RIGHTS QUEST: SCHOOL EDITION

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Abstract - This report presents 'Rights Quest', an innovative digital platform designed to improve legal literacy among Indian adolescents aged 14-16. Recognizing the gap in engagement and understanding in traditional legal education, this project offers a gamified and interactive learning environment tailored for young learners. The platform's primary goals are to bridge accessibility gaps across varied socio-economic backgrounds and empower youth with knowledge of their legal rights.

'Rights quest' features interactive 3d scenarios, decision-making exercises, and a star-rating system to enhance engagement and knowledge retention. These elements are crafted to simulate real-life legal situations, making learning practical and relatable. The report also delves into the technical and operational aspects of the project, highlighting considerations for cultural and linguistic diversity, user experience design tailored for minors, and stringent data security measures.

Index Terms - socio-economic, linguistic diversity, minors', legal rights, simulate.

I. INTRODUCTION

1.1 Motivation/Objective

The initiative, "Empowerment through Education," has a primary objective of creating an interactive and engaging gamified platform specifically tailored for Indian children aged 14-16. This platform aims to educate them comprehensively about their legal rights. The ultimate goal is to arm these young individuals with the knowledge and tools necessary to advocate for themselves and others, thereby instilling a sense of responsibility and empowerment within them. Looking ahead, the long-term vision is to nurture a generation that is not only legally literate but also confident in their rights and proactive in addressing social justice issues. The second objective, "Bridging the Knowledge Gap," seeks to tackle the prevalent lack of awareness among children regarding their legal rights and the legal processes in India. This objective emphasizes inclusivity, ensuring that the platform remains accessible and engaging for children from diverse socio-economic backgrounds. Lastly, the initiative aims to foster active citizenship by encouraging children to actively participate in legal processes and social justice initiatives. This approach lays the groundwork for informed and responsible citizenship among the youth, contributing to a more equitable and just society.

1.2 Major Challenges

The project encompasses several key challenges and corresponding approaches to address them effectively. Firstly, in "Creating Engaging Content," the challenge lies in crafting educational material that is both informative and captivating for the targeted age group. This is tackled through the strategic use of gamification techniques, interactive scenarios, and relatable storytelling to ensure that learning about legal rights becomes an interesting and memorable experience. Secondly, "Cultural and Linguistic Diversity" presents a challenge due to India's rich linguistic and cultural landscape. The approach here involves offering multilingual support and culturally sensitive content tailored to resonate with children from diverse regions and backgrounds. Thirdly, "Accessibility and Inclusivity" is critical to ensure the platform reaches children from all socio-economic backgrounds, including those with limited access to technology. To address this, the project adopts strategies such as low-bandwidth optimization, offline capabilities, and forging partnerships with schools and community centers for wider outreach. Lastly, in "Measuring Impact," the challenge revolves around effectively evaluating the platform's impact on children's understanding and application of their legal rights. This is tackled through the integration of feedback mechanisms, quizzes, and user engagement analytics to assess learning outcomes and gauge the platform's effectiveness in achieving its goals. Through these strategic approaches, the project endeavors to overcome various hurdles and successfully empower Indian children with essential legal knowledge and skills.

II. LITERATURE REVIEW

2.1 Observations on Existing Work

Across various apps such as "Child Rights [1]" and "Bal Suraksha [4]," common trends emerge in their educational approaches. One prevalent feature is the utilization of article-based learning, observed in both applications. While this method provides informative content, it may not entirely engage the younger demographic, potentially limiting its effectiveness. Another common trend highlighted in "Sishu Suraksha by ASCPCR [3]" is the emphasis on facilitating complaint lodging mechanisms, which is undoubtedly crucial for addressing violations. However, this focus on complaints may not adequately cover broader educational aspects concerning rights. These trends underscore the importance of balancing informative content delivery with interactive and engaging approaches to effectively educate and empower users, particularly children, about their rights.

