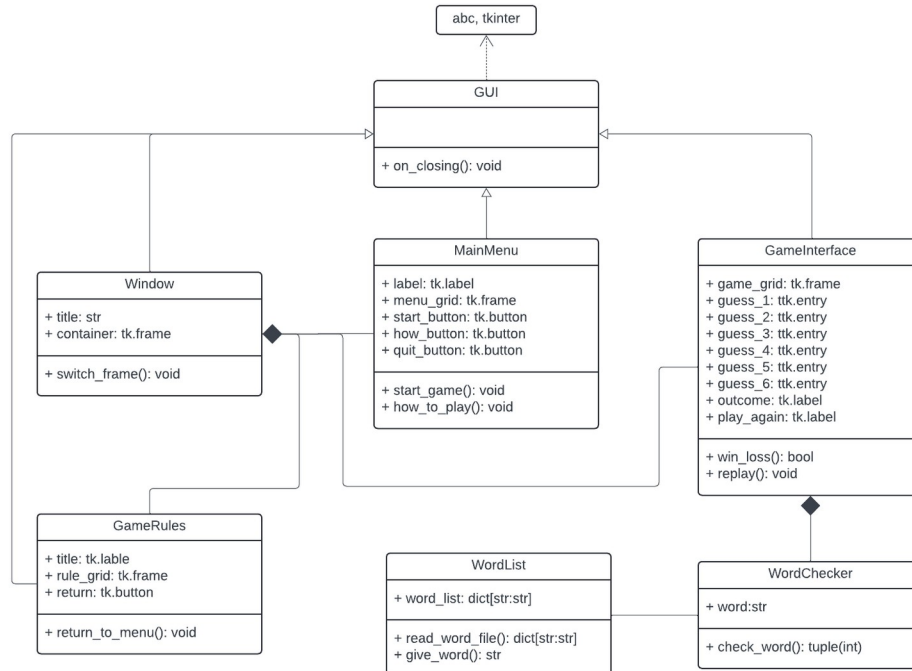


Wordle – Final Project Design

Requirements:

1. Create a Window class large enough to contain the game with tkinter at execution.
2. Create a container frame class that contains the MainMenu, which lets the user start a game, learn how to play, or quit. This container is created directly after window and destroyed when the frame changes.
3. Create a container frame class that contains HowToPlay. The frame is created if the user presses the “How to Play” button in the MainMenu. An exit button exists to return the user to the main menu, which destroys the HowToPlay frame.
4. Create a container frame class for the game interface. The GameInterface contains the functionality to properly play Wordle as a user would expect, such as using the keyboard to make guesses, pressing the enter button to submit a guess, and feedback on each guess.
5. Create a WordList class that stores a dictionary of words and its difficulty value which is retrieved from a text file. This should run at execution. When a class calls for a random word, the class object returns a random word.
6. Create a WordChecker class that gets a random word from the WordList class. When the GameInterface needs to check if a guess is correct, WordChecker will return a list of five values of 0, 1, or 2. The value’s index in the list tells the GameInterface if the letter either doesn’t exist, exists but is in the wrong index, or exists and is in the right index. WordChecker returns a flag to indicate if the user has correctly guessed the complete word.

Class Diagram



Class & Method Description

GUI Class (Abstract)

Method	Description
on_closing():void	Handles quitting the app.

Window Class

Method	Description
switch_frame(frame):void	Switch to a different view of the game app.

MainMenu Class

Method	Description
start_game():void	Destroys MainMenu frame object, calls for a GameInterface object to replace it on the Window.
how_to_play():void	Destroys MainMenu frame object, calls for a GameRules object to replace it on the Window.

GameRules Class

Method	Description
return_to_menu():void	Destroys GameRules frame object, calls for a MainMenu object to replace it on the Window.

GameInterface Class

Method	Description
win_loss(): bool	If False, feedback is added to the object's frame indicating a loss to the player. If True, feedback is added indicating a win. In both cases, the replay method is called.
replay():void	Adds a button to the object frame that starts a new game with a new word if pressed.

WordList Class

Method	Description
read_word_file(): dict[str:str]	Reads a text file that contains many 5 letter words along with a difficulty value next to it. Stores the words and values in a dictionary.
give_word():void	Returns a random word from the dictionary.

WordChecker Class

Method	Description
check_word(): tuple(int)	Returns a tuple with five integers, either 0, 1, or 2. 0 indicates a wrong letter in that index. 1 indicates a correct letter but in the wrong index. 2 indicates a correct letter in the correct index.

UI Mockup

