INTRODUCTION

In today's academic world, managing study schedules, assignments, and goals can difficult to manage by students. Juggling multiple subjects, deadlines, and exams often leads to stress and inefficiency. To help with this challenge, we created a Smart Study Planner, a web-based tool designed to assist students in planning, organizing, and monitoring their academic activities effectively.

The Smart Study Planner is a software application that allows students to create personalized study plans, set reminders, manage tasks, and track progress. It serves as a central digital assistant that helps improve time management and academic performance. The planner emphasizes simplicity and functionality, making it easier for students to stay focused and organized.

The web application uses HTML for structure, CSS for styling, and PHP for backend logic, with a MySQL database to store user data. It features a registration and login system with password encryption to ensure user privacy and data safety. Users can log in to their dashboard to add, edit, and view their study tasks, set priorities, and track completed goals.

Additional features include parents can view the progress report, students mark list and student activity in our application, alerting parents about the exams.overall, the smart study planner is more than just a to-do list. It is a complete digital companion that aims to promote better study habits and academic discipline through technology.

SYSTEM ANALYSIS

REQUIREMENT ANALYSIS

System analysis is the process of gathering and interpreting facts, diagnosing problems and using the fact to improve the system. It deals with the detailed study of various operations performed by the system and their relationship within and outside the system. System analysis is the heart of software development. The analysis helps us to understand the present system.

System analysis specifies what the system should do.

EXISTING SYSYTEM

In the current educational setup, most students are responsible for creating and managing their own study schedules. This manual approach often lacks structure and logical distribution of time across different subjects. Students typically focus more on subjects they enjoy or find easier, while avoiding those that require more effort. As a result, weaker subjects are often neglected, leading to consistent poor performance and an unbalanced academic development.

Another major drawback of the existing system is the lack of data-driven planning. Since students do not base their timetables on past performance or academic needs, the planning is random or preference-based. There is also no system in place to analyze subject-wise performance or track improvement, which makes it difficult for students to know where they should concentrate more of their effort. This results in an inefficient and ineffective study plan that does not support academic growth.

Additionally, manual scheduling can become overwhelming, especially when students have multiple subjects and limited time. It becomes tedious to keep track of daily schedules, revise them frequently, and ensure every subject gets enough time. Without an intelligent system to assist in this process,

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students are more prone to irregular study habits, procrastination, and last-minute cramming, all of which reduce the quality of learning and exam preparedness.

PROPOSED SYSTEM

The Smart Study Planner is designed to overcome the limitations of manual study scheduling by introducing an automated, data-driven approach. This system generates a personalized timetable for each student based on their previous academic performance. Subjects in which the student scored lower marks are automatically assigned more study sessions per week, ensuring focused attention on weaker areas. This prioritization helps students improve where it matters most, making their study time more productive and effective.

By reducing the burden of manual planning, the Smart Study Planner allows students to concentrate on studying rather than worrying about time management. The system operates using a predefined time window—7:00 PM to 9:30 PM—and distributes study sessions across the week in a structured and balanced manner. It eliminates guesswork and removes biases that usually influence manual planning, offering a fair and strategic study timetable tailored to individual needs.

Moreover, the system is built using simple web technologies such as HTML, PHP, and MySQL, making it lightweight, accessible, and easy to use. It stores student details, marks, and generated timetables securely in the database and presents them in a clean, user-friendly interface. The planner not only saves time and reduces stress but also encourages better study discipline and long-term academic improvement. In the future, it can be enhanced with performance tracking, analytics, and adaptive learning features, making it a comprehensive academic support system.

There are 2 main modules included in this project and they are:

1.User Module

In this software, the **user** is the central focus. The Smart Study Planner provides a **registration and login system** for students. After successfully registering and logging in, users can create their **academic profile** by entering personal and academic details, including their **previous year's subject marks**. These marks are used to automatically generate a personalized study timetable.

Users can view their generated timetables, which are designed to prioritize subjects in which they performed poorly. The timetable is structured between **7:00 PM and 9:30 PM**, distributing study time logically across the week. The system also offers a performance-focused approach where users

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can clearly identify which subjects need more attention and can adjust their study strategies accordingly.

2.Admin

In this module, the **admin** can log in directly to their dashboard and manage user accounts. The admin has the ability to **view registered users, monitor submitted marks, and review generated timetables**. If needed, the admin can send **notifications or academic alerts** to individual users or a group of students—for example, reminders for exams, study challenges, or motivational messages.

Additionally, the admin can update system settings and manage academic criteria such as **mark thresholds** that define which subjects are considered weak and need more attention in the generated timetable.

Advantages of proposed system:

- No need to manually created a timetable – it is automatically generated based on academic performance.

- The planner provides a data – driven study schedule, helping students focus more on weaker subjects.

- Reduces stress and time spent on deciding what to study and when.

- Ensures a balanced and consistent study routine across a week.

- The system is web-based, user-friendly, and accessibile, built using HTML, PHP, and My SQL.

FEASIBILITY STUDY

The feasibility study for the Smart Study Planner aims to evaluate whether the proposed system is technically, economically, and socially viable for development and implementation. It examines the shortcomings of the current manual study planning methods, where students often struggle to allocate study time effectively, especially for subjects in which they are weak. By analyzing user needs and system requirements, the study identifies how a web-based platform can automate timetable creation using previous academic performance data. The inputs include subject marks,

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which are processed to generate a personalized timetable within fixed study hours (7:00 PM to 9:30 PM), ensuring focused attention on weaker subjects.