Two significant gaps have been identified within existing apps catering to child rights education. Firstly, there is a noticeable absence of interactive and engaging elements aimed at improving learning and retention, particularly crucial for the targeted age group of 14-16 years. The lack of such features hinders the effectiveness of these apps in fully capturing and maintaining the attention of their users. Secondly, while these apps address specific aspects such as complaint filing or raising awareness of rights, they fall short of providing a comprehensive education approach. A holistic strategy that combines awareness-building, educational content, and actionable guidance is lacking. This comprehensive approach is essential for equipping young individuals with a thorough understanding of their rights and empowering them to navigate legal processes effectively. Therefore, bridging these identified gaps is imperative for the development of more impactful and effective tools for child rights education.

There exists considerable potential for enhancing existing child rights education apps through various avenues. Firstly, the integration of gamified elements using Unity, as proposed for "Child Rights [1]" and "Bal Suraksha [4]," holds promise in revolutionizing the learning experience. This approach has the potential to make the educational process more immersive and enjoyable for users. Secondly, transforming static, article-based content into interactive stories or scenarios presents an opportunity to significantly boost user engagement and information retention. By making the learning process more dynamic and participatory, this strategy can enhance the effectiveness of these apps in conveying essential child rights information. Finally, by improving support systems such as FAQs, akin to "Sishu Suraksha by ASCPCR [3]," these apps can become more user-friendly and informative. This enhancement would facilitate better understanding and navigation of child rights issues, ultimately empowering users to advocate for themselves and others more effectively. Embracing these potential improvements can lead to the development of more impactful and user-centric child rights education platforms.

2.2 Literature Related Existing work

1. Child Rights [1]

The Mobile Seva app, last updated in September 13, 2015, is designed with the aim of informing children about their rights, with a primary focus on raising awareness. However, its effectiveness is hindered by its heavy reliance on article-based learning methods, potentially limiting engagement, especially among younger audiences. To address this limitation, improvements could be made by implementing an interactive, choice-based game using Unity. This would transform the learning process, making it more engaging and interactive, thereby enhancing the overall user experience and effectiveness of the app.

2. Sishu Suraksha by ASCPCR [3]

Authored by Palash Lahan and last updated on January 1, 2020, the app is dedicated to tackling the gap in child rights awareness specifically within Assam. Its core function is to aid users in filing complaints regarding violations of child rights. However, the app's approach primarily revolves around handling complaints, potentially limiting its effectiveness in fostering comprehensive learning or awareness. To enhance its utility and user experience, it is recommended to develop a more responsive and informative FAQ section. This improvement would better equip users with guidance on understanding and addressing various child rights issues, thereby bolstering the app's overall effectiveness in advocating for child welfare.

3. Bal Suraksha [4]

Developed by Mobile Seva and last updated in October 2023, this app serves the crucial purpose of preventing child abuse through the provision of guidelines, safety rules, and emergency contact information. Despite its noble intent, the app shares a limitation with "Child Rights [1]" in its reliance on article-based methods for raising awareness, which may not effectively engage its intended audience. To mitigate this limitation and enhance user

engagement, it is recommended to introduce an interactive, choice-based game utilizing the Unity engine. This strategic enhancement would transform the dissemination of information, making it more accessible and engaging for users, thus bolstering the app's effectiveness in combating child abuse.

III. PROPOSED FRAMEWORK

3.1 Problem Definition

In India, there's a significant gap in legal literacy among children, especially in the age group of 8 to 16 years. This lack of awareness regarding their legal rights leads to challenges in self-advocacy and limits their participation in legal and social justice processes. The need to address this gap is crucial for fostering an empowered and informed young citizenry.

The core problem is the lack of an engaging, informative, and accessible platform that educates children in India about their legal rights. Current methods of legal education for children are often either too complex, text-heavy, or not adequately engaging, resulting in low levels of legal literacy and awareness among this demographic.

Engagement Gap: Traditional methods of legal education fail to engage the diverse and dynamic age group of 8 to 16 years.

Accessibility and Inclusivity: Existing platforms may not be accessible or relevant to all children, especially considering India's vast socio-economic and cultural diversity.

Empowerment and Advocacy: There is a need for a platform that not only educates but also empowers children to advocate for themselves and others in legal matters.

To develop a gamified, interactive platform specifically designed for children aged 8 to 16 in India, which Educates them about their legal rights in an engaging, age-appropriate manner. Empowers them to stand up for themselves and others, enhancing their capacity for self-advocacy. Increases their participation in legal processes, thereby fostering social justice and equity.

