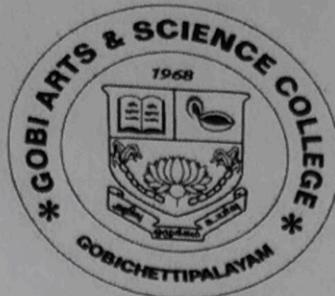


MARK AUTOMATION SYSTEM



PROJECT REPORT

Submitted to

DEPARTMENT OF COMPUTER SCIENCE GOBI ARTS & SCIENCE COLLEGE

(An Autonomous Institution Re-accredited by NAAC with 'A' Grade)

GOBICHETTIPALAYAM - 638 453

By

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(20-CS-233)

Guided By

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In partial fulfillment of the requirements for the award of the degree of **Bachelor of Science (Computer Science)** in the faculty of Computer Science in **Gobi Arts & Science College (Autonomous), Gobichettipalayam** Affiliated to Bharathiar University, Coimbatore.

APRIL – 2023

DECLARATION

DECLARATION

I hereby declare that the project report entitled "**MARK AUTOMATION SYSTEM**" submitted to the Principal, **Gobi Arts & Science College (Autonomous), Gobichettipalayam**, in partial fulfillment of the requirements for the award of the degree of **Bachelor of Science (Computer Science)** is a record of project work done by me during the period of study in this college under the guidance and supervision of **Dr. S. Annapoorani, MCA., Ph.D., Assistant Professor, Department of Computer Science.**

Signature : *S. Jeeva*
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Date : **21/04/2023**

CERTIFICATE

CERTIFICATE

This is to certify the project report entitled "**MARK AUTOMATION SYSTEM**" is a bona fide work done by **S. JEEVA (20CS233)** under my supervision and guidance.

Signature of the Guide : *Selvam*
Name : **Dr. S. ANNAPOORANI**
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ACKNOWLEDGEMENT

ACKNOWLEDGEMENT

First and foremost, praises and thanks to the Almighty God for blessings me throughout my project work.

I am highly indebted to the knowledge and my deep sense of gratitude to our beloved Principal, **Prof. Dr. V. Thiagarasu, M.Sc., PGDCA., M.Phil., B.Ed., Ph.D.**, Gobi Arts & Science College, Gobichettipalayam for his encouragement and inspiration in the successful completion of this project report.

I wish to acknowledge my special thanks to **Dr. P. Narendran, M. Sc., PGDCA., M.Phil., B.Ed., Ph.D.**, Controller of Examinations for providing an opportunity to do my project work.

It is also my pleasant duty to express my depth sense of gratitude to our beloved Head of the Department & Associate Professor, **Dr. K. A. Senthildevi, M.C.A., M.Phil., Ph.D.**, Department of Computer Science, Gobi Arts & Science College for valuable motivation throughout the project work.

I take this opportunity to express my profound thanks and a deep sense of gratitude to my guide **Dr. S. Annapoorani, MCA., Ph.D.**, who was behind the sense in every phase, providing her masterly guidance.

I thank all the faculty members in the Department of Computer Science who extended their help to complete my project work successfully. Finally, I express my thanks to my parents and my friends for their immeasurable contributions.

S. JEEVA

SYNOPSIS

SYNOPSIS

This project is entitled "**MARK AUTOMATION SYSTEM**" and has been developed for providing mark statements to the students. The existing database system has not supported the current mark schemes, they need to change and updated based on the current database structure. In this project, the validation method is used for future pursuing students to avoid the wrong result announcement.

This project maintains all the details of the students including the syllabus with subject code. All the details have been entered into the database to validate the student's marks with credit points from the syllabus and then generate the mark sheet for the semester. The admin can control all student's details and also update the syllabus every year from admission to the end of graduation.

It has been developed using **PYTHON 3, TKINTER**, and the current version of the **Microsoft SQL** database.

INTRODUCTION

“MAGIA AUTOMATION” is a software solution for the management of industrial processes. It is designed to support the work of automation engineers in the development of automated systems. The system provides a graphical interface for the configuration of control logic and the monitoring of process variables. It also includes a database for the storage of historical data and a reporting module for the generation of reports. The system is designed to be used in conjunction with existing hardware and software for the management of the production process.

The main tasks of the system include the data and EOS tasks and related to the production process based on the structure of the plant.

This project has been developed under the MATHON 3. The project is a spin-off of the Institute of Mathematics and Cryptology in Warsaw.

INTRODUCTION

1. INTRODUCTION

1.1 ABOUT THE PROJECT

The project entitled “**MARK AUTOMATION SYSTEM**” deals with automating the mark validation process to reduce time and generate the mark statement for the students.

With the help of the search field to find a student's information in the database by providing their registration number. The major code is connected to the subject code to retrieve the student's mark, and the subject code is linked to the major code to identify the department. Then, it generates the total obtained marks for the semester when the validation procedure is complete.

The total mark statements including the CIA and EOS marks are taken to the validation process based on the schema for each course.

This project has been developed using **PYTHON 3**, **TKINTER**, and the current version of the **Microsoft SQL** database.

