Attendance Marker

A REPORT

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DECLARATION

We hereby declare that the project entitled “Attendance Marker” submitted for the B. Tech. (CSE) degree is our original work and the project has not formed the basis for the award of any other degree, diploma, fellowship or any other similar titles.

Anirudh Damle

Animesh Gupta

Ashish Paliwal

Place: Guna

Date:

CERTIFICATE

This is to certify that the project titled" Attendance Marker " is the bona fide work carried out by Animesh Gupta, Anirudh Damle & Ashish Paliwal students of B Tech (CSE) of Jaypee University of Engineering and Technology, Guna (M.P) during the academic year 2021-2022, in partial fulfilment of the requirements for the award of the degree of Bachelor of Technology (Computer Science and Engineering) and that the project has not formed the basis for the award previously of any other degree, diploma, fellowship or any other similar title.

Signature of the Guide

Place: Guna

Date:

Acknowledgment

We would like to express our gratitude and appreciation to all those who gave us the opportunity to complete this project. Special thanks to our supervisor **Mr. Navaljeet Singh Arora** whose help, stimulating suggestions and encouragement helped us in all the time of development process and in writing this report. We also sincerely thanks for the time spent proofreading and correcting our many mistakes. We would also like to thank our parents and friends who helped us a lot in finalizing this project within the limited time frame.

Thanking you

Animesh Gupta
Anirudh Damle
Ashish Paliwal

Executive Summary

While taking attendance, there is always an issue of time and resources. Moreover, the classes, society, campus are getting smarter, need of a virtual attender (attendance marker) arises.

This project is a system that takes down students' attendance using barcode. Every student is provided with a card containing a unique barcode. Each barcode represents a unique id of students. Students just have to scan their cards using barcode scanner and the system notes down their attendance as per dates. System then stores all the students' attendance records and generates defaulter list. It also generates an overall report in excel sheet for admin.

Hence creating a fully functional attendance system to manage attendance of a class, campus, society, community Hassle-free. And automate the traditional attendance system by using authentication technique.

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Chapter 1

INTRODUCTION

1.1 Objective

Attendance Management System" is software developed for maintaining the attendance of the student on the daily basis in the collage. Here the staffs, who are handling the subjects, will be responsible to mark the attendance of the students. Each staff will be given with a separate username and password based on the subject they handle. An accurate report based on the student attendance is generated here. This system will also help in evaluating attendance eligibility criteria of a student. Report of the student's attendance on weekly and monthly basis is generated.

1.2 Project overview

In this time and age, technology is constantly achieving newer heights. The computer is no exception, too. The traditional attendance techniques are replaced with even better devices, such as the id barcode reader. The development of new technologies has realized and focused on the natural interaction between computer and human. Natural interaction consists of eyes, face, speech, and so on. But what device would feel more natural and intuitive than the human interaction.

Prototype if a warden accesses the software:

- Login and Sign-Up Page for the Students.
- Semester Information and Hostel Allotment Information of the same.
- Admin Access to all the Wardens.
- Students Information Update Page for the Wardens.

- Individual Level Access according to the Role Assigned.

- Centralized Database for all the Students.
- Ease of Access to all the Wardens for leave and emergency vacations.

The technology that we used is related to webcam and OpenCV libraries. We have been using Rapid Application Development (RAD) in developing the project.

There are four phases in this model:

Requirement Planning, User Design, Construction Phase, and Cutover Phase. Rapid Application Development is slightly different from the Systems development life cycle (SDLC). The Rapid Application Development is focus more on implementation and construction but less on design and documentation. Last but not least, we have arranged a time schedule to help in developing the project so that we would be able to finish the project in time.

Chapter 2

Related Work

2.1 Python

Python is an interpreted, object-oriented, high-level programming language with dynamic semantics. Its high-level built-in data structures, combined with dynamic typing and dynamic binding, make it very attractive for Rapid Application Development, as well as for use as a scripting or glue language to connect existing components together. Python's simple, easy to learn syntax emphasizes readability and therefore reduces the cost of program maintenance. Python supports modules and packages, which encourages program modularity and code reuse. The Python interpreter and the extensive standard library are available in source or binary form without charge for all major platforms, and can be freely distributed.

Often, programmers fall in love with Python because of the increased productivity it provides. Since there is no compilation step, the edit-test-debug cycle is incredibly fast. Debugging Python programs is easy: a bug or bad input will never cause a segmentation fault. Instead, when the interpreter discovers an error, it raises an exception. When the program doesn't catch the exception, the interpreter prints a stack trace. A source level debugger allows inspection of local and global variables, evaluation of arbitrary expressions, setting breakpoints, stepping through the code a line at a time, and so on. The debugger is written in Python itself, testifying to Python's introspective power. On the other hand, often the quickest way to debug a program is to add a few print statements to the source: the fast edit- test-debug cycle makes this simple approach very effective.

2.2 Tkinter

Tkinter is an open source, portable graphical user interface (GUI) library designed for use in Python scripts.

Tkinter relies on the Tk library, the GUI library used by Tcl/Tk and Perl, which is in turn implemented in C. Therefore, Tkinter can be said to be implemented using multiple layers.

Several competing GUI toolkits are available to use with the Python language, namely:

- wxPython: a wrapper extension for wxWindows, a portable GUI library originally developed for the C++ language. It is the second most popular GUI toolkit for Python since it is considered excellent for complex interface design.
- JPython (Jython): since it is implemented in java, JPython has access to Java GUI libraries, namely SWING and AWT. Recently, JTkinter has been implemented and provides a Tkinter port to JPython using the Java Native Interface (JNI).
- PyKDE / PyQt, PyGTK: these packages provide an access to KDE and Gnome GUI libraries to python scripts.
- Win32all.exe: provides access to Microsoft Foundation Classes (MFC) to python scripts. It is limited to run on MS Windows only
- WPY: a GUI library that can be used on both Microsoft Windows and UNIX X Windows. This library uses the MFC coding style.
- X11: a library based on the X Windows and Motif libraries allowing excellent control of the X11 environment, but are limited to run on X Windows OS's only.

2.3 Open CV

OpenCV (Open-Source Computer Vision Library) is an open-source computer vision and machine learning software library. OpenCV was built to provide a common infrastructure for computer vision applications and to accelerate the use of machine perception in the commercial products. Being a BSD-licensed product, OpenCV makes it easy for businesses to utilize and modify the code.

The library has more than 2500 optimized algorithms, which includes a comprehensive set of both classic and state-of-the-art computer vision and machine learning algorithms. These algorithms can be used to detect and recognize faces, identify objects, classify human actions in videos, track camera movements, track moving objects, extract 3D models of objects, produce 3D point clouds from stereo cameras, stitch images together to produce a high resolution image of an entire scene, find similar images from an image database, remove red eyes from images taken using flash, follow eye movements, recognize scenery and establish markers to overlay it with augmented reality, etc. OpenCV has more than 47 thousand people of user community and estimated number of downloads exceeding 18 million. The library is used extensively in companies, research groups and by governmental bodies.

Along with well-established companies like Google, Yahoo, Microsoft, Intel, IBM, Sony, Honda, Toyota that employ the library, there are many startups such as Applied Minds, VideoSurf, and Zeitera, that make extensive use of OpenCV. OpenCV's deployed uses span the range from stitching streetview images together, detecting intrusions in surveillance video in Israel, monitoring mine equipment in China, helping robots navigate and pick up objects at Willow Garage, detection of swimming pool drowning accidents in Europe, running interactive art in Spain and New York, checking runways for debris in Turkey, inspecting labels on products in factories around the world on to rapid face detection in Japan.

It has C++, Python, Java and MATLAB interfaces and supports Windows, Linux, Android and Mac OS. OpenCV leans mostly towards real-time vision applications and takes advantage of MMX and SSE instructions when available. A full-featured CUDA and OpenCL interfaces are being actively developed right now. There are over 500 algorithms and about 10 times as many functions that compose or support those algorithms. OpenCV is written natively in C++ and has a templated interface that works seamlessly with STL containers.

2.4 Pandas

Pandas is a Python library for data analysis. Started by Wes McKinney in 2008 out of a need for a powerful and flexible quantitative analysis tool, pandas have grown into one of the most popular Python libraries. It has an extremely active community of contributors.

Pandas is built on top of two core Python libraries—matplotlib for data visualization and NumPy for mathematical operations. Pandas acts as a wrapper over these libraries, allowing you to access many of matplotlib's and NumPy's methods with less code. For instance, pandas. plot () combines multiple matplotlib methods into a single method, enabling you to plot a chart in a few lines.

Before pandas, most analysts used Python for data munging and preparation, and then switched to a more domain specific language like R for the rest of their workflow. Pandas introduced two new types of objects for storing data that make analytical tasks easier and eliminate the need to switch tools: Series, which have a list-like structure, and Data Frames, which have a tabular structure.

2.4 NumPy

NumPy is the fundamental package for scientific computing in Python. It is a Python library that provides a multidimensional array object, various derived objects (such as masked arrays and matrices), and an assortment of routines for fast operations on arrays, including mathematical, logical, shape manipulation, sorting, selecting, I/O, discrete Fourier transforms, basic linear algebra, basic statistical operations, random simulation and much more.

