

Design and Development of a Web-based Learning Platform for Cyberbullying and Online Harassment Safety Education

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ABSTRACT

Cyberbullying is a growing concern that negatively impacts individuals' well-being and online experiences. This project presents an interactive educational website designed to raise awareness of cyberbullying and promote responsible digital behavior. The platform features ten learning modules that address common cyberbullying scenarios, such as online exclusion, rumor spreading, and fake profiles, using realistic examples and interactive assessments. The website provides practical strategies for responding to harmful online behavior, managing emotions, seeking support, and reporting incidents. Built with a responsive design, it is accessible on smartphones, tablets, and desktop devices, making it suitable for students, educators, and families. By combining engaging content with actionable guidance, the platform aims to foster safer, more respectful, and inclusive online communities.

Keywords

Cyberbullying, Digital Citizenship, Online Safety, Educational Website, Cyberbullying Awareness.

1. INTRODUCTION

The rapid growth of social media and digital communication platforms has significantly transformed the way individuals interact, share information, and participate in online communities. While these technologies offer numerous benefits in terms of connectivity and accessibility, they have also given rise to serious challenges, one of the most prominent being cyberbullying. Cyberbullying refers to the intentional use of digital platforms to harass, threaten, humiliate, or target individuals, often resulting in severe psychological, emotional, and social consequences. Victims of cyberbullying frequently experience anxiety, depression, low self-esteem, and in extreme cases, suicidal ideation, making it a critical public health and educational concern.

Existing research has extensively explored the causes, forms, and impacts of cyberbullying, as well as computational approaches for its detection and prevention. Studies have identified key contributing factors such as online anonymity, peer influence, weak parental supervision, and unrestricted access to social media platforms. In addition, significant advancements have been made in automated detection systems using machine learning and deep learning techniques, including Support Vector Machines, Random Forest, and Convolutional Neural Networks. While these approaches demonstrate high accuracy in identifying harmful content, they primarily focus on detection rather than prevention and user education. This highlights the need for complementary solutions that emphasize awareness, behavioral change, and digital literacy.

In response to this gap, this study presents an interactive educational website designed to raise awareness of cyberbullying and promote responsible digital behavior. The platform is structured into ten learning modules that simulate real-world cyberbullying scenarios, including online exclusion, rumor spreading, impersonation, and fake profiles. Through interactive assessments and scenario-based learning, users are encouraged to develop critical thinking skills and understand appropriate responses to harmful online behavior.

The website also provides practical guidance on managing emotions, seeking support, and reporting cyberbullying incidents effectively. Developed using a responsive design framework, the platform is accessible across smartphones, tablets, and desktop devices, ensuring broad usability for students, educators, and parents. By combining engaging educational content with actionable strategies, the system aims to bridge the gap between awareness and practice.

Overall, this work contributes to the growing body of cyberbullying research by shifting the focus from purely technical detection methods to an educational and preventive approach. The proposed platform seeks to foster safer, more respectful, and inclusive online environments by equipping users with the knowledge and skills needed to recognize and respond to cyberbullying effectively.

2. LITERATURE REVIEW

Mitsu and Dawood provides an overview of cyberbullying, including its definition, causes, types, and effects. Cyberbullying is described as harmful behavior conducted through digital platforms such as social media, emails, and messaging applications. The study identifies internet anonymity as a major cause and discusses forms of cyberbullying including flaming, exclusion, masquerade, and outing. It also highlights psychological effects such as anxiety, depression, low self-esteem, and suicidal thoughts, while emphasizing the importance of reporting incidents to authorities [1].

Lu's literature review examines the causes, impacts, and prevention of cyberbullying. Factors such as user characteristics, peer influence, family background, anonymity, and low accountability are identified as contributors. The paper discusses consequences including mental health issues, academic difficulties, and stress-related disorders. Prevention strategies include digital literacy education, school interventions, parental monitoring, and AI-based content filtering [2].

Alotaibi investigates cyberbullying among students using the Theory of Planned Behavior (TPB). It identifies factors such as attitudes, social norms, social media use, weak parental

supervision, and limited legal restrictions as major causes. The study concludes that cyberbullying negatively affects both victims and perpetrators, leading to stress, anxiety, depression, and poor academic performance [3].

The study of Serra and Venter focuses on mobile cyberbullying and proposes a digital forensic readiness approach for risk mitigation. It identifies anonymity, unrestricted mobile access, and social networking platforms as key contributors. Types of cyberbullying discussed include harassment, impersonation, exclusion, and cyberstalking. The proposed solution uses risk assessment models based on user characteristics and online activity [4].