1.2 HARDWARE SPECIFICATION

PROCESSOR	: AMD Ryzen 5 5600H with Radeon Graphics 3.30 GHz
RAM	: 8 GB
SYSTEM TYPE	: 64-BIT OS
HARD DISK	: 512 GB
MONITOR	: LCD 16.5 INCHES (HP)
MOUSE	: USB OPTICAL MOUSE
KEYBOARD	: MULTIMEDIA KEYS

1.3 SOFTWARE SPECIFICATION

OPERATING SYSTEM	: Windows 11 Home Single Language
FRONT-END	: PYTHON-TKINTER
BACK-END	: SQLITE 3

FEATURES OF PROGRAMMING TOOLS

OPERATING SYSTEM – WINDOWS 11

Windows 11 is the latest version of the Windows operating system developed by Microsoft. It was released in October 2021 and is the successor to Windows 10. Windows 11 includes a range of new features and improvements, such as a new user interface, improved performance, better gaming experience, enhanced touch support, integrated Microsoft Teams support, Android app support, improved security, and better accessibility features. The goal of Windows 11 is to provide a modern, efficient, and user-friendly operating system that can be used on a wide range of devices, from desktop computers to tablets and laptops.

Some of the key features of Windows 11:

- 1. New User Interface:** Windows 11 has a new user interface that is more modern and streamlined than previous versions. This includes a new start menu and taskbar and a new window management system that allows users to snap windows to specific positions on the screen.
- 2. Improved Performance:** Windows 11 has improved performance compared to its predecessor, with faster startup times and better performance in multi-tasking scenarios. This is due to optimizing the operating system for newer hardware and using more efficient software algorithms.
- 3. Virtual Desktops:** Windows 11 includes support for virtual desktops, which allows users to create multiple desktops with different apps and windows open on each one. This can help with organization and productivity.
- 4. Better Gaming Experience:** Windows 11 includes a range of new gaming features, including Auto HDR, Direct Storage, and support for the Xbox Game Pass app. These features help to improve gaming performance and provide a better gaming experience.
- 5. Enhanced Touch Support:** Windows 11 has improved touch support, with larger touch targets and improved gesture recognition. This makes it easier to use the operating system on touchscreen devices.

6. **Microsoft Teams:** Windows 11 includes integrated support for Microsoft Teams, which allows users to easily join meetings and collaborate with colleagues. The Teams integration is available in the taskbar and can be accessed with a single click.
7. **Android App Support:** Windows 11 includes support for Android apps, which can be downloaded and run directly on the operating system. This allows users to access a wider range of apps and services than ever before.
8. **Better Accessibility Features:** Windows 11 includes a range of new accessibility features, such as text-to-speech and improved voice recognition, that make it easier for users with disabilities to use the operating system.
9. **Improved Security:** Windows 11 includes improved security features, such as Windows Hello facial recognition and TPM 2.0 support, which provides better protection against malware and other security threats.

Windows 11 is a significant upgrade over its predecessor, with a more modern and streamlined design, better performance, and a range of new features that make it more efficient and user-friendly.

PYTHON-3

Python 3 is a high-level programming language that was released in 2008 as a successor to Python 2. It is widely used in web development, scientific computing, artificial intelligence, data analysis, and machine learning.

Some of the key features of Python 3

- 1. Clean and readable syntax:** Python's syntax is simple and easy to understand, making it a great language for beginners to learn. It uses indentation to define blocks of code, which makes it more readable than languages that use curly braces.
- 2. Cross-platform compatibility:** Python 3 can be run on Windows, macOS, and Linux, making it a popular choice for developing cross-platform applications.
- 3. Object-oriented programming support:** Python 3 supports object-oriented programming (OOP) concepts, such as classes, objects, and inheritance. This makes it easy to write modular, reusable code.
- 4. Large standard library:** Python 3 comes with a large standard library that provides a range of tools and modules for common programming tasks. This saves developers time and effort in writing code from scratch.
- 5. Dynamic typing:** Python 3 is dynamically typed, meaning that variable types are determined at runtime rather than at compile time. This makes it easier to write code quickly but can lead to runtime errors if types are not properly managed.
- 6. Garbage collection:** Python 3 has an automatic garbage collection feature, which means that memory management is taken care of by the interpreter. This makes it easier for developers to focus on writing code rather than managing memory.
- 7. Scalability:** Python 3 can be used to build large-scale applications and handle large datasets. It has several frameworks, such as Django and Flask, that make it easy to develop web applications.

Python 3 is a versatile and powerful programming language that has gained popularity due to its ease of use, readability, and large community support.

ADVANTAGES OF PYTHON 3

1. **Easy to Learn:** Python has a simple syntax and easy-to-read code, making it easier for beginners to learn. It is often considered to be one of the most beginner-friendly programming languages.
2. **Versatility:** Python can be used for a wide range of applications, including web development, machine learning, scientific computing, data analysis, and more. It has a large standard library and a large community of developers, which means that there are many tools and resources available for developers to use.
3. **Large Community:** Python has a large and active community of developers who contribute to open-source projects, provide support, and share knowledge. This makes it easier for developers to find help and resources when they need it.
4. **Cross-platform Compatibility:** Python is a cross-platform language, which means that it can be run on various operating systems like Windows, macOS, and Linux.
5. **Good for Prototyping:** Python is ideal for prototyping and developing minimum viable products (MVPs) quickly. It allows developers to write and test code faster than many other languages, which can save time and resources.