At the core of the NumPy package, is the object. This encapsulates *n*-

dimensional arrays of homogeneous data types, with many operations being performed in compiled code for performance. There are several important differences between NumPy arrays and the standard Python sequences:

- NumPy arrays have a fixed size at creation, unlike Python lists (which can grow dynamically). Changing the size of an will create a new array and delete the original.
- The elements in a NumPy array are all required to be of the same data type, and thus will be the same size in memory. The exception: one can have arrays of (Python, including NumPy) objects, thereby allowing for arrays of different sized elements.
- NumPy arrays facilitate advanced mathematical and other types of operations on large numbers of data. Typically, such operations are executed more efficiently and with less code than is possible using Python's built-in sequences.
- A growing plethora of scientific and mathematical Python-based packages are using NumPy arrays; though these typically support Python-sequence input, they convert such input to NumPy arrays prior to processing, and they often output NumPy arrays. In other words, in order to efficiently use much (perhaps even most) of today's scientific/mathematical Python-based software, just knowing how to use Python's built-in sequence types is insufficient - one also needs to know how to use NumPy arrays.

Chapter 3

Proposed Work

3.1 Problem Statement

While taking attendance, there is always an issue of time and resources while the classes techniques, classes, society, campus are getting smarter, need of a virtual attender (attendance marker) arises.

This project is to describe about the AI affiliated attendance software, which fulfils all attendance needs of a class, campus, society, community.

Attendance Management System is software developed for daily student attendance in schools, colleges and institutes. It facilitates to access the attendance information of a particular student in a particular class. This system will also help in evaluating attendance eligibility criteria of a student. By just a click on the mouse, the system will be able to produce the students' attendance report thus reducing the need for manual labor which is prone to human errors and time consuming.

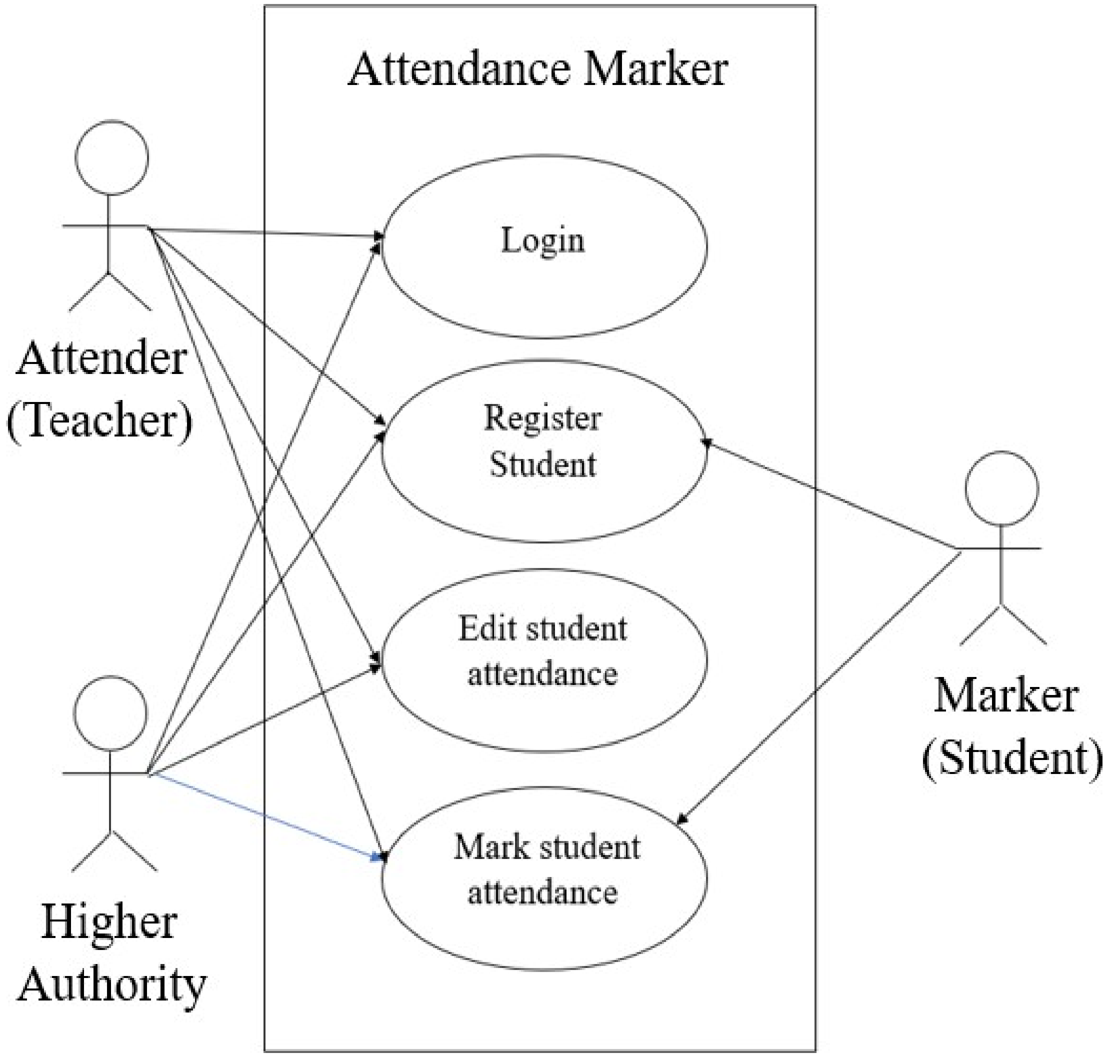
3.2 Outline

This report is divided into 3 parts. The first part is told about the introduction, problem statement, objective and scope of the entire project. Meanwhile, review on existing systems and current system and limitation are also cover in this part. Besides, this part also contains the method of approach and terminology.

In second part, the main focus is discussed about the methodology have been used to develop the system. In addition, this part also explaining the user requirements, flow chart, diagrams and the method use for the whole development process.

The last part is about the conclusion of the technical report. This part will conclude and summarize the important point for the entire project.

3.3 Use case Diagram



Explanation:

- Attender (Teacher) can do multiple things:

- Login
- Register the student details
- Edit the student details
- Watch student attendance

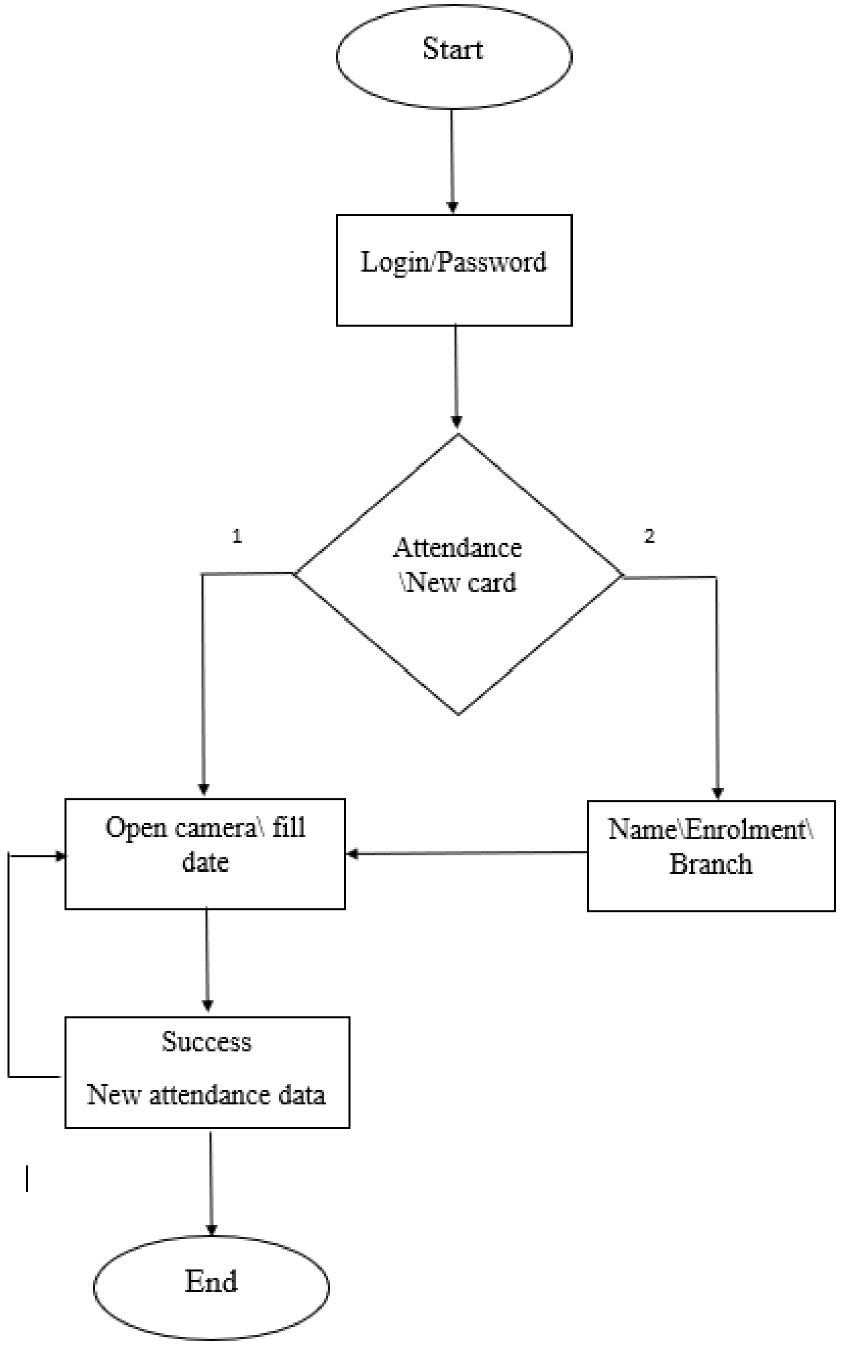
- Higher authority can do multiple things:

