



University of the Punjab
Gujranwala Campus

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1.0 Introduction

The purpose of this project is to develop a web-based Blog Ranking SEO Tool using artificial intelligence. This tool aims to streamline the process of optimizing blog content for search engine visibility and effectiveness. Users will input specific keywords, and the tool will utilize web scraping techniques to retrieve relevant data from the internet. The retrieved data will then be processed and analyzed using AI algorithms to provide comprehensive ranking results. This tool is designed to assist content creators and digital marketers in making data-driven decisions to enhance their blog's search engine performance.

1.0.1 Existing System

- **Manual Keyword Analysis**

Content creators and digital marketers currently rely on manual keyword analysis tools to identify relevant keywords for their blog content. These tools often require significant time and effort, as users need to manually input keywords, gather data, and interpret results.

- **Limited Automation**

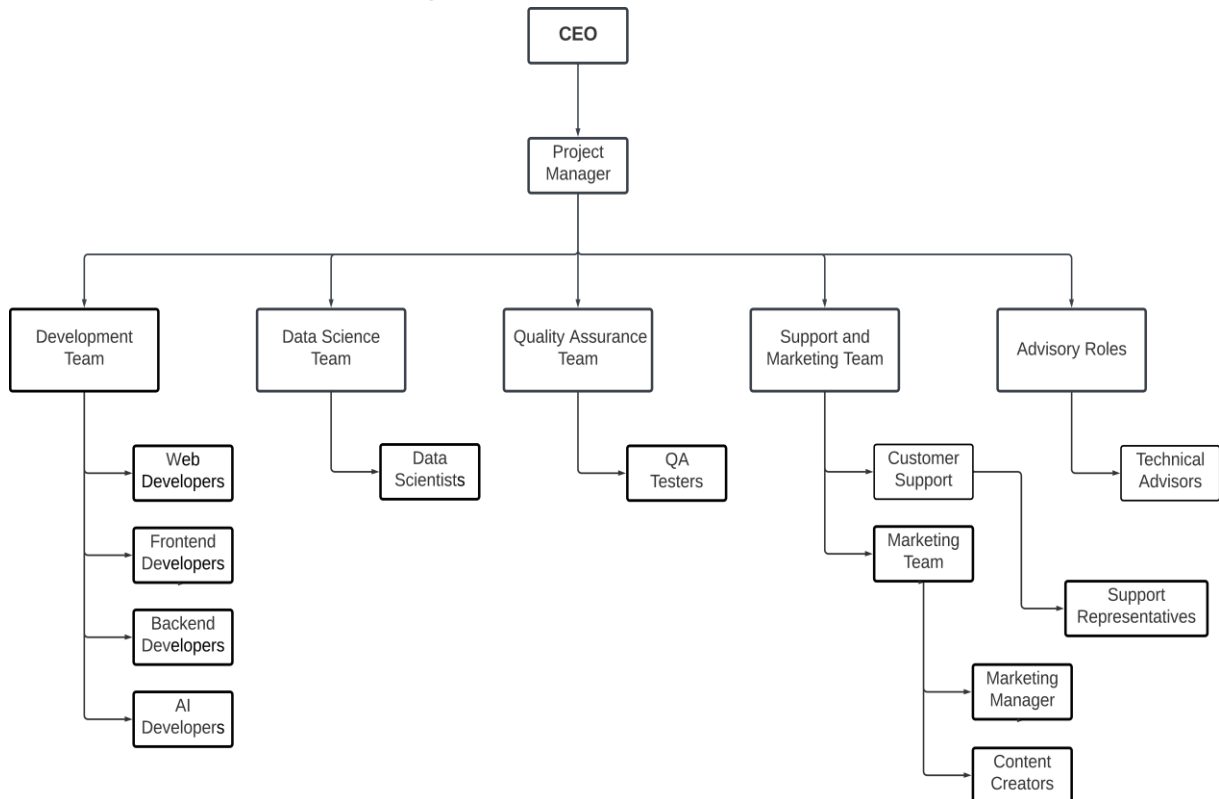
While some existing tools offer automation features, they are often limited in their capacity to provide comprehensive insights. Current solutions may lack advanced AI algorithms and web scraping capabilities, making it challenging to obtain real-time and detailed data for effective SEO optimization.

- **Lack of Comprehensive Ranking Tools**

Existing systems may not offer a holistic approach to blog ranking, leaving users with fragmented information. A comprehensive ranking tool that integrates AI algorithms for in-depth analysis is currently absent, hindering content creators and digital marketers in making strategic decisions based on robust data.



1.0.2 Business Organization Chart



1.0.3 Scope of the System

Keyword Input and Retrieval

Users can input specific keywords relevant to their blog content. The tool will utilize web scraping techniques to retrieve data related to the input keywords from the internet.

Data Processing and Analysis

The retrieved data will be processed using advanced AI algorithms. AI algorithms will analyze the data to provide comprehensive ranking results for the specified keywords.

Search Engine Optimization Insights

The tool will offer insights into how well the blog content is optimized for search engines. Recommendations for improving SEO performance will be provided based on the analysis.

