BATTLESHIP

1) Introduction :-

The Aim of this project is to develop a battleship game (modified version of 1-dimensional array daemong game). We intend to build a user interface where user will be able to target specific locations on the screen called as target zone in our game. For a successful win, user has to destroy 3 enemy ships whose locations will be remain hidden to user. Each ship will be placed in 3 consecutive cells in either horizontal, vertical or diagonal direction as shown in figure 1a.

		S11					
		S12				*S31*	
		S13			*S32*		
				S33			
	S21	*S22*	*S23*				

Figure 1a

User has to guess a location and the Game interface will inform the user if he has correctly guessed the location. In particular, two types of messages will be shown

1) **Hit** :- User has hit a ship.
2) **Kill** :- User has hit a ship in all three consecutive cells of the ship and thus the enemy ship no 1,2 or 3 has drowned.

When all 3 ships are destroyed a display message showing you have won the game. There will also be a label displaying number of missiles remaining. Each user will have a limited number of missiles. If user is unable to destroy all ships, then the enemy wons the game and a appropritate message will be displayed.

2) Design :-

We will be using Python 3 along with the most widely used GUI module Tkinter. Also, we will be using Pycharm Ide as it is very robust and provides the much needed features for completion of our project.

2.1) Tkinter :-

Tkinter is a python binding to the Tk GUI toolkit. It is the standard Python Interface to the Tk GUI toolkit. The name Tkinter comes from Tk interface which was written by Fredrik Lundh. As with most other modern Tk bindings, Tkinter is implemented as a complete Tcl interpreter embedded in the Python interpreter. Tkinter calls are translated into Tcl commands which are fed to this embedded interpreter , thus making it possible mix Python and Tcl in a single application.
Official documentation of Tkinter :- “https://docs.python.org/3/library/tk.html”

2.2) Pycharm :-

Pycharm is an IDE for python. It support many modern features such as replacing all variables name, smart assistance and many more. Due to this we have opted for Pycharm. You can get Pycharm from following link :- “https://www.jetbrains.com/pycharm/?fromMenu”.

3) Execution :-

Following are some screenshots of final version of our project. The windows in our game are as follows.

1) Home page :- It contains three options as shown in figure 3.a.
    1) Play :- This option will open another window where user will play the main game as shown in figure 3.b.
    2) How to Play :- The instructions for playing the game. Figure 3.c
    3) Quit :- To quit the game.

Figure 3.a

Figure 3.b

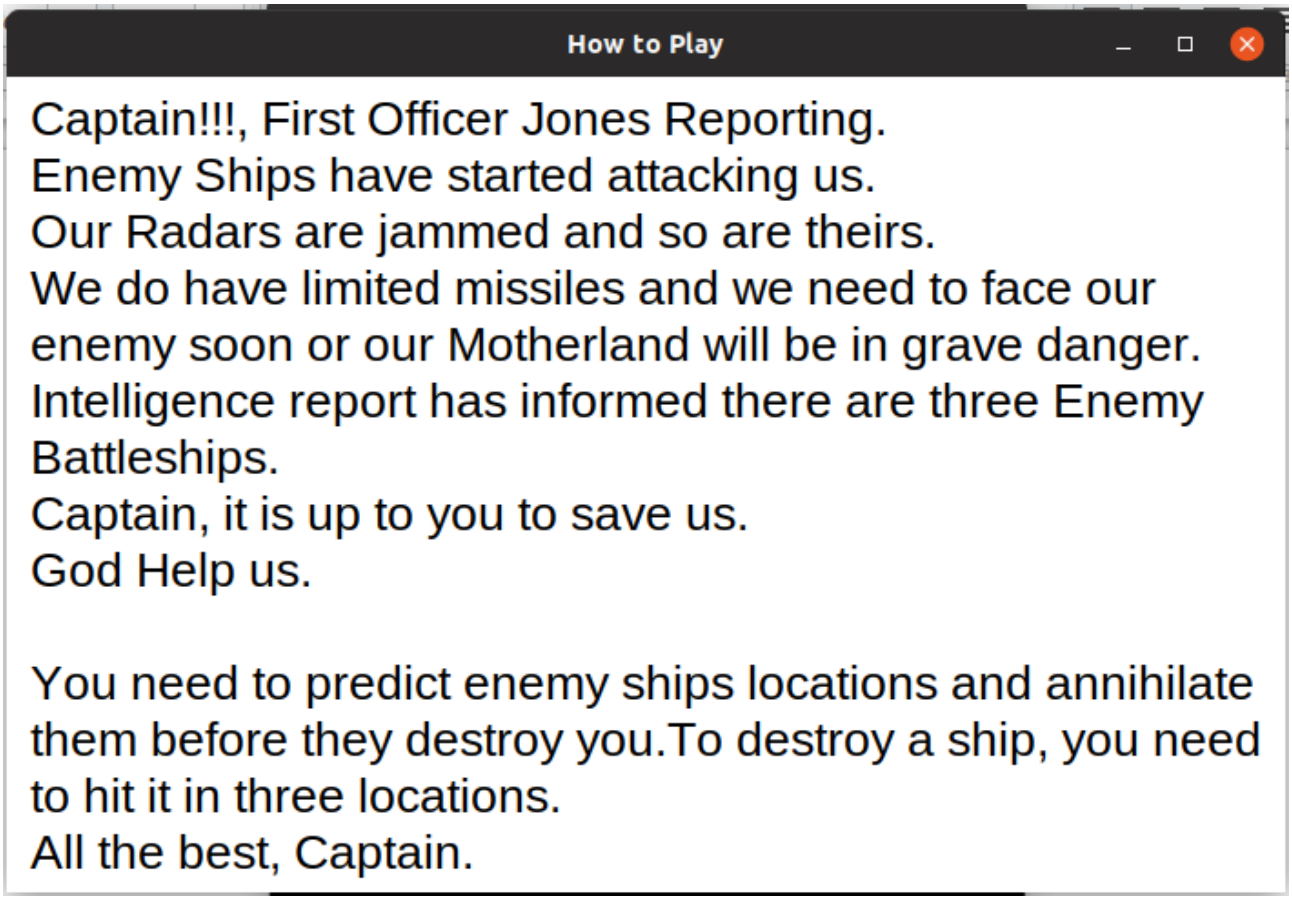

Figure 3.c

4) Future Scope :-

We can add a timer to the game and the user has limited time before the enemy ships attacks him. Also, we can place it on server using Django Framework to play online. From there, we can also implement a player vs mode, where two users will place their ships on map and then will battle against each other. Whoever destroys the ships first will be winner of the two.

Github Link :- https://github.com/Omkar-C/Battleship_Python