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A Project Report

On

"Protean Word"

[Code No: COMP 206]

(For the partial fulfilment of 2ndYear/ 1st Semester in Computer Science)

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I

Bonafide Certificate

This project work on

"Protean Word"

is the Bona-fide work of

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who carried out the project work under my supervision.

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Acknowledgement

Abstract

We present "Protean Word", a python GUI application that aims at providing simpler and more meaningful platform for the users to edit and beautify their texts. Protean Word is a program that allows you to open, view, and edit plain text files. It focuses on editing functions for plain text along with some basic text formatting like bold, italic and underline. Word processors are used by a wide variety of people for a wide variety of purposes. The project can be used offline. We made a software which helps users to perform file operation, cut and paste, make text attractive as per their need. In this project a software is created that anyone who desires to edit a text and make it elegant could use. This project helps the members to use and understand mainly Python, which is one of the booming programming languages in the global market. The project Protean Word is like other word processing software, where the user can view, inspect different artistic contents and apply it to make their text elegant.

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Acronyms

GUI: Graphical User Interface

IDE: Integrated Development Environment

OS: Operating System

VS: Visual Studio

Chapter 1: Introduction

Protean Word is a word processing software which will help users perform various operations as per their need. All they need to do is make a file write a text and they can get started with much ease.

1.1: Background

A word processor is a type of computer program that edits plain text. Such programs are sometimes known as "notepad" Before text editors existed, computer text was punched into cards with keypunch machines. Physical boxes of these thin cardboard cards were then inserted into a card-reader. Magnetic tape and disk "card-image" files created from such card decks often had no line-separation characters at all, and assumed fixed-length 80-character records. An alternative to cards was punched paper tape. It could be created by some teleprinters (such as the Teletype), which used special characters to indicate ends of records.

The first word processor was "line editors" oriented to teleprinter- or typewriter-style terminals without displays. Commands (often a single keystroke) effected edits to a file at an imaginary insertion point called the "cursor". Edits were verified by typing a command to print a small section of the file, and periodically by printing the entire file. In some line editors, the cursor could be moved by commands that specified the line number in the file, text strings (context) for which to search, and eventually regular expressions. Line editors were major improvements over keypunching. Some line editors could be used by keypunch; editing commands could be taken from a deck of cards and applied to a specified file. Some common line editors supported a "verify" mode in which change commands displayed the altered lines. software, following the naming of Microsoft Notepad. Text editors are provided with operating systems and software development packages, and can be used to change files such as configuration files, documentation files, etc.

1.2: Objectives

➢ To provide a user-friendly GUI, that enables user to easily use the software.

➢ To manage the information and notes easily in one place.

➢ To convert text into voice.

1.3: Motivation and Significance

We find that in the field of text document editing software, there is much more improvement to be done. The first motivation is to make the program very simple for people to use. So, trying to build something called WYSIWYG (What You See Is What You Get), which mean that people can change the visual style of writing (e.g., bold, italics), by clicking on buttons, when in other programs like WordPerfect, people have to add special 'codes' to change the style of writing.

Word processing program is rather simple program made using GUI. As we are living in a modern society people feel more comfortable writing paragraphs and words in computer rather than a notebook. The main reason is so that they can edit written text whenever they like and save the document using very low memory and get access to them anywhere and anytime.

We use simple new, open, save features along with the other features to make the program simpler and more reliable to people using this program without any problem.

Chapter 2: Related Works/Existing Works

Notepad

Notepad is a simple text editor for Microsoft Windows and a basic text-editing program which enables computer users to create documents. It is an app specializing in editing plain text. It can edit text files (bearing .txt filename extension) and compatible formats such as batch files, INI files, and log files.

Notepad offers only the most basic text manipulation functions, such as finding text. Improving performance has been the main focus of Notepad's development. As part of this effort, Notepad is capable of reading text files even when other apps have acquired a range-based lock on the file. Notepad can print files. Headers, footers, and margins can be set and adjusted when preparing to print a file under Page Setup. The date, file name, and other information can be placed in the headers and footers with various codes consisting of an ampersand followed by a letter.