TKINTER GUI

Tkinter is the standard GUI (Graphical User Interface) toolkit for Python, which provides a set of powerful widgets and tools for creating GUI applications. It is included with most Python installations and is compatible with a wide range of platforms, including Windows, macOS, and Linux.

Some of the key features of Tkinter GUI:

- 1. Cross-Platform:** Tkinter is a cross-platform toolkit, meaning that applications developed using Tkinter can be run on multiple operating systems, such as Windows, Mac, and Linux.
- 2. Widgets:** Tkinter provides a wide range of widgets such as buttons, labels, entry fields, checkboxes, radio buttons, menus, and many more. These widgets can be used to create complex GUI applications with ease. Widgets: Tkinter provides a wide range of widgets such as buttons, labels, entry fields, checkboxes, radio buttons, menus, and many more. These widgets can be used to create complex GUI applications with ease.
- 3. Easy to Use:** Tkinter provides a simple and easy-to-use interface for creating graphical user interfaces. It has a wide range of built-in widgets (such as buttons, text boxes, and sliders) that can be easily customized to create the desired look and feel.
- 4. Customizable:** Tkinter provides a lot of flexibility when it comes to customization. Developers can create custom widgets or modify existing widgets to suit their needs.
- 5. Event-Driven Programming:** Tkinter is an event-driven programming model that responds to user actions (such as clicking a button or typing in a text box) by triggering events. This allows developers to write code that responds to user actions in real time.
- 6. Integrated with Python:** Tkinter is integrated with Python, which means that developers can easily use Python code to create and manipulate widgets. This makes it easy to integrate Tkinter with other Python libraries and tools.
- 7. Free and Open Source:** Tkinter is a free and open-source toolkit, meaning developers can use it without licensing fees or restrictions.

Tkinter is a powerful and easy-to-use toolkit for creating desktop applications with graphical user interfaces. Python Tkinter is the most preferred package used for creating nice GUIs for applications as it has a variety of methods like pack(), grid(), and place() for geometry management.

It has standard attributed dimensions, fonts, colors, cursors, anchors, and bitmaps for a better GUI. Moreover, it has a vast array of widgets to choose from and is by far the easiest to use. The combination of all these features makes Python Tkinter makes it very popular among Python developers and makes it a favorable tool to use. Tkinter provides three geometry managers: place, pack, and grid.

It is well-suited for beginners who are just starting to learn GUI programming in Python, as well as more experienced developers who need a flexible and customizable toolkit for building complex applications.

Some of the key features of MS SQL Server:

1. **Editions:** SQL Server comes in several editions, including Standard, Enterprise, and Developer. Each edition has different features and pricing. The Standard and Enterprise editions provide advanced features such as Always On Availability Groups, Online Transfers, and Deep Monitoring, while the Developer edition includes basic features like Backup Compression, Basic Reporting Services, and Columnstore Indexes.
2. **Licensing:** SQL Server is licensed per core or service. Depending on the edition and licensing model, the cost can vary significantly. Microsoft also offers subscription-based licensing options, such as Azure SQL Database, which is a fully managed cloud-based service.
3. **Tools:** SQL Server comes with several tools for managing databases and querying data, such as SQL Server Management Studio (SSMS), SQL Server Profiler and SQL Server Data Tools (SSDT). These tools provide a comprehensive set of features for database development and deployment to manage and tune the database.

Integration with other Microsoft products: SQL Server integrates well with other Microsoft products, such as Excel, SharePoint, and Power BI. This integration makes it easier for analysts and analysts to analyze and visualize data stored in SQL Server using familiar tools and interfaces.

MICROSOFT SQL SERVER

Microsoft SQL Server is a relational database management system developed by Microsoft. It is a software product that allows users to store, manipulate, and retrieve data from a database.

SQL Server is designed to manage and organize large amounts of data efficiently and securely, and it supports various programming languages and platforms, including .NET, Java, and PHP. It also supports cloud-based computing and can integrate with other Microsoft products, such as Excel, SharePoint, and Power BI.

SQL Server uses the Structured Query Language (SQL) to interact with the database. SQL is a standard programming language used to manage and manipulate data in a relational database. SQL Server provides a comprehensive set of tools for database administrators and developers to manage, secure, and tune the database.

Some of the key features of MS SQL Server:

- 1. Editions:** SQL Server comes in several editions, including Standard, Enterprise, and Developer. Each edition has different features and pricing options. For example, the Enterprise edition provides advanced features such as Always on Availability Groups, Online Indexing, and Data Warehousing, while the Standard edition offers basic features like Backup Compression, Basic Reporting Services, and Column store Indexes.
- 2. Licensing:** SQL Server is licensed per core or server. Depending on the edition and licensing model, the cost can vary significantly. Microsoft also offers subscription-based licensing options, such as Azure SQL Database, which is a fully managed cloud-based service.
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- 4. Integration with other Microsoft products:** SQL Server integrates well with other Microsoft products, such as Excel, SharePoint, and Power BI. This integration makes it easy to analyze and visualize data stored in SQL Server using familiar tools and interfaces.

