

## **2D GAME DEVELOPMENT USING UNITY ENGINE**

### **“MINOTSCAPE”**

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#### **ABSTRACT:**

2D game development involves the creation of games that exist within a two-dimensional space, where characters, objects, and environments are represented using two axes: X and Y. This medium offers a diverse range of gameplay possibilities, from side-scrolling adventures to top-down exploration and puzzle-solving experiences. As we grown by playing and enjoying 2D games from our childhood, we always wondered how these games work .This is why the reason we have planned to develop 2D game in order to learn the process.

The realm of video games has witnessed a profound transformation over the decades, marked by the evolution of graphics, gameplay mechanics, and player experiences. This research delves into the intricate world of 2D games, exploring their enduring relevance and innovative contributions to the gaming industry. Through an extensive analysis of historical and contemporary examples, this study examines the artistic, technical, and design aspects that have shaped the trajectory of 2D gaming.

The objectives of this research are threefold: to uncover the reasons behind the sustained popularity of 2D games in an era dominated by 3D graphics; to investigate the utilization of advanced technologies and techniques in enhancing the visual appeal and interactivity of 2D games; and to highlight the unique design challenges faced by developers in creating compelling gameplay within the constraints of a two-dimensional space.

## INTRODUCTION:

Welcome to the captivating world of Minotscape, a thrilling 2D adventure that will sweep you into a realm of excitement and challenge. Get ready to embark on an unforgettable journey that combines immersive gameplay, stunning visuals, and an engaging storyline that will keep you hooked from start to finish.

In Minotscape, players will find themselves transported to a meticulously crafted universe where creativity knows no bounds. As you step into the shoes of our protagonist, you'll face a series of trials and triumphs that will test your skills, strategic thinking, and quick reflexes. Whether you're a seasoned gamer or new to the world of gaming, Minotscape offers an experience that's both accessible and deeply rewarding.

Explore intricately designed levels that are rich with detail, each offering a unique set of challenges and secrets waiting to be uncovered.

Unleash your inner explorer as you traverse through lush landscapes, mysterious dungeons, and vibrant cities, all brought to life with vibrant artwork and seamless animations.

But Minotscape is not just about the gameplay – it's about storytelling that tugs at your heartstrings

Immerse yourself in a gripping narrative woven with intricate characters, unexpected plot twists, and a sense of wonder that will keep you invested in the outcome. Your choices will matter, influencing the course of events and shaping the world around you.

Whether you're seeking to conquer daunting foes, solve mind-bending puzzles, or simply lose yourself in a captivating digital realm, Minotscape has it all. So, gear up, sharpen your wits, and get ready to dive into an unforgettable 2D gaming experience that will leave you craving for more. The journey awaits – are you ready to embark on it?

## GAME CONCEPT:

The main character of this game is a bull named Minot. He was a famous chef in a famous restaurant in his world. His restaurant is one of the biggest and successful restaurants in the city and there were a lot of enemies for him who always envied about the success of Minot.

One of his main enemies was another bull named Tonim who also a chef was running a restaurant right opposite to the Minot's restaurant. He always wondered and envied about the success and secret of Minot's cooking and his restaurant.

Tonim very badly wanted to be the number one chef in the city and also he wanted his restaurant to be the best in his city. Mainly he just wanted to be better than Minot. So, Tonim planned to make

Minot disappear from the city. As he has also been to witcher school in his childhood, he knows some very bad spells. One of his best spells was making people disappear. Tonim decided to use his spell to make Minot disappear.

As he wished, Tonim used his spell on Minot, and Minot disappeared. But Minot was actually taken to another unknown world where he got stucked.

Minot has to find several amount of hidden treasures which contain magical statue. The magical statues help Minot to open the exit portal back to his own world.

The main objective of the game is to help Minot to get out of the spell and take him to his world safely.

## UNITY ENGINE AND ITS FRIENDLY INTERFACE:

Unity Engine has emerged as a cornerstone in modern game development, enabling creators to craft immersive experiences across a multitude of platforms. At the heart of this powerful tool lies its user interface (UI), a gateway through which developers navigate the intricate landscape of game design, scripting, and asset management. This article provides a comprehensive exploration of Unity's UI, delving into its components, functionalities, and user experience.

