A Mini Project Synopsis on
SPACE INVADERS GAME

S.E. - I.T Engineering

Submitted By

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CERTIFICATE

This to certify that the Mini Project report on **Space Invaders Game** has been submitted by Anusha Gondhalekar (20104127), Sakshi Balekar (20104103), Maaz Mirza (20104124) and Hamza Ansari (20104058) who are a Bonafide students of A. P. Shah Institute of Technology, Thane, Mumbai, as a partial fulfilment of the requirement for the degree in **Information Technology**, during the academic year **2021-2022** in the satisfactory manner as per the curriculum laid down by University of Mumbai.

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Date:

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ACKNOWLEDGEMENT

This project would not have come to fruition without the invaluable help of our guide **Prof. Manasi Choche**. Expressing gratitude towards our HOD, **Prof. Kiran Deshpande**, and the Department of Information Technology for providing us with the opportunity as well as the support required to pursue this project. We would also like to thank our teacher Ms. Rujata Chaudhari who gave us her valuable suggestions and ideas when we were in need of them. We would also like to thank our peers for their helpful suggestions.

Chapter 1

Introduction

Gaming is something that everybody is passionate about since childhood. You may be wondering, why bring games and play into learning? Is it really a good idea? We often think of play as something children should do outside the classroom, just for fun. But games are used in the classroom too. Teachers use games for a fun start to the lesson, to practise vocabulary and grammar, or to practise language in 'real-world' situations through role-play. Our research shows that with the use of games, children of all ages have better engagement, participation, achievement and recall of their learning.

So, we have come up with a concept of Space Invaders Game, which is a simple project designed in python. We have a spaceship that has to tackle the enemy aliens and traverse a path without getting collided by the aliens who will attack the spaceship. The spaceship is basically suppose to collect the coins so that it can upgrade itself and move to the next level.

1.1. Purpose :

We have a spaceship that has to tackle the enemy aliens and traverse a path without getting collided by the aliens who will attack the spaceship. The spaceship is basically suppose to collect the coins so that it can upgrade itself and move to the next level.

1.2. Objectives :

1)   To provide players with the opportunity to make meaningful decisions in relation to playing the game.

2)   To provide a framework within which players will operate, while the addition of narrative structures provide players with a reason to care about playing the game.

3)   To establish the rules and narrative, an internally consistent game world is created, requiring visual, audio, and programming development for world, character, and level design

4)   To provide overall contextual guidance on ambient mood, appropriate tone, and other less tangible aspects of the game world

1.3. Scope :

It has the ability to deal better with unexpected consequences. It enhances a player's skills of observation, intuitive abilities. Hone their alertness and concentration.

Chapter 2

Problem Definition:

The aim of this is to shoot all the alien invaders before they land. In this cutdown version there are no bases and the invaders do not drop missiles. Nonetheless when play-testing the game we found that clearing the level required a reasonable level of shooting skill and also that a suitable strategy be employed such as shooting away the end columns first. In the depicted game the AI player has made the mistake of shooting away too many of the central aliens, and the aliens look set to land.

Chapter 3

Proposed System

3.1. Features and Functionality:

There are multiple levels with 5 lives and a health bar to view the existing life of the player spaceship. The key feature of our game is that the player has to first login with the username and password that he has created in the start of the game. There are animated player ship and enemies along with sound for every movement. The player can view the details about the spaceship. It is an individual player game. Maximum distance covered by the spaceship takes the player to the next level of the game. Collecting maximum coins while travelling will help the player to upgrade the spaceship.

Chapter 4

Project Outcomes:

The main outcome of the project is the amount of exposure and knowledge that one can gain throughout the progression of the project. A fair conclusion to design such python projects with the games is that it works on an innovative idea where you are having fun. The player can constantly research about the topic, and find ways to figure out the errors that you encounter throughout the procedure of the completion of the project.