5. **Security:** SQL Server provides several security features to ensure that data is protected, including encryption, authentication, and authorization. For example, Transparent Data Encryption (TDE) provides encryption at the database file level, while Always Encrypted provides encryption at the column level.
6. **Performance:** SQL Server provides several features to improve database performance, such as index optimization, query tuning, and in-memory OLTP. These features help to ensure that SQL Server can handle large amounts of data and respond quickly to queries.

The main interface tool for the MS SQL Server is SQL Server Management Studio (SSMS) which supports a 64-bit and 32-bit operating environment. The MS Server endorses ANSI SQL. The ANSI SQL is the standard Structured Query Language or SQL.

Although the MS SQL Server has its application of the SQL language, that is Transact-SQL or T-SQL. Microsoft's proprietary language, T-SQL, further renders the capabilities of representing a stored procedure, exception handling, variables, etc.

SQL Server is a powerful and reliable RDBMS that offers many features to support the needs of businesses of all sizes. It is used by organizations around the world to manage and analyze data, and it is a critical component of many business operations.

SQL SERVER MANAGEMENT STUDIO

SSMS stands for SQL Server Management Studio. It is a tool provided by Microsoft for managing and administering SQL Server databases. SSMS is a comprehensive environment that allows database administrators and developers to perform various tasks related to database management, such as creating and modifying databases, tables, stored procedures, views, indexes, and triggers.

SSMS is an essential tool for anyone who works with SQL Server databases and needs to perform tasks related to database management, administration, and development.

Some of the features of SSMS include:

1. **User-friendly interface:** SSMS provides a user-friendly interface that makes it easy to navigate and use. It has a comprehensive set of features that allow you to perform various tasks related to database management and development.
2. **Database management:** SSMS provides a comprehensive set of features for managing databases, such as creating, modifying, and deleting databases, tables, stored procedures, views, indexes, and triggers.
3. **Querying and reporting:** SSMS provides a powerful query editor that allows you to write and execute SQL queries against a database. It also provides features for performance tuning, query analysis, and server-side tracing. Additionally, SSMS provides reporting services that allow you to create and publish reports.
4. **Performance tuning:** SSMS provides several features to help you identify and optimize query performance, such as query plans, index tuning, and server-side tracing. These features allow you to analyze the execution plan of a query and identify potential performance bottlenecks.
5. **Backup and restore:** SSMS provides a simple and easy-to-use backup and restore wizard that allows you to create and restore backups of your databases. You can create full or differential backups and choose to back up to a local or remote location.
6. **Security:** SSMS provides a comprehensive set of tools for managing database security, such as creating and modifying logins, roles, and permissions. You can also audit logins and track database activity to ensure that your data is secure.

7. **Integration with other tools:** SSMS integrates well with other Microsoft tools, such as Excel, Visual Studio, and Power BI. This integration allows you to easily import and export data, build reports and visualizations, and integrate your databases with other applications.

SSMS is a powerful and versatile tool that provides a wide range of features for managing and administering SQL Server databases. Whether you are a database administrator or a developer, SSMS can help you streamline your workflow and improve your productivity.

Its user-friendly interface, integration with other Microsoft tools, querying and reporting features, security management, backup and restore functionality, and performance tuning capabilities make it an essential tool for anyone who works with SQL Server databases.

SYSTEM ANALYSIS

2. SYSTEM ANALYSIS

2.1 PROBLEM DEFINITION

The “**MARK AUTOMATION SYSTEM**” helps us like academic institutions such as schools, colleges, and universities to generate mark sheets for students is a crucial task that requires accuracy and efficiency. However, the manual process of generating mark sheets can be time-consuming, tedious, and error-prone. Moreover, managing student records and generating reports manually can lead to data loss or inconsistency.

This project aims to solve these issues by automating the mark sheet generation process. The software system developed for this project should be able to store and manage student data, including personal information, subject-wise marks, attendance records, and other relevant details. The system should also be capable of calculating the total scores, percentages, credits, and grades based on predefined criteria.

The primary goal of this project is to simplify the mark sheet generation process and eliminate manual errors, ensuring accurate and timely delivery of mark sheets to students. By automating this process, academic institutions can save time and resources, reduce errors, and provide a more efficient and reliable service to students.

2.2 SYSTEM STUDY

Mark sheet generation manages all the details including the student's register number, name of the semester, subject details with subject code, CIA, and EOS marks. The admin maintains all the details for every semester with help of these details, the admin can validate the marks for each student.

Every semester there may be some changes in the subject details and the criteria for minimum and maximum marks for getting pass marks, based on the recent updation. The CIA marks should also satisfy the minimum criteria.

There are some difficulties to get value from the existing table to validate the student's marks dynamically from the database.

DRAWBACKS OF THE EXISTING SYSTEM

- The existing system follows the default marks to validate the student's marks
- It does not satisfy all the criteria for marks
- A lot of time consumed
- Frequent occurrence of error
- Result is not properly displayed

2.3 PROPOSED SYSTEM

To overcome the drawbacks of the existing system, the proposed system is focused on validating the student's marks. The details can be retrieved and validated to store the data in the database. Python, Tkinter (GUI), and MS SQL are user-friendly to develop and access the value from the database.