User-Friendly Interface:

The web-based interface will be designed to be user-friendly, allowing easy navigation and input of keywords. Users will have access to clear and actionable information regarding their blog's search engine performance.



Automation and Real-time Updates

Automation features will be implemented to streamline the data retrieval and analysis processes. The tool will provide real-time updates on ranking results, ensuring users have access to the latest information.

Comprehensive Ranking Metrics

The tool will consider various metrics, including keyword relevance, search volume, competition, and trend analysis. Users will receive a comprehensive overview of their blog's ranking performance across different search engines.

Security and Privacy

Robust security measures will be implemented to protect user data and ensure the confidentiality of inputted keywords. The tool will adhere to privacy standards and regulations.

User Support and Feedback

The project will include a user support system to assist users with queries and issues. Mechanisms for gathering user feedback will be implemented for continuous improvement.

1.0.4 Summary of Requirements

This tool will facilitate users in optimizing their blog content for search engine visibility and effectiveness. The initial requirements encompass a user-friendly interface allowing users to input specific keywords relevant to their blog content securely. To gather pertinent data, the tool will employ web scraping techniques to retrieve information from the internet. Advanced AI algorithms will process and analyze this data, considering metrics such as keyword relevance, search volume, competition, and trend analysis. The tool will generate comprehensive SEO insights and provide recommendations for enhancing content optimization. Real-time updates on ranking results, automation features, and a secure user authentication system will be implemented to streamline operations and ensure data confidentiality. The web-based interface will be designed for easy navigation and accessibility. The system will also include a user support system for user assistance, feedback gathering, and thorough documentation, encompassing user guides, technical documentation, and FAQs. Scalability will be a key consideration, accommodating potential increases in the user base and data. Thorough testing, including functional, usability, and security testing, will be conducted to ensure the reliability of the tool. Additionally, functionalities such as content creation, support for black-hat SEO practices, and in-depth website analytics will be explicitly outlined as out of scope. Future considerations will include placeholders for potential enhancements based on user feedback and emerging industry trends.



1.0.5 Identifying External Entities

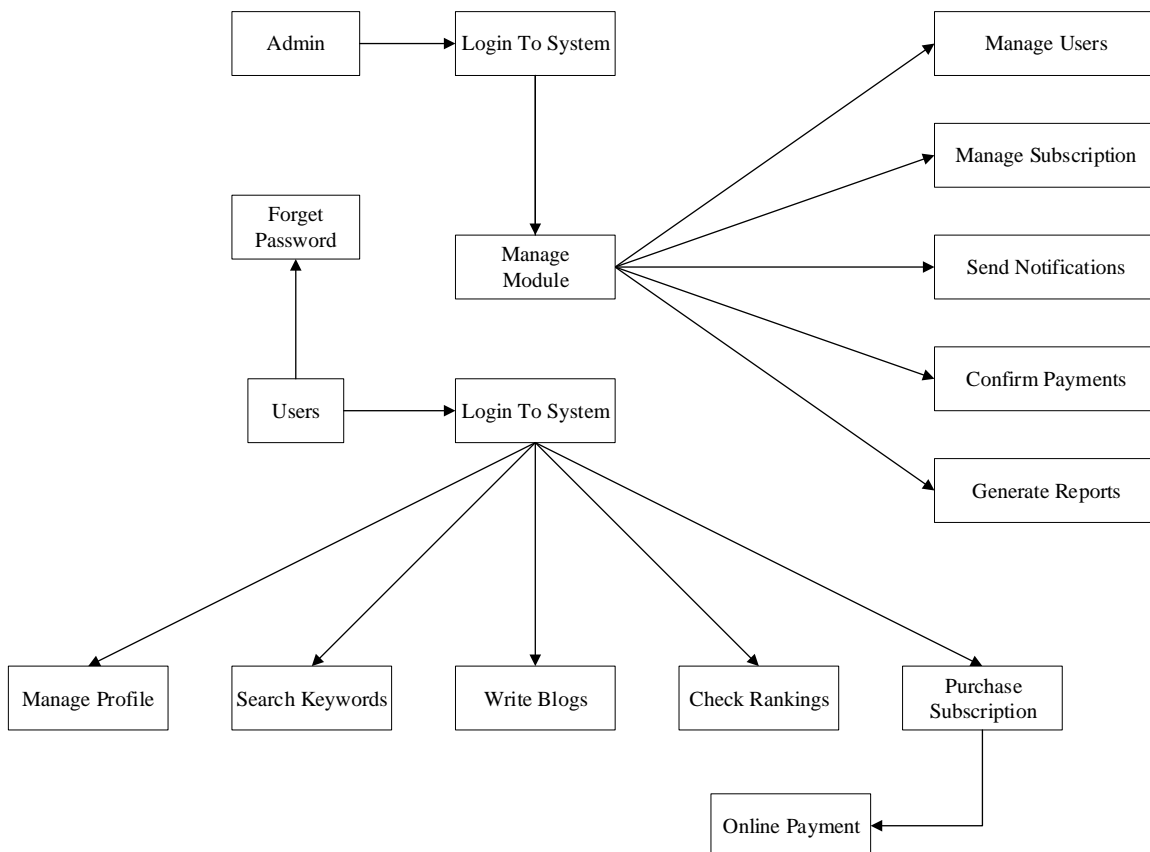
i. Over Specify Entities from Abstract

- Content Creators
- Digital Marketers
- Search Engines
- Web Data Sources
- AI and Data Science Services
- Support Services

ii. Perform Refinement

- Security Services
- Regulatory Bodies
- Competitor Tools
- API Providers
- Web Hosting Service
- Feedback Platforms

