Software Project Management Plan

Bilingual Grammar Error Correction Tool Using Deep Learning

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1 Introduction

1.1 Project Overview

The bilingual grammar error correction tool aims to correct spelling and grammar for English and Hindi languages. The user can provide input by uploading a file or provide input text which will also have a speech to text feature. The system will have features like grammar check, spell check and text summarization. The user will be provided with an option to opt for Expert Review and Chat with the Expert. The user can get registered as an Expert by uploading a language certificate which will be verified by the system.

The system will operate on Windows operating system and will be compatible with all browers like Google Chrome, Mozilla FireFox, and so on. It will work on Django deployment server provided it has an Internet connection.

The product is developed for the Education domain. Therefore, the users will be students and teachers in schools, colleges, and universities.

The expected delivery date for the project is

1.2 Project Deliverables

The final product including the user manual, project closure documents and the maintenance agreement documents will be delivered after 14 weeks from the date of project commencement.

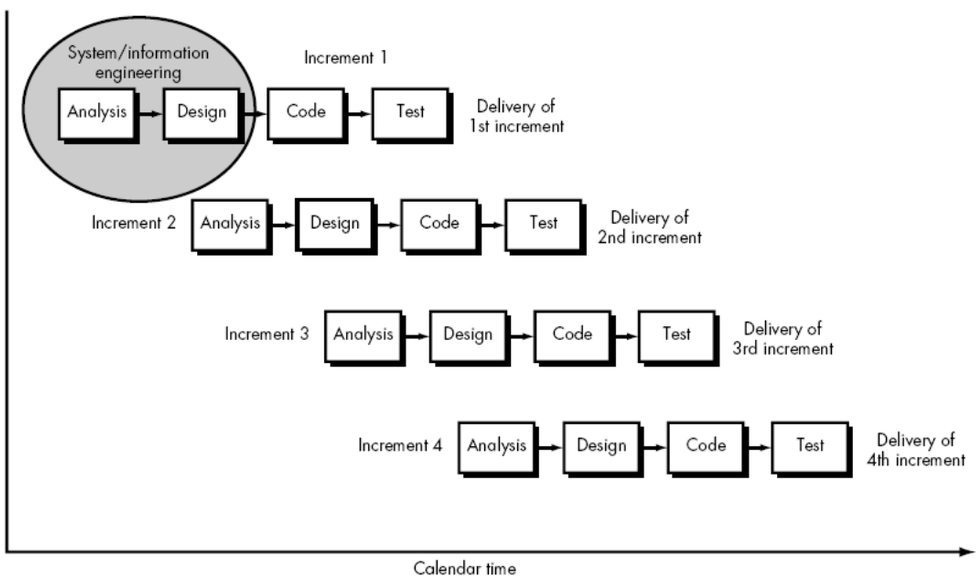
The project deliverables are as follows:

Sr. no.	Deliverables	Date
1	Preliminary Project Plan Document	20th September, 2022
2	Software Project Management Plan	28th October, 2022
3	Software Requirements Specification Document	28th October, 2022
4	Software Design Document	4th November, 2022
5	Source Code and Database	5th November, 2022
6	Software Testing Document	11th November, 2022
7	Completed Software (Web Application)	14th February, 2023

Table 1: Project Deliverables

2 Project Organization

2.1 Software Process Model



We have used the Increment Model for software development. Incremental Model is a process of software development where requirements divided into multiple standalone modules of the software development cycle. In this model, each module goes through the requirements, design, implementation

and testing phases. Every subsequent release of the module adds function to the previous release. The process continues until the complete system achieved.

This model is chosen because our requirements are superior and the project has a lengthy development schedule. With the help of this model prioritized requirements can be satisfied and a quick release can be delivered to the customer. It is easy to detect errors and test the software. It is simple to manage risk because it is handled in each iteration.

2.2 Roles and Responsibilities

Sr. no.	Role	Responsibility	Name
1	Project Manager	Planning, organizing, and directing the completion of the project. Also ensuring the project is on time and within scope	Sreevidya
2	Designer	Identifying design problems and preparing plans for software applications that in turn satisfy the problem's functional requirements.	Poonam
3	Developer	Developing the frontend and backend required for the project	Dishika
4	Tester	Performing testing, Documenting the bugs, glitches and other flaws in great detail	Devanshi

Table 2: Roles and Responsibilities

2.3 Tools and Techniques

1. Overleaf is used as LaTex editor for creating SRS, SPMP, SDD and STD documents.
2. We will use Star UML for creating UML diagrams.
3. The frontend user interface is designed using HTML, CSS, JavaScript and ReactJS.
4. The backend is developed using Python and Django's deployment server.
5. The data will be stored in MySQL database. MySQL will be used as it is easy to maintain and retrieve records by simple queries which are in English language and easy to write and understand.
6. The website will be completely responsive allowing users to view it in desktop, tablet and mobile phones.

3 Project Management Plan

3.1 Tasks

3.1.1 Planning

3.1.1.1 Description

Defining problem statement and project scope

3.1.1.2 Deliverables and Milestones

Software Project Management Plan and laying the foundation for Software Requirements Specification document.

3.1.1.3 Resources Needed

Google Documents, Microsoft Word, Overleaf Editor, Research papers

3.1.1.4 Dependencies and Constraints

LaTex programming language

3.1.1.5 Risks and Contingencies

No risks

3.1.2 Requirements

3.1.2.1 Description

Designing problem statements and gaining requirements which are feasible and realistic, and distinguishing them as functional and non functional requirements.