Children's Rights in School: (Aiming to complete 3 levels)

- Freedom of Speech and Expression
- Freedom to Learn and Make Mistakes
- Protection from Abuse

The project focuses on a gamified educational platform for Indian children aged 14-16, designed to teach them about their legal rights in a school context. The game will have various levels, each highlighting a different right through 3D interactive scenarios. Players will engage in decision-making and puzzle-solving tasks to understand these rights. Upon level completion, a Candy Crush-like star rating system will provide feedback on their performance.

The game going to offer replay ability feature for score improvement and content mastery.

It aims to be inclusive and accessible, supporting diverse backgrounds and languages, and incorporates social elements like score sharing and collaborative problem-solving, encouraging community and collective learning.
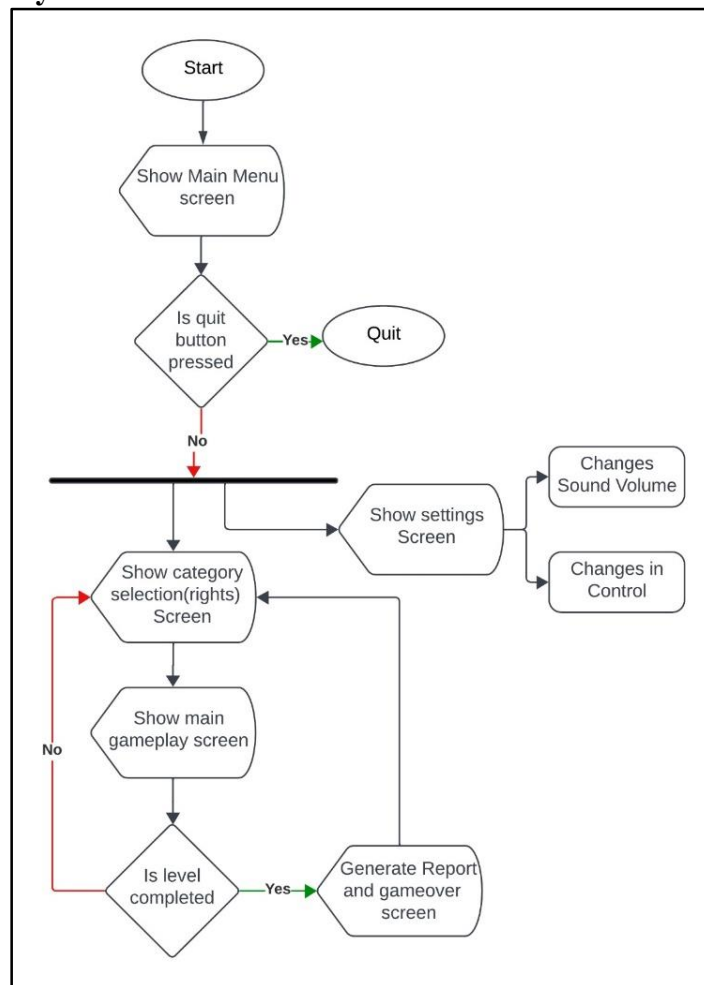
3.2 Features of Proposed System