Chapter 5

Software Requirements:

- ✦ Programming language: Python

- ✦ Operating system: Windows 10

- ✦ Development environment: Pycharm, Pygame

- ✦ Database: PostgreSQL

Chapter 6

Project Design:

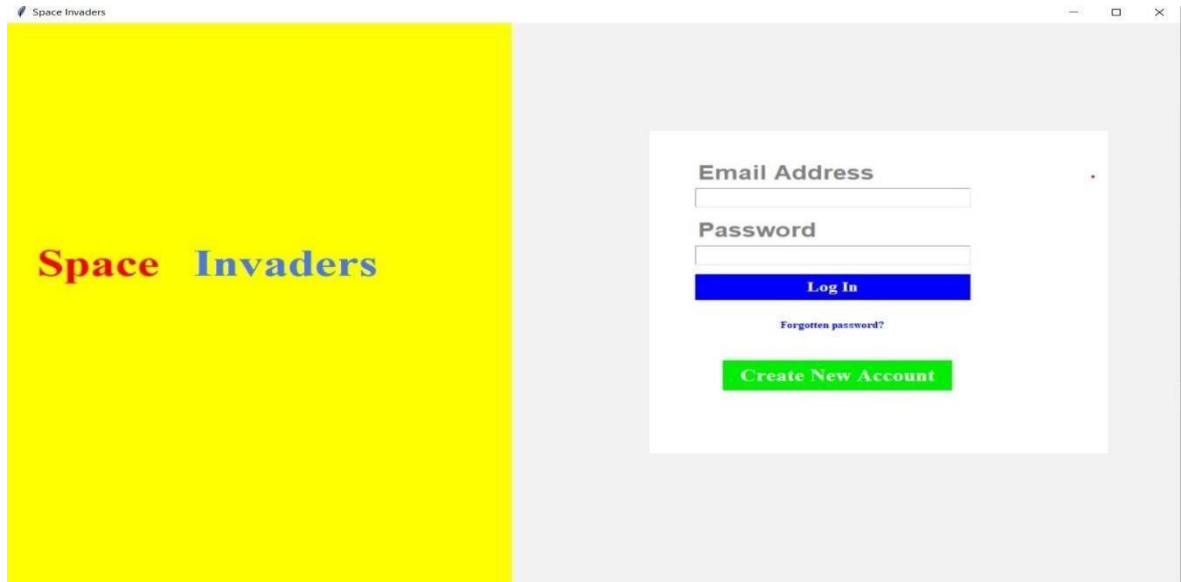**STEP 1**: If the player has to start playing the game, he first has to create an account.

Figure No.1 : Login Page

STEP 2: Here is the Sign Up Page, if you don't have an account you need to create an account.
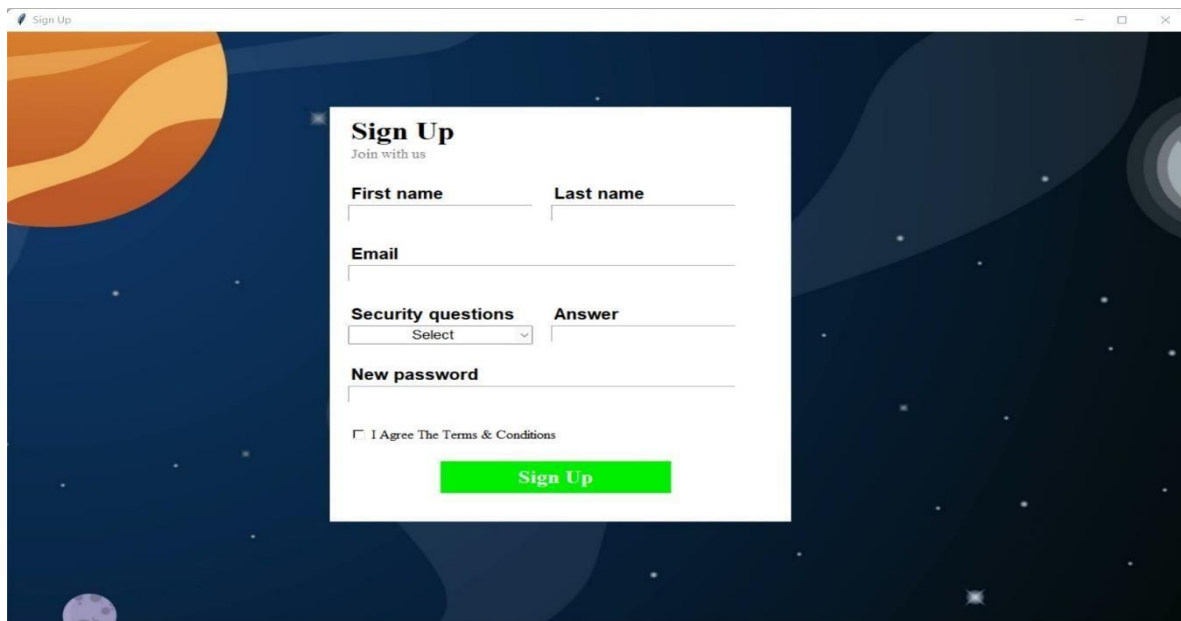

