Software Requirements Specification

for

TaskSchduler

Version 1.0 approved

Prepared by
Pritesh Gupta
Onkar Ghevade
Vinaya Chaudhari

Thakur College Of Engineering & Technology

2025

Table of Contents

Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Document Purpose

The AI-Powered Auto Scheduler for Task Management is a smart task management system that leverages AI to automate scheduling, prioritization, and optimization of user tasks. The system will enhance productivity by dynamically adjusting task priorities based on deadlines, dependencies, and user preferences.

1.2 Product Scope

This system will allow users to:

- Create, edit, and delete tasks.
- Automatically schedule tasks based on AI-driven prioritization.
- Receive notifications and reminders for upcoming deadlines.
- Sync tasks with external calendars (Google Calendar, Outlook, etc.).
- Upload and manage task-related files via Cloudinary integration.

1.3 Definitions and Acronyms

- User- A registered individual who visits the website and owns an account in bank.
- SQL- Abbreviation of structured query language. SQL is a standardized query language for requesting information from a database.
- RAM- acronym for random access memory, a type of computer memory that can be accessed randomly; that is, any byte of memory can be accessed without touching the preceding bytes. RAM is synonymous with main memory, the memory available to programs
- UserId- UserId must be unique and minimum 8 characters and maximum of 15 characters.
- Password-Unique word given to each user as a secret code
- Task Scheduler – An automated system that arranges tasks based on predefined criteria.

1.4 Document Conventions

Throughout the document (formatted in MS Office ‘03) font used for:
1.4.1 Topics are Times New Roman formatted in ‘Heading 2’ style. Font size for headings is 18
1.4.2 Sub topics are Times New Roman formatted in ‘Heading 2’ style. Font size for sub-topics is also 14
1.4.3 Text is Times New Roman formatted in ‘Normal’ style. Font size for text is 12

1.4.4 Italics have been used for laying special emphasis on certain information.
1.4.5 All references to the websites used are hyperlinked in Times New Roman, Normal + Times style and size 12.

1.5 References and Acknowledgements

- http://en.wikipedia.org/wiki/Non-functional_requirement
- http://www.mrl.nott.ac.uk/~sdb/g52hci/topic%206%20-%20requirements/SRSTemplate.doc
- https://www.sciencedirect.com/science/article/abs/pii/S0305048398000425

2. Overall Description

2.1 Product Description

The AI-Powered Auto Scheduler is designed to intelligently manage and prioritize tasks for individuals and teams. The system will suggest optimal task schedules and update them dynamically based on new inputs.

2.2 Product Functionalities

- **Task Creation & Management:** Users can create and edit tasks with details like title, priority, and deadline.
- **AI-Based Scheduling:** The system will reorder tasks dynamically based on AI-driven analysis.
- **Collaboration:** Users can share tasks and work in teams.
- **Calendar Integration:** Sync tasks with external calendar apps.
- **Notifications & Alerts:** Send reminders for upcoming deadlines.
- **Cloud Storage:** Store related documents using Cloudinary.

2.3 Users

- **Individual Users** – Manage personal tasks.
- **Teams & Organizations** – Collaborate on shared tasks.

2.4 Operating Environment

- Web-based application (accessible via browser)
- Supported on Windows, macOS, Linux
- Mobile-friendly (Android/iOS compatibility)

It will be supported in any web browser like Internet Explorer 5 and above.

2.5 Design and Implementation Constraints

- Internet connectivity required.
- Cloud-based infrastructure.
- Role-based access control for security.

The database cannot be shared or passed on electronically. All rights are reserved. Only registered users allowed. HTML, JavaScript, severs are used. The website has been designed in English language.

2.6 Assumptions and Dependencies

- Users have an active internet connection.
- Integration with third-party services (Google Calendar, Cloudinary).

The application depends upon the user having a connection to the internet in which he/she can Perform transactions legally. When using the application it will assume that there is enough hard disk space for the file to be saved. Full working of online banking is dependent on the availability of Internet connection.

3. Specific Requirements

3.1 External Interface Requirements

3.1.1 Hardware Interfaces

The system must allow compatible hardware devices to be connected to the system.
The system shall allow transaction to be performed using some output device. This may be through credit card, debit cards etc..

