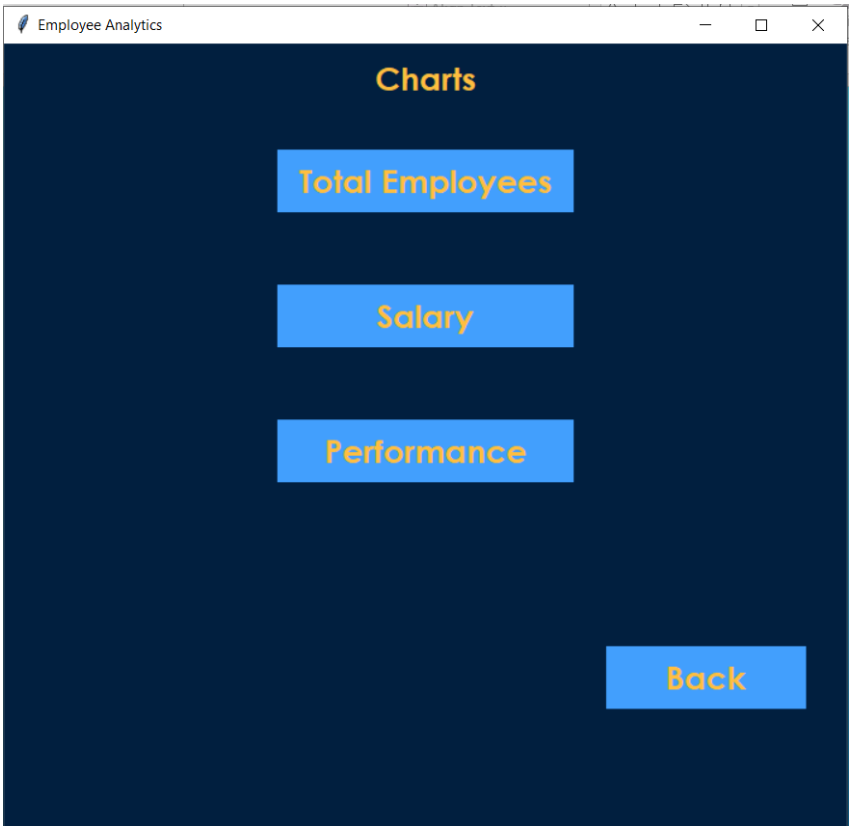


View Employee

EMP_ID	NAME	EMAIL	SALARY	PROJECTS	DEPT_ID
101	Shubham	shubham@gmail.com	60000	45	1001
102	Ashish	ashish@gmail.com	55000	40	1002
103	Aaryan	aaryan@gmail.com	55000	35	1003
104	Aryan	aryan@gmail.com	40000	45	1002
105	Saurabh	saurabh@gmail.com	45000	30	1001
106	Pratham	pratham@gmail.com	65000	55	1004
107	Nitish	nitish@gmail.com	30000	20	1005
108	Atharv	atharv@gmail.com	20000	10	1001
109	Pranjal	pranjal@gmail.com	25000	25	1004
110	Yash	yash@gmail.com	65000	55	1005

Back


Update Employee
Employee ID
Department ID
Employee Name
Number of Projects
Salary
Email ID
Update
Back


