Bureau of Indian Standards
The National Standards Body of India

BIS HACKATHON

Title: Design and development of a platform for organizing online activities/games to develop interest, knowledge and awareness on Indian Standards and its importance for ensuring quality and safety among the general public/BIS stakeholders.

मानक: पथप्रदर्शक:

Presented by

VCHAMPS

IDEA

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Our project is an **immersive**, web-based interactive game designed to raise awareness about the **Bureau of Indian Standards (BIS)**. Upon entering the game, users are transported into a **dynamic 3D** block-style environment, where they navigate a vehicle through a designated area. As they explore, players interact with various **checkpoints**, each offering key insights into BIS standards. Through a blend of informative content and **engaging videos**, players will learn about essential topics like quality control, safety regulations, and consumer protection—all while enjoying a fun and **interactive** experience.

Background

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- The Bureau of Indian Standards (BIS) is the national standards body of India, responsible for setting **quality**, **safety**, and performance standards for various products and services.
- These standards play a crucial role in ensuring consumer safety, quality assurance, and the overall well-being of society.
- However, many people are not aware of the importance of these standards or how they impact daily life. To bridge this knowledge gap, our project aims to educate people about BIS in a fun and interactive way.
- By using a **3D game-based** approach, we hope to make learning about standards engaging, especially for students and young adults, who are the future drivers of quality and safety.

Approach

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- Create a **3D Block**-like environment using a **Three.js** and **WebGL** for the website, where users can drive a car around a limited area.
- Design the map with checkpoints where users can learn about different BIS standards.
- Add educational content at each **checkpoint,** including text descriptions, images, and short videos explaining various BIS standards.
- **Gamify** the learning experience by rewarding users with **points or badges** for visiting all the checkpoints and engaging with the content.
- Host the game on a website, making it easily accessible to anyone with an internet connection.
- Optimize the site for quick loading to ensure a smooth and enjoyable user experience.
- Gather user feedback during testing to make the game more engaging and educational.
- Update the game with additional content or features based on feedback, such as **quizzes** or **mini-games** to reinforce learning.

Implementation Plan

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Phase 1: **Research and Platform Design (2 Weeks):**

- Research BIS activities and user needs to align content.
- Design a scalable architecture for a 3D web-based environment.

Phase 2: Prototype Development (3-4 Weeks):

- Develop the initial game version with a 3D block-style environment and vehicle navigation.
- Integrate checkpoints with informative content and videos on BIS standards.

Phase 3: Testing and Refinement (2 Weeks):

- Test gameplay with users for feedback on interactivity and educational content.
- Refine user experience, game mechanics, and content presentation.

Phase 4:Full-Scale Development and Deployment (4-6 Weeks):

- Finalize features like reward systems, real-time feedback, and checkpoint updates.
- Deploy the game with campaigns tied to BIS events.

Phase 5: Post-Launch Maintenance (Ongoing):

- Implement regular content updates, new checkpoints, and continuous user support.

Technical Approach

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Three Js
Three.js will serve as the core framework for rendering and managing the 3D environment, allowing us to create the block-like world, objects, and interactive elements.

React
React will be utilized for building the user interface of the web-based game, allowing for efficient rendering and dynamic interaction

WEB GL
WebGL enables real-time, hardware-accelerated 3D rendering directly in the browser, making the interactive environment possible.

MongoDB will serve as the database to store user data, game progress, and content related to BIS standards

Tailwind CSS
Tailwind CSS is a utility-first framework that simplifies styling by providing pre-built classes, enabling fast and responsive design for the user interface in the project.

JavaScript will be used for implementing interactive features and game logic, enabling real-time updates

Node.js will be used as the backend to handle server-side logic, manage APIs, and support real-time interactions in the web-based game.

Blender will be used for creating and animating 3D models and assets,

End Goal

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Desired Outcome: The primary goal is to develop a platform that attracts and educates more than **5 lakh participants** on Indian Standards, with a focus on making **learning engaging and fun**. The platform will enable users to gain knowledge on BIS activities such as standardization, conformity assessment, and testing, with a potential increase in quality consciousness across various stakeholder groups.

Impact: This platform has the potential to create a significant impact by **spreading knowledge** about the importance of quality standards and BIS-certified products. It will serve as a continuous learning resource, not just on special occasions but as a perpetual awareness tool.

Future Scope: The platform can be scaled to include more activities, educational content, and possibly integration with educational institutions and industries for wider outreach. Future developments can include advanced interactive technologies such as **VR (Virtual Reality)** to simulate testing environments or product quality assessments.

Our Team

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THANK YOU