3.1.2 Software Interfaces

The system shall be compatible with all soft wares. This will allow the user of the system to perform transactions legally. The system shall allow database files to be transferred to and from other applications. Thus, the system shall incorporate a simple file transfer mechanism

3.1.3 Communications Interfaces

The system shall have an Internet connection. This will enable to perform transaction . In addition, users shall be able to use a web browser. Therefore, both the system and devices shall use a common networking protocol. The system shall communicate with distribution devices via a connection. This could be a wired connection or optionally a wireless connection

3.2 Functional requirements

Use Case Name:	Register
Actors:	User
Pre Condition	The new user should not have a previously owned account.
Post Condition:	The user will have registered successfully.
Scenario:	1. The User clicks on sign up. 2. The system provides the User with the registration form. 3. The User has to fill the correct details in the form. 4. If the information is valid, User is successfully registered.
Exception:	Occurs when the user has input an invalid entry into the form. Can also occur if the user has chosen a ID already owned by an existing user.

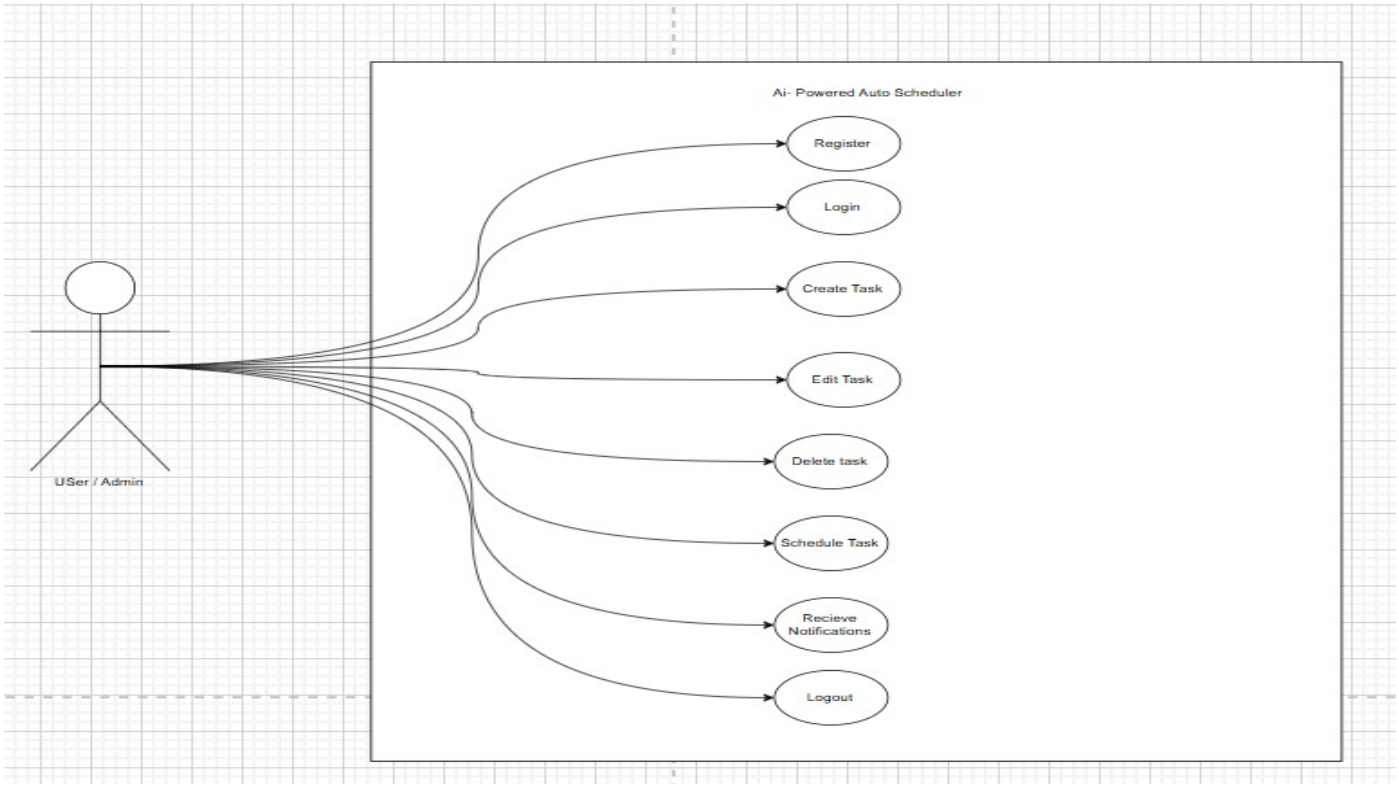
Use Case Name:	Login
Actors:	User
Pre Condition:	The actor should be a registered user.
Post Condition:	The user shall be shown his/her home page.
Scenario:	1. The User clicks on the link to Sign In. 2. The User enters username and password. 3. The username and password are validated by the Account Manager. 4. If the username and password are valid then the User is taken to his/her account.
Exception:	When the user has input ID and password that do not match.