The study confirms that the system is technically feasible using simple web technologies such as HTML, PHP, and MySQL, which are widely supported and cost-effective. Economically, the project requires minimal resources and infrastructure, making it budget-friendly for educational institutions and students. Socially, the system provides a significant advantage by promoting organized study habits and academic improvement. Overall, the feasibility study concludes that the Smart Study Planner can be successfully developed and implemented to help students manage their time more effectively and improve their academic performance.

TECHNICAL FEASIBILITY

The proposed *Smart Study Planner* system is technically feasible due to the following reasons:
- The required **hardware and software resources** for developing and running the project are already available.
- The current system environment has sufficient capacity to **store and process the student data**, such as registration details and subject marks.
- The system is **designed to be scalable and upgradable** for future enhancements, such as progress tracking or AI-based recommendations.
- It provides **quick and reliable responses** to user inputs, such as generating personalized timetables based on performance data.

The Smart Study Planner strongly supports technical feasibility as it can operate with minimal technical support. It is built using **HTML5, CSS, Bootstrap, and JavaScript** for the front end, **PHP** for the backend logic, and **MySQL** for the database. The system runs on a **Windows platform** and is compatible with modern web browsers like **Google Chrome** and **Mozilla Firefox**. The architecture ensures accurate data processing, efficient timetable generation, and secure handling of student information.

ECONOMIC FEASIBILITY

The proposed *Smart Study Planner* system is economically feasible for several reasons:
- In terms of economic feasibility, the **development cost is minimal** and is well-justified by the **academic and time-management benefits** the system provides to students.
- The project utilizes **existing hardware and free, open-source software tools**, so there is **no need for additional investments** in infrastructure or licensed platforms.
- The **financial value and academic efficiency gained** by helping students improve their performance and manage their study time more effectively **outweigh the development and maintenance costs**, making the system a cost-effective solution for educational environments.

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OPERATIONAL FEASIBILITY

In the current scenario, study planning is carried out manually by students, which is often **time-consuming, inconsistent, and inefficient**. The proposed *Smart Study Planner* eliminates these issues through **automation**, offering a streamlined and structured way for students to manage their study schedules. The system transforms the tedious manual process into a **personalized and data-driven experience** that is simple to use and requires no special training.

The Smart Study Planner is designed with a **user-friendly interface**, making it easy for students to register, input their previous marks, and receive a customized timetable without technical knowledge. This ensures smooth operation and minimal learning curve for users. Based on these facts, and to the best of our knowledge, the *Smart Study Planner* is **feasible in technical, operational, and economic terms**, and is well-suited to meet the practical academic needs of students.

SYSTEM ENVIRONMENT

The **Smart Study Planner** system is developed based on a Software Requirement Specification (SRS), which outlines both functional and non-functional requirements. Functional requirements include user interactions such as registration, entering marks, generating personalized timetables, and viewing schedules. Non-functional requirements define system constraints like performance, security, ease of use, and compatibility with different browsers and devices. These specifications ensure that the system works efficiently, meets user expectations, and maintains data integrity throughout its operation.

HARDWARE REQUIREMENTS

Server Requirements:

The web server can be hosted on a rental server or local machine. The minimum hardware requirements to install and run the Smart Study Planner are as follows:

- Processor : Any x86/x64 based microprocessor

- Hard disk drive : Minimum of 80 GB

- Memory (RAM) : 512MB or Greater

Client Requirements:

Any standard PC or laptop with **internet connectivity** and a **modern web browser** is sufficient to access the Smart Study Planner

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SOFTWARE REQUIREMENTS

Server Requirements:

- Operating system : Any OS

- Database : MySQL

- Webserver : Apache

- Browser : Any web browser

- Server side scripting language : PHP

- Front End : HTML5, CSS3, JavaScript, jQuery, AJAX, Bootstrap,

- Browser Compatibility : Google Chrome, Mozilla Firefox, Microsoft Edge, etc.

Client Requirements:

Any device (PC/Laptop/Mobile) with **internet connectivity** and a supported **web browser** can access the system without any additional software installation.

DEVELOPMENT TOOLS

HTML5

HTML5 stands for **Hyper Text Markup Language version 5**. It is the latest and most advanced version of the standard markup language used to structure and present content on the World Wide Web. HTML5, along with **CSS3** and **JavaScript**, forms the core technology stack used in creating modern, interactive, and responsive web applications. Web browsers interpret HTML5 files to display visually rich, multimedia-enabled web pages that are both user-friendly and accessible across different platforms and devices.

HTML5 introduces a number of new features and enhancements compared to previous versions. It provides **semantic elements** like <header>, <footer>, <section>, and <article> to clearly define the structure of a web page. It also supports embedding multimedia content directly using tags like <audio> and <video>, eliminating the need for third-party plugins like Flash. HTML5 enables the

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creation of interactive forms with new input types and attributes, improving user experience and form validation. In addition, it allows for better integration with **JavaScript APIs** and supports modern web application functionalities such as **offline storage, geolocation, drag-and-drop, and canvas drawing**.

CHARACTERISTICS OF HTML:

- Simple and readable : HTML5 code is easy to understand, write, and maintain.

- Rich media support : Built-in support for audio, video, and scalable graphics via <audio>, <video>, and <canvas> tags.

- Responsive and cross-platform : HTML5 content is supported across all major platform including Windows macOs, Linux, Android, and iOS.