1.0.6 Context Level Data Flow Diagram





1.0.7 Capture “Shall” Statement

<i>Para#</i>	<i>External Entity</i>	<i>Initial Requirements</i>
1.5	Admin	Admin “shall” login to the system.
1.5	Admin	Admin “shall” be able to Delete & block the users.
1.5	Admin	Admin “shall” manage prices for subscription.
1.5	Admin	Admin “shall” be able to confirm payment for subscription and assign subscription features to the users.
1.5	Admin	Admin “shall” be able to send notification to the user for expiration of subscription and send invoices to the user.
1.5	Admin	Admin “shall” be able to check searched Keyword.
1.5	Admin	Admin “shall” be able to see all generated keyword of specific searched keyword
1.5	Admin	Admin “shall” be able to generate reports.
1.5	Admin	Admin “shall” logout from the system.
1.5	User	User “shall” login to his/her account.
1.5	User	User “shall” view its keyword.
1.5	User	User “shall” make payment through online.
1.5	User	User “shall” view its blogs ranking.
1.5	User	User “shall” make blogs.
1.5	User	User “shall” view his subscription details.
1.5	User	User “shall” able to search keywords.
1.5	User	User “shall” able to recover his password.
1.5	User	User “shall” able to change his account settings.
1.5	User	User “shall” be able to logout from system.



1.0.8 Allocate Requirements

<i>Para#</i>	<i>Initial Requirements</i>	<i>Use Case Name</i>
1.4	Admin “shall” login to the system.	UC Login
1.4	Admin “shall” be able to Add, Delete and Update the subscription Packages.	UC_Maintain_Subscription
1.4	Admin “shall” manage prices of subscription.	UC_Subscription_Price
1.4	Admin “shall” be able to check subscription.	UC_Check_Subscription
1.4	Admin “shall” be able to see all generated keywords of specific keyword.	UC_Specific_Keywords
1.4	Admin “shall” logout from the system.	UC_Logout_Admin
1.4	User “shall” login to his/her account.	UC_Login_User
1.4	User “shall” view keyword.	UC_View_Keyword
1.4	User “shall” make payment through online.	UC_Payment
1.4	User “shall” view keyword detail.	UC_Keyword_Detail
1.4	User “shall” make blogs.	UC_Blogs
1.4	User “shall” view his blogs details.	UC_View_Blogs
1.4	User “shall” able to search keyword.	UC_Search_Keyword
1.4	User “shall” able to recover his password.	UC_Recover_Password
1.4	User “shall” able to change his account settings.	UC_Account_Settings
1.4	User “shall” be able to logout from system.	UC_Logout_User