Figure No.2 : Sign Up Page

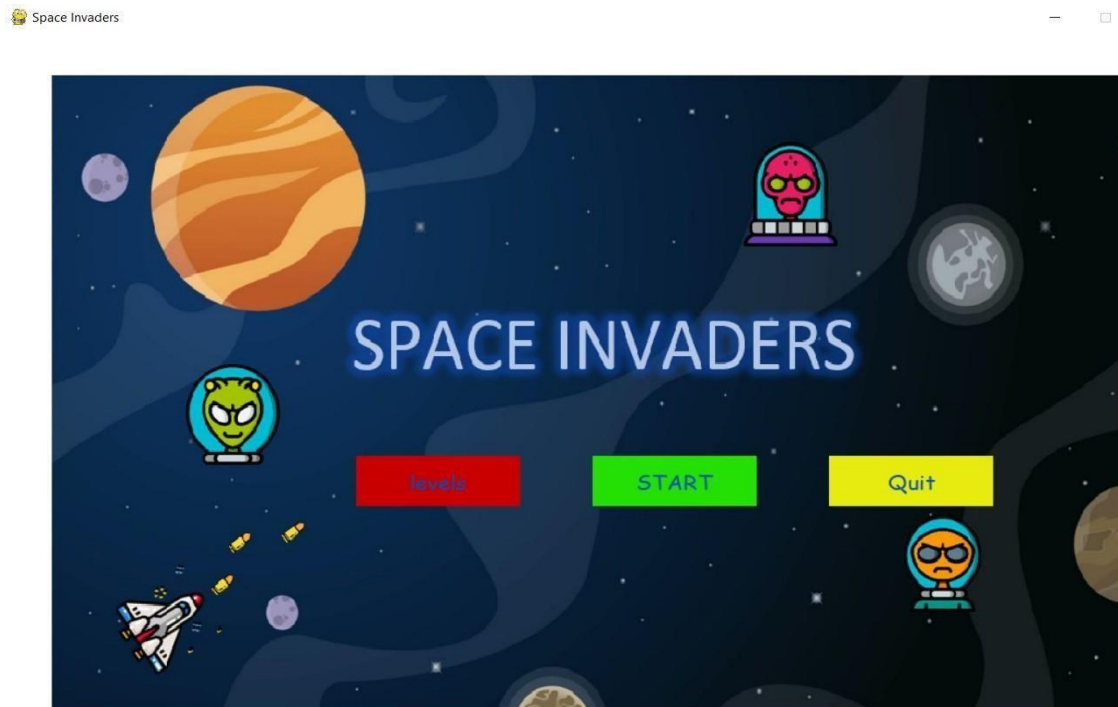**STEP 3**: This page is used to start the game.