- Semantic structure : New tags such as <nav>, <main>, and <section> provide better document structure and SEO benifits.

- Improved forms and inputs: Supports new input types like email, date, and range for better form control and user interactions.

- Offline capabilities: With technologies like localStorage and sessionStorage, HTML5 supports offline usage for web applications.

JavaScript

JavaScript is a high-level, dynamic, un typed, and interpreted programming language. It Alongside HTML and CSS, it is one of the three core technologies of World Wide Web content production; the majority of websites employ it and it is supported by all modern Web browsers without plug-ins. JavaScript is prototype- based with first-class functions, making it a multi-paradigm language, supporting object-oriented, imperative, and functional programming styles. It has an API for working with text, arrays, dates and regular expressions, but does not include any I/O, such as networking, storage, or graphics facilities, relying for these upon the host environment in which it is embedded. Despite some naming, syntactic, and standard library similarities, JavaScript and Java are otherwise unrelated and have very different semantics. The syntax of JavaScript is actually derived from C, while the semantics and design are influenced by the self and Scheme programming languages.

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JavaScript is also used in environments that are not Web-based, such as PDF documents, sitespecific browsers, and desktop widgets. Newer and faster JavaScript virtual machines (VMs) and platforms built upon them have also increased the popularity of JavaScript forserver-side Web applications. On the client side, JavaScript has been traditionally implemented as an interpreted language, but more recent browsers perform just-in-time compilation. It is also used in game development, the creation of desktop and mobile applications, and server-side network programming with runtime environments.

USES OF JavaScript:

•   Use it to add multimedia elements With JavaScript you can show, hide, change, resize imagesAnd create image rollovers. You can create scrolling text across the status bar.

•   Create pages dynamically Based on the user's choices, the date, or other external data,JavaScript can produce pages that are customized to the user.

•   Interact with the user It can do some processing of forms and can validate user input when the user submits the form

PHP:

   PHP is a server scripting language, and a powerful tool for making dynamic and interactive Web pages. PHP is a widely-used, free, and efficient alternative to competitors such as Microsoft's ASP.PHP is a script language and interpreter that is freely available and used primarily on Linux Web servers. PHP is originally derived from Personal Home Page Tools, now stands for PHP: Hypertext Preprocessor. PHP is an alternative to Microsoft's Active Server Page (ASP) technology. As with ASP, the PHP script is embedded within a Web page along with its HTML. Before the page is sent to a user that has requested it, the Web server calls PHP to interpret and perform the operations called for in the PHP script.

An HTML page that includes a PHP script is typically given a file name suffix of ".php" ".php3," or ".phtml". Like ASP, PHP can be thought of as "dynamic HTML pages," since content will vary based on the results of interpreting the script. PHP is free and offered under an open source license.

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ADVANTAGES OF PHP:

- Open source: It is developed and maintained by a large group of PHP developers, this will help in creating a support community, abundant extension library.

- Speed: It is relative fast since it uses much system resource.

- Easy to use: It uses C like syntax, so for those who are familiar with C, it's very easy for them to pick up and it is very easy to create web site scripts.

- Can be run on many platforms, including Windows, Linux and Mac, it's easy for users to find hosting service providers.

MySQL:

Relational database systems are the most important database system used in the software industry today. One of the most outstanding systems is MySQL. MySQL is a database management system developed and marketed by Microsoft. The most important aspects of MySQL are,

- MySQL is easy to use.

- MySQL scales from a mobile laptop to symmetric multi process or system.

- MySQL provides data warehousing features that until now have only been available in Oracle and other more expensive DBMS.

MySQL uses services of Linux or Windows to offer new or extended database capabilities, such as sending and receiving message and managing login security. The
MySQL administrator's primary tool for interacting with the system is Enterprise Manager. The Enterprise Manager has two main purposes: Administration of the database server and Management of database objects. MySQL Query Analyzer provides a graphical presentation of the execution plan of a query and an automatic component that suggests which index should be used for a selected query. This interactive component of MySQL performs the task like:

- Generating and executing Transact-SQL statements.

- Storing the generated Transact-SQL statements in the file.

- Analyzing execution plans for generated queries.

- Graphically illustrating the execution plan for a selected query.

CSS3

Cascading Style Sheets Level 3 (CSS3) is the latest evolution of the CSS standard used for defining the **look and feel of web pages** written in markup languages like HTML5. CSS3 is one of the core technologies of the modern web, working alongside HTML5 and JavaScript to build responsive, visually appealing, and user-friendly web interfaces.

CSS3 enhances the ability to **separate content from presentation**, enabling web developers to control layout, colors, fonts, animations, and responsiveness with greater precision and flexibility. With CSS3, styling can be stored in separate .css files, allowing multiple web pages to share the same design. This improves **code reusability**, simplifies updates, and enhances **page loading speed** through caching mechanisms.

CSS3 introduced many **new modules and features** such as **media queries** for responsive design, **flexbox and grid** layouts for precise positioning, **transitions and animations** for visual effects, and **shadows, gradients, and rounded corners** for enhanced UI styling. It also enables web pages to be presented in various formats—on screen, print, mobile devices, screen readers, and even Braille displays—offering **universal accessibility** and design adaptability across platforms.

SYSTEM DESIGN

In this project, system design is all about planning how the different parts of the *Smart Study Planner* will work together. It helps break down the requirements into smaller components like how users will register, how they'll enter their marks, and how the system will process that information to create a study plan. This step makes it easier to understand how everything should be built before jumping into the actual coding.

