

# Expert Management System – A Tuition Management System

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**Abstract:-** A high school is the second final stage of completing the education journey before joining the universities or any lower education institutions than universities such as colleges. It leads students to be whether joining anyone of these two education institutions in term of how much the grade percentage of the certificate after the graduation. In this level of study, students always try their best to get high grades, let them join the institute life university in relations of having a high education value that will lead to a improved education, professionalism as well as priority of getting better positions of jobs in the market .The majority of students are always looking for extra classes that can get them help in their studies to a better understanding and ease them answering the exams to get higher marks in the results, and this is because of a better job position in the future as mentioned before. This period of time is always while the final exam is on. During these small-scale tuitions are under heavy load of work that leads to poor management of data that leads to data corruption, misuse, and losing of data.

**Keywords:-** Education, Small Scale Tuition, Management.

## I. INTRODUCTION

### A. What is a Tuition?

In India, like many developing countries, there is a “private learning” program that is accompanied by a formal education program to fill educational support and overcome school absenteeism. In recent years private education has emerged as a major force due to demand and market trends. In fact, by its very nature, its size and significance are likened to a formal system or, similar to the dignity of the formal system [1] The system of private tuition has been in presence in India for a long time but in current times it has grownup manifold affecting the very core of educational system.

### B. What is Expert Management System?

It is an management system that uses different components to make a management system that is suitable and easy to use and helps tuitions that operate not on a large scale to easily manage and store their data and well as the data of students and also let them keep the track of everything by creating a database of students data using pyrebase, tkinter and python.

This also helps them to take admission of new students who want to get admitted and stores their information and also creates a payment receipt on the bases of information provided by the Students and the user it self this makes the management of finance also easy for the user and also creates a trust factor for the student by giving them a payment confirmation by providing them the payment receipt.

## II. SYSTEM RELATED KEY TECHNOLOGIES

The components that were used during the making of this management system were all open source that means the cost of making this product was nearly zero and easy to use technology was used -

a) Python: -The main components of this project was the coding and synchronization of every component and database and the language we used was Python. Python has developed as a first-class citizen in modern software development, substructure management, and data analysis. It is no longer a back-room utility language, but a major force in web application creation and systems management, and a key driver of the explosion in big data analytics and machine intelligence. Python is very easy to use and understand it’s a fast-developing language and is the language that all the new giants in web development is using and this makes python a very suitable and trustworthy language. This made our foundation and core of our project very strong and helped us build a project around it.

b) Firebase: -The most crucial component is our database as it would store a large amount of a data of students and would be use every time we needed any information and would be updated many times. Firebase is an platform that helps web development and application development easy by providing them a strong backend including data storage, user authentication, static hosting, and more. With Firebase, you can easily build mobile and web apps that scale from one user to many. It provides feature as: -

- 1)Cloud Firestore
- 2)ML kit
- 3)Cloud Functions
- 4)Authentication
- 5)Hosting
- 6)Cloud Storage
- 7)Real Time Database

c)Tkinter:-In order to create an efficient and easy to use management system the GUI (Graphical User Interface) is a very important part as it is the frontend of the project and it is the first thing that users as well as the students would interact with so this should be very easy to understand and use.Tkinter is an GUI framework in python.Tkinter comes bundled with Python most of the time, meaning there's no arduous installation process. It's also licensed under a free software license, meaning, unlike some other GUI frameworks, there's no complicated licensing model to battle against when you want to release your software to the outside world. Tkinter isn't the only GUI library for python, but it is the one that comes standard. Additional GUI libraries that can be used with python include wxPython, PyQt, and kivy. Tkinter's greatest strength is its ubiquity and simplicity. It works out of the box on most stages (linux, OSX, Windows), and comes complete with a extensive range of widgets necessary for most common tasks (buttons, labels, drawing canvas, multiline text, etc). As a learning tool, tkinter has some structures that are unique among GUI toolkits, such as named fonts, bind tags, and variable tracing.

**III. OVERALL DESIGN OF PROJECT**

a) Creating the user interface: -The creation of user interface was the first step in this project. We will first activate all our windows that are homewindow(), attendancewidow(), databasewindow() after that we created the face of user interface by adding pre downloaded images in our interface then we create the admission button, attendance button, and upload button.