Srivastava et al. addresses cybercrime and online harassment among children and adolescents. It proposes a browser-based monitoring system called "The Spy" that tracks web activity, categorizes websites, and alerts parents about potential risks. The study emphasizes parental awareness and supervision as important factors in reducing cybercrime [5].

In the study by Chowdary et al., they apply machine learning techniques to detect cyberbullying on social media. Algorithms such as Naive Bayes, SVM, Decision Trees, and Random Forest are evaluated using Twitter and Facebook datasets. Results show that Random Forest with TF-IDF features achieves the highest accuracy, highlighting the limitations of traditional detection methods [6].

Abarna et al. examine cyber harassment across social media platforms. It identifies anonymity and widespread social media use as major causes and discusses behaviors such as rumor spreading, threats, and offensive comments. The study highlights the impact on vulnerable groups, particularly women and children, and categorizes cyber harassment into stalking, trolling, doxing, and revenge-related actions [7].

Dedeepya et al. proposes a CNN-based deep learning model combined with NLP techniques to detect cyberbullying on Twitter. Using large tweet datasets, the model analyzes contextual language patterns and outperforms traditional methods such as SVM. It effectively identifies harassment, racism, and abusive language [8].

Rajeevan and Krishnaraj use Convolutional Neural Networks (CNNs) to detect cyberbullying in online social networks. It highlights anonymity and weak regulations as major causes of cyberbullying and demonstrates that CNN models achieve higher classification accuracy than conventional machine learning techniques [9].

Pawar et al. introduce an explainable AI approach for cyberbullying detection. Using Logistic Regression and the LIME interpretability tool, the system classifies tweets and explains prediction outcomes. The results demonstrate strong performance while improving transparency and trust in detection systems [10].

Jadhav et al. develop a system for detecting text- and image-based cyberbullying using machine learning and deep learning models. Algorithms including SVM, Random Forest, Logistic Regression, and MobileNetV2 are evaluated. Results show effective identification of toxic content, threats, insults, and hate speech [11].

This paper presents SCOUT, a Generative AI-based cyber harassment detection system. The model focuses on identifying

subtle, indirect, and passive-aggressive forms of harassment using NLP and explainable AI techniques. Results demonstrate high accuracy in detecting threats, exclusion, stereotyping, and hidden abusive behavior [12].

The systematic review of Biswal examines machine learning techniques for cyberbullying detection. It discusses algorithms such as SVM, Naive Bayes, J48, and CNNs, as well as preprocessing and sentiment analysis methods. The paper highlights challenges including implicit bullying detection, dataset limitations, and real-time implementation [13].

Pandiaraja et al. propose a cyberbullying detection framework that combines machine learning and optimization techniques. Using Logistic Regression, Multinomial Naive Bayes, XGBoost, genetic algorithms, and particle swarm optimization, the system improves feature selection and classification accuracy. Results indicate superior performance of Gradient Boosting-based models [14].

Aqeel and Kamble present a hybrid deep learning framework (FSSDL-CBDC) for cyberbullying detection. The model integrates feature selection techniques with Deep Belief Networks to improve classification performance. Experimental results show high accuracy, demonstrating the effectiveness of combining optimization methods with deep learning for cyberbullying detection [15].

3. DESIGN

The project design focuses on the development of a simplified, interactive, and visually appealing online learning environment whose aim is to educate about cyberbullying through 'lessons' and quizzes. Basically, everything is presented bit by bit, with real-life scenarios. The end of each module has a short quiz to help reinforce learning without making the experience overwhelming. This would ensure seamless flow: Home → Lessons → Individual Lesson → Quiz → Next Lesson.

Design considerations included accessibility, clarity, and usability. The platform had to be easy for students, teachers, and parents of all ages, so elements like simple navigation menus, large, readable text, friendly icons, and consistent colors were used. The website also needed to work across phones, tablets, and laptops, so responsive design was a core consideration. The uniform structure of the lessons contributes to the lack of confusion for users when moving between modules.

During the development of the programming part of the project, many design challenges appeared. One of the issues was keeping the structure clean for all these lessons and quiz pages without repeating code. Ensuring that each quiz loaded the right questions and results required careful organization. Another problem involved managing user progress without overcomplicating the backend, since the website's purpose is educational rather than data-driven. Extra CSS adjustments were needed to manage responsive behavior across different screen sizes.

Some of the problems found in the interface component were how to maintain readability and attention from users. A lot of text may be limiting for users, so the text needed to be subdivided into short paragraphs supported with visuals to decrease the cognitive load. Similarly, ensuring consistency in spacing, alignment, color contrast, and the professionalism of the interface was an important consideration. Another challenge is to create an appealing yet not childish interface, as both the younger

and older audiences will be using the application. The design balances simplicity and clarity to get users to want to stay and come back.