- Login
- Register the student details
- Edit the student details
- Watch student attendance
- Can manipulate attendance if needed

- Marker (Student) can only:

- Register themselves
- Mark attendance

3.4 Flow Chart



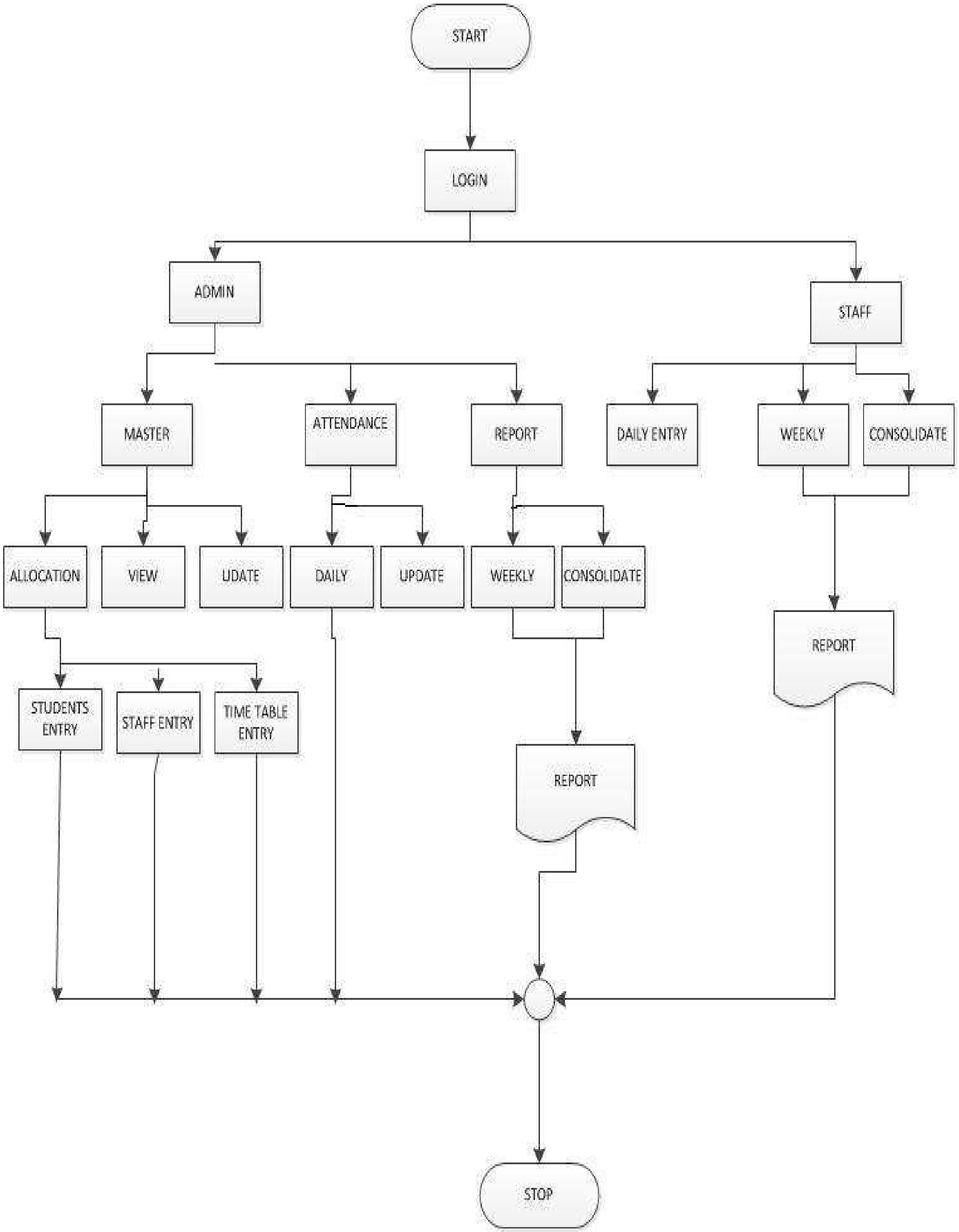
Flow chart for attendance marker system

Explanation:

- Starting with user can login with password.
- Attender can enter new card holder entry or take attendance.
- Camera will open enter the date.
- Or the attender will enter the student details.
- The detail will be:

    - Name
    - Enrolment
    - Branch
    - Contact no
    - After successful data entry database will get update.
    - Or new attendance will be recorded in database.
    - End