The proposed system aims to provide a solution to the observed drawbacks in the existing system. The proposed system provides a solution for mark validation and grade calculation.

NEEDS FOR THE PROPOSED SYSTEM

- To avoid risk and error
- To save time
- To give user-friendly service
- To keep the recently updated syllabus and criteria of marks
- Accurate calculations are made

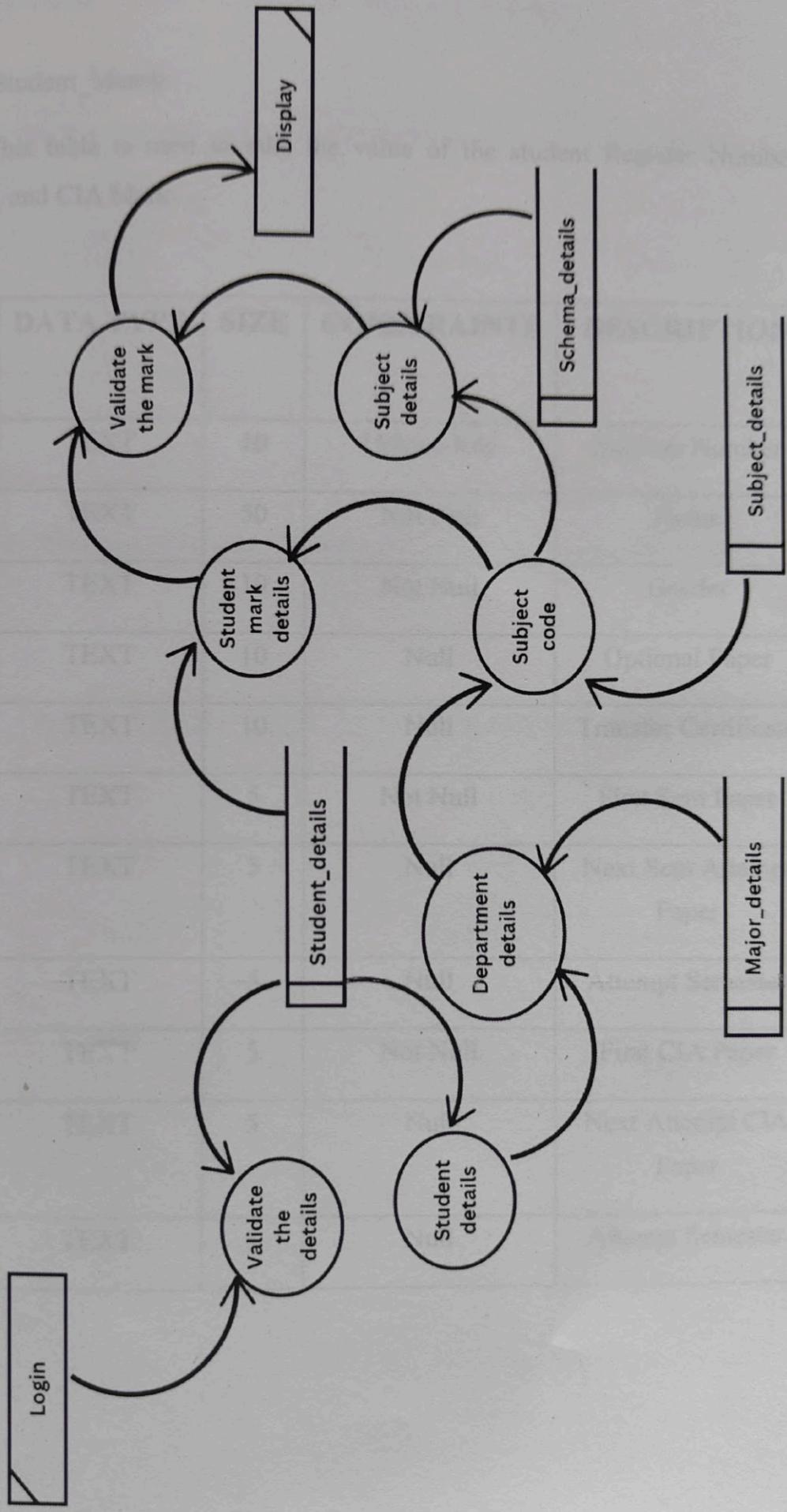
The proposed system is designed to overcome all the disadvantages of the existing system.



SYSTEM DESIGN

3. SYSTEM DESIGN

3.1 DATA FLOW DIAGRAM



3.2 FILE SPECIFICATION

Table Name : Student_Master

Purpose : This table is used to take the value of the student Register Number, Name, EOS Mark, and CIA Mark.

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS	DESCRIPTION
REGNO	TEXT	10	Unique Key	Register Number
NAME	TEXT	50	Not Null	Name
SEX	TEXT	10	Not Null	Gender
ALIED_CODE	TEXT	10	Null	Optional Paper
TC	TEXT	10	Null	Transfer Certificate
FEOS	TEXT	5	Not Null	First Sem Paper
NEOS	TEXT	5	Null	Next Sem Attempt Paper
NSEM	TEXT	5	Null	Attempt Semester
FCIA	TEXT	5	Not Null	First CIA Paper
NCIA	TEXT	5	Null	Next Attempt CIA Paper
NCIAA	TEXT	5	Null	Attempt Semester

Table Name : Major_Code

Purpose : This table is used to Identify the student department.