3.1 Design Goals

The main design goals for this project are:

- Create a fun site anyone can use without confusion, simple menus guide each visitor smoothly through pages, while bright buttons respond fast when tapped or clicked; no clutter distracts eyes, so focus stays sharp on what matters most at that moment.
- Show what cyberbullying is using simple words, a step-by-step layout so anyone can get it easily.
- Make sure the site works well on mobiles, plus it's easy to use on tablets or desktops.
- Use fun quizzes that boost learning while sparking memory through action.
- Promote safe habits online while showing care through screens also speak wisely without harm.
- Use everyday examples so people can spot cyberbullying. These cases show what to do when it happens. Instead of ignoring, they learn how to react right away. Realistic setups make responses feel natural.
- Use clear styles that work well together so things are easy to follow as you move around the site.
- Faster load speeds help things run smoothly. Also, they make tasks quicker without lag.
- Get the system ready for students, staff, and families.

3.2 Main Tasks

The users of this system will require a platform that is easy to access and engaging for them to understand the issue of cyberbullying and how to respond safely if faced with this situation. Given these necessities, it was determined that the user requirements are easily identifiable educational content, realistic scenarios of the different types of online harassment, an interactive experience, and a navigable path through the content that is accessible across devices.

The major actions provided by the system will include:

- Enabling users to browse and access ten modules focused on lessons about cyberbullying, all organized in an appropriate structure.
- Presentations of realistic scenarios as contemporary portrayals of the multiple forms of online harassment.
- Quizzes at the conclusion of the module require learner participation to demonstrate comprehension and reinforce learning of the module content.
- Explanations of safe options and procedures are presented in a manner that is easily read, friendly, and employs clear language.
- Responsive navigation to allow access to the content from phones, tablets, or computers.
- Visual guides, including icons, illustrations, and examples to present the information in a manner that promotes ease of learning and engagement.
- Users are provided with a method to track their progress through the modules.
- Learning how to recognize, respond to, and report inappropriate online behavior is supported by the modules.
- Quick page loads and navigation between lessons and quizzes.

4. IMPLEMENTATION

4.1 Tools

The Cyberbullying & Online Harassment Safety website was developed with the following tools, software, and technologies:

- HTML, CSS, JavaScript: Core web technologies used to build the structure, styling, and interactivity of the website.
- Vercel: For hosting and deploying the website with fast, reliable performance.
- Tailwind CSS: Used for creating a clean, responsive, and consistent user interface across all pages and devices.
- Visual Studio Code: Primary code editor for writing, organizing, and debugging the project's files.
- Web Browsers: Throughout the development, Chrome/Firefox were used for testing, checking responsiveness, and debugging UI behavior.
- Figma: This was for the design of icons, lesson illustrations, and mockups of layouts.
- Laptop & Mobile Devices: Used to test real-world responsiveness and usability on different-sized screens.

4.2 Implementation Decisions

Several implementation decisions have been made to keep the system simple, functional, and easy to maintain. The website structure was implemented using HTML pages for the home screen, lessons, and quizzes, ensuring that navigation remains clear and consistent. CSS displays a clean, readable layout, with a responsive design that automatically adjusts for phone, tablet, and desktop screens.

The quiz logic, such as loading the questions, checking user answers, and showing the score, was done by JavaScript. Lesson and quiz content were stored in arrays or JSON-like structures to avoid any kind of database and save on implementing unnecessary complexity. Each lesson reuses the same layout template for consistency and to prevent repeating code. Conditional rendering was applied in the quiz section to show different messages depending on user performance.

The website files were finally deployed on Vercel to provide fast loading speeds and consistent performance. These decisions assisted in keeping the system lightweight, easily testable, and accessible for all intended users.

4.3 User Interface

Next are the instructions on how to use the Cyberbullying Safety Learning Website, including navigation of lessons, completion of quizzes, and viewing of results. Follow each step and insert your screenshots where indicated.

Step 1: Open the Website

- Open browser (Chrome, Firefox, or Edge) and enter the website link [Figure 1]
- Home Page will be displayed, which includes the title, short description, and navigation buttons.
- User needs to sign up before proceeding to the website [Figure 2]. (Note: Confirm email first before signing in.)