3.5 Flow Diagram



3.6.1 DFD level 0:

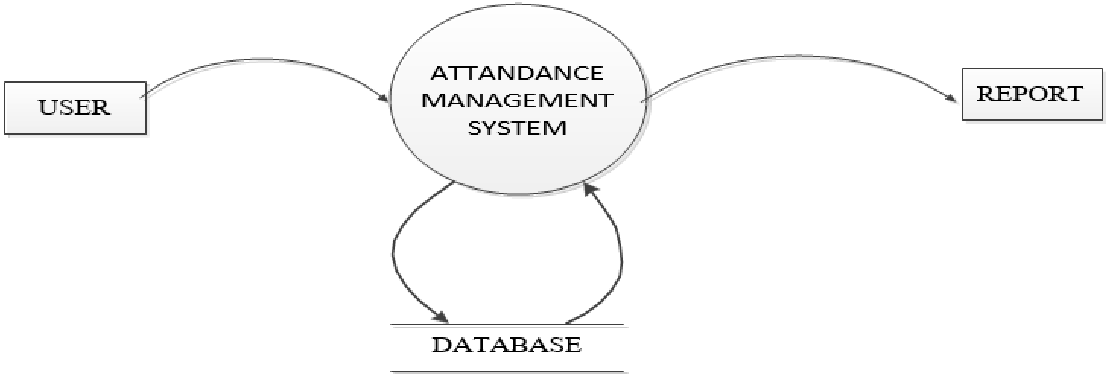


Figure 3.6.1: Data flow diagram level 0

3.6.2 DFD level 1:

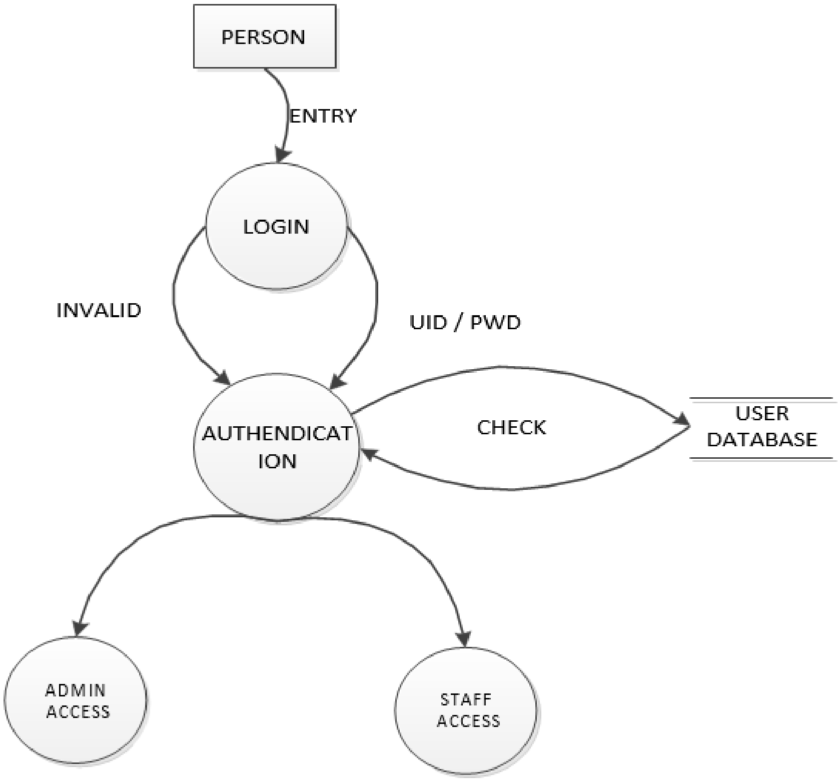


Figure 3.6.2: Data flow diagram level 1

3.7.3 DFD level 3:

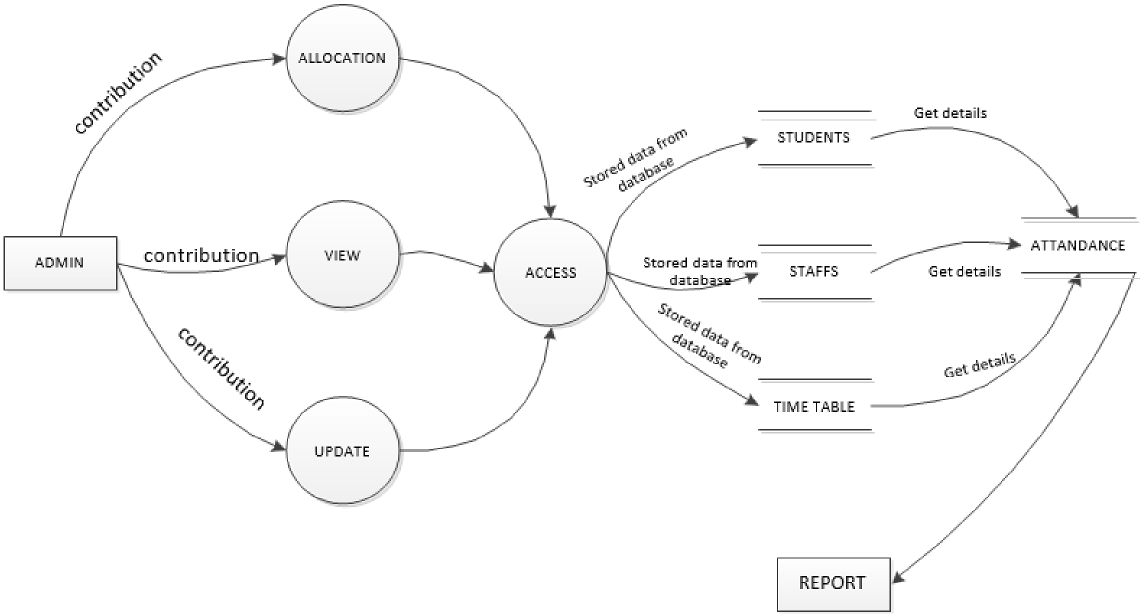


Figure 3.7.3: Data flow diagram level 3

3.6.4 DFD level 4:

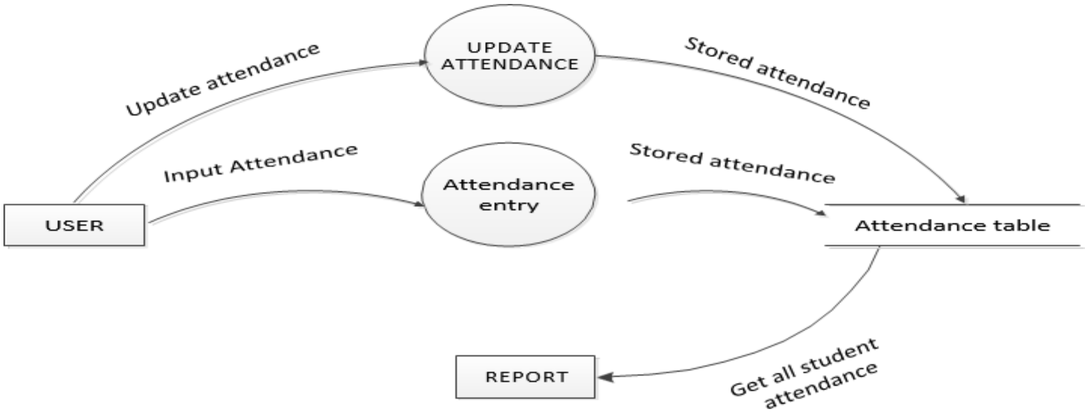


Figure 3.7.4: Data flow diagram level 4

3.7 Database Design:

3.7.1 Login table:

- To create a login detail for the table.

FIELDS	DATATYPE	CONTRAINTS	DESCRIPTION
Table name	varchar(20)	Primary key	Stored number of tables from login

3.7.2 Staffs table:

- To create username and password for the staff details.

FIELDS	DATATYPE	CONSTRAINTS	DESCRIPTION
Scode	varchar(20)	primarykey	Define separate subject code id
ssname	Varchar(15)	NotNull	Short subject name (ex:cpp)
sname	Varchar(20)	NotNull	Staffs name
Password	Varchar(20)	NotNull	Staff login password

3.7.3 Staffs table:

- To create table for Student personal details for our department.

FIELDS	DATATYPE	CONSTRAINTS	DESCRIPTION
Rollno	Varchar(15)	Primarykey	Student rollnumber
Name	Varchar(20)	NotNull	Student name
Dept	Varchar(30)	NotNull	Department name
Year	Number	NotNull	Batch year
DOB	Varchar(20)	NotNull	Student date of birth
ADDRESS	Varchar(20)	NotNull	Student permanent address

3.7.4 Attendance table:

- To create attendance details for particular class.

FIELDS	DATATYPE	CONSTRAINTS	DESCRIPTION
Dates	Date	Primarykey	Enter day by day attendance
Hour	Number	primarykey	Set particular hour only
Subject	Varchar(15)	NotNull	Particular Subject
Rollno (1 to 60)	Varcahar(20)	NotNull	Enter Present absent details in particular student(ex:M11 MCA001)

3.8 Hardware Specifications

Hardware Specifications represent the minimum hardware requirements required for smooth working of our project. Hardware Requirements cover everything from basic computing hardware to advance software needed in order to access our code and be able to execute the same as well.

Component	**Minimum**	**Recommended**
Processor	1.9 gigahertz (GHz) x86- or x64-bit dual core processor with SSE2 instruction set	3.3 gigahertz (GHz) or faster 64-bit dual core processor with SSE2 instruction set
Memory	2 GB RAM	4 GB RAM+
Display	Super VGA with a resolution of 1024 x 768	Super VGA with a resolution of 1024 x 768
Android Version	9.0	12.1

3.9 Software Specifications

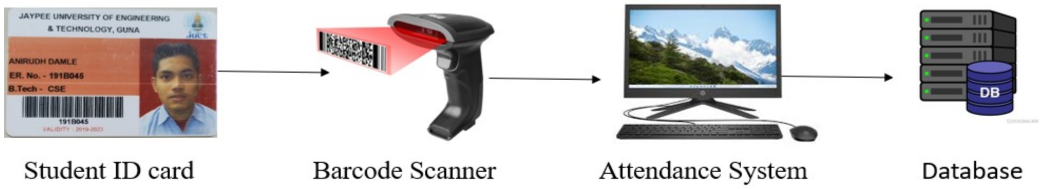
A software requirements specification (SRS) is a document that describes what the software will do and how it will be expected to perform. It also describes the functionality the product needs to fulfill all stakeholders needs.

- Any windows-based computer.
- SQLite3 for DBMS.
- Visual Studio Code (for running the software).

Chapter 4

Design and implementation

4.1 System Design



System design of attendance marker

Process:

First:

- Student Id card will be scanned by them using barcode reader.

Second:

- A program in attendance system recognizes it with the help of barcode reader.

Third:

- After recognition the program will store data in database.

4.2 System Testing

4.2.1 Introduction

Once source code has been generated, software must be tested to uncover (and correct) as many errors as possible before delivery to customer. Our goal is to design a series of test cases that have a high likelihood of finding errors. To uncover the errors software techniques are used. These techniques provide systematic guidance for designing test that

(1) Exercise the internal logic of software components, and

(2) Exercise the input and output domains of the program to uncover errors In program function, behavior and performance.

<u>Steps:</u>

Software is tested from two different perspectives:

(1) Internal program logic is exercised using ―White box‖ test case design Techniques.

(2) Software requirements are exercised using ―block box‖ test case Design techniques.

In both cases, the intent is to find the maximum number of errors with the Minimum amount of effort and time.

4.2.2 Testing Methodologies:

A strategy for software testing must accommodate low-level tests that are necessary to verify that a small source code segment has been correctly implemented as well as high-level tests that validate major system functions against customer requirements. A strategy must provide guidance for the Page

practitioner and a set of milestones for the manager. Because the steps of the test strategy occur at a time when deadline pressure begins to rise, progress must be measurable and problems must surface as early as possible. Following testing techniques are well known and the same strategy is adopted during this project testing.

Unit testing:

Unit testing focuses verification effort on the smallest unit of software design- the software component or module. The unit test is white-box oriented. The unit testing implemented in every module of student attendance management System. by giving correct manual input to the system, the data are stored in database and retrieved. If you want required module to access input or get the output from the End user. any error will accrue the time will provide handler to show what type of error will accrued.

System testing:

System testing is actually a series of different tests whose primary purpose is to fully exercise the computer-based system. Below we have described the two types of testing which have been taken for this project. it is to check all modules worked on input basis. if you want change any values or inputs will change all information. so specified input is must.

Performance testing:

Performance testing is designed to test the run-time performance of software within the context of an integrated system. Performance testing occurs throughout all steps in the testing process. Even at the unit level, the performance of an individual module may be assessed as white-box tests are conducted.