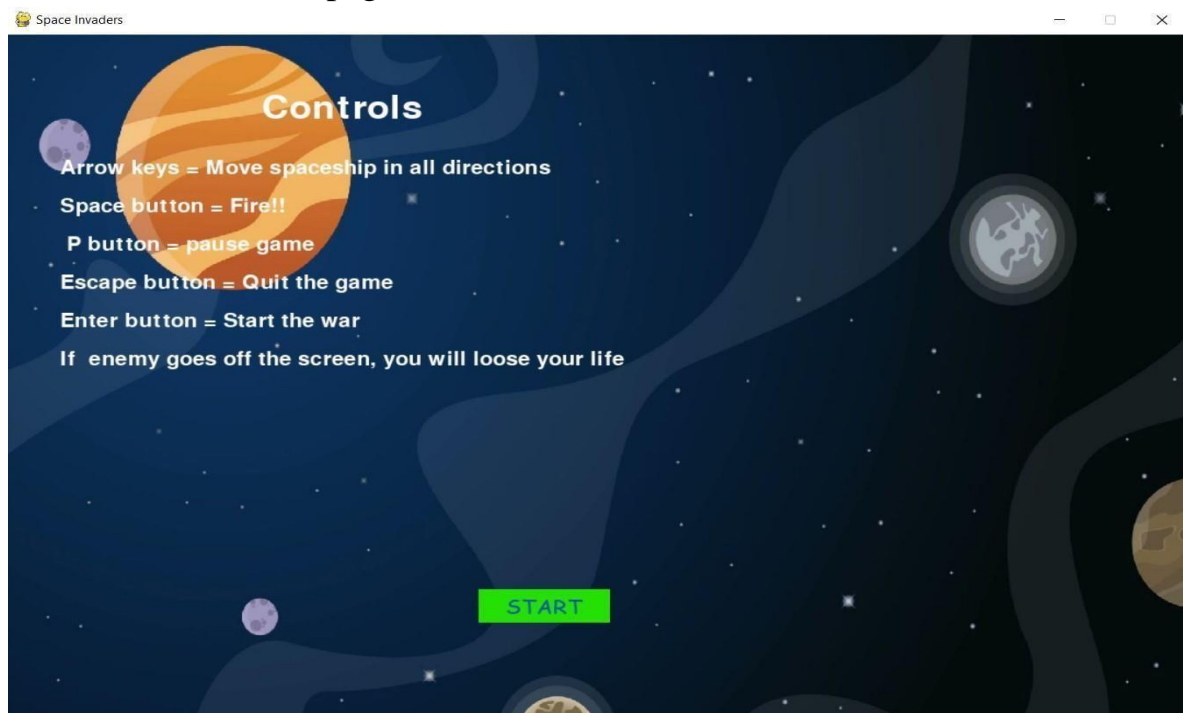**Figure No.3 : Start the game**

STEP 4: Instructions page
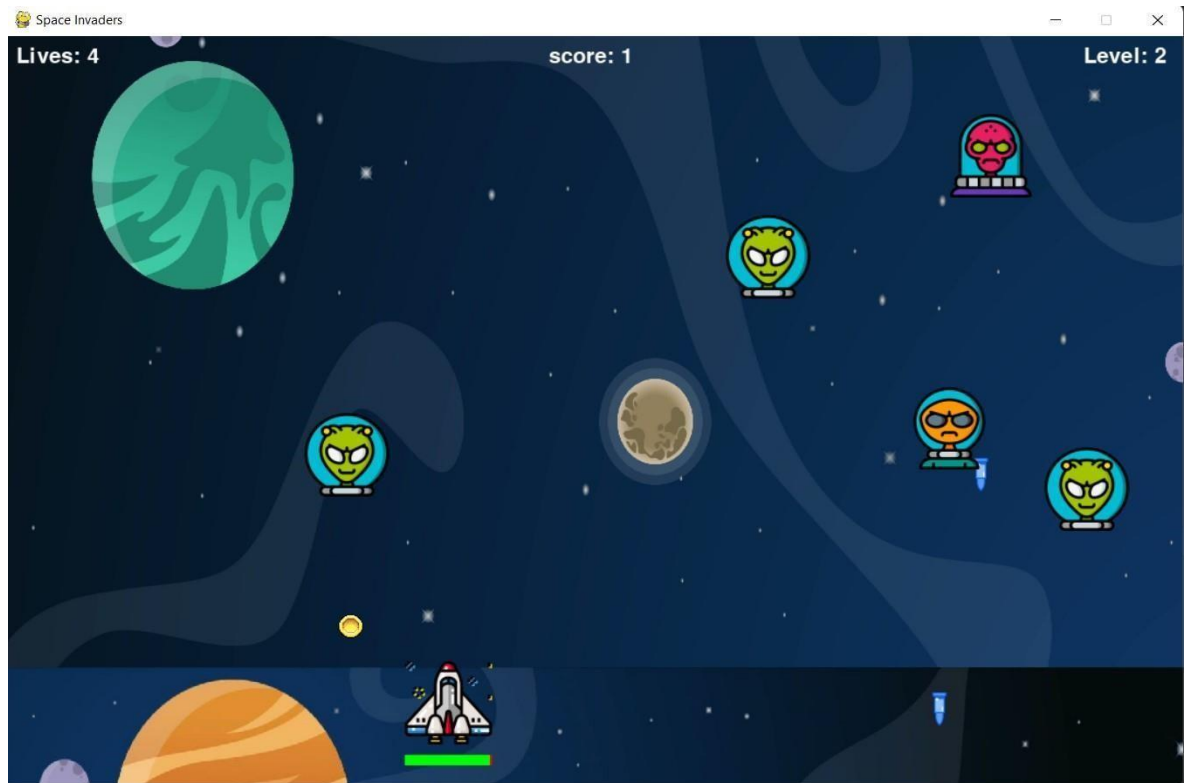