Microsoft Word

Microsoft Word or MS-WORD (often called Word) is a Graphical word processing program that users can type with. It is made by the computer company Microsoft. Its purpose is to allow users to type and save documents. Similar to other word processors, it has helpful tools to make documents.

- ➢ Spelling & grammar checker, word count (this also counts letters and lines)
- ➢ Speech recognition
- ➢ Inserts pictures in documents
- ➢ Choice of typefaces
- ➢ Web pages, graphs, etc
- ➢ Tables
- ➢ Displays synonyms of words and can read out the text
- ➢ Prints in different ways

Chapter 3: Procedure and Methods

The planning for the completion of this project has been systematically listed in the following order:

Step 1 - Study and research: Firstly, we did some research related to front-end and backend development needed for our project by visiting similar kind of websites, by consulting with seniors and teachers.
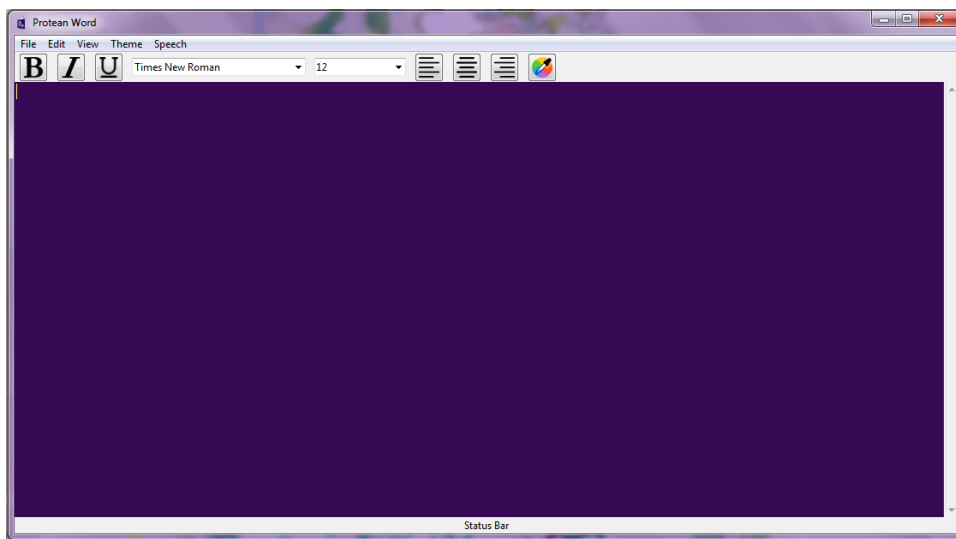
Step 2 - Front-end Development: Front End part i.e.; GUI of the software is the first thing that is noticed by user and is responsible for having first impression on a user. So, made our software attractive and user-friendly using Tkinter, which the most popular GUI application making platform for python.

Step 3 - Testing and Debugging: It is not 100 percent sure that our software was built as perfect as we have desired. There could be some syntactical and logical errors. Our software might not be as user friendly as we have expected. So, we performed tests and debugging to fix the errors. Also, we allowed a few of our friends to use our software and we took their opinions so that we can improve our front-end part.