This project reduces attendance table, codes. it will generate report fast.no have extra time or waiting of results. entered correct data will show result few milliseconds. just used only low memory of our system. Automatically do not getting access at another software. Get user permission and access to other applications.

4.2.3 Test cases

Test case is an object for execution for other modules in the architecture does not represent any interaction by itself. A test case is a set of sequential steps to execute a test operating on a set of predefined inputs to produce certain expected outputs. There are two types of test cases: -manual and automated. A manual test case is executed manually while an automated test case is executed using automation.

In system testing, test data should cover the possible values of each parameter based on the requirements. Since testing every value is impractical, a few values should be chosen from each equivalence class. An equivalence class is a set of values that should all be treated the same.

Ideally, test cases that check error conditions are written separately from the functional test cases and should have steps to verify the error messages and logs. Realistically, if functional test cases are not yet written, it is ok for testers to check for error conditions when performing normal functional test cases. It should be clear which test data, if any is expected to trigger errors.

4.3 System implementation:

4.3.1 Purpose:

System implementation is the important stage of project when the theoretical design is tuned into practical system. The main stages in the implementation are as follows:

- Planning
- Training
- System testing and
- Changeover Planning

Planning is the first task in the system implementation. At the time of implementation of any system people from different departments and system analysis involve. They are confirmed to practical problem of controlling various activities of people outside their own data processing departments.

The line managers controlled through an implementation coordinating committee. The committee considers ideas, problems and complaints of user department, it must also consider:

- The implication of system environment
- Self-selection and allocation for implementation tasks
- Consultation with unions and resources available
- Standby facilities and channels of communication

Student Attendance management system will implement student details, staff handle subjects' details, separate login details, time table details. It will used to entered subject wise attendance. This application elaborates attendance table generate weekly, consolidate report provide to the End user. Mostly this application will calculate date wise attendance

. To select starting date to end date generate reports at the time of activities.

4.3.2 System maintenance:

Software maintenance is far more than finding mistakes. Provision must be made for environment changes, which may affect either the computer, or other parts of the computer-based systems. Such activity is normally called maintenance. It includes both the improvement of the system functions and the corrections of faults, which arise during the operation of a new system.

It may involve the continuing involvement of a large proportion of computer department recourses. The main task may be to adapt existing systems in a changing environment.

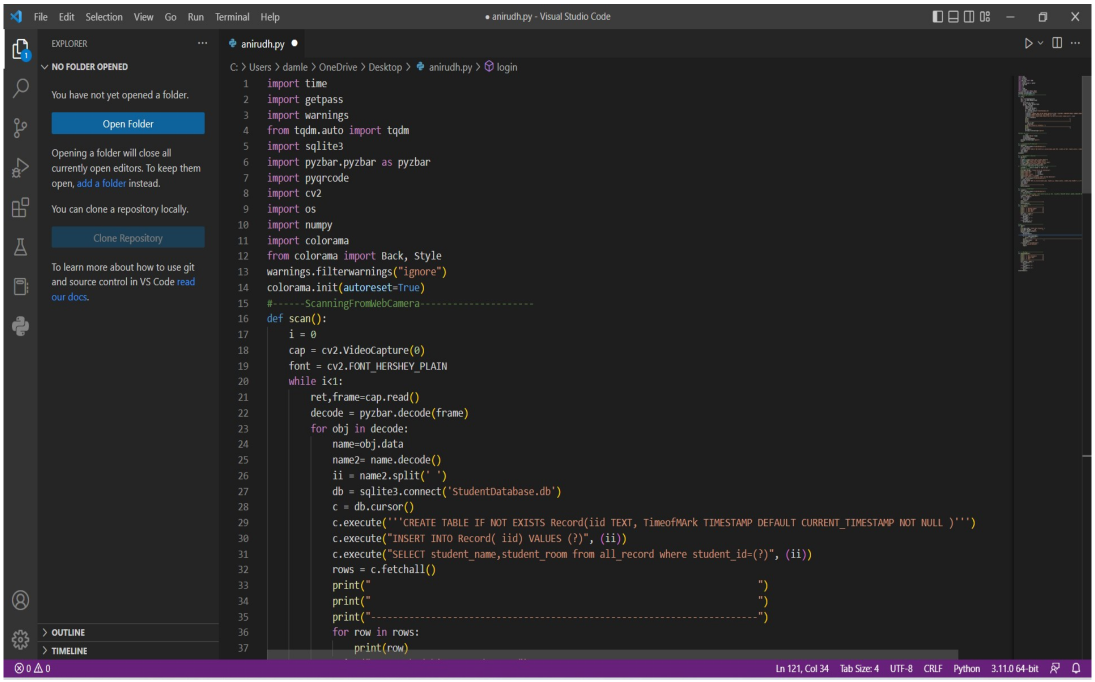
Back up for the entire database files are taken and stored in storage devices like flash drives, pen drives and disks so that it is possible to restore the system at the earliest. If there is a breakdown or collapse, then the system gives provision to restore database files. Storing data in a separate secondary device leads to an effective and efficient maintains of the system. The nominated person has sufficient knowledge of the organization's computer passed based system to be able to judge the relevance of each proposed change.

Chapter 5

Conclusion and future work

- A simple, easy, optimized, smooth running software which enables a fully functional attendance system to manage attendance of a class, campus, society, community Hassle-free.

- In future we will try to add face recognition module so that we can improve the efficiency and effectiveness of the program.



You have not yet opened a folder.

Opening a folder will close all currently open editors. To keep them open, add a folder instead.

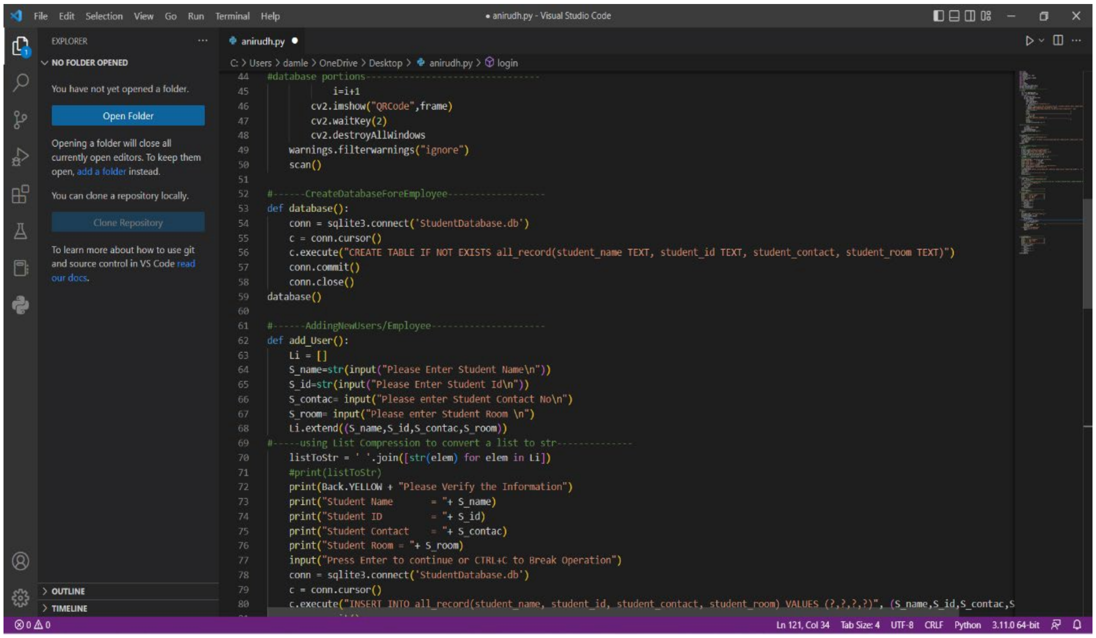
You can clone a repository locally.

To learn more about how to use git and source control in VS Code read our docs.

```python
import time
import getpass
import warnings
from tqdm.auto import tqdm
import sqlite3
import pyzbar.pyzbar as pyzbar
import pyqrcode
import cv2
import os
import numpy
import colorama
from colorama import Back, Style
warnings.filterwarnings("ignore")
colorama.init(autoreset=True)
#------ScanningFromWebCamera--------------------
def scan():
    i = 0
    cap = cv2.VideoCapture(0)
    font = cv2.FONT_HERSHEY_PLAIN
    while i<1:
        ret,frame=cap.read()
        decode = pyzbar.decode(frame)
        for obj in decode:
            name=obj.data
            name2= name.decode()
            ii = name2.split(' ')
            db = sqlite3.connect('StudentDatabase.db')
            c = db.cursor()
            c.execute('''CREATE TABLE IF NOT EXISTS Record(iid TEXT, TimeofMArk TIMESTAMP DEFAULT CURRENT_TIMESTAMP NOT NULL )''')
            c.execute("INSERT INTO Record( iid) VALUES (?)", (ii))
            c.execute("SELECT student_name,student_room from all_record where student_id=(?)", (ii))
            rows = c.fetchall()
            print("                                                                    ")
            print("                                                                    ")
            print("--------------------------------------------------------------------")
            for row in rows:
                print(row)
```

Figure 5.1

(The libraries that were used in the code)


File Edit Selection View Go Run Terminal Help
● anirudh.py - Visual Studio Code
EXPLORER
NO FOLDER OPENED
Open Folder
Clone Repository
OUTLINE
TIMELINE
anirudh.py
C: > Users > damle > OneDrive > Desktop > anirudh.py > login
⊗ 0 ⚠ 0
Ln 121, Col 34 Tab Size: 4 UTF-8 CRLF Python 3.11.0 64-bit

You have not yet opened a folder.

