

Detailed Review about Street Fighter Game using Python

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ABSTRACT- This paper examines the varied cultural meanings of computer game play in competitive and professional computer gaming and live-streaming.

A fighting game is a genre of video game that involves combat between two or more characters. Fighting game combat often features mechanics such as blocking, grappling, counter-attacking, and chaining attacks together into "combos". Characters generally engage in battle using hand-to-hand combat—often some form of martial arts. The fighting game genre is related to, but distinct from, the beat 'em up genre, which pits large numbers of computer-controlled enemies against one or more player characters.

The controls for Final Fight consist of an eight-way joystick and two buttons for attacking and jumping respectively. Pressing the attack button repeatedly when attacking an enemy

Pressing the attack and jump buttons simultaneously allows the player to perform a special attack that strikes all surrounding enemies, but will drain a small portion of the player's health.

Enemies can be grabbed simply by walking into one of them. When an enemy is grabbed, the player can perform a grab attack by pressing the attack button or perform a throw by tilting the joystick left or right. A thrown enemy can be tossed at another for additional damage. Items such as weapons, health recovery items, and items awarding extra points can be picked up by standing over one and pressing the attack button. Weapons have limited uses and will disappear if the player is disarmed by an enemy too much or when the player moves to a new area.

I. INTRODUCTION

"Street Fighter" is a legendary video game that has left an indelible mark on the world of gaming. This iconic series, first introduced in the late 1980s, revolutionized the fighting game genre and quickly became a global phenomenon. With its memorable characters, intricate fighting mechanics, and competitive spirit, Street Fighter has captured the hearts of gamers for generations, making it a cornerstone of video

game history. In this introduction, we'll explore the origins, evolution, and enduring popularity of this influential game franchise.

Street Fighter is a very popular video game series made by Capcom. It has sold a lot of copies, with 52 million sold as of June 2023. It's the most successful fighting game series ever, making a lot of money, around \$12.2 billion, including sales of 500,000 arcade machines.

As the brainchild of Capcom, Street Fighter introduced players to a cast of diverse and unique characters, each with their own distinct fighting styles and special moves. The game's groundbreaking one-on-one combat system allowed players to go head-to-head in thrilling battles, combining strategy, reflexes, and precision

The well-liked arcade game led to a whole new kind of fighting games and created many new versions and related games. An arcade video game works by taking the player's actions through its buttons and joysticks, processing them using electronics or computers, and showing the results on a screen.

Street Fighter became unique because, back in the 1980s, most arcade game makers were making fighting and shooting games, so Street Fighter stood out. The original Street Fighter was a game where you moved from left to right and kicked and punched like in games such as Double Dragon or Final Fight. The main character you played as was Ryu, and a friend could play as Ken to fight enemies with martial arts moves.

Over the years, Street Fighter evolved and expanded, spawning numerous sequels and spin-offs, with each iteration bringing new features, characters, and gameplay mechanics. The franchise's enduring appeal can be attributed to its dedicated fanbase, competitive esports scene, and the iconic characters like Ryu, Chun-Li, and Guile

Let's dig deeper into Street Fighter. We'll check out how it affected culture, created a competitive gaming community, and still influences modern games. Come along as we explore

the history and changes in Street Fighter, a game that not only entertained but also played a big role in shaping today's gaming world.

Join us on this journey to uncover how Street Fighter impacted culture, fostering a global community of passionate gamers. Discover how this iconic game has stood the test of time, leaving a lasting imprint on the ever-evolving landscape of modern gaming.

II. OBJECTIVE

The main objective of the Street Fighter game is to defeat your opponent in one-on-one battles using a combination of martial arts moves, special abilities, and tactics. Players aim to reduce their opponent's character's health bar to zero while preserving their own health. The goal is to win matches and progress through the game's challenges, which may include facing various opponents and eventually defeating a final boss character.

Key challenges:

1 .Making the Game Quick: Getting the game to respond fast when you press buttons is a big challenge

2 .Balancing Graphics and Performance: Making the game look great while ensuring it runs smoothly on different types of devices, from powerful gaming PCs to less powerful consoles, can be tricky.

3.Background images:

The backgrounds create an immersive atmosphere that complements the intense one-on-one battles that define Street Fighter gameplay

4.Coding development:

We used Python Language because Python is a versatile language, creating a sophisticated game like Street Fighter typically involves integrating it with specialized game development tools and libraries to handle tasks efficiently.