Step 4 - Documentation: After completion of our above listed task, we prepared work report and will present our project.
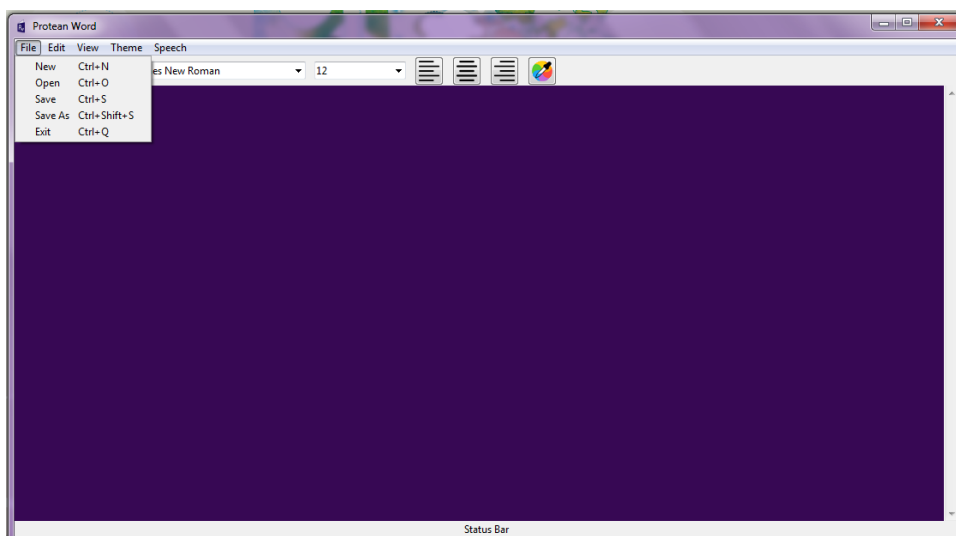
Chapter 4: Design

The ultimate goal of our project is to provide user friendly GUI, so it was designed accordingly. We first created a window and added menu bar at the top. In menu bar, File, Edit, View, Theme and Speech label were added. We then built a toolbar with bold button, italic button, underline button, font box, font size box, left alignment button, centre alignment button, right alignment button, font colour chooser button just below the menu bar as shown in figure 4.1.
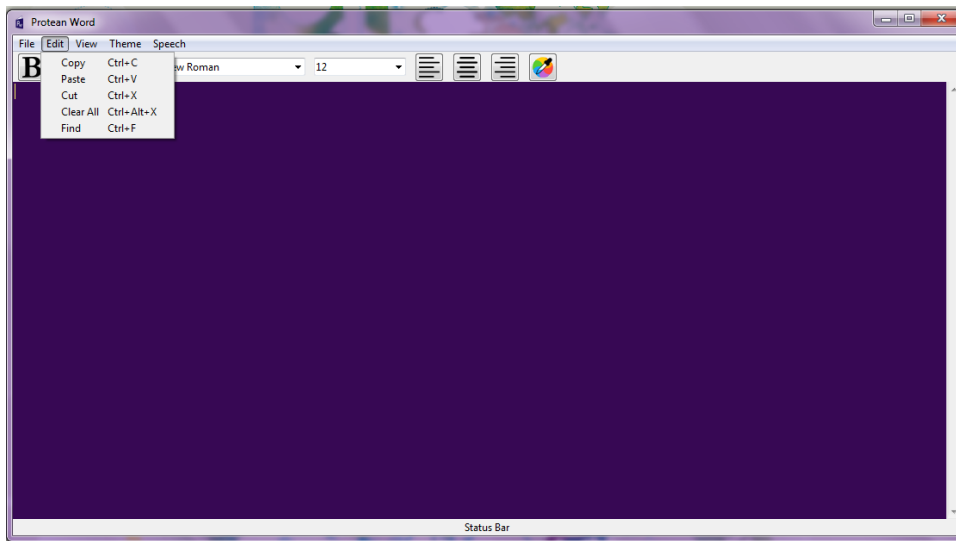

4. 1: Protean Word

As shown in figure 4.2, The file menu has New, Open, Save, save as and exit function, which appears when clicked in the file button.

4. 2: File menu

The edit menu has copy, paste, cut, clear all and find function, which appears when clicked in the edit button.

