Final Report Of -
Mini-Mario Game Developing

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Project Name & GitHub Link

Name : Mini-Mario Game Developing

Link : https://github.com/18101003rakin/Mini-Mario

Project Team Members

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1. Objective :

The main objective of this project is to build a python based game Mini-Mario. To build a game which will take a small place to run.

2. Project Problem Definition :

Mini-Mario is a python based game. There are many games out there but not all the games are suitable for all computers. So the users who have computers with low configuration they can not play any games on their computers. So, we built a game which will support any low configuration computer. Our main goal is to make a game which will entertain kids and other users.
In building up this game properly our main challenge was how to use "pygame" as it is a python based game so our target was to use python resources properly. Our second challenge was to build the combination of art, music and programming. Our third goal was to develop the game which will not cause any glitch. Our game will be used by gamers and by the developers. Gamers will use this game and the developers will update the game regularly.

3. Benefits of this project

    a. **The Engineer and the society :** Game development brings good impact to the IT industry. To maintain a game properly it needs a lot of programmers, such as, game developer, graphics engineer, testing engineer etc. It means that game development is giving more opportunity for jobs..

    Many guardians worry about their children for security purposes. Many cannot go to the field to play sports due to physical infirmity. Gaming could be a solution to them. They can sit at their home and enjoy the game.

    b. **Environment and Sustainability :** Our project "Mini-Mario Game developing" which is basically a project for building a game. Everything in this world has a good side and a bad side.

    Good Sides : Our project can solve the problems of unable people who could not play on field physically. It could be a solution for self entertainment especially in this pandemic situation when no one can go

outside. It could be a solution for the IT sector to find jobs. Not only our project but the game development sector can reduce unemployment.

Bad Side : One of the big bad sides of this project is it can make kids lazy. When kids find that they don't need to go to the field for playing they could become lazy. Another bad effect is it could be physically harmful. If anyone sits before the computer and plays for a long time it could cause headache, eye problems etc.

c. **Is it sustainable?**

It is a very big question. In this modern era technology is becoming advanced day by day. So it is very difficult to say that any technology will be sustainable or not. Day by day advanced technologies are arriving. It is very much possible that after one week or one one month or one year later there will be a more efficient way to build this project.

But we can say that python library "pygame" will be sustainable because it makes any work more efficient. For example in our project we use pygame for gaming interface, gaming variables etc. So we can assume that "pygame" will be sustainable and will be used in various new ways.

4. Investigation

For this project development we had some research and investigation. We collect different kinds of data from some gaming blogs. We study some related documentation.

Some blogs are -

a. [Gamasutra](#)
b. [The Mario Bros](#)
c. [Classcraft](#)

Some documentations -

a. [Instructables Living](#)

      b. [Stack Exchange](#)

5. **Project Management and finance**

To complete the whole project it took a total **4 weeks.**

First week   : we generate ideas and initial discussion and planning. It took a total **32** hours.

Second week : We collect the resource from different blogs and documentations. It took a total **120** hours.

Third week   : We generate developing code on PyCharm professional IDE. It took a total **25** hours.

Fourth week : On the fourth week we develop the whole project. It is a total of **30** hours.

After the fourth week it took a total **207** hours.

We expect 5 dollars for each hour.