Employee Analytics
Charts
Total Employees
Salary
Performance
Back

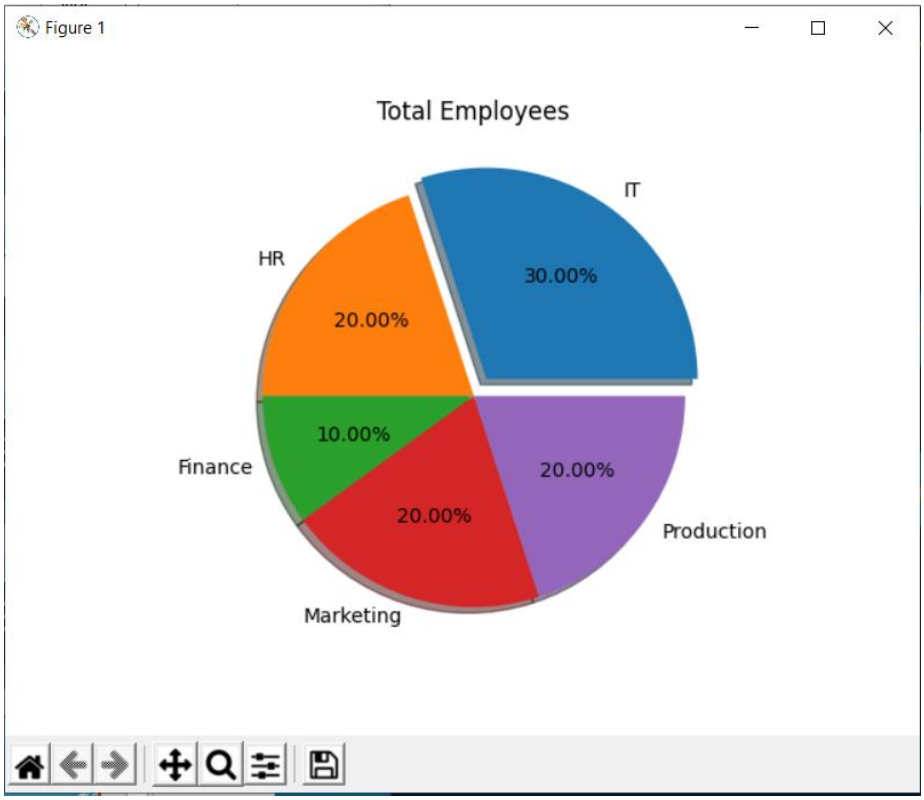


Figure 1
Total Employees
IT
30.00%
HR
20.00%
10.00%
Finance
20.00%
20.00%
Production
Marketing

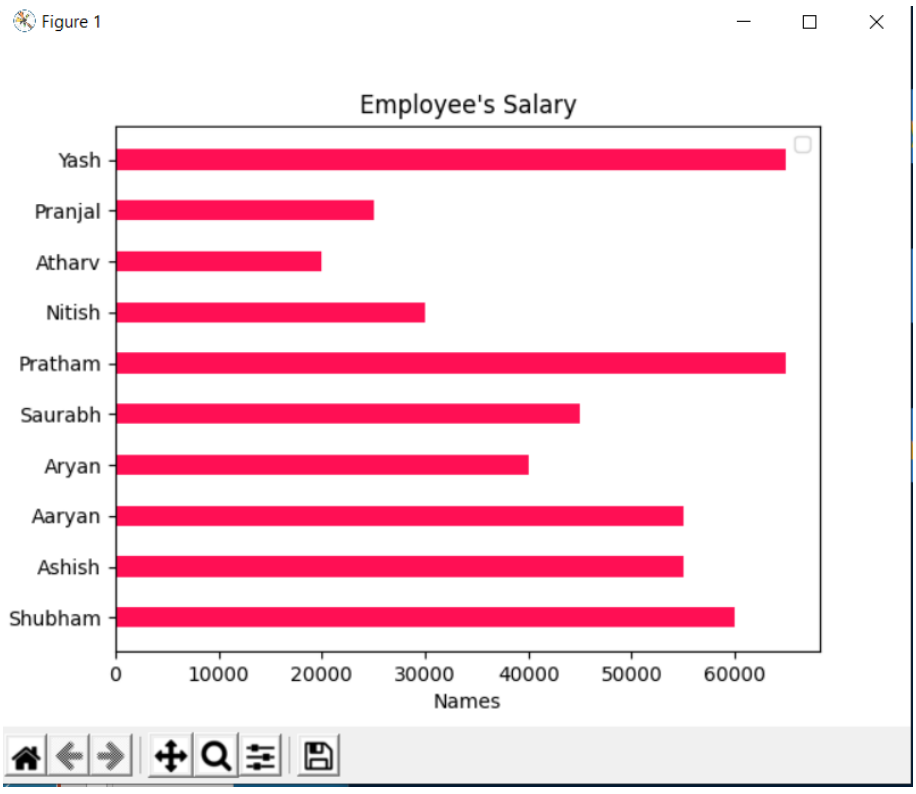


Figure 1
Employee's Salary
Yash
Pranjal
Atharv
Nitish
Pratham
Saurabh
Aryan
Aaryan
Ashish
Shubham
0
10000
20000
30000
40000
50000
60000
Names