Opening a folder will close all currently open editors. To keep them open, add a folder instead.

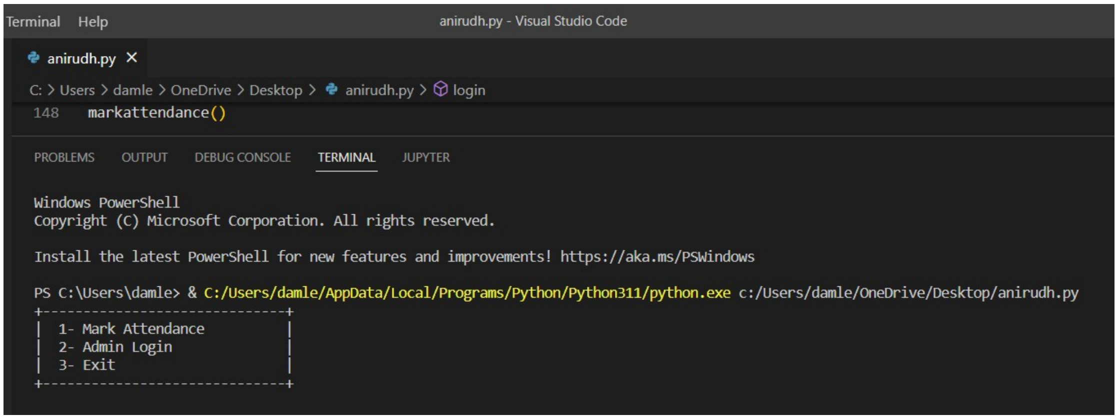
You can clone a repository locally.

To learn more about how to use git and source control in VS Code read our docs.

```python
#database portions-------------------------------
            i=i+1
        cv2.imshow("QRCode",frame)
        cv2.waitKey(2)
        cv2.destroyAllWindows
    warnings.filterwarnings("ignore")
    scan()

#------CreateDatabaseForeEmployee-----------------
def database():
    conn = sqlite3.connect('StudentDatabase.db')
    c = conn.cursor()
    c.execute("CREATE TABLE IF NOT EXISTS all_record(student_name TEXT, student_id TEXT, student_contact, student_room TEXT)")
    conn.commit()
    conn.close()
database()

#------AddingNewUsers/Employee--------------------
def add_User():
    Li = []
    S_name=str(input("Please Enter Student Name\n"))
    S_id=str(input("Please Enter Student Id\n"))
    S_contac= input("Please enter Student Contact No\n")
    S_room= input("Please enter Student Room \n")
    Li.extend((S_name,S_id,S_contac,S_room))
#-----using List Compression to convert a list to str-------------
    listToStr = ' '.join([str(elem) for elem in Li])
    #print(listToStr)
    print(Back.YELLOW + "Please Verify the Information")
    print("Student Name       = "+ S_name)
    print("Student ID         = "+ S_id)
    print("Student Contact    = "+ S_contac)
    print("Student Room = "+ S_room)
    input("Press Enter to continue or CTRL+C to Break Operation")
    conn = sqlite3.connect('StudentDatabase.db')
    c = conn.cursor()
    c.execute("INSERT INTO all_record(student_name, student_id, student_contact, student_room) VALUES (?,?,?,?)", (S_name,S_id,S_contac,S
```

Figure 5.2

(Creation of database and related entries.)


Terminal
Help
anirudh.py - Visual Studio Code
anirudh.py
C: > Users > damle > OneDrive > Desktop > anirudh.py > login
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
JUPYTER

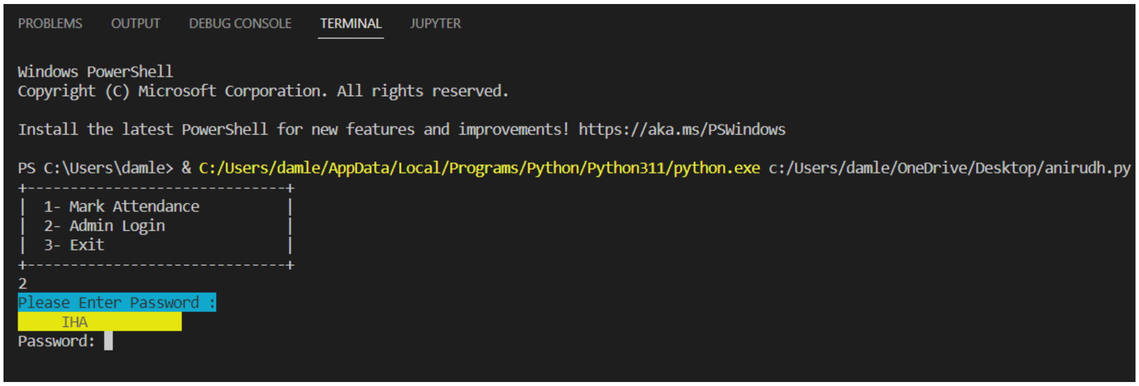
```
markattendance()
```

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\damle> & C:/Users/damle/AppData/Local/Programs/Python/Python311/python.exe c:/Users/damle/OneDrive/Desktop/anirudh.py
+-------------------------------+
|  1- Mark Attendance           |
|  2- Admin Login               |
|  3- Exit                      |
+-------------------------------+
```

Figure 5.3

(Interface of the program)

- Mark attendance
- Admin Login
- Exit

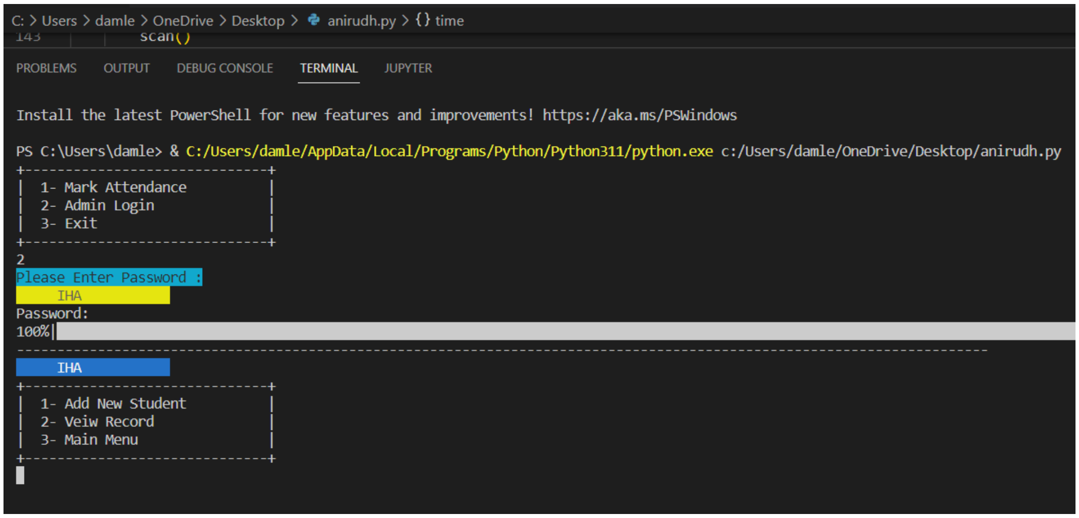