We use Pycharm Professional for this project, which price is **$199**

So from this project we expect **$1234**

6. **Design model of solution**

For this project we use these two diagrams.
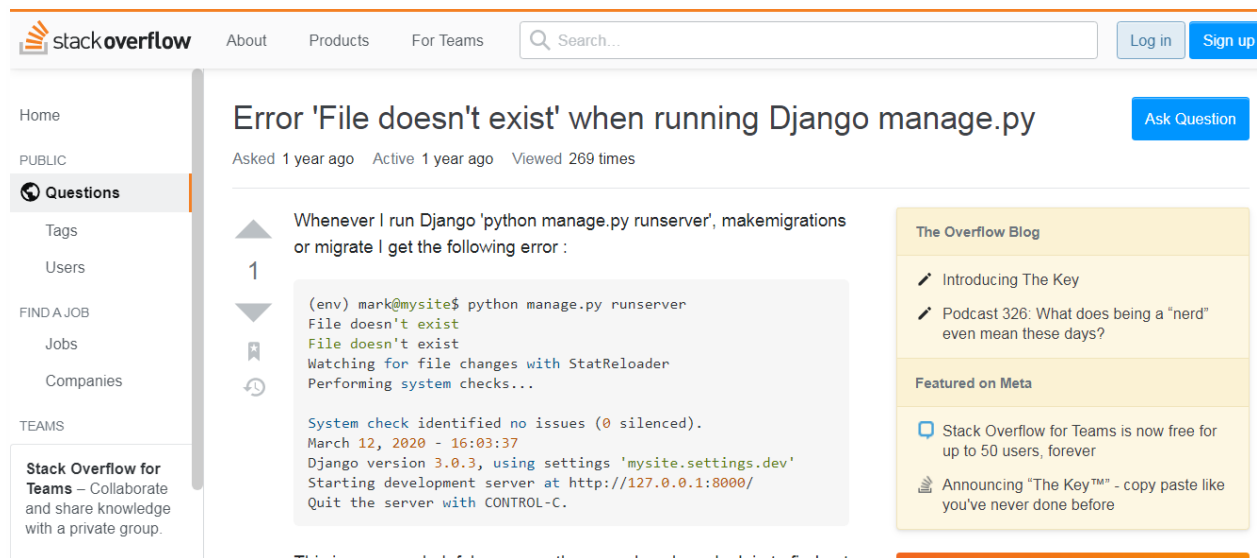
1. UseCase Diagram :

2. Class Diagram :

Mini-Mario

+velocity ,int

+Update
+gameover()
+startgame()
+checkthelevel
gameloop

Topscore

+score,int

+topscore(score).int

sendscore

Dragonthemonstar

+update ().

+velocityofdragon, int

Flames

+Flames_velocity ,int

update()