4. 3: Edit Menu

On clicking find from the edit menu a message box appears where we can search a word and replace it with another word.
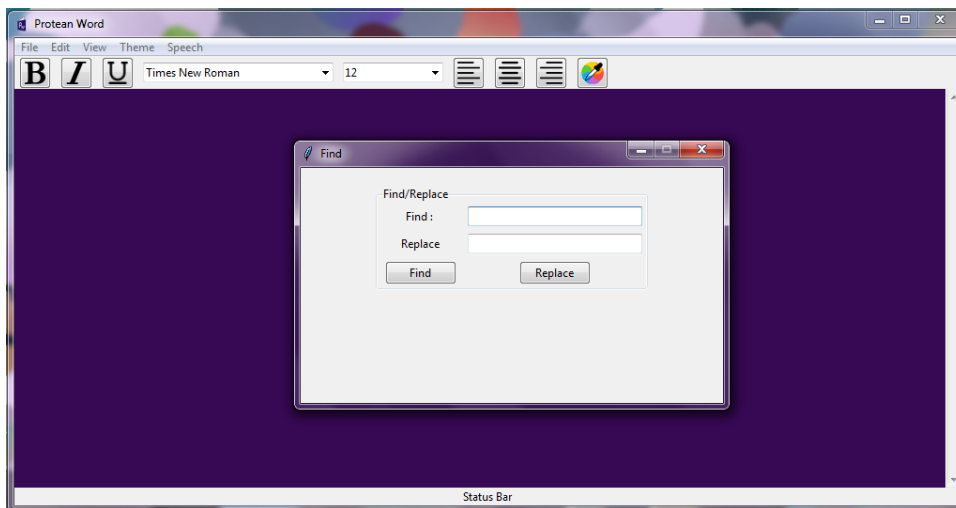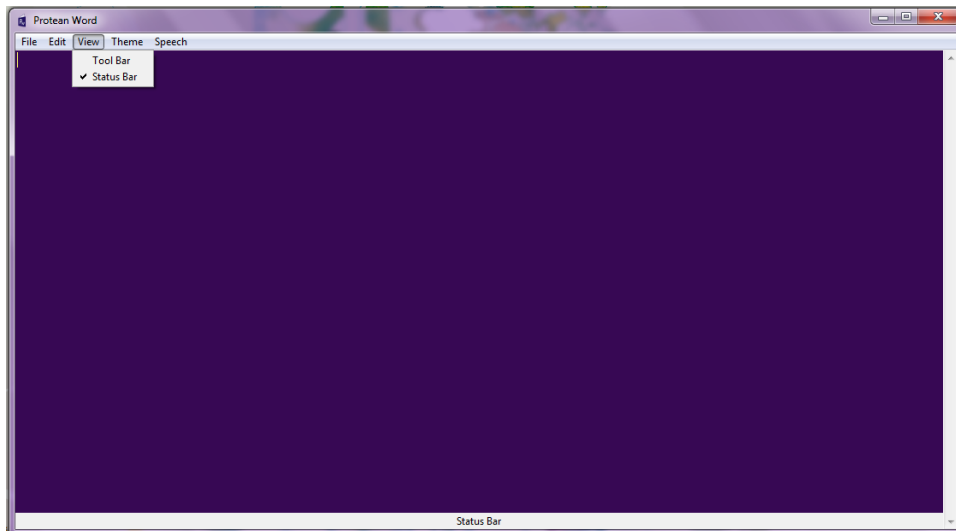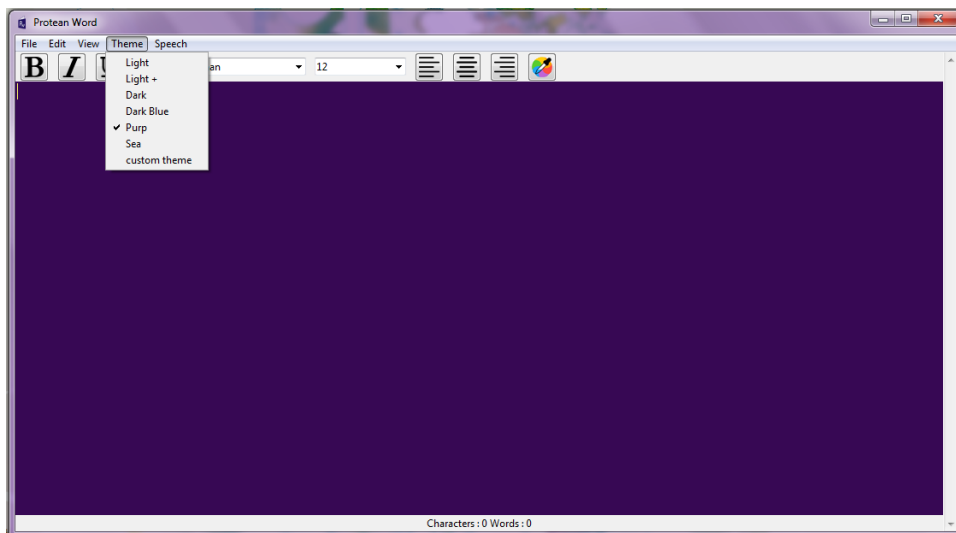