1.0.9 Prioritize Requirements

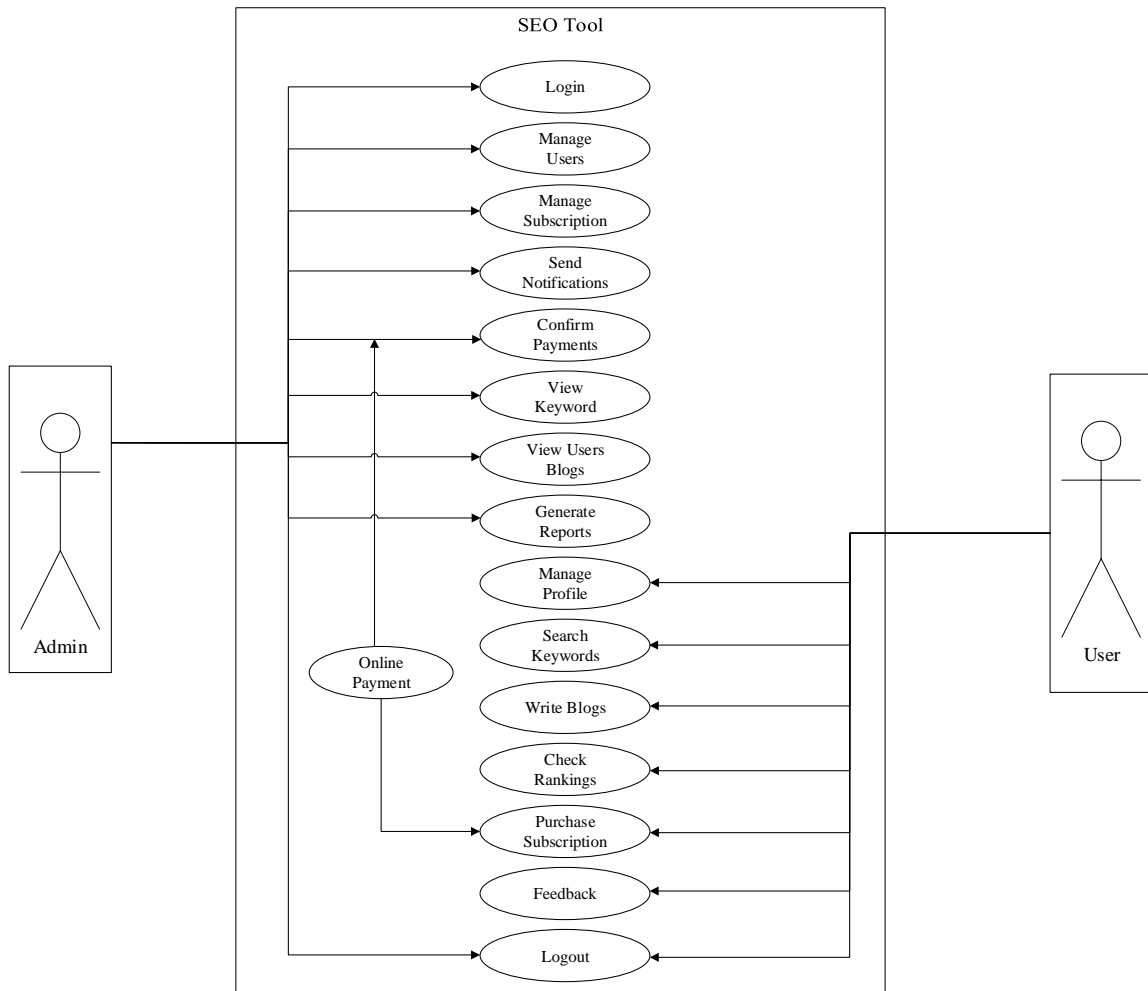
<i>Para#</i>	<i>Initial Requirements</i>	<i>Rank</i>	<i>Use Case ID</i>	<i>Use Case Name</i>
1.4	Admin “shall” login to the system.	Highest	UC_1	UC_Login
1.4	Admin “shall” be able to Add, Delete and Update the subscription Packages.	Highest	UC_2	UC_Maintain_Subscription
1.4	Admin “shall” manage prices of subscription.	Highest	UC_3	UC_Subscription_Price
1.4	Admin “shall” be able to check subscription.	Medium	UC_4	UC_Check_Subscription
1.4	Admin “shall” be able to see all generated keywords of specific keyword.	Medium	UC_5	UC_Specific_Keywords
1.4	Admin “shall” logout from the system.	Highest	UC_6	UC_Logout_Admin
1.4	User “shall” login to his/her account.	Highest	UC_7	UC_Login_User
1.4	User “shall” view keywords.	Medium	UC_8	UC_View_Keyword
1.4	User “shall” make payment through online.	Highest	UC_9	UC_Payment
1.4	User “shall” view keyword detail.	Medium	UC_10	UC_Keyword_Detail
1.4	User “shall” make blogs.	Highest	UC_11	UC_Blogs
1.4	User “shall” view his blogs details.	Highest	UC_12	UC_View_Blogs
1.4	User “shall” able to search keyword.	Medium	UC_13	UC_Search_Keyword
1.4	User “shall” able to recover his password.	Highest	UC_14	UC_Recover_Password
1.4	User “shall” able to change his account settings.	Highest	UC_15	UC_Account_Settings
1.4	User “shall” be able to logout from system.	Highest	UC_18	UC_Logout_User



1.0.10 Requirement Traceability Matrix

<i>SR#</i>	<i>Para#</i>	<i>System Specification Text</i>	<i>Build</i>	<i>Use Case Name</i>	<i>Category</i>
1	1.3	Login credentials will be required to login to the system.	B1	UC_Login	Online
2	1.3	Admin shall have the information about the subscription Packages to update Packages.	B1	UC_Maintain_Packages	Online
3	1.3	User “shall” make payment through online.	B1	UC_Payment	Online
4	1.3	Admin “shall” be able to see all generated keywords of specific keyword.	B1	UC_Specific_Keywords	Online
5	1.3	User shall require some information to make blog	B1	UC_Blog	Online
6	1.3	User “shall” able to recover his password.	B1	UC_Recover_Password	Online
7	1.3	User “shall” able to search keywords.	B1	UC_Search_Keywords	Online

1.0.11 High Level Use Case Diagram





1.1 Project Feasibility Report `

The project seeks to address the need for a more efficient and data-driven approach to optimizing blog content for search engines. Content creators often face challenges in achieving optimal search engine visibility, and this tool aims to fill that gap by utilizing web scraping techniques and AI algorithms.

Key components typically included in a Project Feasibility Report are:

- Technical
- Operational
- Economic
- Schedule
- Specification
- Information
- Motivational
- Legal and Ethical

1.1.1 Technical Feasibility

The project requires web development skills, web scraping tools, and AI algorithms. The technical infrastructure involves cloud-based hosting for scalability, ensuring the tool can handle varying workloads.