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS	DESCRIPTION
MAJOR_CODE	TEXT	5	Unique Key	Major code
MAJOR	TEXT	20	Not Null	Department Name

Table Name : Subject_Master

Purpose : This table is used to take a Subject per Sem, Major code, and Subject code.

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS	DESCRIPTION
SNO	INT	5	Unique Key	Serial Number
MAJOR_CODE	TEXT	10	Not Null	Major Code
SUBJECT_PER_SEM	TEXT	20	Not Null	Paper per semester
SUB	TEXT	10	Not Null	Subject code

Table Name : Schema

Purpose : This table is used to take a Subject code, Subject title, minimum mark, minimum CIA, minimum end of the semester, and credit.

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS	DESCRIPTION
SUBJECT_CODE	INTEGER	5	Unique Key	Serial Number
DEGREE	TEXT	10	Not Null	Major Code
BATCH	TEXT	20	Not Null	Paper per semester
SUBJECT_TITLE	TEXT	10	Not Null	Subject code
HOURS	DATA	5	Not Null	Hours
MIN_MARK	INTEGER	10	Not Null	Minimum Total Mark
MAX_MARK	INTEGER	10	Not Null	Maximum Total Mark
CREDIT	FLOAT	10	Not Null	Credits
EOS_MIN	INTEGER	10	Not Null	Sem Minimum mark
EOS_MAX	INTEGER	10	Not Null	Sem Maximum Mark
CIA_MIN	INTEGER	10	Not Null	CIA Minimum Mark
CIA_MAX	INTEGER	10	Not Null	CIA Maximum Mark

3.3 MODULE SPECIFICATION

This project has the following modules.

ADMIN MODULE

- Login Module
- Course Module
- Subject Module
- Student Module

Login Module

The login module helps to search corresponding student marks statement details. These modules receive the registration number and semester details of the students.

Course Module

The course module is used to identify the name of the course for the student.

Subject Module

This module helps to identify the subject details of the concerned course. Subject details are varied by each course. It contains the details of the total number of subjects with subject codes.

Student Module

The student module stores the entire details of the mark statement. This module helps to validate the CIA, and EOS marks based on the minimum and maximum marks.

TESTING AND IMPLEMENTATION
The final stage of the process is testing and implementation. This stage involves the final review of the system, followed by its deployment and integration into the organization's operations. Testing is a critical phase that ensures the system meets all requirements and functions as intended. It includes unit testing, integration testing, system testing, and user acceptance testing. During testing, the system is evaluated against specific criteria, such as performance, reliability, and security. If any issues are identified, they are addressed through bug fixes and improvements. Once the system passes all tests, it is deployed to the production environment. Deployment involves transferring the system from the development or test environment to the live environment where it will be used by end-users. This stage also involves training users on how to use the system effectively and providing support to address any initial challenges.

Conclusion

Summary

System Testing

Implementation

User Training

Deployment

Support

Final Notes

References

Conclusion

Final Summary

Final Notes

Final References

Final Conclusion

Final Final Notes

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Final Final Conclusion

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TESTING AND IMPLEMENTATION

4. TESTING AND IMPLEMENTATION

TESTING

Testing is a critical element of software quality assurance and represents the ultimate reviews of specification, design, and coding. Testing presents an interesting anomaly for the software. Testing is vital to the success of the system. Errors can be injected at any stage during development.

Testing makes a logical assumption that if all the parts of the system are incorrect, it will handle successfully. During testing, the program to be tested is executed with a set of data, and the output of the program for the test data is evaluated to determine if the programs are performing as expected. A series of testing is performed for the proposed system before the system is ready for user acceptance testing.

The testing steps are:

- Unit Testing
- Whitebox Testing
- Validation Testing
- Output Testing

Unit Testing

This project unit testing focuses verification efforts on the smallest unit of the software design. It comprises the sets performed by an individual programmer before the integration of the unit into a larger system. This testing is carried out during the coding itself. In this “Mark Automation System,” each module is tested to be working satisfactorily as the expected output from the module.

Whitebox Testing

“Mark Automation System” has been developed using Python programming language. In this project, all codes, condition statements, branches, and paths are executed and tested. This can be achieved by manually reviewing the code.

In this project branch testing involves all possible outcomes of a conditional statement. In this project code includes an if-else statement that checks if a student has passed or failed a subject, both outcomes ensure that the code is functioning correctly.

I am also verified if a user enters invalid data into the login form, my software can display an appropriate error message.

Validation Testing

Validation testing is the process of verifying that the condition meets the specified requirements and design criteria. My software correctly calculates the grades for each student and generates the overall semester mark sheet.

I am tested my software to ensure that it correctly validates input data. I manually checked that the software correctly handles invalid data inputs, such as negative marks or text instead of numbers. My software performs under different load conditions, I ensure it can handle large amounts of data and generate mark sheets efficiently.

Output Testing

Output testing for a “Mark Automation System” project involves verifying that the system is generating accurate and reliable mark sheets based on the input data and condition criteria.

