VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELAGAVI

A Mini Project Report

On

AIRCRAFT WAR GAME

Submitted in Partial fulfillment of requirement for the
COMPUTER GRAPHICS & IMAGE PROCESSING LABORATORY (21CSL66)

Bachelor Of Engineering
In
Computer Science & Engineering

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
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2023-24

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CERTIFICATE

This is to certify that project work entitled **" AIRCRAFT WAR GAME "**is a bonafied Work carried out by **M SRINIVAS REDDY (3VC21CS091) , K SREE DEEPA (3VC21CS077) , K V GOWTHAM (3VC21CS078)** of 6th Semester in Partial fulfillment of requirement for **COMPUTER GRAPHICS & IMAGE PROCESSING LABORATORY (21CSL66)** during the year **2023-24.**

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ACKNOWLEDGEMENT

I have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals and organizations. I would like to extend my sincere thanks to all of them.

I am highly indebted Mrs. Rajeswari RP for guidance and constant supervision as well as for providing necessary information regarding the project & also for support in completing the project.

I would like to express my gratitude towards the Staff members of RAO BAHADUR Y MAHABALESHWARAPPA ENGINEERING COLLEGE for their kind co-operation and encouragement which help me in completion of this project.

My thanks and appreciations also go to my friends in developing the project and people who have willingly helped me out with their abilities.

ABSTRACT

The video game industry is one of the largest and fastest-growing sectors globally, providing numerous job opportunities and catering to a diverse market. Since the 1950s, various video game genres have emerged to suit different tastes, with shoot-'em-up games being a prominent category. These games typically involve a player navigating through levels while avoiding or confronting obstacles such as enemies, environmental hazards, or projectiles.

Having spent countless hours playing various video games throughout my life, I have always been fascinated by game development. This passion led me to undertake the creation of my own game, a 2D shoot-'em-up titled "Aircraft War Game." Through this project, I aimed to understand the complexities of game design and development, learning how to create a fully functional game single-handedly.

For the Aircraft War Game, I employed several tools and technologies. I used **OpenCV** for image processing tasks, which include object detection, collision detection, and rendering. This choice allowed me to leverage powerful image manipulation capabilities to enhance the game's visual and interactive elements. In addition, I utilized **Python** as the primary programming language for implementing game mechanics, handling user input, and managing game states.

I designed various graphical assets for the game, including player aircraft, enemy ships, projectiles, and backgrounds. These assets were created using tools like **Inkscape** for vector graphics, ensuring a clean and scalable design. For sound effects, such as the firing of weapons and explosions, I used **Audacity** to record and edit audio, adding an immersive layer of feedback to the gameplay.

The result is a fully functional 2D shoot-'em-up game where players control an aircraft, engage in aerial combat, and navigate through challenging levels. This project has provided me with valuable experience in game development, particularly in integrating image processing with interactive gameplay. It has also significantly increased my motivation to continue exploring and creating in the realm of game design.

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