**Abstract**

It has been shown that as technology advanced and the effect of computers and the internet grew, it had an impact on a number of different industries. And today, computers are used to perform practically all tasks. The key to being in business is to swiftly transform knowledge into a product that customers desire, and nowadays, all of this is accomplished utilizing computers, software, and information systems. And the education system, which focuses on training the next generation of talent for the future, is unquestionably the foundation of civilization. The students' results are created using a spreadsheet programme, printed on paper, declared on a wall, and then saved. The goal of the present project is to develop a web-based student outcome management system that will save time, effort, and money while enhancing security.

**What it does?**

Student Result Management system is **web application** that allows students to see their grades, course, duration, exam schedule in the most feasible way without any hassle and faculties can edit, update the grades. The organization can maintain computerized records without redundant series. The aim is to automate its existing manual system by the help of computerized equipments and full-fledged computer software, fulfilling their requirements, so that their valuable information can be stored for a longer period with easy accessing and manipulation of same.

**How we built it**

This **web application** has been programmed using python language. Different python libraries have been used such as Tkinter, Tkinter is used to give user friendly interface for data entry and retrieval in student result management, PIL (Python Imaging Library) a powerful python image processing library to process and manipulate images. Here PIL is used for generating charts and graph to represent student performance data, and sqlite3 is a python library that provides a lightweight disk-based database that doesn't require a separate server process and allows accessing the database using a nonstandard variant of the SQL query language..

**Feature List**

1. **Create, Display, Update and Delete** student records.
2. **Create, Display, Update and Delete** course records.
3. **Create, Display, Update and Delete** exam records.
4. Assign course(s) to student
5. Assign exam(s) to course
6. **Create, Display, Update and Delete** student's exam scores
7. Calculate student's total marks and percentage
8. Display individual student's result
9. Display course-wise result
10. Display overall result

**Extra added features**

* **Search Option** - This option has been provided for smooth functioning of the project, we can easily search any course, student data. In each panel search option has been provided.
* **Clear Option** - It will clear all the deatils in one go, user will not have to press backspace again and again to remove the deatils, which sums up our time-efficient factor but it will remain stored in the database.
* **Flashing Message** - This option will flash a message if user has input invalid details as well as if no data has been input.

## What we learned

We learned many new things in python as a beginner, we previously were touched by its base. Now, many new terms like python libraries such as PIL, Tkinters which contributes to make a website look more graphical and user-friendly. This project made us confident in all the ways.

**Shortcomings of Student Result Management System**

* **Technical Issues** – As a by-product of technology, the management systems are likely to face technical glitches that are a part of the internet world. There might be server issues that stop the platform from running smoothly or running at all. Connectivity issues are also a concern, especially if the user belongs to a remote area.
* **Navigation Issue** – As online platforms are relatively new to many learners, the students may find it difficult to navigate the application. The more features added to the application, the more likely are the students to get lost in the process of locating things on the platform.
* **Security Issue** – Internet hacking is a concern for all online platforms. The same concern lies for the result management platforms as well. Hackers can manipulate or steal students’ data from the system, resulting in chaos and disruption to the program. The exam papers may also get leaked and the institute might be forced to redesign the question sheet

## Future Range

It will reduce the manual work of teachers, saving pages to make reportcards, hence saving trees, creating a better and healthy environment. It'll help many people to work on this idea and make their on startup of websites having student result management and earn money. For Eg: devfolio, where we get to know about all the hackathons all in one, just same for this, a user will handle result databases of all the universities/schools.