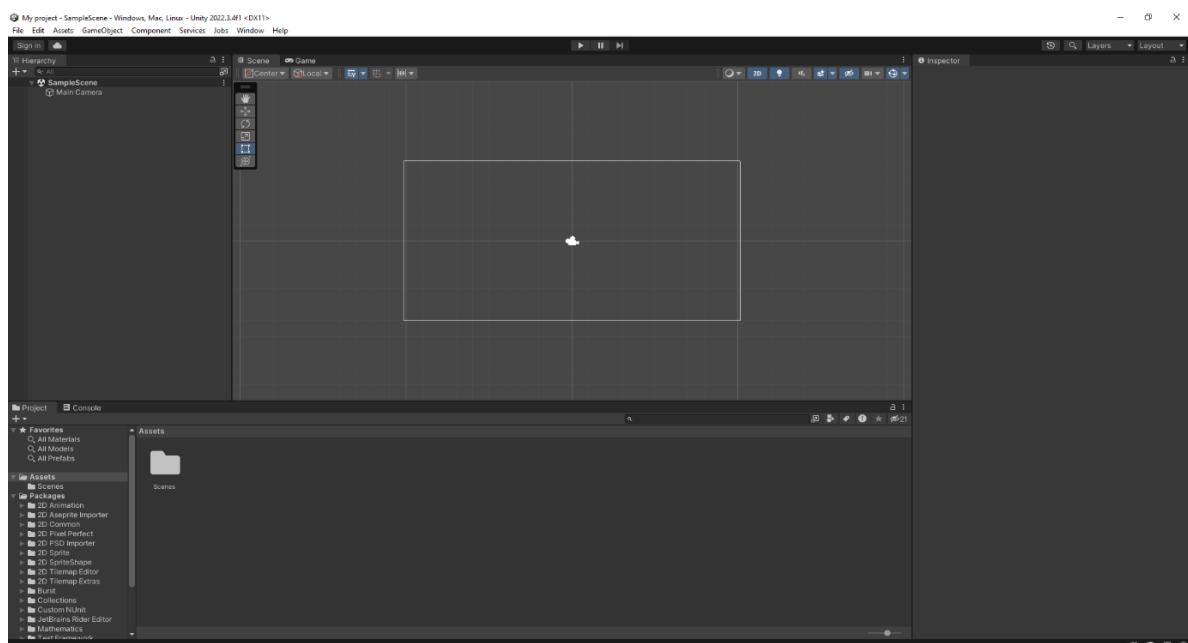
The article begins by introducing the core elements of Unity's interface, including the Scene view, Game view, Hierarchy, Project window, Inspector, and more. Each element is dissected, highlighting its purpose and role within the game development workflow. Through a detailed analysis, readers gain an understanding of how these components collaborate to foster a streamlined creative process.

Beyond the fundamental components, the article delves into the extensibility of Unity's UI. It investigates the integration of custom tools,

extensions, and asset packages that further enhance productivity and cater to specific project requirements. This examination unveils the flexibility that Unity's UI affords, allowing developers to curate an environment tailored to their creative needs.

Furthermore, the article addresses the significance of visual aesthetics within the UI realm. It scrutinizes the role of themes, layouts, and color schemes in optimizing the user experience. By exploring the ways in which developers can personalize their workspace, readers are empowered to create an environment that resonates with their workflow and style.

An integral aspect of Unity's UI is its scripting interface. This article delves into the integration of the Visual Studio Code editor, showcasing the seamless transition from coding to implementation. By illustrating how the scripting environment synchronizes with Unity's UI, readers gain insights into the synergy between coding and design

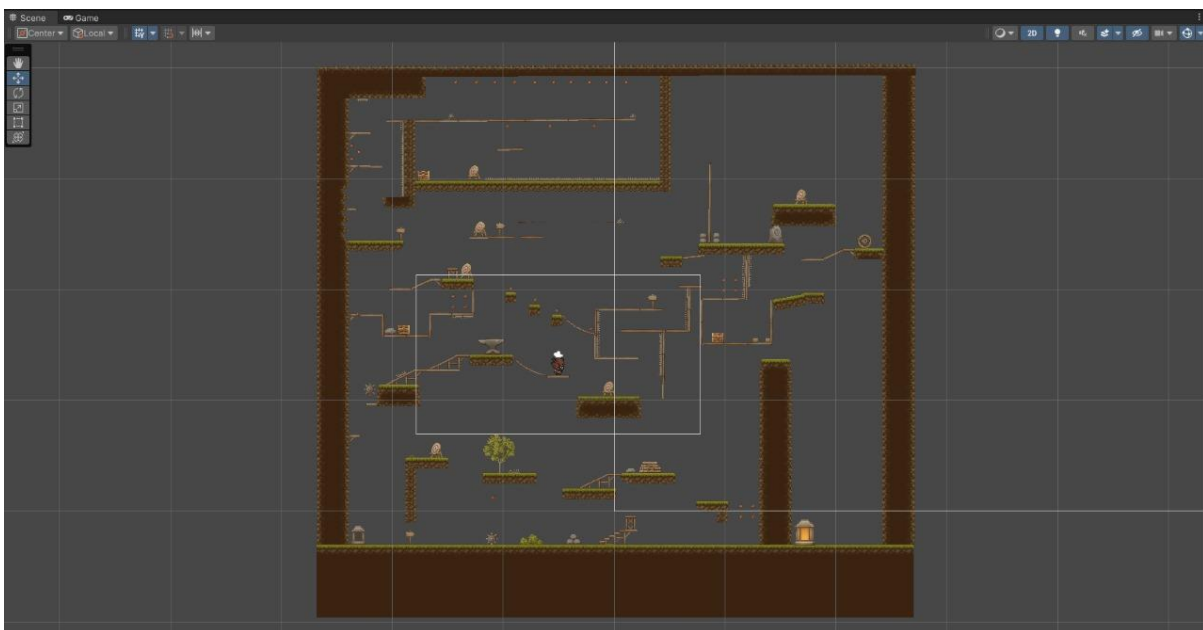


The article culminates in a discussion about best practices for utilizing Unity's UI effectively. It offers tips for managing complex projects, optimizing workspace organization, and staying up to date with Unity's evolving UI features. With these insights, developers are equipped to harness the full potential of Unity's UI for more efficient and successful game development endeavors.

newcomers and experienced developers seeking to master Unity's interface and unlock its vast creative potential.