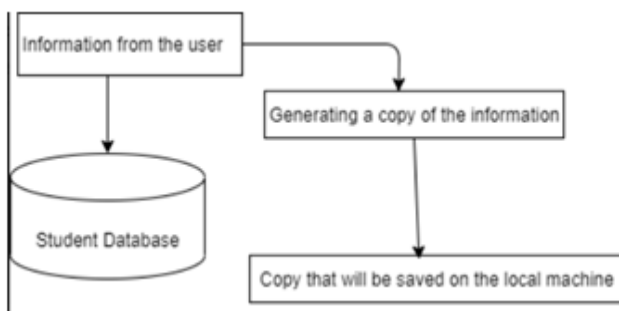


Fig1.Creation of two copies of information.

b) Admission: -After Clicking on this button another window will open where the user will have to enter certain information regarding the admission of the student .The information that would be required will be name of the student , email id of the student ,date of birth and the student age after the user have entered this information this will get stored in the database by using the entry field that were created for taking entry after all the entries are done then there will be two files generated on the basses of the information provided this will get Stored on the database as well as the local machine that the user is using.

c) Uploading of the Documents: -On the home window there will be a Upload button this button will help the teaches to upload the study materials for students directly to the assigned classroom using the local machine. This will make ethe work easy and hassle free for the teachers.

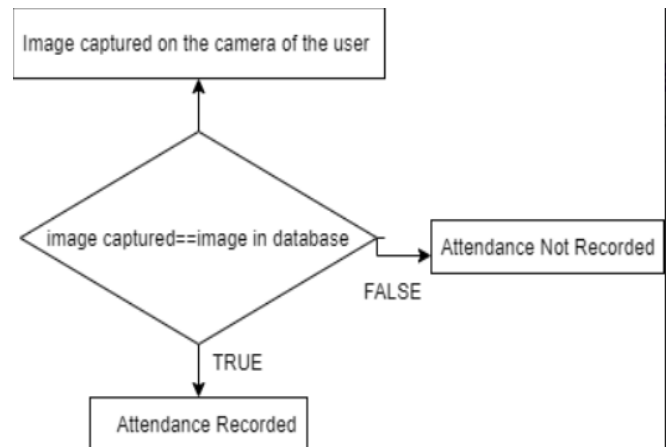


Fig2.The process of attendance registration.

d)Attendance: -The third button on the home window is the attendance button using this an attendance can be stored in the database according to the date and time on the local machine that is used to provide the attendance with. The attendance will be recorded via the use of the face cam on the local machine the face of the person in front of the camera will be record using the open cv function and image processing and would compare the image taken with the latest image stored in the database and the store the current attendance

e) Payment receipt: -The admission process will end when the payment is done. The payment will be different for each course and will depend on the course that student is taking admission for after this we will enter the details of the student and the amount that is payable and the amount that is paid and the payment receipt will be generated. If for some reason the payment is not done completely and will be done in instalments the database will store the remaining amount as well as the paid amount.

**IV. EXTENDING THE CONCEPT FURTHER**

This concept in itself can be extended further by creating a much powerful software by creating a personalized database and making a window for students to ace the files and study materials uploaded by the teachers. This would reduce the use of other platforms that are used and make a more synchronized and uniform management system other the this there can be many scopes of improvement in current project as well as space for new features that would make it a more reliable management system.

## V. ADVANTAGES

1) *The main factor of this management system is that it is very easy to use system which can be used by an user that doesn't have to be very good at managing database and programs or any other advanced actions.*

2) *The uploading feature in this would help the teachers as well as the student as there will be no need of new accounts to upload documents and study materials as it would let them upload it directly to the classroom itself.*

3) *Rather the taking the attendance each and every student manually the use of image processing would make it easier by just taking it by using the camera on the machine and would also store this in the database. This would reduce the margin of error and the work load.*

4) *The fees management will be a task of no load of now as the system will store the amount in database, This amount will corresponding to respective students and the amount paid and the remaining amount will also be there saved in the database.*

## VI. APPLICATIONS

1) *It can be used for the admission of a student by getting a certain information of a student and store it safely in a database.*

2) *It can be used for generating a payment receipt of fees paid by the student for a certain course by entering the amount payable and amount paid and the student details.*

3) *The amount of fees that has been paid by the students will be stored on the database and also the amount that has to be paid by any certain student that will also be saved if there is any.*

4) *The uploading of the Materials that will be used by the students directly to the classroom via the app without the need of several emails.*

5) *Attendance system using image processing will make it hassle free to take and store the attendance and will also remove the human error.*

## VII. CONCLUSION

As the number of students is increasing day by day in our country the demand of tuitions is increasing and the workload on the tuition's management is also increasing. Therefore, in this paper we have proposed an efficient and low cost management system that will help relieve this work load on the tuitions by making an efficient management system that would manage their finance data, student data but also provide some additional services like the Attendance system using image processing, the payment receipt generation and the upload feature to help upload study materials easily. This system can be updated and be perfected with the time.

## REFERENCES

- [1] Bray, Mark (1999). *The Shadow Education System: Private Tutoring and its Implications for Planners*. Fundamentals of Educational Planning no. 61, Paris: UNESCO International Institute for Educational Planning (IIEP).