Fig 1: Proposed System and flow of the game

Proposed System Architecture

The proposed educational game aims to revolutionize the learning experience for children regarding their legal rights through a variety of innovative features. Each level of the game presents a different legal right through engaging 3D interactive scenarios, providing vivid and relatable contexts to make the learning process immersive and memorable. Decision-making and puzzle-solving tasks are intricately tied to understanding legal rights, enhancing critical thinking and problem-solving skills while reinforcing knowledge. Players receive a Candy Crush-like star rating system after completing each level, offering immediate, visual feedback on their understanding and motivating improvement. The game encourages replay ability for score improvement and content mastery, fostering continuous engagement and learning reinforcement. Designed to be inclusive and accessible, the platform supports multiple Indian languages and caters to children from diverse backgrounds, ensuring broad accessibility and relatability. Social elements like score sharing and collaborative problem-solving foster community learning, enhancing peer interaction and collaboration. Engaging storytelling and real-life scenarios contextualize legal rights, making them relevant and understandable to children. The platform offers modular and adaptive learning paths, personalizing the learning experience based on age, understanding, and preferences. A user-friendly interface with intuitive navigation ensures accessibility and ease of use, minimizing barriers to engagement. Integration with support services provides additional guidance and assistance, enhancing the educational value and practical applicability of the learned content. Overall, these features collectively aim to create an immersive, engaging, and impactful educational experience for children regarding their legal rights.
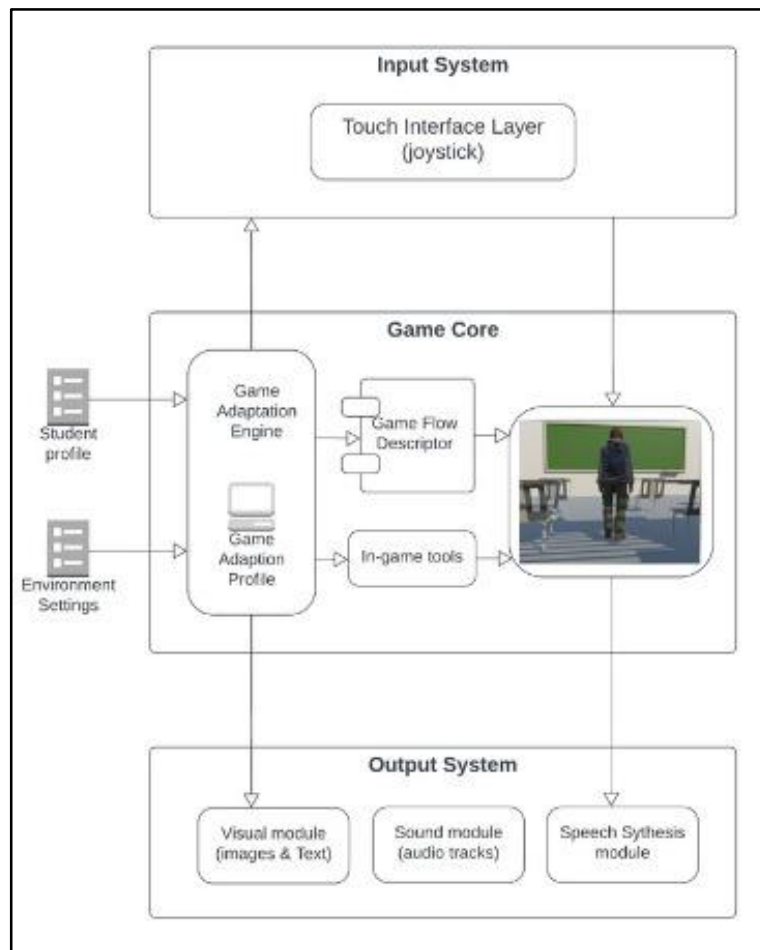
Fig 2: Proposed System

The input system of the educational game comprises the touch interface layer, which functions as the primary method for players to interact with the game, typically through a joystick or similar touch-based control mechanism. The game core incorporates the student profile, containing data on the player's progress, preferences, and performance, thereby personalizing the gaming experience. Environment settings adjust the game environment based on device specifications, user preferences, or specific requirements, ensuring optimal performance across various platforms and conditions. The game adaptation engine utilizes information from the student profile and environment settings to dynamically tailor the game experience, adjusting difficulty levels, content, and presentation to suit individual learners' needs and contexts. The game flow descriptor governs the sequence and logic of game events, controlling progress, level transitions, and educational content integration within the gameplay. Additionally, the game adaptation profile provides a set of parameters or rules for the adaptation engine to modify the game based on learning theories or pedagogical strategies. In-game tools offer various resources and support features to aid players in understanding and decision-making during gameplay. On the output side, the visual module manages the display of images and text, forming the primary output seen by the player, while the sound module handles audio output, including background music and sound effects, enhancing immersion and educational effectiveness. Furthermore, the inclusion of a speech synthesis module allows for text-to-speech conversion, ensuring accessibility for users with different learning preferences or reading difficulties. Together, these components create a comprehensive and adaptive educational gaming experience tailored to the individual needs of the player.