```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\damle> & C:/Users/damle/AppData/Local/Programs/Python/Python311/python.exe c:/Users/damle/OneDrive/Desktop/anirudh.py
+------------------------------+
|  1- Mark Attendance          |
|  2- Admin Login              |
|  3- Exit                     |
+------------------------------+
2
Please Enter Password :
     IHA
Password: 
```

Figure 5.4

(Admin login password)

Admin will login and will get some functions.


C: > Users > damle > OneDrive > Desktop > anirudh.py > {} time
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
JUPYTER

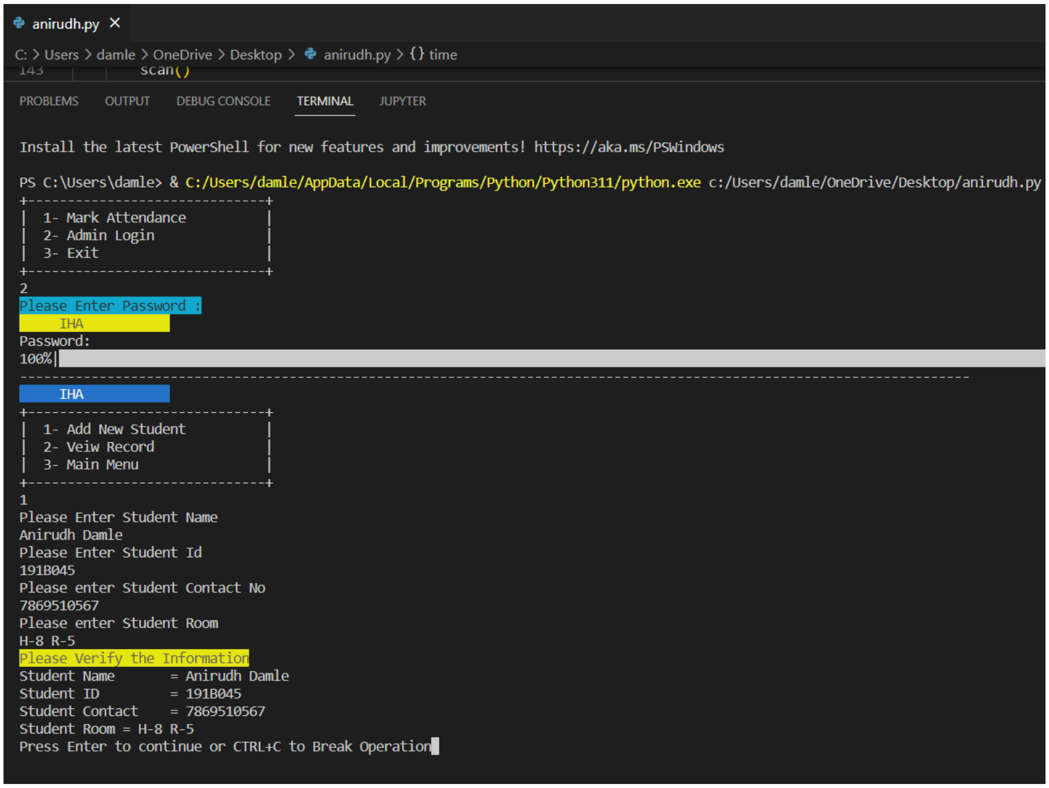
```
        scan()
```

```
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\damle> & C:/Users/damle/AppData/Local/Programs/Python/Python311/python.exe c:/Users/damle/OneDrive/Desktop/anirudh.py
+------------------------------+
|  1- Mark Attendance          |
|  2- Admin Login              |
|  3- Exit                     |
+------------------------------+
2
Please Enter Password :
     IHA
Password:
100%|
------------------------------------------------------------------------------------------------------------------------
     IHA
+------------------------------+
|  1- Add New Student          |
|  2- Veiw Record              |
|  3- Main Menu                |
+------------------------------+
```

Figure 5.4

(Admin login)

- Add new student
- View record
- Main menu

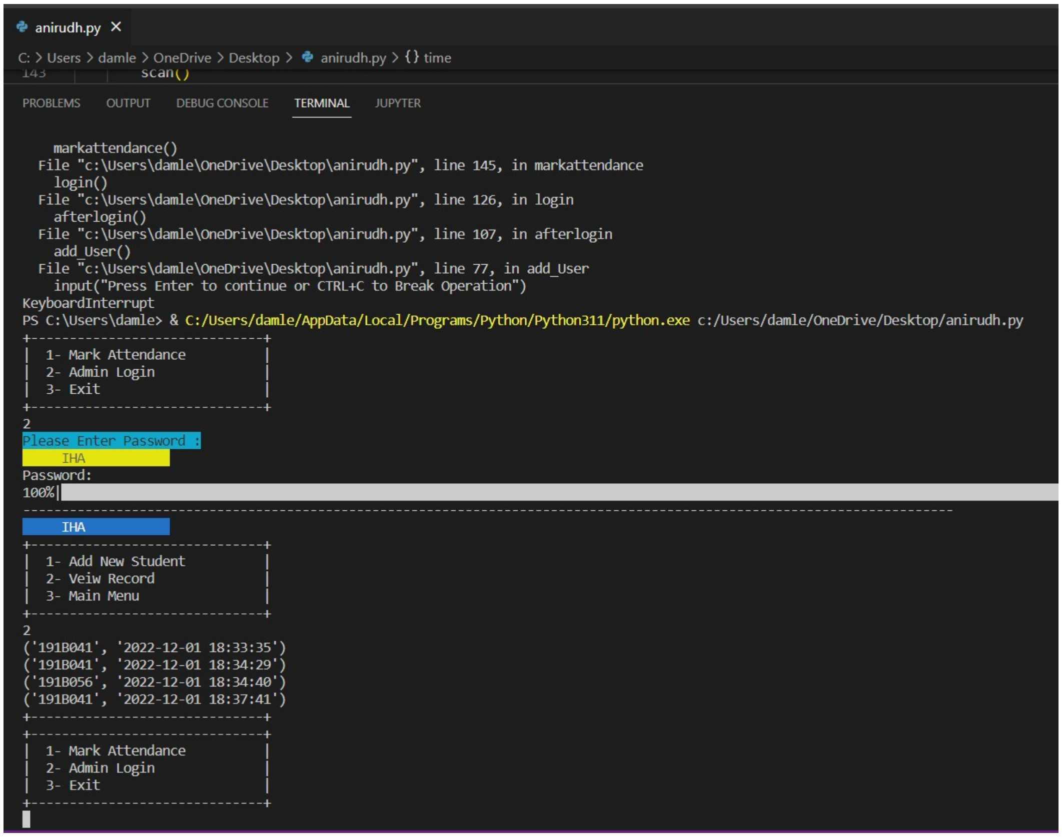


anirudh.py
C: > Users > damle > OneDrive > Desktop > anirudh.py > {} time
143 scan()
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
JUPYTER

```
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\damle> & C:/Users/damle/AppData/Local/Programs/Python/Python311/python.exe c:/Users/damle/OneDrive/Desktop/anirudh.py
+-------------------------------+
|  1- Mark Attendance           |
|  2- Admin Login               |
|  3- Exit                      |
+-------------------------------+
2
Please Enter Password :
     IHA
Password:
100%|
----------------------------------------------------------------------------------------------------------------------
     IHA
+-------------------------------+
|  1- Add New Student           |
|  2- Veiw Record               |
|  3- Main Menu                 |
+-------------------------------+
1
Please Enter Student Name
Anirudh Damle
Please Enter Student Id
191B045
Please enter Student Contact No
7869510567
Please enter Student Room
H-8 R-5
Please Verify the Information
Student Name       = Anirudh Damle
Student ID         = 191B045
Student Contact    = 7869510567
Student Room = H-8 R-5
Press Enter to continue or CTRL+C to Break Operation
```

Figure 5.5

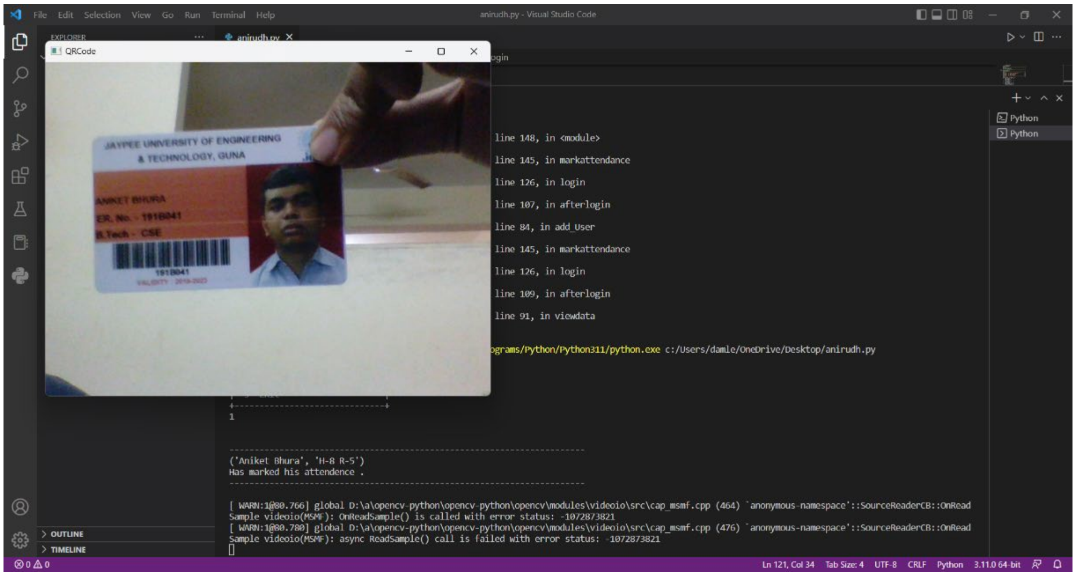
(Data entry)



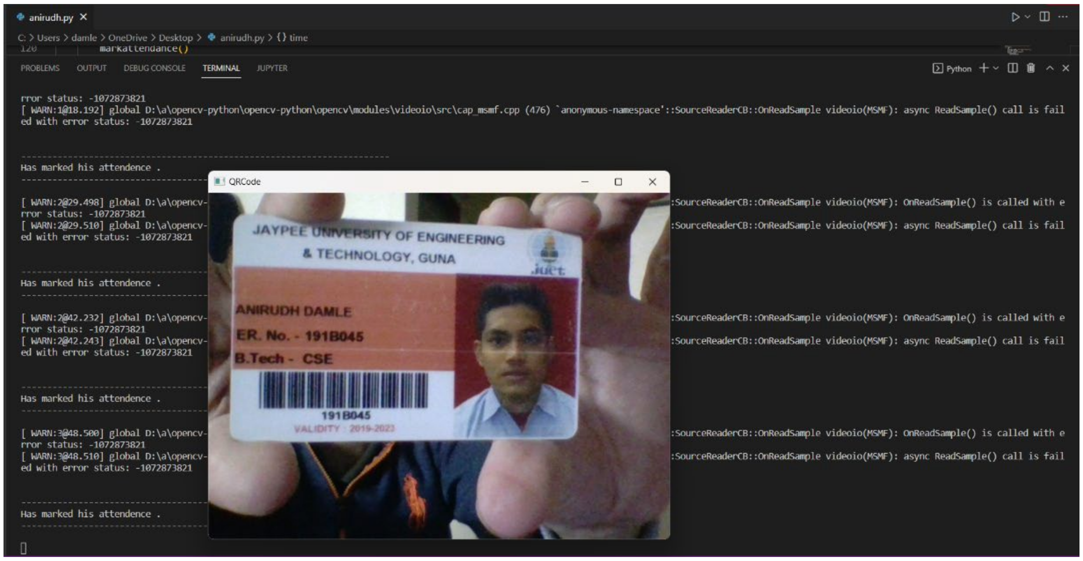
```
    markattendance()
  File "c:\Users\damle\OneDrive\Desktop\anirudh.py", line 145, in markattendance
    login()
  File "c:\Users\damle\OneDrive\Desktop\anirudh.py", line 126, in login
    afterlogin()
  File "c:\Users\damle\OneDrive\Desktop\anirudh.py", line 107, in afterlogin
    add_User()
  File "c:\Users\damle\OneDrive\Desktop\anirudh.py", line 77, in add_User
    input("Press Enter to continue or CTRL+C to Break Operation")
KeyboardInterrupt
PS C:\Users\damle> & C:/Users/damle/AppData/Local/Programs/Python/Python311/python.exe c:/Users/damle/OneDrive/Desktop/anirudh.py
+------------------------------+
|  1- Mark Attendance          |
|  2- Admin Login              |
|  3- Exit                     |
+------------------------------+
2
Please Enter Password :
     IHA
Password:
100%|
------------------------------------------------------------------------------------------------------------------------
     IHA
+------------------------------+
|  1- Add New Student          |
|  2- Veiw Record              |
|  3- Main Menu                |
+------------------------------+
2
('191B041', '2022-12-01 18:33:35')
('191B041', '2022-12-01 18:34:29')
('191B056', '2022-12-01 18:34:40')
('191B041', '2022-12-01 18:37:41')
+------------------------------+
+------------------------------+
|  1- Mark Attendance          |
|  2- Admin Login              |
|  3- Exit                     |
+------------------------------+
```

Figure 5.6

(Data record)


anirudh.py - Visual Studio Code
anirudh.py
QRCode
JAYPEE UNIVERSITY OF ENGINEERING
& TECHNOLOGY, GUNA
ANIKET BHURA
ER. No. - 191B041
B.Tech - CSE
191B041
OUTLINE
TIMELINE
Python
Python
Ln 121, Col 34 Tab Size: 4 UTF-8 CRLF Python 3.11.0 64-bit