Figure 4.4: Find

The view menu has toolbar and status bar, which appears when clicked in the view button. The toolbar and status bar can be shown or hidden respectively by marking or unmarking.
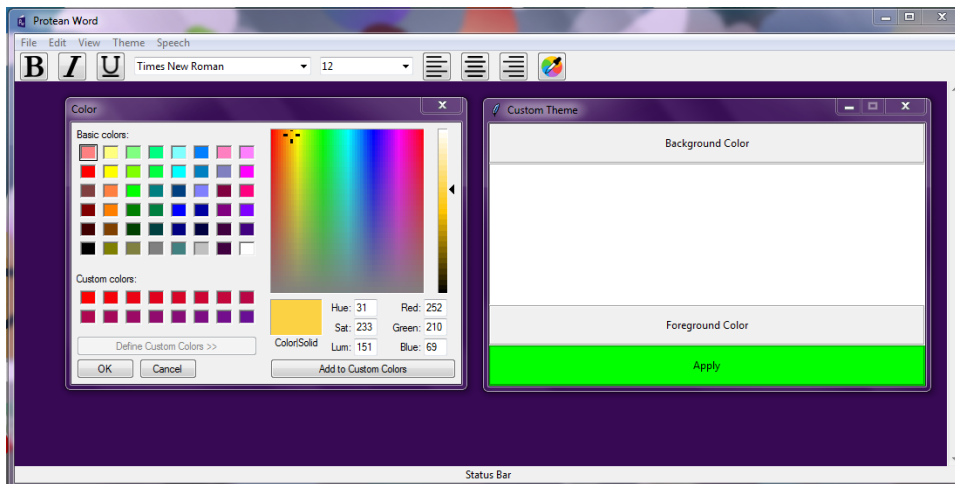

4. 4: View Menu

The theme menu has Light, Light+, Dark, Dark Blue, Purp, Sea and custom theme command, which appears when clicked in the theme button.
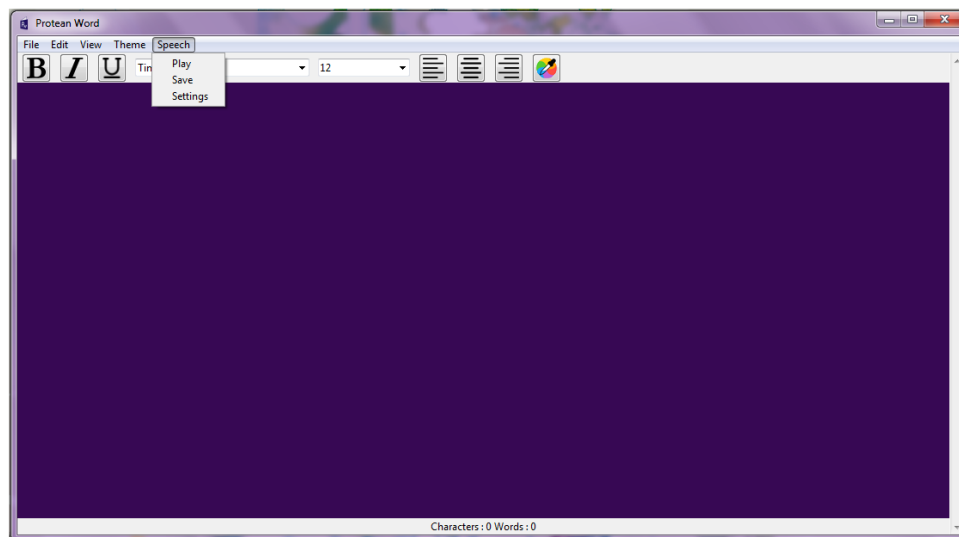