Use Case Name:	Task Management
Actors:	User
Pre Condition:	The user must be logged in.
Post Condition:	The task is added, updated, or deleted successfully.
Scenario:	1. The User selects 'Add Task' 2. The User enters task details (title, priority, deadline). 3. The task is successfully stored in the system.
Exception:	Invalid task details entered.Database connection issues.

Use Case Name:	Browse
Actors:	User, Administrator
Pre Condition	The User should be visiting the website
Post Condition:	The User returns to the homepage of the website
Scenario:	1. Links will be provided on the home page for the user to navigate to any part of the website. 2. The User can also browse using the link of 'sitemap'.
Exception:	Server is down.

Use Case Name:	Sign Out
Actors:	User
Pre Condition	The User should be signed in to his/her account
Post Condition:	The User returns to the homepage of the website
Scenario:	1. User clicks on the 'Sign Out' link. 2. After successfully signing out user is taken to the home page.
Exception:	Server is down or login session has expired

3.3Behavioral requirements



4. Other Nonfunctional Requirements

4.1 Performance Requirements

The application must have a minimum processor speed so that there are some restrictions on what type of computer can use it. However this will be as small as possible to enable a broad range of clients to use the application. From studies it can be seen that speed was a common issue while distributing and performing transaction. The system must also aim to use minimum hard disk space yet keep the quality of the available facility as high as possible.

4.2 Safety and security Requirements

Information of users such as IP addresses will be kept private so that third parties cannot gain access to this personal information in order to keep within the Data Protection Act.

4.3 Software Quality Attributes

These are a variety of constraints that might affect the user or system. This is to enable that reliability is always at a high level; sometimes users could not connected to the internet due to firewalls. The next requirement is that the application should enable the transaction to be converted to different, valid, formats and that all common system formats should be supported. This is to ensure interoperability between the files and system. Another interoperability requirement is that the system should allow any storage device to connect to the system and enable the distribution of banking facility. The usability requirement is that there should be a help guide within the new system so that the time that new users can soon understand the system; however the system will be simple and therefore self-explanatory. The system should remember the last transaction on the system so that users can manipulate the program easily and efficiently.

Appendix A: Glossary

1. Connoisseur-A person with expert knowledge or training.

2. Compatibility-Capable of orderly, efficient integration and operation with other elements in a system with no modification or conversion required.

3. HTML-A markup language used to structure text and multimedia documents and to set up hypertext links between documents, used extensively on the World Wide Web.

4. Interface- The point of interaction or communication between a computer and any other entity, such as a printer or human operator.

5. Java scripts-JavaScript is a scripting language most often used for client-side web development. It is a dynamic, weakly typed, prototype-based language with first-class functions. It is easier for non-programmers to work with. The language is best known for its use in websites (as client-side JavaScript).

6. Novice-a person who is new to the circumstances, work, etc., in which he or she is placed; beginner.

7. Protocol- A set of standardized procedures for transmitting or storing data, especially those used in regulating data transmission between computers or peripherals.

8. Sophisticated- Having acquired worldly knowledge or refinement, complex and using advanced technology

9. SRS-System Resource/Requirement Specification.

Appendix B: Data dictionary

User entity

Attribute	**Type**	**Description**	**Constraint**
Username	Alphanumeric	Name of user	Primary Key
Password	Alphanumeric	Password set by the user for login	Not less than six characters
Email Address	Char	Address of valid email account of user	
Age	Number	Age of the user	18 years and above
Name	Char	Full name of the user	Less than 30 characters

Task entity

Attribute	**Type**	**Description**	**Constraint**
TaskId	Alphanumeric	Unique Task Identifier	Primary Key
Task Name	Alphanumeric	Task Title	Max. 100 characters
Task End	ALphanumeric	Task Deadline	
Priority	enum	Task Urgency Level	High, Medium, Low