1

1

1

1..n
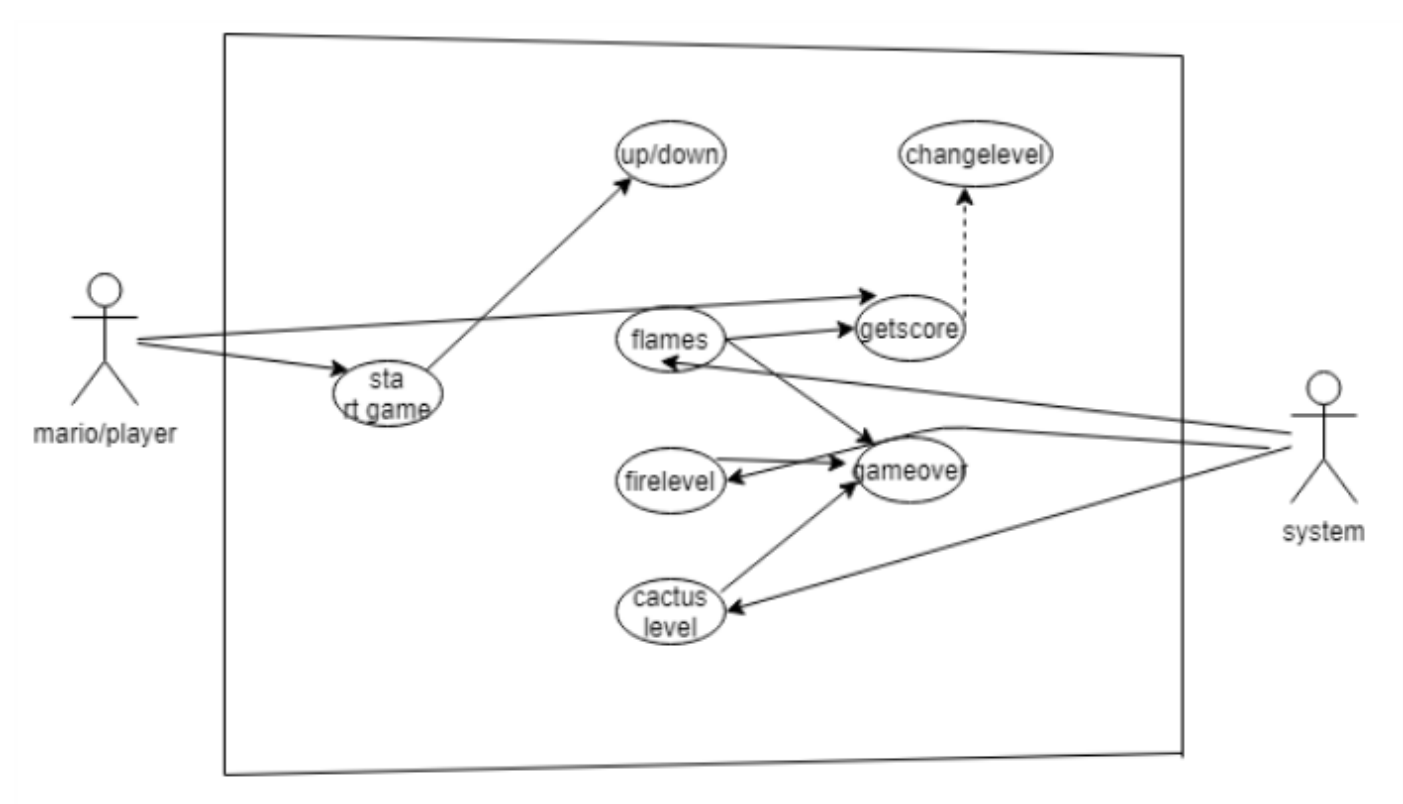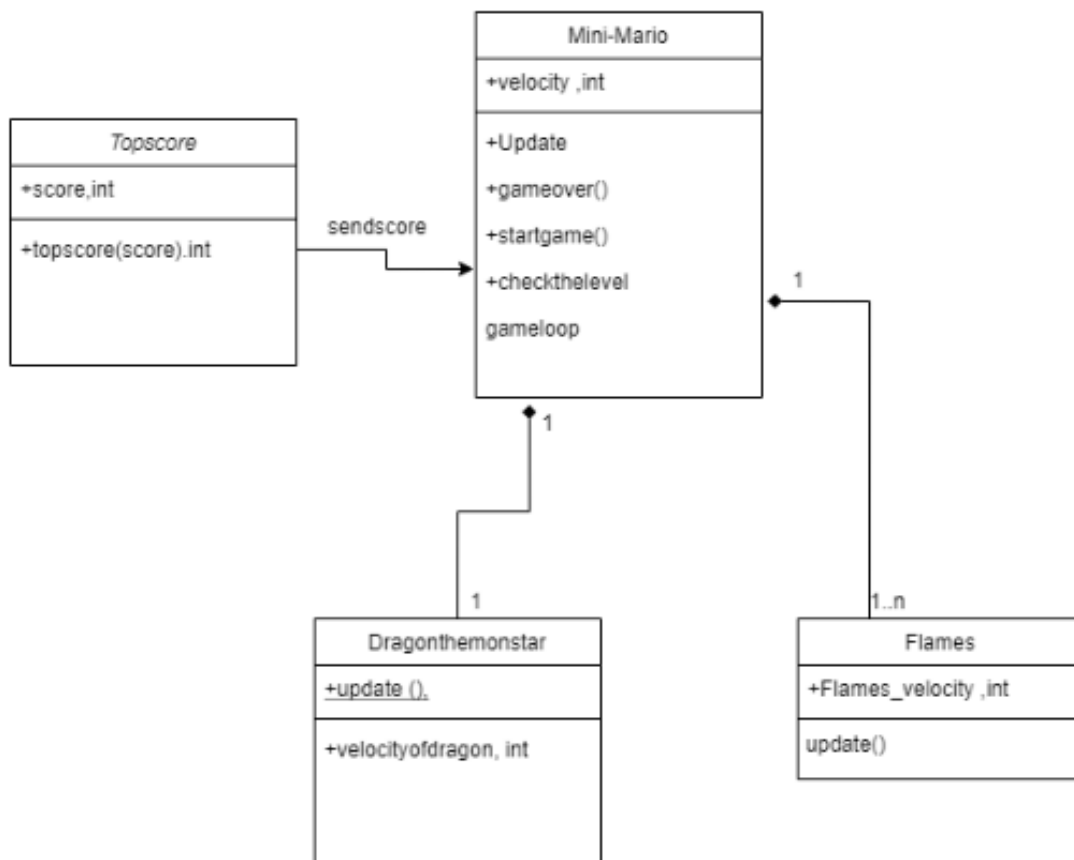
7. Risk Analysis