1. It is verified that the mark sheet displays the correct student's name, roll number, and other personal information.
2. I verified the mark sheet shows the correct CIA and EOS marks for each subject, as entered by the teacher or uploaded by the institution.
3. I verified the total marks and percentages are calculated accurately based on the individual subject marks.
4. I verified the grade assigned to the student is correct according to the grading policy established by the institution.
5. I verified the mark sheet format adheres to the standards set by the institution.

IMPLEMENTATION

Implementation is the stage, which is crucial in the life cycle of the new system designed. The main stage in the implementation is planning, training, and system testing. Every developed system must be implemented to fulfill the mode of development. There are many software implementation methods. In this system, the direct changeover from the existing system to the computer system is carried out.

This implementation plan involves planning, investigation of the current system and its constraints on implementation, design of the methods to achieve the changeover, and evaluation of changeover methods. After the system is implemented, the user conducts a review of the system. It is used to gather information for the maintenance of the system.

and development of traditional
and modern English from historical
perspective and the study approach
can be quite useful.

The study of GUT and MS SOC in English literature can help
to understand English language in the system.

CONCLUSION AND SUGGESTIONS

5. CONCLUSION AND SUGGESTIONS

CONCLUSION

The “Mark Automation System” is developed for maintaining and updating the marks and obtaining the result based on the criteria. The proposed system helps the admin authorities of the controller office in the college. This system is capable of storing the details of the students, subjects, and schema in a dynamic order.

This project is also tested in the organization for desired functionalities, and it is found that it is functioning well without any errors. Thus, the proposed system is very useful and satisfactory to the organization in rendering institutions efficiently, effectively, and successfully.

Good documentation of user-friendly features had been incorporated into the system and any user can exploit these features to get maximum benefits. All the forms are documented and can be easily understood. The various information provided by the system must be quite useful.

Since Tkinter GUI and MS SQL is flexible software tools we can easily incorporate any scripting language in the system.

SUGGESTIONS

In this “Mark Automation System” has almost satisfied the requirements of the user, there is further scope in molding this system into a better form in the following areas.

- This system may be improved so that it connects to the module details and seemed information through a computerized system
- It is necessary to build up a system that can integrate with the entire college management system

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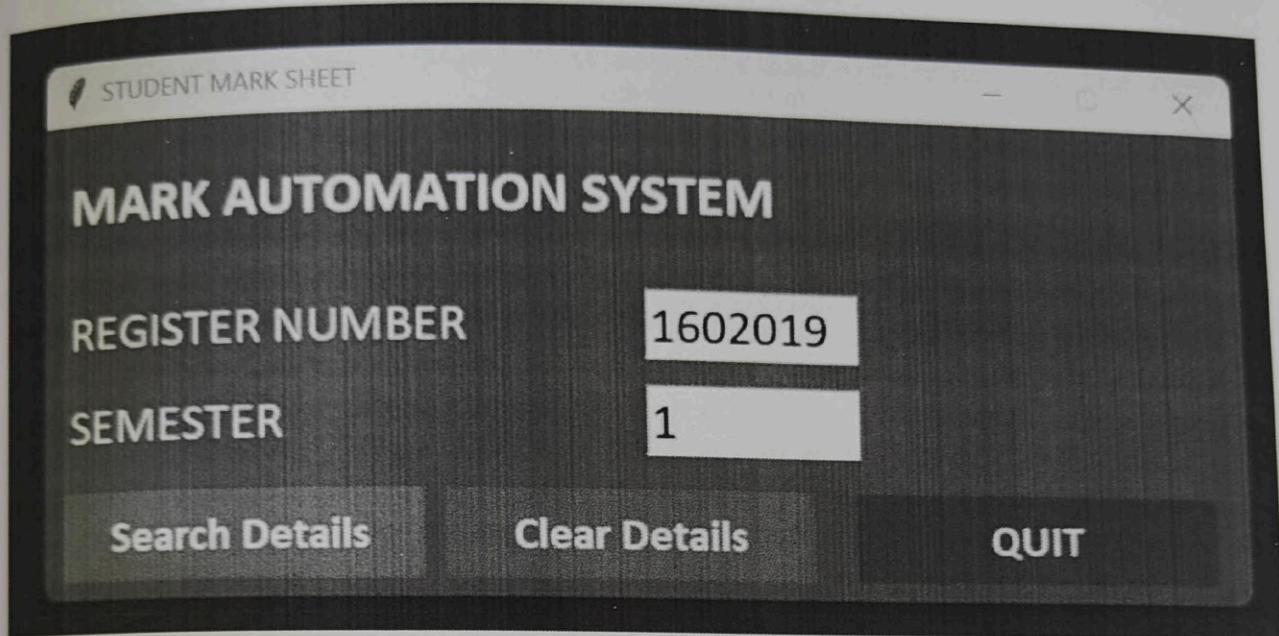
APPENDICE

APPENDICES

APPENDICES

APPENDICES

A1. LOGIN FORM



A2. RESULT STATEMENT

result



GOBI ARTS & SCIENCE COLLEGE

Govt. Aided Autonomous Co-Educational Institution Affiliated to Bharathiar University, Coimbatore,
 Accredited with 'A' Grade by NAAC[4th Cycle] and
 Recognised as a STAR college by DBT, Govt. of India
 Gobichettipalayam - 638 453, Erode Dt., Tamil Nadu.