1.1.2 Operational Feasibility

The project relies on the availability of skilled developers and aims for seamless integration with user's workflows. This approach ensures the tool is user-friendly and easily adoptable within existing content creation processes.

1.1.3 Economic Feasibility

The economic feasibility of this project is a critical aspect that evaluates its financial viability, cost-effectiveness, and potential return on investment. Economic feasibility has two parts, cost estimates and benefit estimates. In cost evaluation analysis, we have chosen most popular methodology i.e. Functional Point Analysis (FPA).

1.1.4 Schedule Feasibility

The schedule feasibility of the web-based Blog Ranking SEO Tool project is established through a well-structured timeline encompassing planning, development, testing, deployment, and ongoing maintenance phases. Key milestones, such as the completion of development and successful deployment, are identified with specific dates to track progress. Task dependencies are managed to prevent delays, and resources, including skilled developers and cloud-based infrastructure, are allocated efficiently.



1.1.5 Specification Feasibility

The specification feasibility involves evaluating the effectiveness of web scraping techniques for retrieving relevant data from the internet. The chosen methods should be efficient, accurate, and compliant with legal and ethical standards. AI algorithms for data processing must be capable of providing comprehensive ranking results.

1.1.6 Information Feasibility

This project's success depends on effective data accessibility. Web scraping will be employed to secure relevant information on search engine algorithms, keyword trends, and blog performance metrics, ensuring compliance with legal and ethical standards. The tool's AI algorithms will require diverse and representative training data for accuracy. User-friendly specifications will allow content creators to input keywords aligned with their SEO goals. Information security and privacy, real-time data retrieval, and potential API integration contribute to the tool's effectiveness. The information feasibility analysis confirms the project's capability to access and leverage relevant data efficiently.

1.1.7 Motivational Feasibility

The success of this project hinges on the collective motivation of the project team and stakeholders. Skilled developers, AI specialists, and web scraping experts must be inspired by the opportunity to innovate in the SEO tools market. Stakeholders, including investors and end-users, need a shared vision for the tool's potential to streamline blog optimization. Continuous communication and transparent goal-setting will sustain the motivation necessary for the project's success.

1.1.8 Legal & Ethical Feasibility

Compliance with data protection regulations, transparent data usage, and robust security measures are integral to this tool's legal and ethical feasibility. Prioritizing unbiased AI algorithms and user confidentiality builds trust and ensures a positive reputation. Continuous monitoring of legal and ethical standards will be crucial for adapting the tool to evolving requirements, maintaining its feasibility throughout its lifecycle.

1.2 Project Scope

The project involves developing a Web-Based Blog Ranking SEO Tool utilizing AI for targeted keyword analysis. Key features include user registration, admin management, and the ability to send reports or invoices for paid services. Users can purchase packages using various payment methods, and the tool prioritizes data accuracy, quality, and interactive mapping for an optimized user experience. The scope encompasses a secure, scalable, and user-friendly platform, catering to content creators and digital marketers seeking to enhance their blog content.



1.3 Project Costing

1.3.1 Project Cost Estimation By Function Point Analysis

<i>Internal Logic File (ILF's)</i>			
<i>Type of Components</i>	<i>DET</i>	<i>RET</i>	<i>Complexity</i>
Admin	4	1	Low
Rankings	9	2	Low
Keywords	12	3	Low
Blogs	8	2	Low
Users	5	1	Low

<i>External Inputs (EI's)</i>			
<i>Type of Components</i>	<i>DET</i>	<i>FTR</i>	<i>Complexity</i>
User Login	2	1	Low
Sign Up	9	1	Low
Subscription	4	1	Low
Search Keyword	2	1	Low
Write Blogs	6	3	High
User Profile Settings	5	1	Low



<i>External Interface File (EIF's)</i>			
<i>Type of Components</i>	<i>DET</i>	<i>FTR</i>	<i>Complexity</i>
Online Payment	3	1	Low

<i>External Output (EO's)</i>			
<i>Type of Components</i>	<i>DET</i>	<i>FTR</i>	<i>Complexity</i>
Keywords	4	7	Average
Blogs	12	5	High
Subscription Details	5	3	Low

<i>External Queries (EQ's)</i>			
<i>Types of Components</i>	<i>DET</i>	<i>FTR</i>	<i>Complexity</i>
Blogs	5	2	Low
Payment Method	3	1	Low
Invoices	9	1	Low
Reports	2	1	Low
Keyword Search	15	3	High

Total Unadjusted Function Points

<i>Types of Components</i>	<i>Complexity of Components</i>			
	<i>Low</i>	<i>Average</i>	<i>High</i>	<i>Total</i>
<i>Internal Logical File</i>	$5 * 7 = 35$	$0 * 10 = 0$	$0 * 15 = 0$	35
<i>External Interface File</i>	$1 * 5 = 5$	$0 * 7 = 0$	$0 * 10 = 0$	5
<i>External Input</i>	$5 * 3 = 15$	$0 * 4 = 0$	$1 * 6 = 6$	21
<i>External Output</i>	$1 * 4 = 4$	$1 * 5 = 5$	$1 * 7 = 7$	16
<i>External Inquiries</i>	$4 * 3 = 12$	$0 * 4 = 0$	$1 * 6 = 6$	18
<i>Total Unadjusted Function Points</i>				95