During Game development we face one most unique problem. When we run our project it says "manage.py isn't found". To solve the problem we take help of "**stackoverflow**" and from "**django documentation**".

Stackoverflow :
https://stackoverflow.com/questions/60656635/error-file-doesnt-exist-when-running-django-manage-py

Django Documentation : https://docs.djangoproject.com/en/3.1/ref/django-admin/

8. Final Project

Here are some images after completing the project.
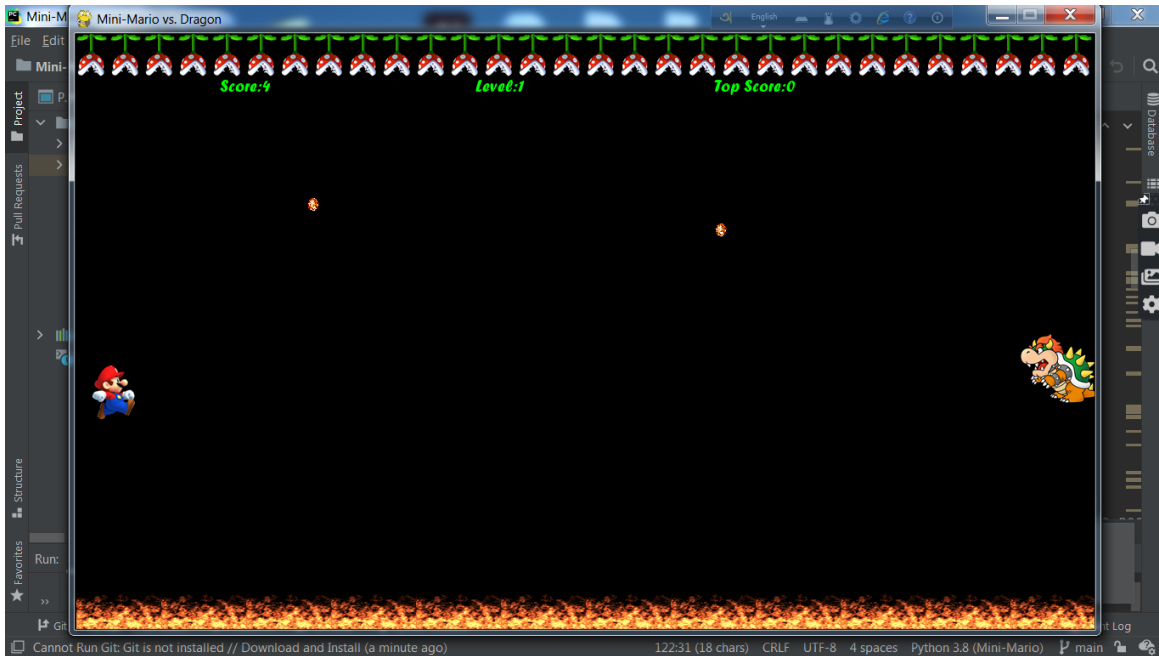
Fig-1 : starting view