```
line 148, in <module>
line 145, in markattendance
line 126, in login
line 107, in afterlogin
line 84, in add_User
line 145, in markattendance
line 126, in login
line 109, in afterlogin
line 91, in viewdata

ograms/Python/Python311/python.exe c:/Users/damle/OneDrive/Desktop/anirudh.py

+---------------------------+
1


------------------------------------------------------------------
('Aniket Bhura', 'H-8 R-5')
Has marked his attendence .
------------------------------------------------------------------

[ WARN:1@80.766] global D:\a\opencv-python\opencv-python\opencv\modules\videoio\src\cap_msmf.cpp (464) `anonymous-namespace'::SourceReaderCB::OnRead
Sample videoio(MSMF): OnReadSample() is called with error status: -1072873821
[ WARN:1@80.780] global D:\a\opencv-python\opencv-python\opencv\modules\videoio\src\cap_msmf.cpp (476) `anonymous-namespace'::SourceReaderCB::OnRead
Sample videoio(MSMF): async ReadSample() call is failed with error status: -1072873821
```



```
rror status: -1072873821
[ WARN:1@18.192] global D:\a\opencv-python\opencv-python\opencv\modules\videoio\src\cap_msmf.cpp (476) `anonymous-namespace'::SourceReaderCB::OnReadSample videoio(MSMF): async ReadSample() call is fail
ed with error status: -1072873821


------------------------------------------------------------------
Has marked his attendence .
------------------------------------

[ WARN:2@29.498] global D:\a\opencv-                                    :SourceReaderCB::OnReadSample videoio(MSMF): OnReadSample() is called with e
rror status: -1072873821
[ WARN:2@29.510] global D:\a\opencv-                                    :SourceReaderCB::OnReadSample videoio(MSMF): async ReadSample() call is fail
ed with error status: -1072873821


------------------------------------
Has marked his attendence .
------------------------------------

[ WARN:2@42.232] global D:\a\opencv-                                    :SourceReaderCB::OnReadSample videoio(MSMF): OnReadSample() is called with e
rror status: -1072873821
[ WARN:2@42.243] global D:\a\opencv-                                    :SourceReaderCB::OnReadSample videoio(MSMF): async ReadSample() call is fail
ed with error status: -1072873821


------------------------------------
Has marked his attendence .
------------------------------------

[ WARN:3@48.500] global D:\a\opencv-                                    :SourceReaderCB::OnReadSample videoio(MSMF): OnReadSample() is called with e
rror status: -1072873821
[ WARN:3@48.510] global D:\a\opencv-                                    :SourceReaderCB::OnReadSample videoio(MSMF): async ReadSample() call is fail
ed with error status: -1072873821


------------------------------------
Has marked his attendence .
------------------------------------
```

Figure 5.7

(Attendence by scanning barcode from the id card)

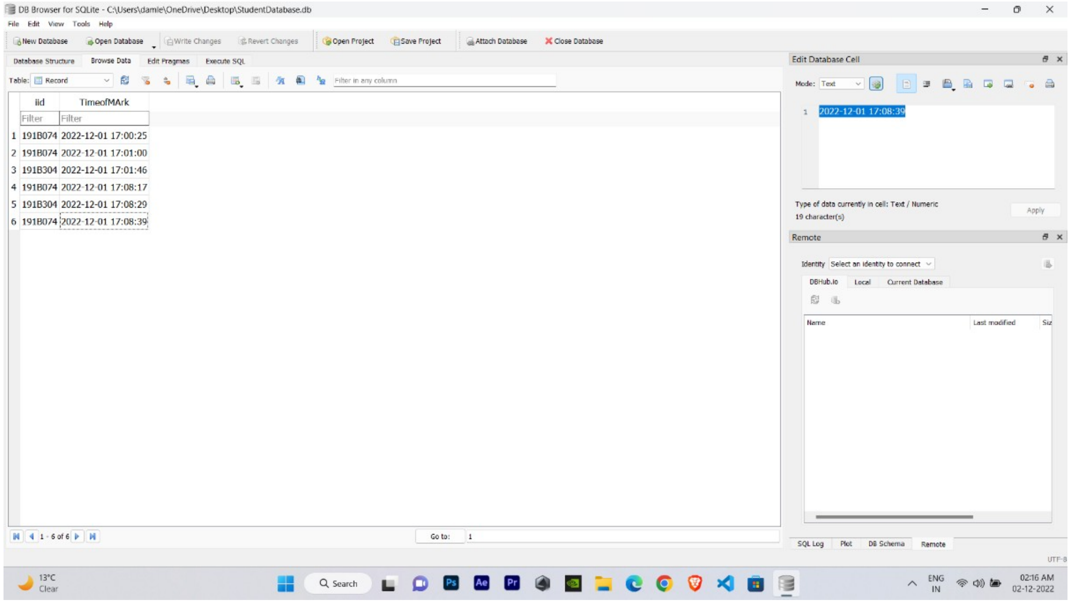


Table: Record

	iid	TimeofMArk
	Filter	Filter
1	191B074	2022-12-01 17:00:25
2	191B074	2022-12-01 17:01:00
3	191B304	2022-12-01 17:01:46
4	191B074	2022-12-01 17:08:17
5	191B304	2022-12-01 17:08:29
6	191B074	2022-12-01 17:08:39

1 - 6 of 6

Go to: 1

Mode: Text

1 2022-12-01 17:08:39

Type of data currently in cell: Text / Numeric
19 character(s)

Identity Select an identity to connect

Figure 5.8

(Database entry)

Chapter 6

References

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By Pure AI Editors | March 2021 –

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https://workspace.google.com/marketplace

Camu –

https://camudigitalcampus.com/cloud-campus-management-software-ppc/

Object detection with TensorFlow model and OpenCV-

By Gabriel Casemiro | Jul 2016 - https://towardsdatascience.com/object-detection-with-tensorflow-model-and-opencv-d839f3e42849

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