Calculation of Value Adjustment Factor

<i>Sr.#</i>	<i>Questions</i>	<i>Scale</i>
1	The extent to which our data will communicate with another application?	5
2	The extent to which our data processing can be distributed	1
3	Performance of the system to fulfill user requirements	4
4	Configuration extent?	3
5	Transactional rate?	3
6	Extent to which Online data entry and control information functions are provided?	4
7	How much efficiency of the user will be increased?	4
8	The extent to which online update for the ILF is possible?	3
9	Complexity of the Task?	4
10	The extent to which application and its code can be reused in another application?	5
11	Installation eases of the Task?	4
12	Operational ease?	4
13	The extent to which application can be deployed at multiple sites?	2
14	Extent to which design of the Task is flexible?	4
<i>Total degree of influence</i>		50

$$\begin{aligned}
 \text{VAF} &= 0.65 + (0.01 * \text{TDI}) \\
 &= 0.65 + (0.01 * 50) \\
 &= 0.65 + (0.5) \\
 \text{VAF} &= 1.15
 \end{aligned}$$

Calculation of Adjusted Function Points

$$\begin{aligned}
 \text{Adjusted Function Points} &= \text{Unadjusted Function Points} * \text{VAF} \\
 &= 95 * 1.15 \\
 \text{AFP} &= 109.25 \text{ Function Points}
 \end{aligned}$$

**Total Duration of Project:**

$$\text{Average Productivity} = 7\text{FP/Person-Month}$$

$$\begin{aligned}\text{Effort Month} &= \text{Adjusted Function Points/Productivity} \\ &= 109.25 / 7 \\ &= 15.6 \text{ Person-Month}\end{aligned}$$

$$\begin{aligned}\text{Duration Of Project} &= \text{Effort Month/No of Persons} \\ &= 16/5 \\ &= 4 \text{ Months (Approximately)}\end{aligned}$$

Calculation OF Total Cost:

$$\begin{aligned}\text{Labor Rate} &= 30,000 \text{ Rs} \\ \text{Cost Per FP} &= 30,000/7 \\ &= 4,285 \text{ Rs}\end{aligned}$$

$$\begin{aligned}\text{Project Cost} &= \text{Adjusted Function Points/Cost Per FP} \\ &= 109.25 * 4285 \\ &= 468,136 \text{ Rs}\end{aligned}$$

1.4 CPM - Critical Path Method

Creating a Critical Path Method (CPM) for a project involves identifying the sequence of activities that must be completed on time to ensure the project's successful and timely completion. Based on the goals and objectives you provided, here's a simplified representation of the Critical Path for this project:

1. Specify the individual activities.
2. Determine the sequence of those activities.
3. Draw a network diagram.
4. Estimate the completion time for each activity.
5. Identify the critical path (longest path through the network)
6. Update the CPM diagram as the project progresses.

1.4.1 Specify the Individual Activities

Following are the individual activities involved in the project:

- Start
- Planning
- Requirement Gathering
- Specification Analysis
- Design
- Development
- Integration and Testing
- Maintenance



1.4.2 Determine the Sequence of the Activities

There are many activities that are dependent on the completion of some other activities, the dependencies of activities upon each other are below:

Start → None

- (A) Proposal → None
- (B) Planning → Proposal
- (C) Requirement Gathering → Planning
- (D) Specification Analysis → Planning, Requirement Gathering
- (E) Design → Specification Analysis
- (F) Development → Specification Analysis, Design
- (G) Integration and Testing → Design, Development
- (H) Maintenance → Integration & Testing End → Maintenance