The system includes several modules, such as user input, schedule generation, and the interface for displaying the timetable. Based on the marks students enter, the system is designed to automatically focus more on subjects where they've scored lower. All these parts are connected through a proper structure so that the system runs smoothly and does what it's supposed to do— help students manage their study time better.

PROCESS DESIGN

Modules:

There are 3 main modules included in this project and they are:

1.User

This module is mainly for students. They can register, log in, and enter their previous year's marks for each subject. After submitting the marks, the system generates a personalized study timetable that focuses more on subjects where they scored low. Students can view their timetable and make changes to their details if needed.

2.Parent

The parent module allows parents to log in and check their child's study schedule and performance. They can view the timetable and monitor how much focus is being given to each subject. This helps parents stay involved and support their child's learning process.

3.Admin

The admin is responsible for managing the overall system. They can view and manage all user accounts, monitor the data entered, and ensure the system is running smoothly. The admin also has access to view the generated timetables and can manage or update subject details if necessary.

DATA FLOW DIAGRAM

A dataflow diagram shortly termed as DFD has the purpose of clarifying system requirements and identifying major transformations that will become programs in system design. So it is a design phase that functionally decomposes the requirements specifications down to the lowest level of detail. The DFD is also known as Data Flow Graph or Bubble Chart. It is the starting point of the design phase that functionally decomposes the requirements specifications down to the level of details.

The merit of the DFD is that it can provide an overview of the data to be processed by the system, the data to be transformed, the files to be used and the flow of data along the system. It has illustrating the essential component of a process and the way of interaction.
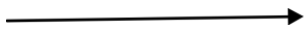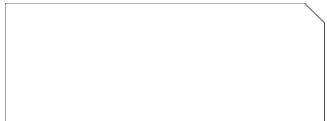
DFDs mainly use the following symbol:
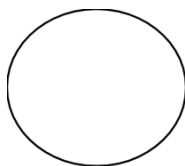
Circles are used to represent process that converts data into information.

Rectangles are used to represent external entities, which are the sources of data that enter the system or the recipients of data that leave the system.

Open rectangles are used for representing   databases.

Arrows are used to represent the data flow. Data flows

.

Represent movements of data between

other components

The output is used when a hard copy is produced

DFD RULES

- Data cannot flow between two entities. Data flow must be from entity to a processor a process to an entity. There can be multiple data flows between one entity and a process.
- Data cannot flow between two data stores. Data flow must be from data store to a Process or a process to a data store. Data flow can occur from one data store to many process.
- Data cannot flow directly from an entity to data store. Data flow from entity must be processed by a process before going to data store and vice versa.
- A process must have at least one input data flow and one output data flow.
- A data store must have at least one input data flow and one output data flow.
- Two data flows cannot cross each other.
- All the process in the system must be linked to minimum one data store or any other process.
- The level 1 DFD usually contains three to seven bubbles.
- Level 0 and Level 1 consist of only one DFD each.
- Level 2 may contain up to 7 separate DFDs.
- Level 3 up to 49 DFDs.