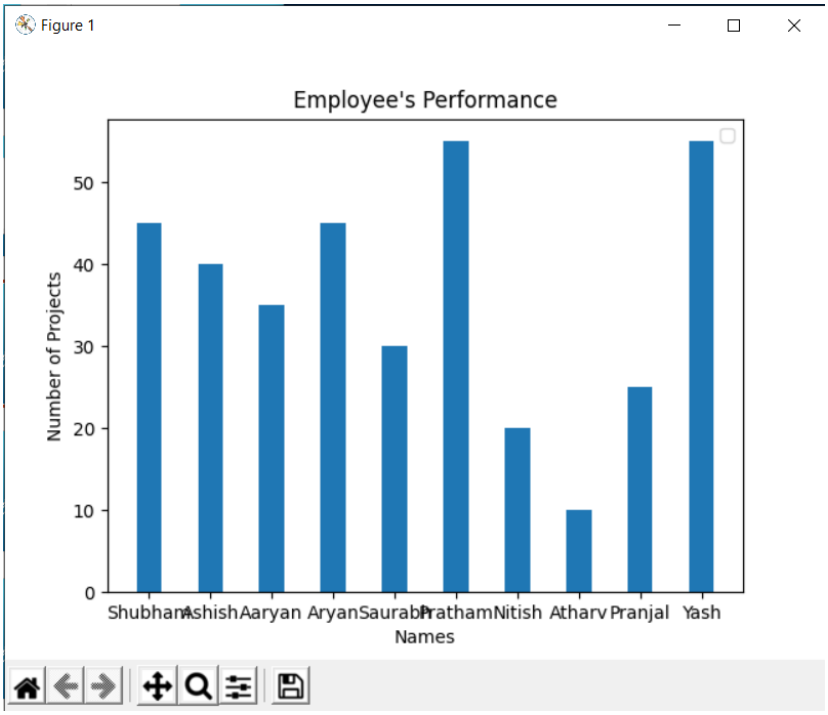
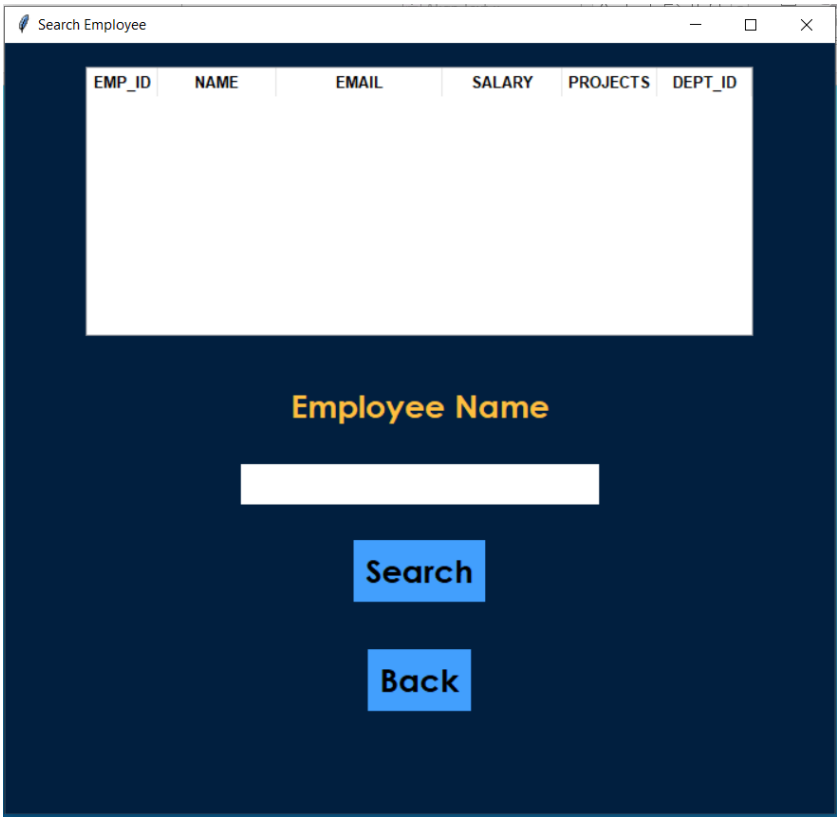
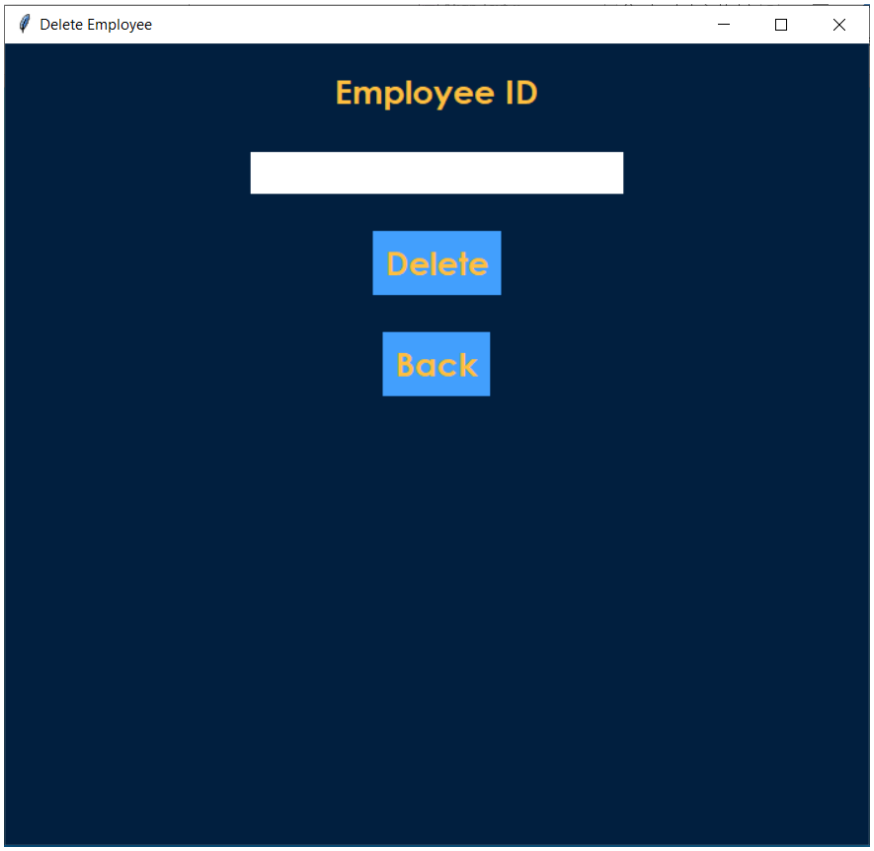


Figure 1
Employee's Performance
Number of Projects
0
10
20
30
40
50
Shubham
Ashish
Aaryan
Aryan
Saurabh
Pratham
Nitish
Atharv
Pranjal
Yash
Names


Search Employee
EMP_ID
NAME
EMAIL
SALARY
PROJECTS
DEPT_ID
Employee Name
Search
Back


Delete Employee
Employee ID
Delete
Back

Conclusion and Future Work:

- The project is to digitalize the database of Employees in Organizations and enabling Administrators to have benefit from Computers.
- Software acts as a Information System between Employees and administrators. Here the user can keep his/her database secure and safe for a unlimited period of time.
- Software provides Employee management System for Inserting, Updating, Searching and Deleting records with ease and simplicity.
- Data can be analyzed for management purpose of the company.
- We will provide a fresh new approach to our esteemed users to search for records and make databases in a digital way.

References:

- References YouTube, Python Documentation, Various GitHub repositories, etc
- https://www.ukessays.com/essays/information-technology/a-review-of-employee-management-systems-information-technology-essay.phpp