In conclusion, the article underscores the pivotal role of Unity Engine's UI in shaping the landscape of contemporary game development. By comprehensively dissecting its components, extensibility, aesthetics, and scripting integration, this article provides a valuable resource for both

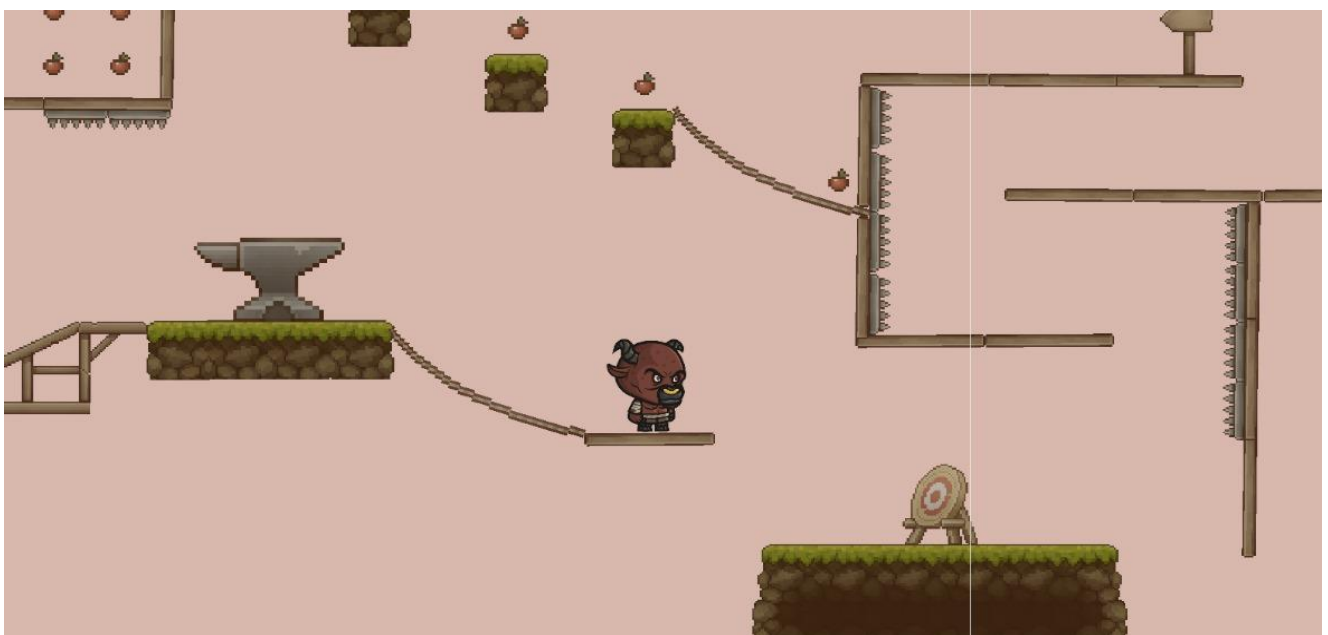
## MAP OVERVIEW:



**GAME CHARACTER:****MINOT (CHEF)****CONTROLS:**

The controls of this game are very simple as it is a basic 2D game which has a character that moves left and right and jumps. For the movement of left, Press either left arrow or 'a' button. For the movement of right, Press either right arrow or 'd' button and finally to jump, Press 'Spacebar'. In

this game the jumping is designed such that if you press spacebar for a long time the character jumps higher, if you press spacebar for a short time the character jumps lower.

**POV OF GAME:**

Overall the game will be smooth to play and it is only available on pc and it can be played through our website.

The game will be interesting to play and if the game gets good recognition the second part of the game will be released soon...

## CONCLUSION:

As we conclude, it's evident that the successful development of a 2D game through Unity is a multidimensional process that combines creativity, technical skill, and user-focused design. This paper's journey highlights the significance of collaboration, adaptability, and a deep understanding of game design principles. With the ever-evolving landscape of technology and player expectations, the lessons learned from this endeavor can serve as a foundation for future game development projects and contribute to the advancement of the gaming industry as a whole.

Furthermore, this project's outcomes extend beyond the immediate scope of game development. The skills acquired in Unity, such as programming logic, asset management, and user interface design, have practical applications in

various domains, from interactive educational tools to simulation software. The iterative development process employed here can be a valuable model for approaching complex problems and refining solutions in other creative and technical endeavors.

Additionally, the project underscores the power of storytelling within games. The narrative elements woven into the game's mechanics and environment contributed to player engagement and emotional investment. This fusion of gameplay and storytelling demonstrates the potential for games to convey messages, explore themes, and evoke emotions in a unique and immersive way.

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