LEVEL 0: THE CONTEXT LEVEL DFD
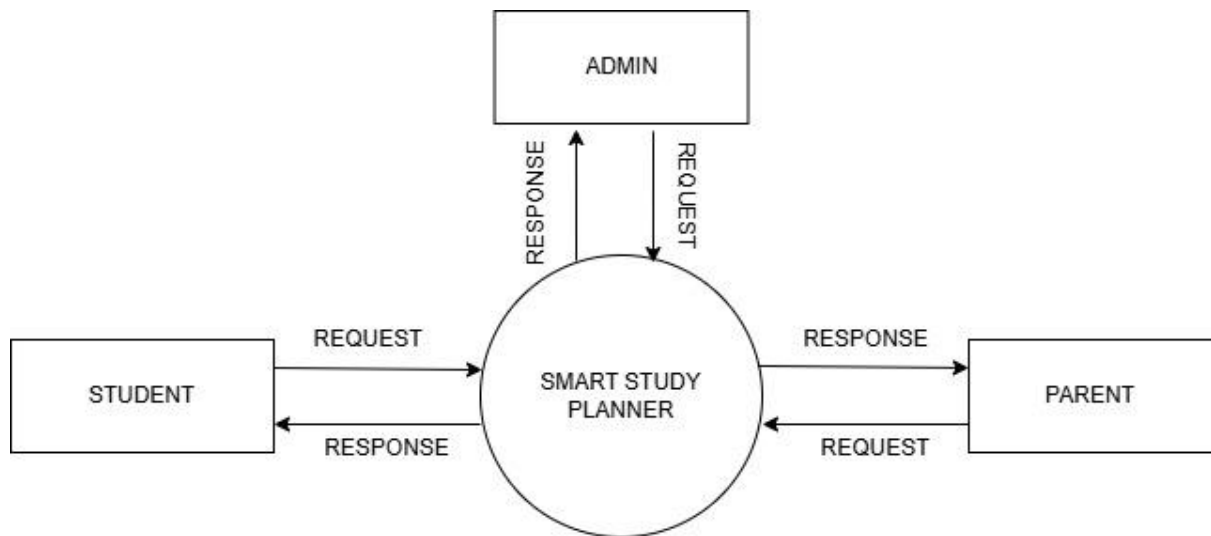
LEVEL 1
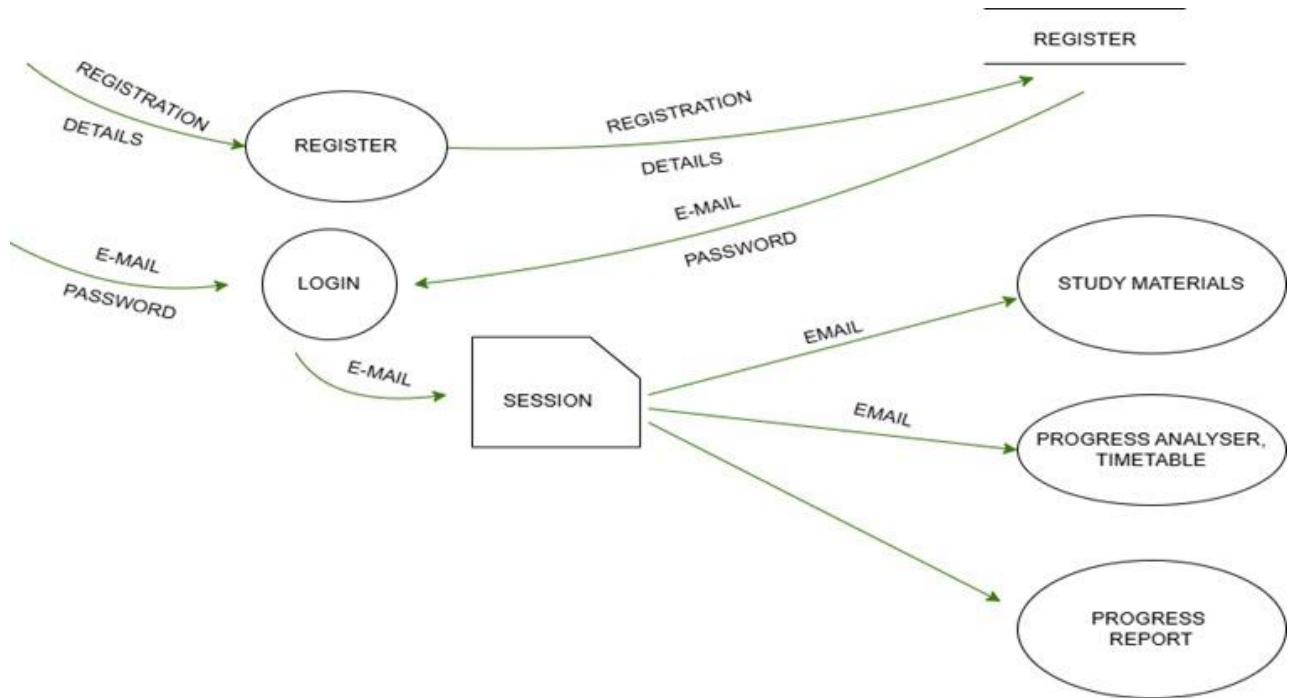
UML DIAGRAM

UML stands for **U**nified **M**odeling **L**anguage. It's a rich language to model software solutions, application structures, system behavior and business processes. There are 14 types of UML diagrams to help you model these behaviors. A UML diagram is a diagram based on the UML (Unified Modeling Language) with the purpose of visually representing a system along with its main actors, roles, actions, artifacts or classes, in order to better understand, alter, maintain, or document information about the system.

It is based on diagrammatic representations of software components. As the old proverb says: "a picture is worth a thousand words". By using visual representations, we are able to better understand possible flaws or errors in software or business processes.

UML was created as a result of the chaos revolving around software development and documentation. In the 1990s, there were several different ways to represent and document software systems. The need arose for a more unified way to visually represent those systems and as a result, in 1994-1996, the UML was developed by three software engineers working at Rational Software. It was later adopted as the standard in 1997 and has remained the standard ever since, receiving only a few updates.
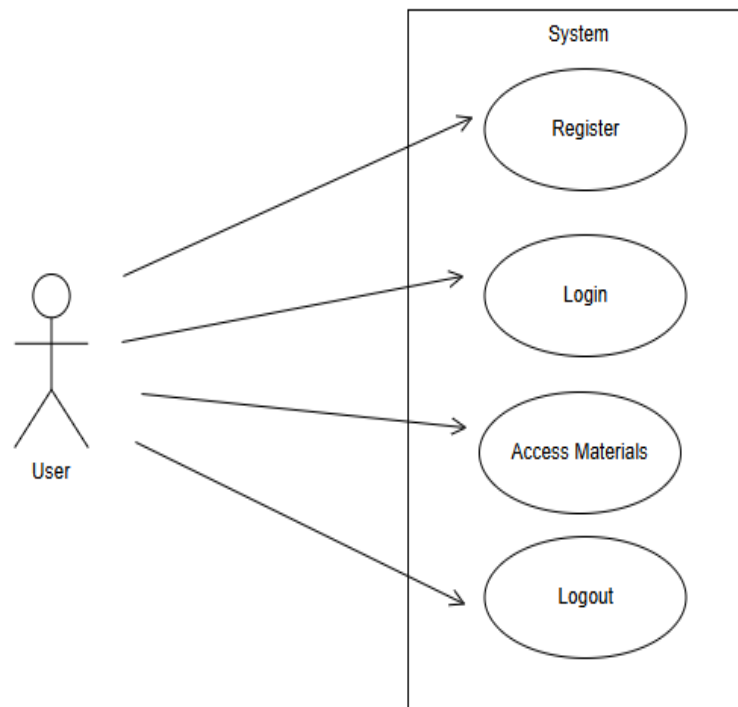
USECASE DIAGRAMS