Figure No.4 : Instructions Page

STEP 5: Game started

Figure No.5 : Game started
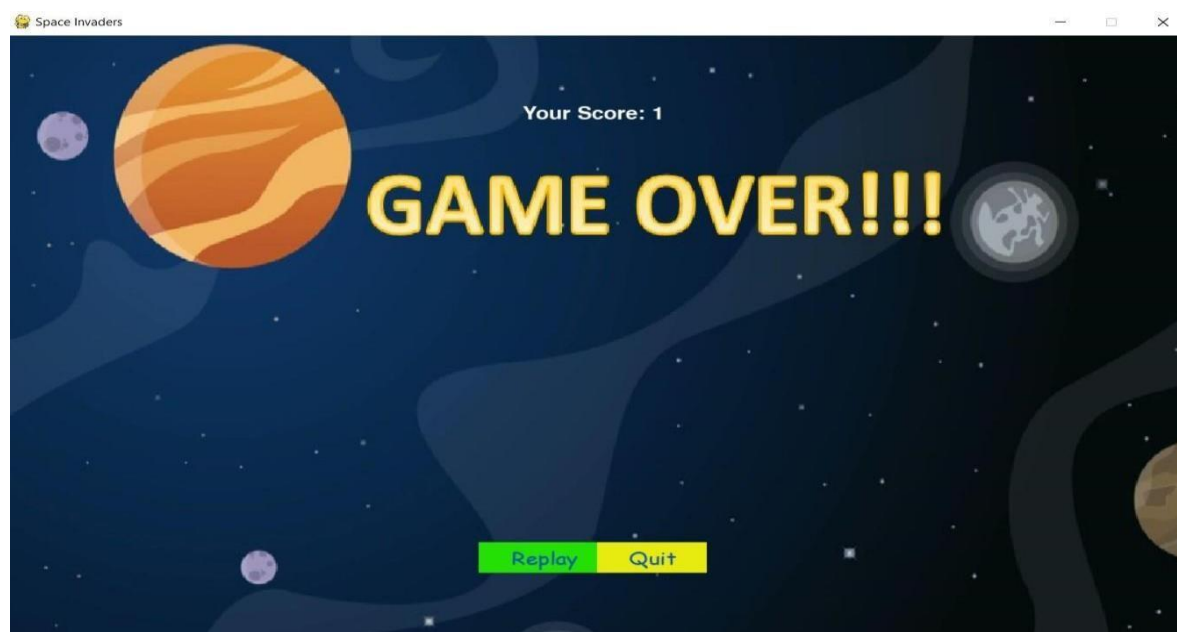
STEP 6: Game over