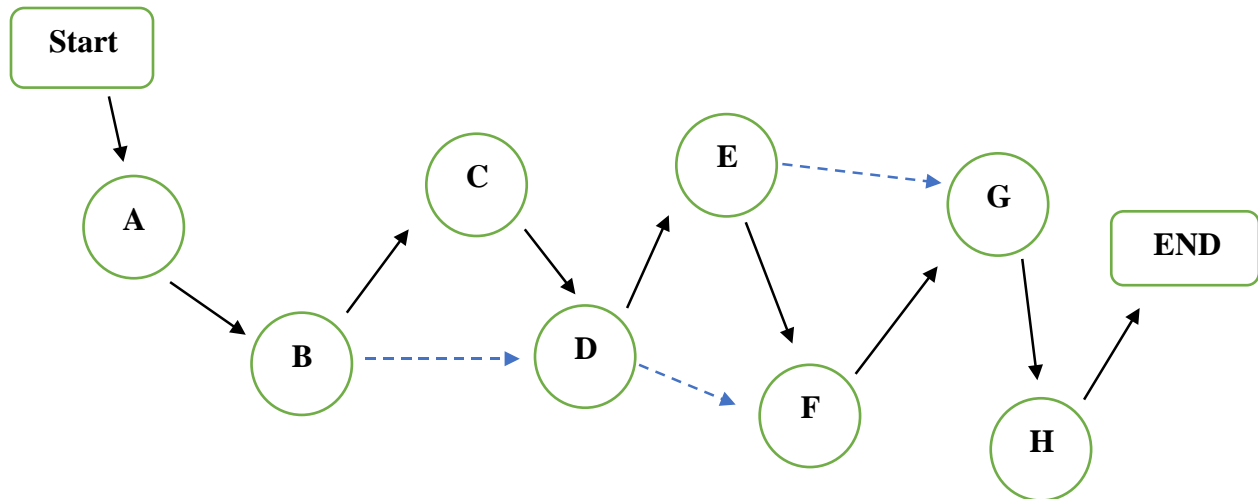
Task Dependent Table

Task ID	Task Description	Duration(days)	Dependencies
	Start	-	
A	Proposal	7	-
B	Planning	6	A
C	Requirement Gathering	14	B
D	Specification Analysis	13	B, C
E	Design	30	D
F	Development	25	D, E
G	Integration & Testing	14	F, E
H	Installation & Handover / Maintenance	20	G
	End	-	



1.4.3 Draw the Network Diagram

Network Diagram of the Activities is as under:



1.4.4 Estimate Activity Completion Time

The time required to complete each activity can be estimated using experience or the estimates of knowledgeable persons.

Task ID	Predecessors	Duration (Days)
A	-	7
B	A	6
C	B	14
D	B, C	13
E	D	30
F	D, E	25
G	F, E	14
H	G	20



1.4.5 Identify the Critical Path

Activity	Duration	ES	EF	LS	LF	TS	FS
A	7	0	7	0	7	0	0
B	6	7	13	7	13	0	0
C	14	13	27	13	27	0	0
D	13	27	40	27	40	0	0
E	30	40	70	40	70	0	0
F	25	70	95	70	95	0	0
G	14	95	109	95	109	0	0
H	20	109	129	109	129	0	0

Critical Path is: -

Start → A → B → C → D → E → F → G → H → END

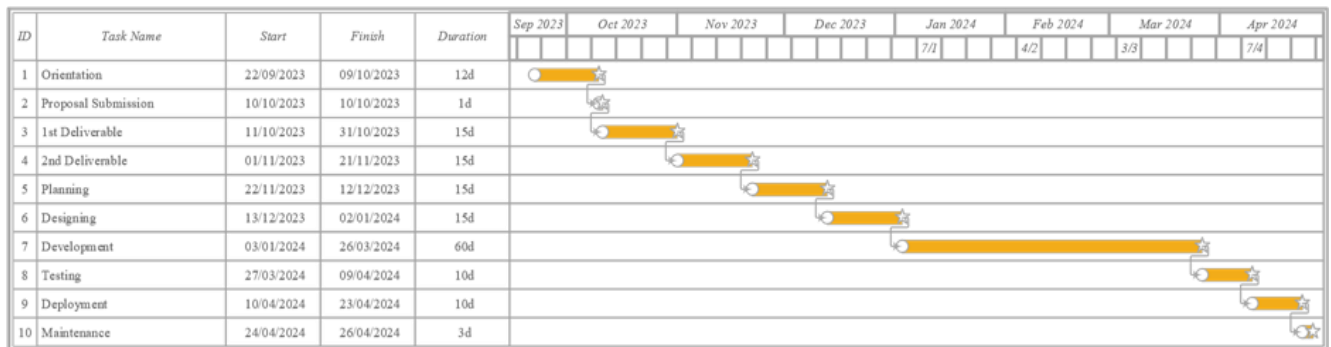
Duration of Paths: -

$$7+6+14+13+30+25+14+20 = 129$$

Total Duration of the Project: -

Duration of Critical Path (Days) = 129

1.5 Gantt Chart





1.6 Introduction to Team member and their skill set

Following are our team Members:

- **Azeem Ali**

He is tasked with creating comprehensive project documentation, ensuring that all aspects of our development process are well-documented for clarity and future reference. He plays a pivotal role in designing the database architecture, ensuring it aligns seamlessly with the project's requirements and objectives.

- **Daoud Ur Rehman**

He is tasked with crafting the frontend of our project, ensuring a seamless and interactive user interface. He plays a pivotal role in designing the overall look and feel of the tool, emphasizing both functionality and aesthetic appeal. He is also responsible for the visual design of the tool, employing Figma to bring forth a harmonious blend of functionality.

- **Talha Younas**

As the project leader, He provides overarching guidance, ensuring cohesion and alignment with project goals. He spearheads backend development, focusing on creating a reliable and scalable infrastructure for our application. He also leads the integration of AI techniques, contributing to the generation of targeted keywords and addressing various management aspects. He is also responsible for integrating APIs, enabling the tool to interact with external services seamlessly.

1.7 Tools and Technology with reasoning

1.7.1 Tools

- **WebStorm**

WebStorm developed by JetBrains is a powerful IDE tailored for web development. It offers advanced JavaScript support, intelligent code completion and seamless integration with version control systems like Git. With features for debugging, syntax highlighting and code refactoring. It provides a comprehensive toolkit for efficient coding on Windows, Linux, and macOS platforms.