Fig-2 : First level of the game
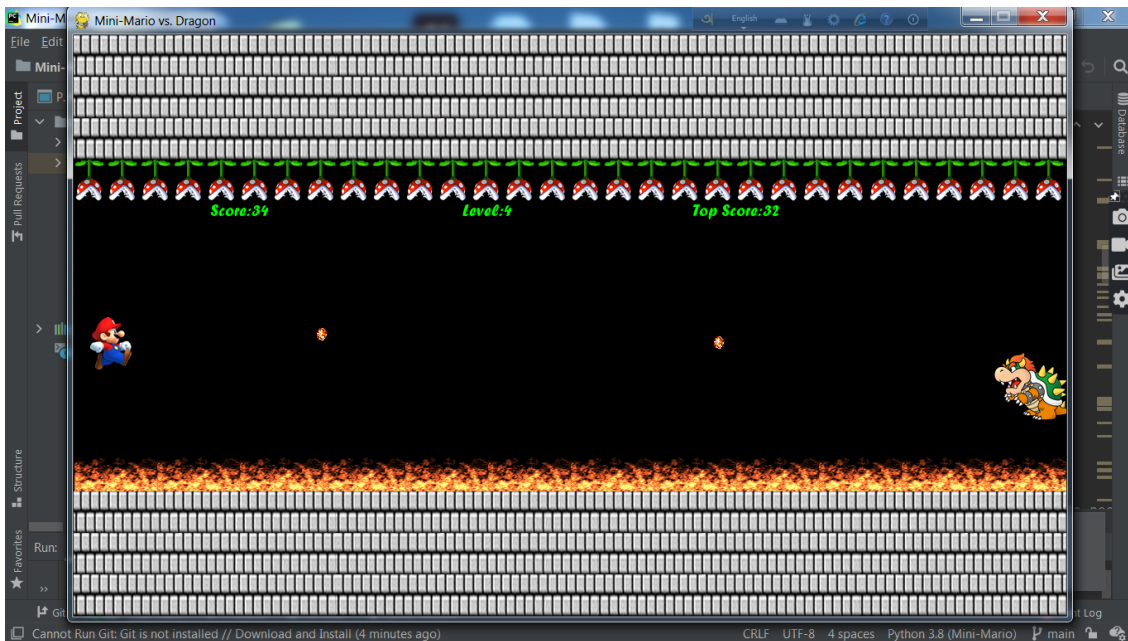
Fig-3 : level 4 of the game

Fig-4 : When game is over

9. **Testing and debugging**

We are working on a project "Mini-Mario game development" which is basically a game development project. Unfortunately we could not do the testing on our project. But we did our testing operation on a CRUD program. The CRUD program and the testing script are attached with the same file of this report. We make 20 different testing on that CRUD program.

Unittest Results

Start Time: 2021-04-03 14:41:15

Duration: 103.97 s

Summary: Total: 20, Pass: 17, Error: 3

__main__.Google Search	Status	
test_1	Pass	
test_10	Pass	
test_11	Error	View
test_12	Pass	
test_13	Pass	
test_14	Pass	
test_15	Pass	
test_16	Pass	
test_17	Pass	
test_18	Pass	
test_19	Pass	
test_2	Pass	
test_20	Pass	
test_3	Pass	
test_4	Error	View
test_5	Pass	
test_6	Error	View
test_7	Pass	
test_8	Pass	
test_9	Pass	

Total: 20, Pass: 17, Error: 3 -- Duration: 103.97 s

10. **Learning from this project**

From this development we learn some unique things. Some are-

- Team Work : we learn how to do a complete project with good teamwork and with good communications.

- Game development : we did not develop a game before. This was a kind of challenge for us. We face many failures and then we overcome and we successfully complete our project.
- Testing : We learn how to test a website with selenium testing.
- Pygame : we learn how to use pygame which is a library function of python. Pygame is a very efficient library.

11. **Process of deployment**

a. Clone the project from provided gitHub link
b. Check if "pygame" is installed or not. If not, install pygame by writing the command "pip install pygame".
c. Select "main.py" and run the program

Or,

You can use this link for deployment : Mini-Mario