4. 5: Theme Menu

On clicking the custom theme command, a message box pop up (shown in right side of figure 4.7) having the Background colour, foreground colour and apply button. If we click on background or foreground button the message box as shown in left side of figure 4.7 pop up for choosing the colour of background and text.
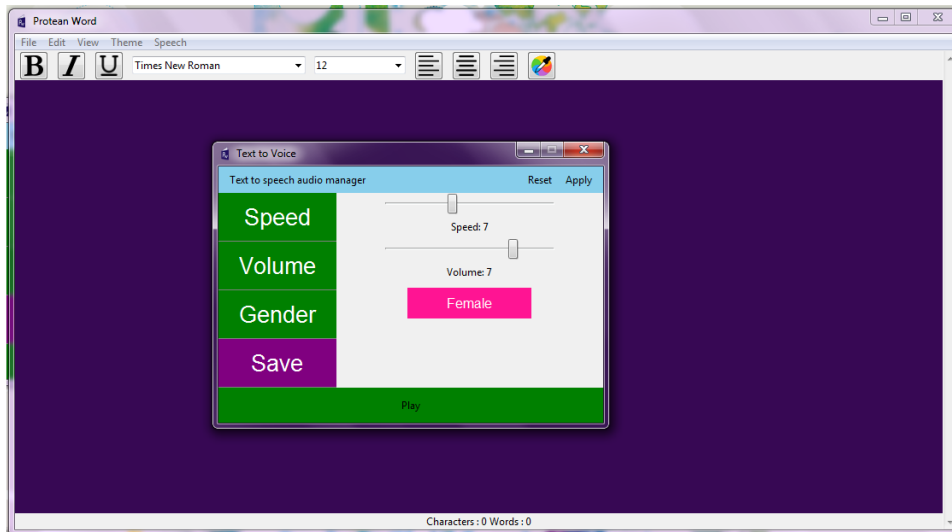

4. 6: Custom theme

The speech menu has play, save and settings command, which appears when clicked in the speech button.

4. 7: Speech Menu

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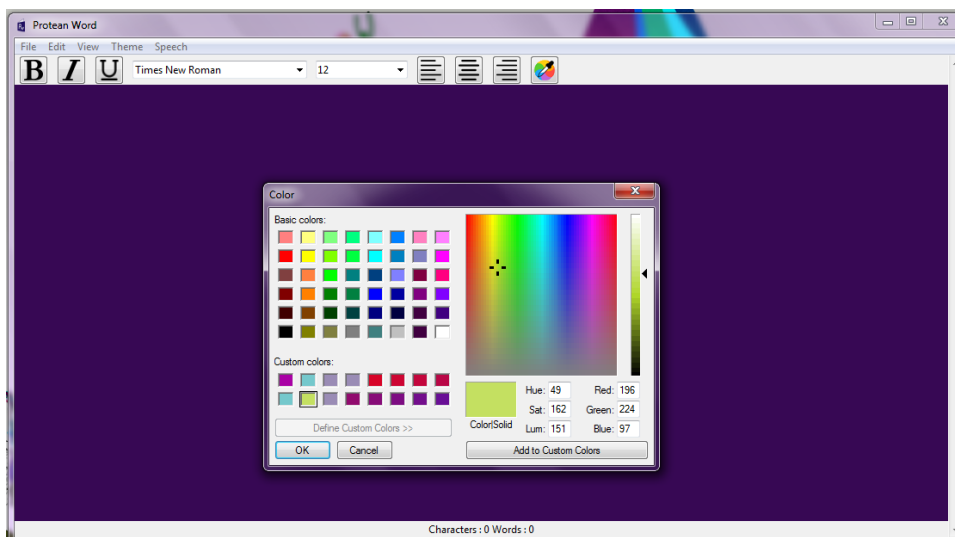After clicking the setting from the speech menu, a message-box having speed, volume, gender, save and play command appears.
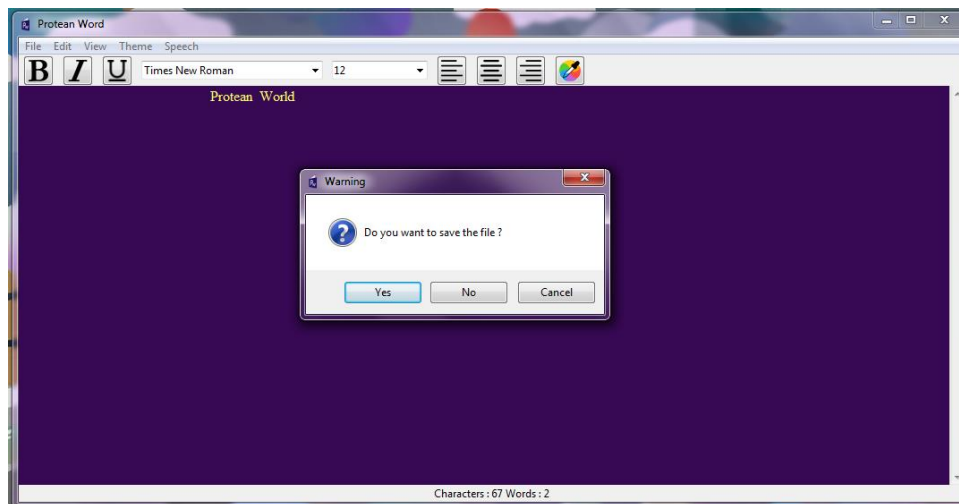