In the Unified Modeling Language (UML), a use case diagram can summarize the details of your system's users (also known as actors) and their interactions with the system. To build one, you'll use a set of specialized symbols and connectors. An effective use case diagram can help your team discuss and represent:
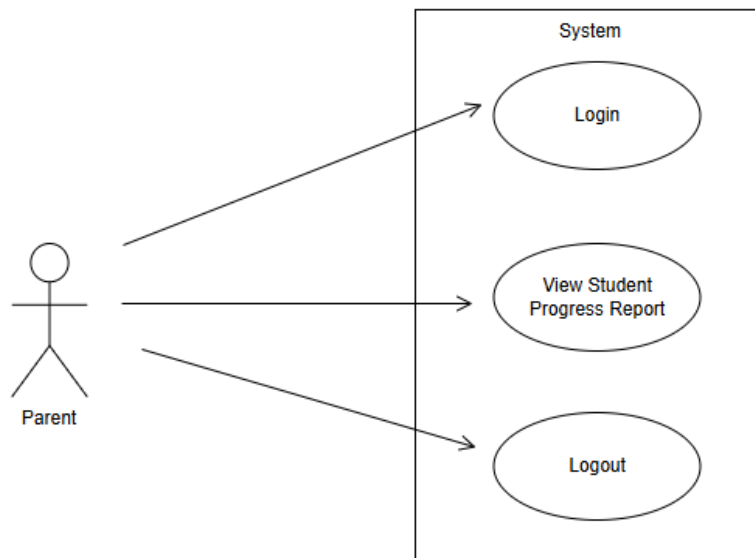
·   Scenarios in which your system or application interacts with people, organizations, or external systems.

·   Goals that your system or application helps those entities (known as actors) achieve.

·   The scope of your system.

USECASE DIAGRAMS: ADMIN
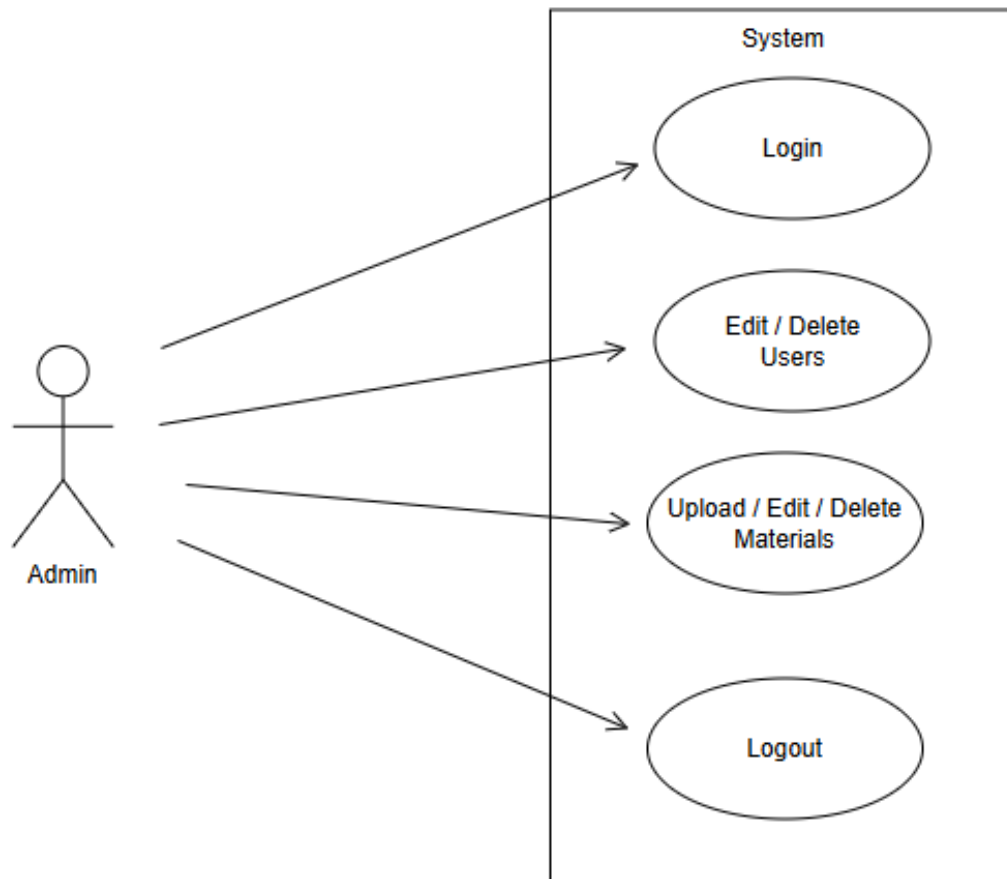
USECASE DIAGRAM: USER

USECASE DIAGRAM: PARENT

SEQUENCE DIAGRAM

A sequence diagram is a type of interaction diagram because it describes how and in what order a group of objects works together. These diagrams are used by software developers and business professionals to understand requirements for a new system or to document an existing process.

The sequence diagram is used primarily to show the interactions between objects in the sequential order that those interactions occur. Much like the class diagram, developers typically think sequence diagrams were meant exclusively for them.

