**PLAYFORGE**

Project report submitted in partial fulfillment of the requirement for the degree of Bachelor of Technology

In

# Computer Science and Engineering

By

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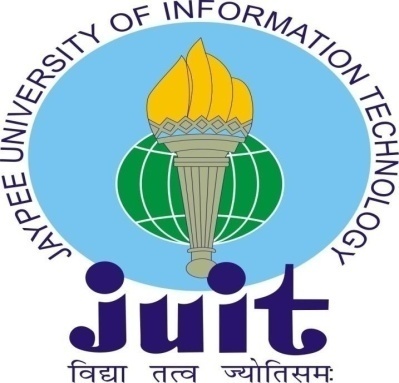
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1. **Introduction**

The PlayForge project is a web-based gaming platform designed to bring together and understand the implementation of multiple classic games. The platform serves as both an entertainment tool and an educational resource, showcasing fundamental concepts of game development while providing users with an engaging and interactive experience.

The project uses modern web technologies such as HTML, CSS, and JavaScript to create a dynamic and responsive user interface. Games are dynamically loaded into a central container, allowing users to seamlessly switch between different games without navigating away from the platform. The current version of PlayForge includes games such as Tic Tac Toe, Rock Paper Scissors, Memory Game, and Snake Game, with the potential for future expansions like Flappy Bird, Whack-a-Mole and Hangman.

The platform is designed to be lightweight, accessible, and easy to use, making it suitable for users of all ages and technical backgrounds. By combining simplicity with functionality, PlayForge demonstrates how modular design principles can be applied to create scalable and maintainable web applications.

1. **Objective**
2. Development of a Multi-Game Platform
3. Demonstration of Game Development Skills
4. Learning and developing web dev skills
5. Learning the logic behind classic games
6. **Motivation**
7. Education value: The project provides hands on experience with modern web developing with HTML, CSS, and Javascript.
8. Nostalgia and Entertainment: It is fun to see the logic and technology behind the classic games.

1. **Project Methodology**
2. Requirement Analysis
3. Conducted a thorough analysis of the games to be included in the platform, focusing on their rules, mechanics, and user interactions.
4. Defined the functionality and features for each game, ensuring they align with the overall objectives of the project.
5. Design Phrase
6. Designed the layout for the navigation bar, game container, and popup messages to ensure consistency across all games.
7. Planned the CSS styles to maintain a cohesive look and feel throughout the platform.
8. Development Phrase
9. Used html for structuring the content and dynamically loading games into the #game-container
10. Applied CSS for styling the interface, ensuring a clean and professional appearance.
11. Implemented Javascript for game logic, event handling, animations, and dynamic content updates.
12. Testing and Debugging
13. Performed individual testing for each game to identify and fix bugs, ensuring individual functionality before integration.
14. Conducted integration testing to verify smooth transitions between games and proper functioning of shared components
15. Deployment
16. Hosting the project on a web server or platform like GitHub Pages for public access.
17. Future enhancement
18. Exploring more games to be added on the website.
19. Identifying areas for performance optimization.
20. **Outcomes**

1. A Fully Functional Multi-Game Platform.

2. Dynamic and Responsive User Interface

3. A scalable project that can integrate more games in future

4. Served as a good educational project

**References**

1. W3Schools, “CSS Responsive Web Design (RWD),” *W3Schools.com,* [Online]. Available: <https://www.w3schools.com/css/css_rwd_intro.asp>.

2. W3Schools, “JavaScript Tutorial,” *W3Schools.com,* [Online]. Available:  [https://www.w3schools.com/js/default.asp](https://www.w3schools.com/css/css_rwd_intro.asp) .