4. 8: Speech Setting

On clicking the font colour chooser button, a message box pops up as shown in figure 4.8.

4. 9: Font color chooser

On closing of our program if there are some changes made and are not saved then the pop box appears as shown in the following figure 4.11.

4. 10: Exit

Chapter 5: Features

Our project includes the following features:

➢ File Operation

This feature helps to create, delete, read, write, open and close a file. It also aids in saving a file.

➢ Cut, Copy and Paste

The cut function allows the user to erase the text while the copy and paste function helps user to copy and duplicate the selected text respectively.

➢ Find and Replace

This allows user to find a word and if necessary, the user can replace the word with another word.

➢ Customize text and theme

This feature helps user to change the font, font size and font colour. The font can also be made bold, italic and underlined. It allows user to change the theme.

➢ Undo and Re-do

The undo function erases the last change done in the text, reverting it to an older state. The redo function restores any actions that were previously undone using an undo.

➢ Text to speech

This feature enables text to be converted into speech sounds imitative of the human voice. The user can choose between male voice and female voice, the speed and loudness of the speech can be adjusted.

Chapter 6: Project Planning and Scheduling

The work breakdown and time in weeks required to complete the specific task are shown as in the Gantt chart below:

Task	1	2	3	4	5	6	7	8	9	10	11	12
Research and study	■	■	■									
Graphic Designing				■	■	■						
Core Programming						■	■	■	■	■		
Program testing								■	■	■	■	
Documentation											■	■

6. 1: Gantt Chart

Tasks:

1. Research and study
2. Graphic Designing
3. Core Programming
4. Program Testing
5. Documentation

Chapter 7: Conclusion

Throughout this project our aim was to develop a text editor that allows user to edit and beautify plain text. This project is simple, easy to understand so user can easily operate it. The concept is to provide a user-friendly GUI for the ease and comfort of user while editing through features like find and replace, text-to-speech, undo and redo, customization of text and theme.

7.1 Limitations

Limitation of our program are as follow:

➢ It does not support opening multiple files in the same window.
➢ Formatted text will not be in same format while opening the saved file.
➢ We cannot pause and re-play the speech.
➢ A portion of selected text cannot have more than one property.

7.2 Future Enhancements

We can further improve our project by adding following features:

➢ Allowing user to set their own canvas size.
➢ Password protected file system.
➢ Print option.
➢ Inserts pictures in documents

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