3.1.2.2 Deliverables and Milestones

Completion of Software Requirements Specification (SRS) document

3.1.2.3 Resources Needed

Google Docs, Microsoft Word, Overleaf Editor, Research books and papers.

3.1.2.4 Dependencies and Constraints

LaTex programming language

3.1.2.5 Risks and Contingencies

Defining out of scope requirements

3.1.3 Design

3.1.3.1 Description

Create the necessary UML diagrams and wireframes based on the requirements gained.

3.1.3.2 Deliverables and Milestones

Completed UI of the website

3.1.3.3 Resources Needed

StarUML software, Software Requirement Specification (SRS) document

3.1.3.4 Dependencies and Constraints

None

3.1.3.5 Risks and Contingencies

The designer may create a complex UI. It can be solved by creating consistency and using common UI elements.

3.1.4 Development

3.1.4.1 Description

Developing the prototype of the software and gaining user feedback on timely basis. After the prototype is successful initiating the deployment of software product.

3.1.4.2 Deliverables and Milestones

Prototype, Software Product, Software Design Document (SDD)

3.1.4.3 Resources Needed

HTML, CSS, JavaScript, ReactJS, Wireframe tool, Internet

3.1.4.4 Dependencies and Constraints

Software Requirement Specification (SRS) document, Software Project Management Plan (SPMP) document

3.1.4.5 Risks and Contingencies

The software product may take more time than anticipated, which can be solved by adding new members to the team. Sometimes, the product may fail to deliver its purpose which can be solved by making the software fail-proof and user friendly.

3.1.5 Testing

3.1.5.1 Description

Two tests will be performed. They are Alpha testing for Client (User and Admin) side and Beta Testing for Developer side of the software.

3.1.5.2 Deliverables and Milestones

Final Software, User Guide Documentation

3.1.5.3 Resources Needed

MySQL, Python, Django, HTML, CSS, JavaScript, ReactJS, Multiple devices with different screen dimensions.

3.1.5.4 Dependencies and Constraints

Internet Connection, SRS, SDD, SPMP

3.1.5.5 Risks and Contingencies

Chances are there might be a database failure or network failure.We can overcome them by using an efficient DBMS software and internet from reliable network service provider.

3.1.6 Maintenance

3.1.6.1 Description

Maintaining the database, regular network testing and updation of the software as per the user and admin requirements.

3.1.6.2 Deliverables and Milestones

Monthly Maintenance Report, Updation Report

3.1.6.3 Resources Needed

MySQL, Python, Django, HTML, CSS, JavaScript, ReactJS

3.1.6.4 Dependencies and Constraints

Stability of the hardware and software involved in the development of the project

3.1.6.5 Risks and Contingencies

Trying to maintain obsolete technologies. It can be resolved by using latest technologies and updating the modules whenever a new version of the technology is released.

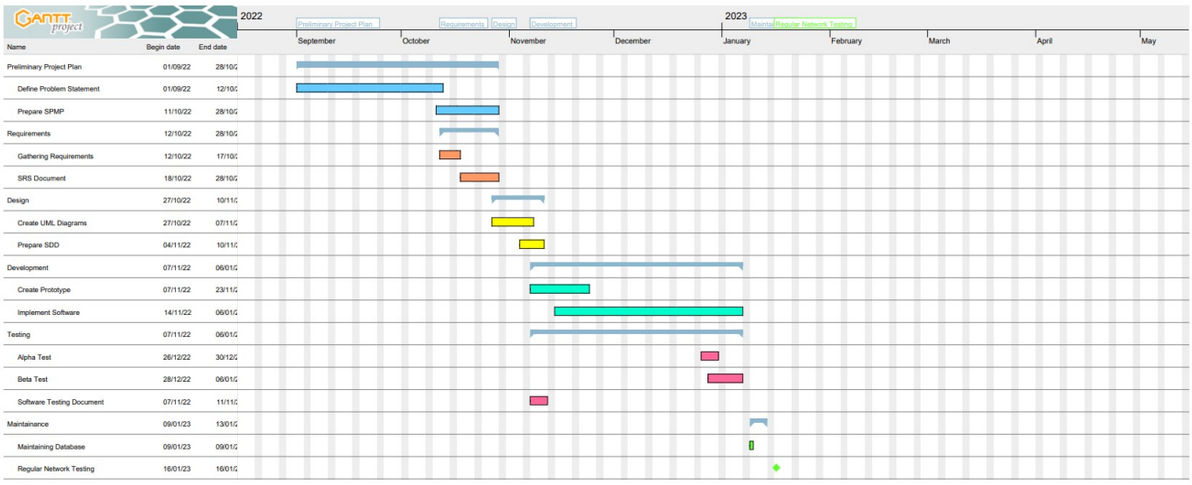
3.2 Assignments

Sr. no.	Task	Main Resource	Supplemental Resource
1	Preliminary Project Plan Document	Poonam	Sreevidya
2	Software Project Management Plan	Devanshi	Sreevidya
3	Software Requirements Specification Document	Dishika	Poonam
4	Software Design Document	Poonam	Sreevidya
5	Source Code and Database	Devanshi	Dishika
6	Software Quality Assurance Plan	Sreevidya	Devanshi
7	Software Testing Document	Dishika	Poonam
8	User Manual	Dishika	Devanshi
9	Project Closure Document	Sreevidya	Poonam
10	Completed Software	Dishika	Devanshi, Sreevidya, Poonam

Table 3: Assignments

3.3 Timetable

3.3.1 Gantt Chart



3.3.2 PERT Chart