STATEMENT OF MARKS AND GRADES

(Under Choice Based Credit System)

END OF SEMESTER EXAMINATIONS -

No .

NAME : PAVITHRA S.

DATE OF BIRTH : 10.05.96

REG NO : 1602019

COURSE : M.Sc.MATHAEMATICS

SEMESTER : FIRST

SEM	PART	SUBJECTS/PAPERS	MARKS SECURED			NO. OF CREDITS	GRADE POINTS	GRADE	RESULT
			EOSE	CIA	TOTAL				
I		ALGEBRA	35	26	61	5.0	6.1	A	pass
I		REAL ANALYSIS	45	24	69	5.0	6.9	A	pass
I		PARTIAL DIFFERENTIAL EQUATIONS	46	21	67	5.0	6.7	A	pass
I		MECHANICS	48	27	75	5.0	7.5	D	pass
I		NUMBER THEORY	55	27	82	3.0	8.2	D+	pass
## END OF THE SEMESTER ##									

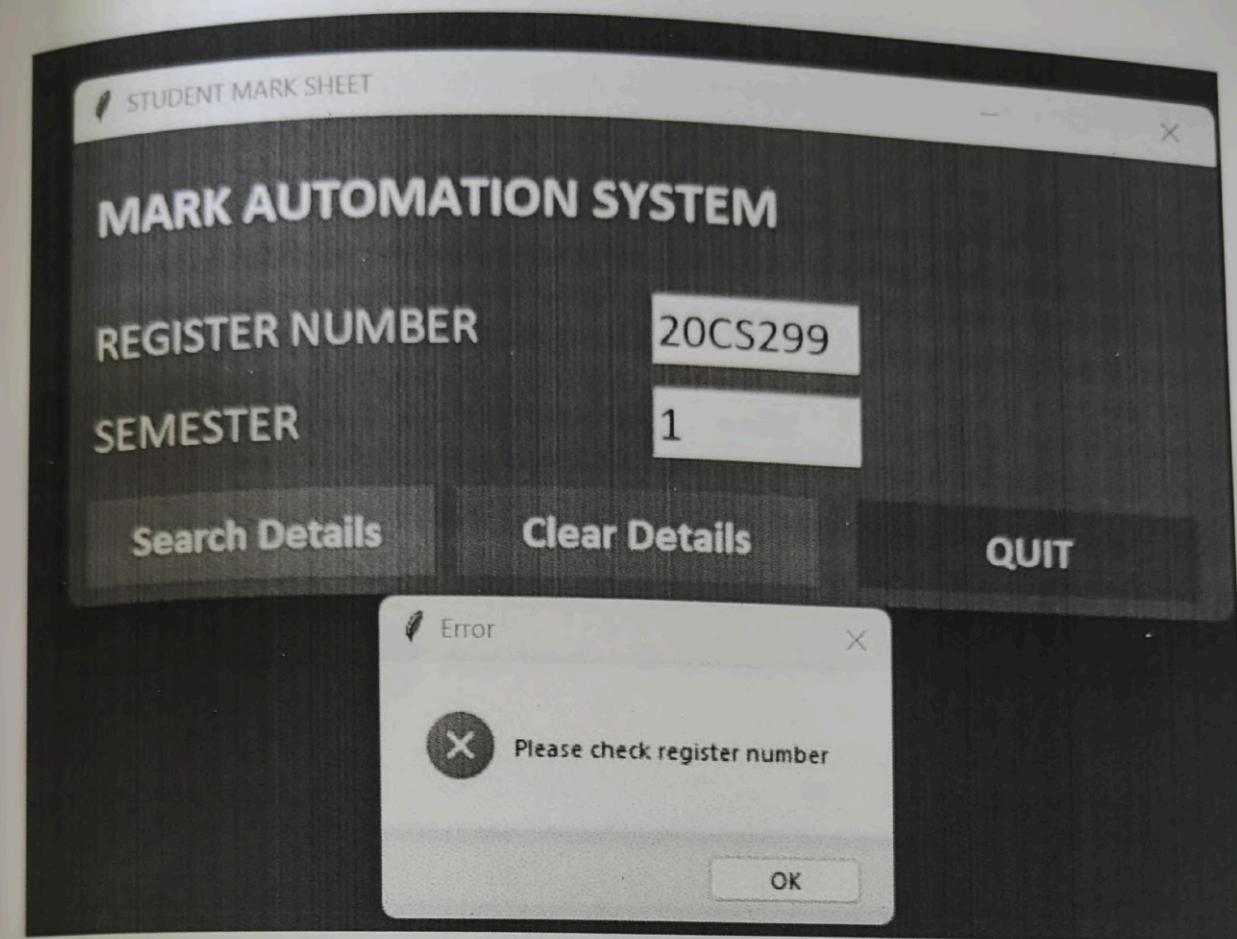
RA : Re-appear

ABST : Absent

This statement of marks is issued without any correction or overwriting
 (Details overleaf)

CONTROLLER OF EXAMINATIONS

A3. REGISTER NUMBER VERIFICATION



A4. SEMESTER VERIFICATION