- **PyCharm**

PyCharm is an integrated development environment (IDE) created by JetBrains specifically designed for Python development. It offers a wide range of features including intelligent code completion, syntax highlighting, debugging support, version control integration and code refactoring. With its user-friendly interface and powerful tools, PyCharm streamlines the development process that making it a popular choice for Python programmers on Windows, Linux, and macOS platforms.



- **GIT and GitHub**

Git is a widely used version control system that allows developers to track changes in their codebase. It provides features like branching, merging, and history tracking, enabling collaborative development and efficient management of code.

GitHub is a web-based platform that utilizes Git for version control. It serves as a hosting service for Git repositories, allowing developers to store and manage their code online. GitHub provides additional features such as issue tracking, pull requests, and project management tools, making it a popular platform for open-source collaboration and software development projects.

- **Figma**

Figma is a cloud-based design and prototyping tool used for creating user interfaces and interactive design prototypes. It offers a collaborative platform where multiple team members can work simultaneously on design projects that enables real-time feedback and seamless coordination. With features like vector editing, prototyping and design libraries, Figma streamlines the design process and facilitates efficient communication between designers and stakeholders. Its cloud-based nature allows for easy access and sharing of design files across different devices and platforms that making it a versatile tool for UI/UX designers.

- **phpMyAdmin**

phpMyAdmin is a web-based interface for managing MySQL databases. It provides a user-friendly platform for performing various database operations including creating, modifying and deleting databases and tables. With features like SQL query execution, data import/export and user management. phpMyAdmin simplifies the process of database administration. It is a valuable tool for developers and database administrators that offering a graphical interface to interact with MySQL databases and perform tasks efficiently.

- **Microsoft Visio**

Microsoft Visio is a versatile diagramming tool by Microsoft used for creating flowcharts, organizational charts and various visual representations. With a user-friendly interface and pre-defined templates. It simplifies the process of visualizing complex information for professionals across different industries.

- **Colab**

Google Colab is a cloud-based Python development environment by Google. It offers free access to powerful computing resources that making it ideal for tasks like machine learning and data analysis. With its collaborative Jupyter notebook interface, it's a convenient choice for coding projects without the need for extensive local resources.



1.7.2 Technology

- **Next.js**

Next.js is a powerful React framework that facilitates the building of server-rendered React applications with ease. It offers features like static site generation and server-side rendering, allowing for efficient SEO optimization and enhanced performance. With its intuitive file-based routing system and support for JavaScript, Next.js provides a robust foundation for developing modern high-performance web applications. It is a popular choice among developers for its seamless integration with React and efficient rendering capabilities that making it well-suited for projects requiring dynamic, SEO-friendly web pages.

- **Express.js**

Express.js is a powerful and flexible web application framework for Node.js. It provides a robust set of features for building web applications. With its minimalist and flexible design, Express.js simplifies the process of creating APIs and handling routes. It also supports various middleware that making it easy to integrate additional functionality. Express.js is a popular choice for backend development due to its scalability and ease of use which making it well-suited for projects requiring efficient and customizable server-side solutions.

- **MySQL**

MySQL is a widely-used open-source relational database management system. It provides a reliable and efficient platform for storing and retrieving data. With its robust features including support for transactions, indexing and querying, MySQL is well-suited for managing structured data in web applications. It offers scalability and high performance that making it a popular choice for a wide range of projects. MySQL is known for its stability, security and ease of integration with various programming languages and frameworks which makes it a versatile and trusted database solution for many developers.

- **Python (Sentence-Transformers Model)**

Sentence-Transformers Model is a state-of-the-art natural language processing (NLP) tool that specializes in transforming sentences and text paragraphs into numerical representations. It employs advanced techniques like Siamese and triplet network architectures along with transfer learning from large-scale datasets. This enables it to generate highly meaningful and contextually rich embeddings for text. In our project, the Sentence-Transformers model plays a crucial role in tasks like semantic similarity assessment, text clustering and information retrieval. Its capabilities make it an invaluable tool for advanced NLP applications that enhancing the project's ability to extract and process information from text data efficiently and accurately.



1.8 Vision Document

Project Mission

Achieve a high level of precision in SEO recommendations, ensuring relevance to user-input keywords. Retrieve data from internet with optimal speed for efficient results. Adhere to industry-standard security practices and complete the project milestones on schedule.

Users

- Digital Marketers and SEO Professionals
- Content Creators and Bloggers
- Marketing Students and Enthusiasts
- Freelance Writers

Key Factor to judge the Quality

- Users can register to avail services.
- Implement modern technology.
- Use latest version of Node JS and latest versions of built-in libraries.
- Capable to integrate further module as per users requirement.

Financial

- Development Cost is Minimum.

1.9 Risk List

- Technology may change during the project
- Lack of resources
- Any member may leave the group
- Project time may increase than of given time
- Unexpected project scope expansions
- Ignorance of non-functional requirements
- Lack of cooperation of team members
- Inadequate estimation of required resources
- Integration copyrights
- Our system may get slow in case of heavy traffic