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**Information technology PAT phase1**

**Grade 12 PAT**

**Student Register**

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**1.1 Problem summary**

My program aims to make student registration in schools. It is often hard for teaches to count the total of the absentees or those in attendance, those who came late for example. Having a program that can help with registering is beneficial and time saving because it brings in a whole range of tasks that could not have been possible on paper. This program will be able to manipulate data to display the absentee names and phone numbers in case the teacher wants to call them and the number those present and weather they came on time or not.

**1.2 Motivation and research**

Normally this is done on paper with a pen but with this app there will be no need to go back after marking register to see who was marked late present or absent as the program will carry out that task. Papers that registry is done on normally have names only and a Presence field to tick whether the student is present or not. This time more information will be displayed about each individual student. Since the lockdown started students have been sending messages via zoom to indicate their presence in online meetings. Which I guess might be strenuous to teachers when it comes to marking registry and there for there is a need for efficient marking registers in teaching facilities.

There are a number of applications that serve a similar purpose. K12 Attendance application registers students which registers students according to their attendance time and tracks if a student has missed school in the past 10 days. Chalk Attendance application automatically marks students present and you tick to mark absentees. Attendance manager keeps track of the student’s attendance and identifications include names and pictures.

How it differs/////////

**1.3 Specification of program function**

The program will be able to display

* The names and telephone numbers of students that came late
* The total number of students that came to school
* The names and telephone numbers of absent students
* The days that each student came Early through the whole registering period
* The days that each student came Late through the whole registering period
* The days that each student was absent through the whole registering period

**1.4 specification of interface**

The login interface will show and the user will be asked to add:

* The login screen will appear once the application starts
* The user will be required to create a username and password and write what grade this registry is for if it is their first time using this registry
* If the user clicks Create new Account then the program will proceed to create new account interface.
* The user will write their username and password then when they are done they will press the new Acc button
* Data will be inserted in the Database Student Register in Users table and the program will take the user to the login screen where they will practice loging in the password they just made
* Users will Login with their Username and password if they already have an account.
* If the users name or password does not match any of the names and passwords in the users table while logging in there will be an error message displayed.
* If the user gets confused by the interface there will be a help button that will take him/her to the help screen that should clarify what they don’t understand on the log in interface.

One time register screen.

* This screen will be used to record student data if it is the first time they are being registered in this database(this will be used for the first day of school)
* After the user has successfully logged in the Log in screen will close and the main menu will open.
* If it is the users first time using this application, data will have to be input in the First Name, Surname, Gender, Contact and Time fields for each respective student
* If the user had previously written students’ data, that same data will automatically be displayed in a table.
* There will be buttons (delete, exit, clear, add, analyse, Daily Register and student history) with their own tasks.
* There will also be a help button to help a user with operations of the main menu.

**Student attendance History interface**

* This screen will be used to view each registered student’s data
* the student’s contact number will be required
* This screen will display this student’s attendance for as long as they have been marked ether Absent, OnTime or Late.
* The number of times the student came to school Late, Ontime and absent will be displayed

**Student attendance time interface**

* This screen will be used to view each registered student’s daily attendance data
* the student’s contact number will be required
* This screen will display this student’s attendance data for as long as they have been marked ether Absent, OnTime or Late.

**Daily register interface**

* This is the screen that the teacher will be used to record dailly attendance
* A table with all students will be displayed.
* The teacher will have to click on the name of each student upon the arrival then they will be required to choose either Late, OnTime or absent of the student did not attend.
* There will be buttons (delete, exit, clear, analyse,Register) with their own tasks.
* The teacher will then press Register to mark that student’s attendance for the day.
* When the teacher presses analyse an analysis screen will be displayed

**Analysis interface**

* This screen will display the total number of students whi came to school(OnTime and Late)
* And students who are absent
* This screen will have two buttons(Absent and Late)
* When the Absent button is clicked a table with Absent student’s details will be displayed
* When the Late button is clicked a table with Late student Details will be displayed

1.5 Specification of help

**Login Help**

* This screen will contain descriptions of all buttons in the respective interface.
* It will be accessed from the login screen and New account screen.
* When the use clicks the button for the query they have a message will be displayed on how to solve their query

The following topics will be touched

* **Creating an account**
* **How to exit**
* **Login**
* **How to clear text**

Registering help

* This screen will display registering guidelines
* When the use clicks the button for the query they have a message will be displayed on how to solve their query
* This will be accessed from the One Time register screen and the daily Register screen

The following topics will be touched

* **How to register a student**
* **How to exit**
* **How to clear text**

**1.6 Specification of permanent Data storage of the Login Screen(teacher’s name and password)**

**Table user in Student Register Database**

|  |  |
| --- | --- |
| fields | description |
| Username | In the Student register Database user table |
| Password | In the Student register Database user table |

**Specification of permanent Data storage of Students(Table and text file)**

**Table**

**Table students in Student register Database**

|  |  |
| --- | --- |
| fields | description |
| First Name | The name of the student in the form of a string |
| Surname | The students surname in the form of a valid character |
| Gender | This will hold a Boolean value |
| Contact | This will ensure that each student has a unique value in the table. Stored in the form of an valid character |
| Time | Arrival time or absent which will be stored in the form of a Boolean |

**Text files**

Specification of permanent Data storage of each student’s dailly attendance

A text file will be made to keep tract of the number of days with a certain time category(OnTime,Late or absent)

Each time a student is registered daily the following will be written in the StudentData.txt

The student will be daily registered in the following format

Contact Time

Contact will be the student’s contract number

Time will be the student’s PRESENCE category everyday(OnTime,Late or absent)

Each line will store an individual’s contact number and arrival time.

A text file will be made to keep tract of the register time category everyday(OnTime,Late or absent)

Each time a student is registered daily the following will be written in the ArrrivalT.txt

The student will be daily registered in the following format

Contact Time

Each line will store an individual’s contact number and arrival time.

Contact Time Date separated by a blank space

Contact will be the student’s contract number

Time will be the student’s PRESENCE category everyday(OnTime,Late or absent)

Date will be the date at which this registry is being taken on

When will records be created?

When the user creates a new account

When a student is being registered for the first time

Every time a student gets registered (daily)

When will records be accessed?

Every time data needs to be displayed in a table

When looking for student history

When will records be updated?

Every time when registering a student (Daily)(the user will see the button as REGISTER)

**1.7Hardware and software requirements**

**Hardware**

* **AMD E2-9000e RADEON R2, 4 COMPUTE CORES 2C+2G 1.50 GHz or better**
* **4GB RAM**
* **Any SVGA video card**
* **40 GB Hard drive**

**Software**

* **32/64 bit Windows 10 system**
* **64-bit operating system, x64-based processor**
* **MySQL 5.2 or later**