## NON-SYLLABUS PROJECT REPORT

## ON

**Flappy Bird Game**

**Bachelor of Technology**



### **Poornima University, Jaipur**

### **Session: 2021-2022**

### **Submitted By:**

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# **CANDIDATE’S DECLARATION**

### **We hereby declare that the work presented in the major project report entitled “Flappy Bird game” is submitted by:**

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is in the fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science Engineering, Poornima University, Jaipur. The work has been found satisfactory, authentic of my own work carried out during my degree and approved for submission.

The work reported in this has not been submitted by me for award of any other degree.

Date : 6/4/2022 Name of Students:

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### CERTIFICATE

### This is to certify that the major project report entitled “Flappy Bird Game” is submitted by:

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students of I year II semester in partial fulfillment of the degree of Bachelor of Technology in Computer Science Engineering of Poornima University, Jaipur during the academic year 2021-2025. The work has been found satisfactory and is approved for submission.

### Guide name

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### ACKNOWLEDGEMENT

It is our privilege to express our sincerest regards to our project coordinator, **Mrs.Priya Kothari,** for his valuable inputs, able guidance, encouragement, whole- hearted cooperation and constructive criticism throughout the duration of our project. Many thanks to our project guide Mrs. Priya Kothari who has given his full effort in guiding the team for achieving the goal as well as his encouragement to maintain our progress in track.

We would like to express our hearts felt appreciation to all faculty members whose direct or indirect suggestions helped us to develop this project. We pay our respect and love to our parents and all other family members and friends for their love and encouragement throughout our career.

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### ABSTRACT

Flappy bird is a mobile game turned Web Variation in which a player controls a bird’s flight to refrain from colliding with obstacles. Tapping the keys for a longer period of time allows the bird to fly higher, while letting go causes the bird to fall down. This project will bring the mobile game to life by creating a web variant which is unprecedented. The FPGA will render an image of the bird flying through an environment, and display the flapping motion of the wings according to the player’s ability to tap the relevant keys. We will be imploring Lua Love2D framework for the implementation of a aforementioned game development. The necessary gaming design and development have been kept in mind while deploying the game features. We believe that this first attempt of the employment of Web frame application in a Mobile Based game will be an important step for a wider deployment in the research area of computer games.

The game is a side-scroller where the player controls a bird, attempting to fly between rows of green pipes, which are equally sized gaps placed at random heights, without coming into contact them. Each successful pass through a pair of pipes awards the player one point. If the player touches the pipes, it ends the game. The bird briefly flaps upward each time the player taps the key; if the key is not tapped, the bird falls due to gravity. The player is awarded with several milestones, such as a bronze medal if they reached twenty points, a silver medal from Forty points, a gold medal from Fifty, and a platinum medal from Hundred points. The achievements get stored in the collectible haul. Compatibility : Any system with Love2D framework installed can compile, execute and play this game.

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# Introduction

Our team have created a project(game) using the python language and with the support of our respected guide Mrs. Priya Kothari. As human nature seek for fun and entertainment most of the time.

Games fulfill the quota of entertainment in anyone’s life. Not only entertainment games help to develop the strategical mind, reflexes of mind, skills, challenging spirits, imaginations, and also motivate students to take risk, etc. But the progress that game does to our mind is not visible in one or two day, it has to be practiced on a regular or daily basis.

Game Engines can make the process of creating a game much easier and enable developers to reuse lots of functionality. It also takes care of rendering for 2D and 3D Graphics, physics and collision detection, sound, scripting and much more.

Some Game Engines have a very steep learning curve such as CryEngine or Unreal Engine. Yet, other tools are very accessible to beginners and some do not even need you to be able to write code to create your game, e.g Construct 2. The Unity Game Engine ranges somewhere in the middle, while it is beginner friendly, some popular and commercial games have been built using Unity (e.g. Overcooked, Superhot).

Game Development is the art of creating games and describes the design, development and release of a game. It may involve concept generation, design, build, test and release. While you create a game, it is important to think about the game mechanics, rewards, player engagement and level design. A game developer could be a programmer, a sound designer, an artist, a designer or many other roles available in the industry. Game Development can be undertaken by a large Game Development Studio or by a single individual. It can be as small or large as you like. As long as it lets the player interact with content and is able to manipulate the game’s elements, you can call it a ‘game’. Games nurture optimism and create positive emotions. Gaming teaches players how to deal with frustration and anxiety. Gaming promotes social skills; more than 70 % of the gamers play, either competitively or co-operatively, with a friend.

**Working on project**

This project took a lot of time because first we have to learn few concepts of gaming such as randomness, graphics, fps, etc. In python there’s a pre-defined library named pygame which involves a lot of functions which are proved to be really helpful while building our project.

As this is our first project, we face a major problem regarding code handling but this obviously improve our code management skills.

But being our first project we learn a lot of new things from this project as well as from our guide also who really taught us so much.

As this is a game so we learn a lot about game development and scope of it too.

**Result Analysis**

As a project we build a game using python which is running quite well. As we did our best to build this game and we were totally satisfied after running this game. There are still few minor errors which still needed to be fixed and we are working on it and planning to make it much better in the field of graphics and movements and mobility.

**Future Scope**

India is becoming a development hub for games, opening up job opportunities in the sector. Currently, close to 23000 gaming based job opening are available, with salary packages ranging from Rs 3 lakh to a little over Rs 40 lakh.

There is a wide and bright future in game design in India. In game development a person can bring his imagination in real life.

Estimating what the future scope of game development will be till we reach the year 2025 or any other? Yes, you should because to date, there are more than 3 billion users player games online (as per staistics) and this is enough to estimate that the future is bright and innovative as well. Furthermore, knowing about the trends associated with developing an action & real-time strategy game or any other will encourage you to develop your skills and abilities by virtue of which you can deal better with evolving challenges and risks in the gaming industry. Not only this, such trends give you some sense about the behavior and perception of the audience towards the particular games.

As a result, it becomes easier for you or your company to make the right decision that eventually enhance/improve the gaming experiences of the user playing games. Accepting gaming as an art from rather than a product is something that is philosophically emerging out as a trend nowadays. And it is obvious to think, “If such a norm accepted by people can set up long-term relationship with their preferences, tastes, and behavior that matter the most in their lives!!” Undoubtedly, this evolving trends through its social elements like in-game charts, push notification, activity feeds, and guilds; is day-by-day engaging thousands of users via a personal connection it artistically establishes with the nature and preferences of a user playing games supporting art-based content

The entry of metaverse take game development to another level because we can create whole

new world in three dimension with the help of VR/AR. 61% of the professionals we surveyed believe AR/VR will impact the future of game development.

Conclusion

As the games have lot of adverse positive effects on our mind and aur imagination this gives us the idea to develop a game. We chose python language for this project as this language has easy syntax and being a high level language it consists lot of pre-defined libraries which ease your work. Keeping the future scope of game development and the metaverse in our mind we decide to develop a small game and by using the library of python named pygame which contain a lot of functions related to game development. Our team and our respected guide done lot of hard work to run this program successfully. This project teaches me a lot of things related to game development, code handling and team management.

So, we thank my team, guide (Mrs. Priya Kothari), and all other references who help me to complete this project.