3.3 Benefits of Proposed Solution

The proposed solution introduces a gamified educational platform designed to educate Indian adolescents aged 14-16 about their legal rights comprehensively. The platform offers numerous benefits, spanning various dimensions. Firstly, it enhances engagement and retention through gamification, making learning enjoyable and interactive. Real-life scenarios and storytelling techniques are employed to deepen understanding and improve retention. Additionally, the platform provides a personalized learning experience by adapting to each student's pace, preferences, and progress, offering tailored feedback mechanisms for continuous improvement. Furthermore, it prioritizes accessibility, ensuring inclusivity through design considerations and features such as speech synthesis for users with reading difficulties or visual impairments. The platform not only facilitates skill development, particularly in decision-making and problem-solving, but also fosters social skills through collaborative features. Importantly, it promotes legal literacy and empowerment by imparting knowledge of legal

rights and encouraging self-advocacy among students. Moreover, the platform cultivates a sense of community and contributes to social justice awareness through collective learning and the dissemination of information about rights and responsibilities. Lastly, it offers robust support and resources within the game and integrates with external support services to assist users with scenario solutions and queries, thereby creating a comprehensive and impactful educational tool.

IV. METHODOLOGY

During the development phase, the team capitalized on Unity's versatile capabilities to realize the envisioned 'Rights Quest' platform. Leveraging Unity's robust features, including its powerful graphics rendering, physics engine, and cross-platform compatibility, the team meticulously crafted interactive 3D scenarios, decision-making tasks, and puzzle-solving activities. These elements were seamlessly integrated into the gameplay using C# scripting, ensuring a smooth and immersive user experience. Moreover, Unity's extensive documentation and community support proved invaluable in overcoming development challenges and implementing innovative features. As the project progressed, iterative testing and refinement cycles were conducted to optimize performance, address usability concerns, and align the platform with educational objectives. Through Unity's intuitive development environment and comprehensive toolset, the team successfully transformed the conceptualized vision of 'Rights Quest' into a tangible, interactive learning experience for Indian adolescents, empowering them with essential knowledge of their legal rights in a captivating and accessible manner.
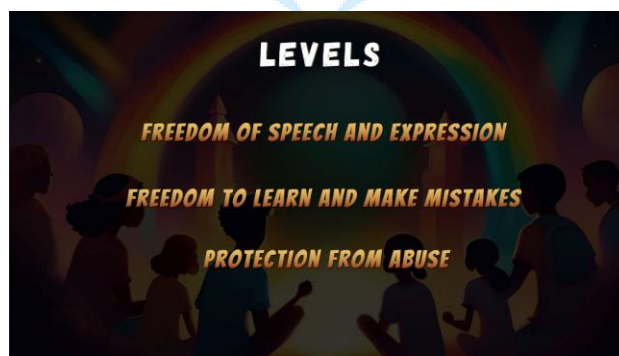
V. RESULTS

Fig 3: Game Menu (Home Screen)

Fig 4: Game Levels

Fig 5: 3D Game Environment

Fig 6: 3D gameplay (Scenarios)

VI. CONCLUSION

In conclusion, the "Rights Quest" project stands as a groundbreaking initiative at the forefront of educational technology, revolutionizing the way legal literacy is imparted to Indian youth aged 14-16. Through its innovative gamified platform, the project seamlessly integrates educational content with interactive gameplay, providing a unique and engaging learning experience. The emphasis on inclusivity and accessibility ensures that the cultural and linguistic diversity of India is addressed, making legal education available to a wide range of young learners.

By harnessing advanced technologies such as adaptive game engines and immersive audio-visual elements, "Rights Quest" creates a dynamic learning environment that captivates students' attention and enhances their understanding of legal rights. Beyond mere knowledge transfer, the project goes a step further in empowering students to become advocates for themselves and others, instilling a sense of community and active citizenship.

Ultimately, "Rights Quest" transcends traditional educational boundaries, aiming not only to educate children on legal rights but also to lay the foundation for a generation of informed, empowered, and socially responsible citizens. This pioneering endeavor marks a significant step towards shaping a brighter future where young individuals are equipped with the knowledge and skills to navigate the legal landscape and contribute positively to society.

VII. REFERENCES

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