Figure No.6 : Game Over

FLOWCHART:
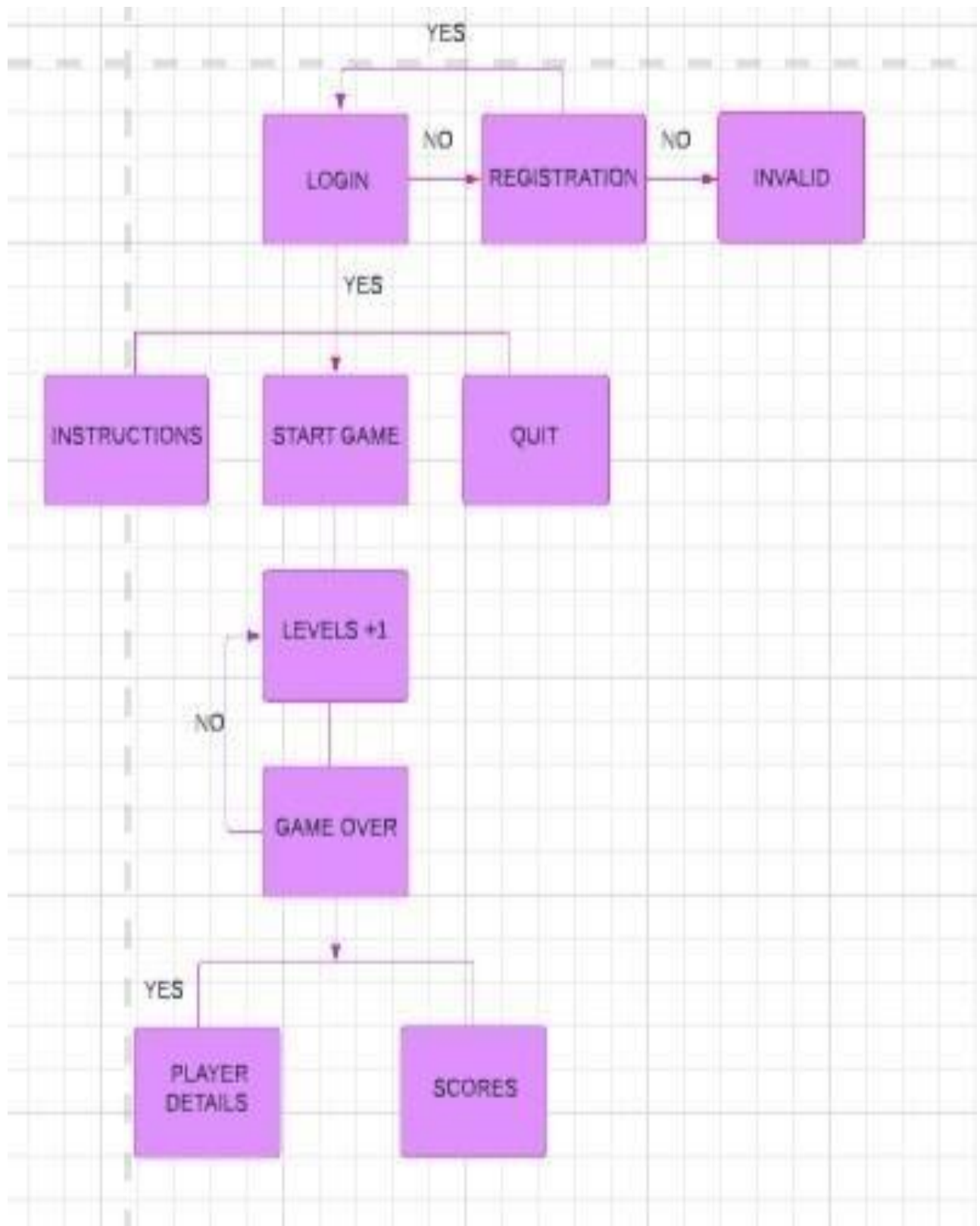
Project Scheduling Template:

Sr. No	Group Member	Time duration	Work to be done
1	Sakshi Balekar	1st week of january	Implementing 1st module/ functionality Login Page Sign Up Page
	Anusha Gondhalekar	2nd week of january	Testing 1st module Designing the game Adding features in the game
2	Maaz Mirza	3rd week of january	Implementing 2nd module/ functionality Connectivity of the pages
3	Hamza Ansari	By the end of march month	Implementing 3rd module/ functionality Backend Connectivity

Table No.1 : Project Scheduling

CONCLUSION:

This game helps us to understand the python language as well as the Pygame Library. It gives us enough knowledge about creating a GUI based game in Python. Here, we have also covered player login, their details, playing sounds, different levels of the spaceships and moving characters about the screen.

References

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[5] https://www.scribd.com/document/246184550/Space-Invaders-Python-PyGame