A sequence diagram shows the sequence of messages passed between objects. Sequence diagrams can also show the control structures between objects. For example, lifelines in a sequence diagram for a banking scenario can represent a customer, bank teller, or bank manager.

Sequence Diagrams are used to show your team how objects in your program interact with each other to complete tasks. Simply put, think of a sequence diagram like a map of conversations between different people, where this map follows all the messages sent from person to person.

In sequence diagrams, an interaction operator defines the semantics of a combined fragment and determines how to use the interaction operands in the combined fragment. An alternative interaction operator represents the logic equivalent of an if-then-else statement.

One of the primary uses of sequence diagrams is in the transition from requirements expressed as use cases to the next and more formal level of refinement. Use cases are often refined into one or more sequence diagrams. In addition to their use in designing new systems, sequence diagrams can be used to document how objects in an existing (call it "legacy") system currently interact. This documentation is very useful when transitioning a system to another person or organization.
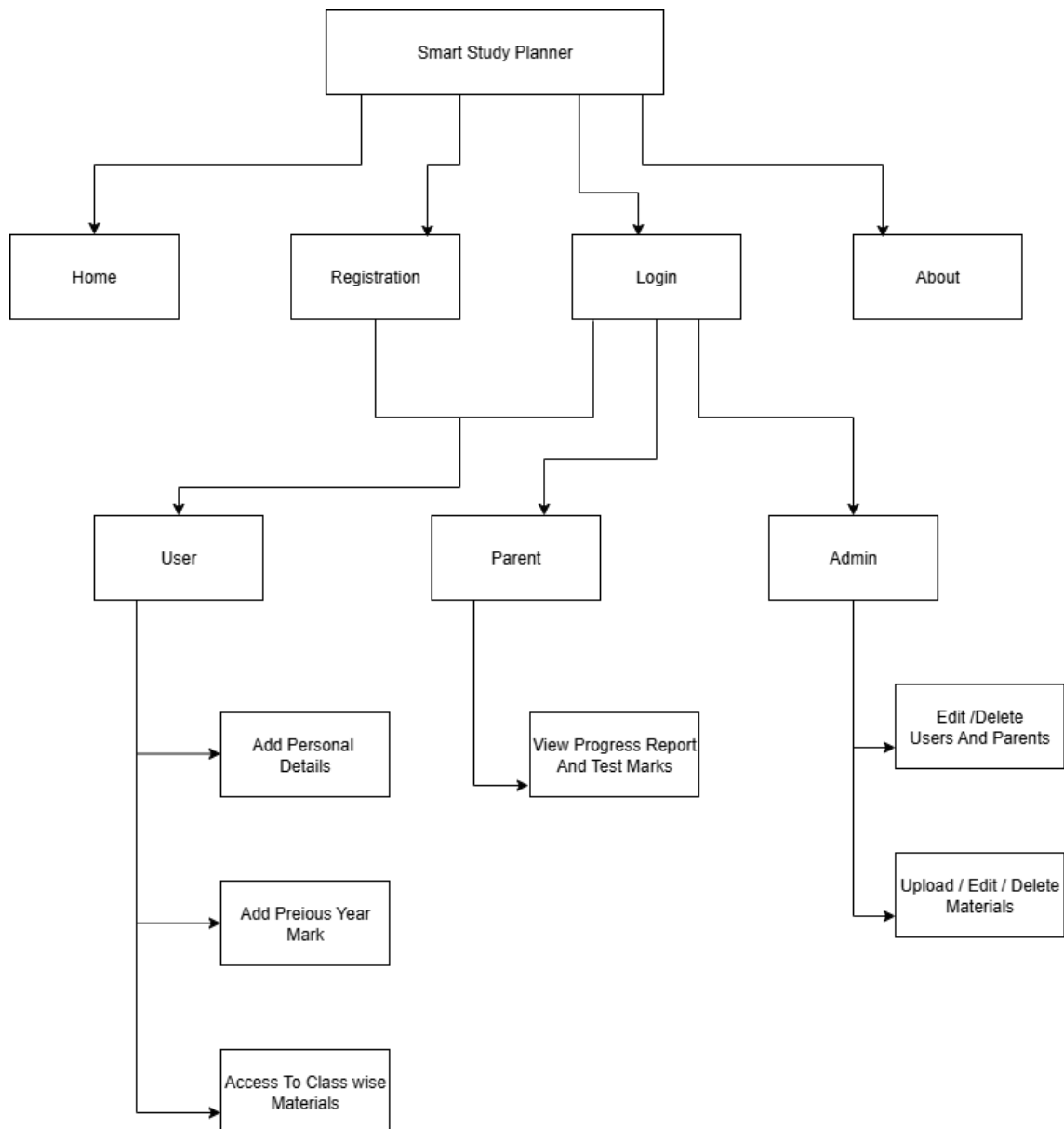
ER DIAGRAM

An Entity Relationship (ER) Diagram is a type of flowchart that illustrates how "entities" such as people, objects or concepts relate to each other within a system. ER Diagrams are most often used to design or debug relational databases in the fields of software engineering, business information systems, education and research. Also known as ERDs or ER Models, they use a defined set of symbols such as rectangles, diamonds, ovals and connecting lines to depict the interconnectedness of entities, relationships and their attributes. They mirror grammatical structure, with entities as nouns and relationships as verbs.