Optimization python code must be optimized for performance to ensure the game runs well, especially on lower-end hardware

5 .Being Fun for Everyone: It's a challenge to make the game enjoyable for new players but also have enough depth for those who want to get really good at it.

III. DELIVERABLES

1.Executable Game: The playable game itself, which can be run on a computer or other compatible platforms

2.Character and Background Art: Graphics and artwork for characters, backgrounds, and game elements

3.Game Logic Code: Python code that handles character movements, attacks, health, scoring, and game rules.

4.User Interface (UI):Code and graphical assets for menus, score displays, health bars, and other in-game UI elements.

5.Documentation:Instructions, README files, or user guides explaining how to play the game, install any required libraries, and understand the game mechanics

6.Optimized Game: A version of the game that has been optimized for performance on various hardware configurations.

7.Source Code: The Python source code files that make up the game, allowing others to understand and modify the game.

IV. MOTIVE

1.Educational Purposes: Developing a simple Street Fighter game can be a great educational project to learn and practice programming skills, especially in Python. It provides hands-on experience in game development, which can be a fun way to enhance coding abilities.

2.Skill Improvement: Developing a game is an excellent way to improve problem-solving skills, as it involves tackling various technical and design challenges.

3.Entertainment: Ultimately, the motive behind creating a game is often the desire to entertain and engage players. Developing a Street Fighter game can be motivated by the joy of providing an enjoyable gaming experience.

V. SCOPE

The scope of this project will encompass the development of core gameplay mechanics, character creation, and the creation of a basic prototype for initial testing. The primary focus will be on a single game mode and character, with the potential for expanding to additional characters and game modes in the future.

VI. CONSTRAINTS

Programming Skills: Limited experience and expertise in Python programming and game development could restrict the complexity and features that can be implemented in the game. It may also lead to challenges in creating smooth character animations, responsive controls, and advanced game mechanics.

VII. METHODOLOGY

Following is the methodology involved in creating a street fighting style video game using pygame:-

1. Concept and Design:

- Define the concept and theme of your game, including characters and environments.
 - Create character profiles with abilities and moves.
 - Design the game's background.
 - Outline the game mechanics and controls, considering keyboard input for simplicity.
2. Market Research:
- Study existing street fighting games to understand the genre and competition.
 - Identify your target audience and their preferences.
3. Python and Pygame Setup:
- Install Python and Pygame on your development environment.
4. Programming:
- Develop the core game mechanics:
 - Character movement, collision detection, and physics.
 - Implement attack and defense systems.
 - Create a scoring system.
 - Implement a user interface (UI) for menus, health bars, and score displays using Pygame's drawing functions.
5. Art and Animation:
- Design background images.
 - Use Pygame to display and animate these images within the game.
6. Sound and Music:
- Add sound effects and music using Pygame's mixer module.
 - Implement sound cues for various in-game events.
7. Testing and Balancing:
- Conduct playtesting to identify and fix bugs, glitches, and balance issues.
 - Adjust character abilities, damage values, and game difficulty.
8. Multiplayer Features:
- Implement local multiplayer modules.
9. Marketing and Promotion:
- Create a marketing plan to build anticipation for your game.

VIII CONCLUSION

In conclusion, the development and realization of this street fighter game mark a significant milestone in the realm of gaming and interactive entertainment. Through a combination of creativity, technical expertise, and unwavering dedication, we've brought to life a captivating and engaging gaming experience.

This game harnesses cutting-edge technology and innovative game design to deliver a thrilling and immersive gameplay adventure. It has been crafted with the utmost care and precision, aiming to provide players with an unforgettable and action-packed journey. As we move forward, the future of this street fighter game holds the promise of continuous improvement and expansion. There are still challenges to overcome, including refining gameplay mechanics, enhancing graphics and sound, and addressing any community feedback and bug fixes. The commitment to excellence in game development remains steadfast. As we look ahead, the potential for growth and innovation in the field of gaming is limitless. With your support and enthusiasm, we are confident that this street fighter game will continue to play a pivotal role in shaping the future of gaming, creating memorable moments and thrilling challenges for all who embark on this adventure. Thank you for being a part of this exciting journey.

IX. ACKNOWLEDGEMENT

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A deep well of appreciation goes out to the gaming community and fellow game developers who have blazed the trail in the realm of street fighter games. Your relentless commitment to crafting captivating and exhilarating gaming experiences has served as an unending wellspring of inspiration.

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