Entity relationship model is a high level conceptual data model it allows us to describe the data involve in a real world enter price in terms of object and their relationships. It widely used to develop in initial design of data base It provide a set of useful concepts that make it convenient for a developer to move from a basic set of information to a detailed and precise description of information that can be easily implement in database system. It describes data as a collection of entities, relationship and attributes.

Symbols used in E-R diagram

Recatngle   Entity
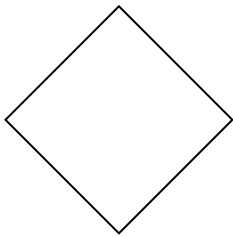
Diamond   Relationship
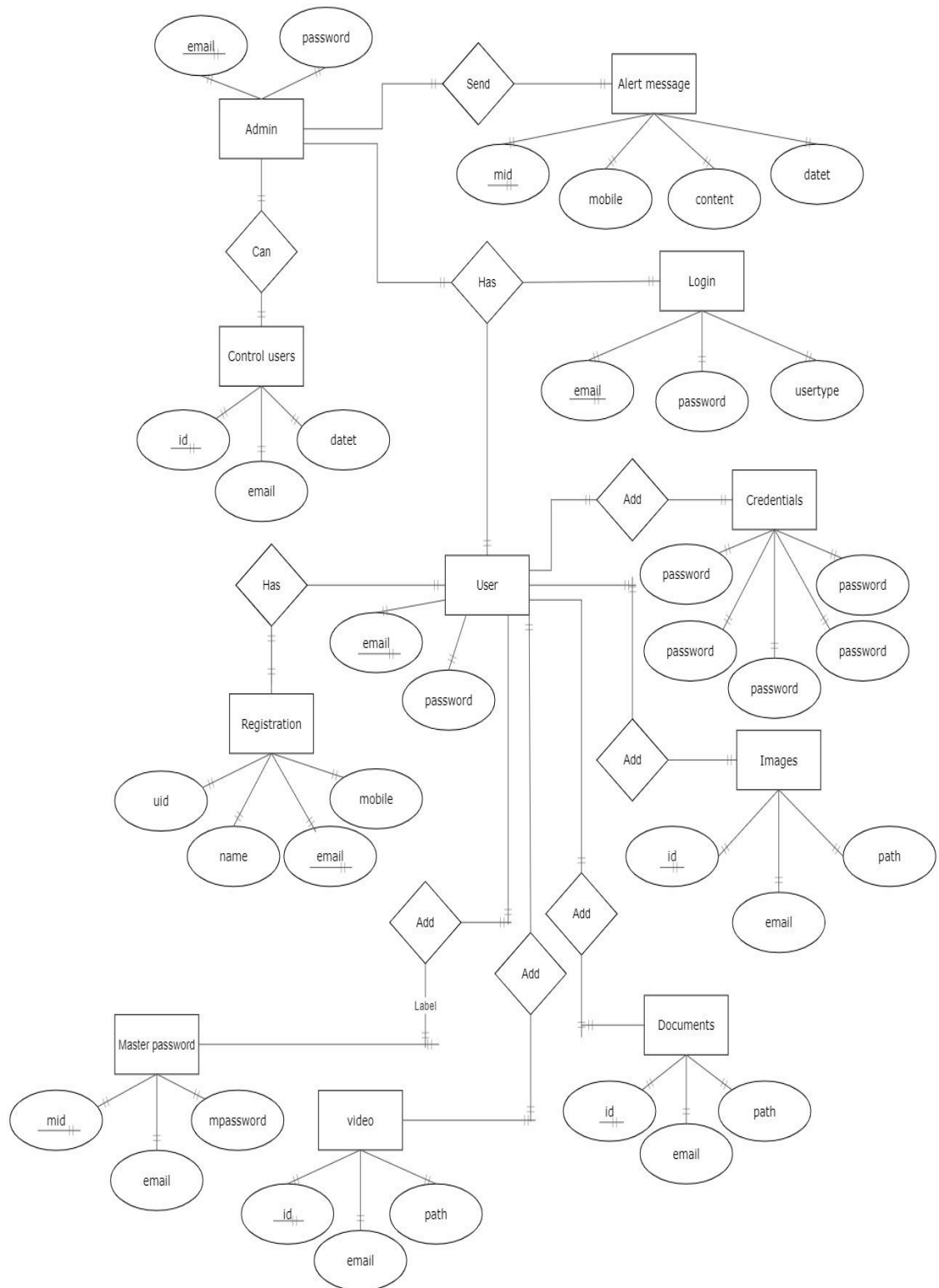
Oval   Attribute

CONCLUSION

The Smart Study Planner is an innovative web-based project developed to assist students in organizing their study schedule based on their academic performance. By allowing users to enter marks from previous years, the system automatically identifies subjects that require more attention. This helps students focus on weaker areas, enabling a more balanced and effective preparation strategy.

The system includes three main modules — User, Parent, and Admin — that interact to ensure smooth functionality and user engagement. The User module allows students to register, input academic data, and access their customized timetables. The Parent module enables guardians to view their child's progress and stay informed, while the Admin module provides tools to manage users, data, and system settings efficiently. Each module is designed with simplicity and clarity in mind to ensure ease of use.

In conclusion, the Smart Study Planner provides a smart and efficient way for students to take control of their learning by offering a performance-driven timetable. It encourages continuous academic improvement through proper planning, parental involvement, and systematic management. The project showcases both technical development skills and a thoughtful approach to solving real educational challenges.