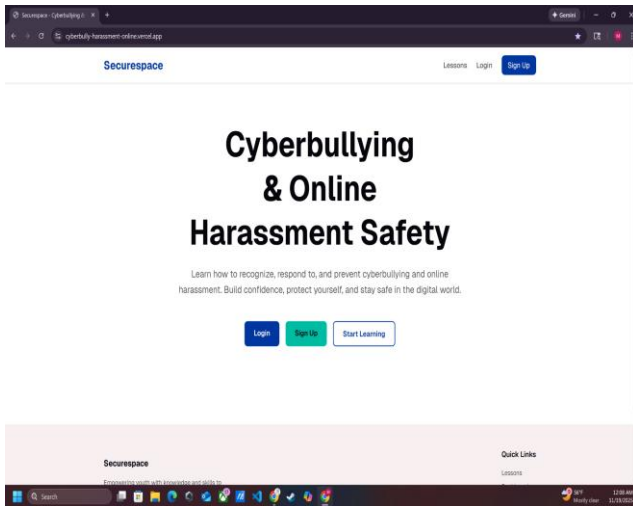


Fig 1: Home page before login

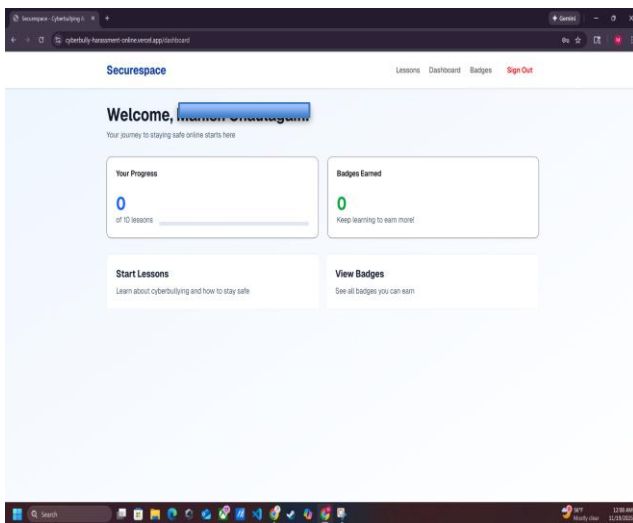


Fig 2: Home page after login

Step 2: Navigate the Home Page

- On the home page, click “Start Learning” to begin the lessons.
- That will take the user to the Lessons Menu, which displays all 10 cyberbullying scenarios in a list or grid layout [Figure 3]

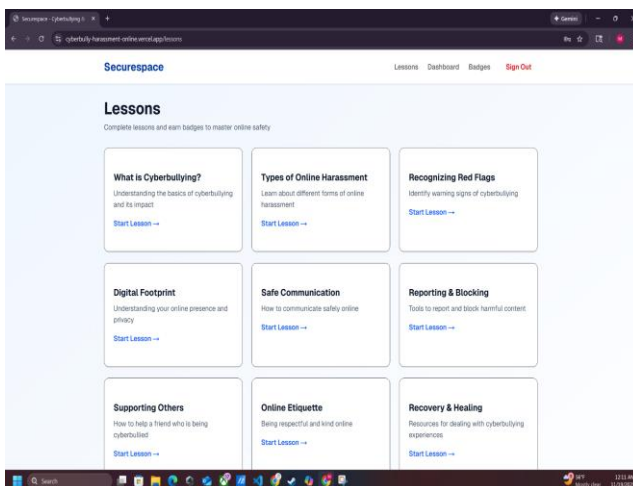


Fig 3: Lesson menu

Step 3: Select a Lesson

- Click any lesson (Example: “Scenario 1 – What is Cyberbullying?”).
- The lesson page will open [Figure 4], showing:
 - A short explanation of the scenario
 - Safety tips
 - A button labeled “Start Quiz”

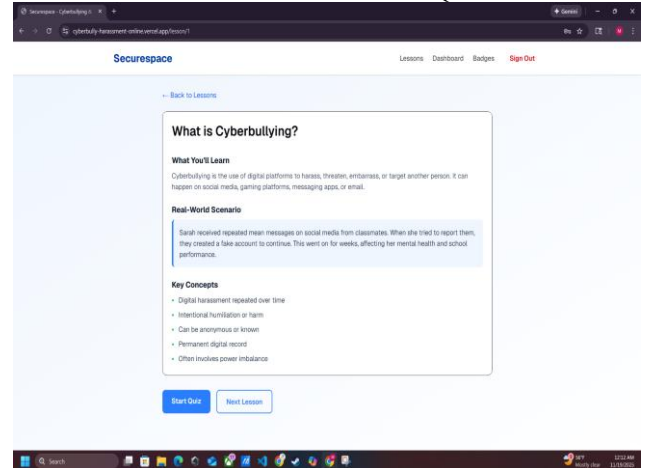


Fig 4: A Lesson

Step 4: Start the Quiz

- At the end of each lesson, click the “Start Quiz” button.
- This will load a short quiz with 4 questions related to that lesson [Figure 5].

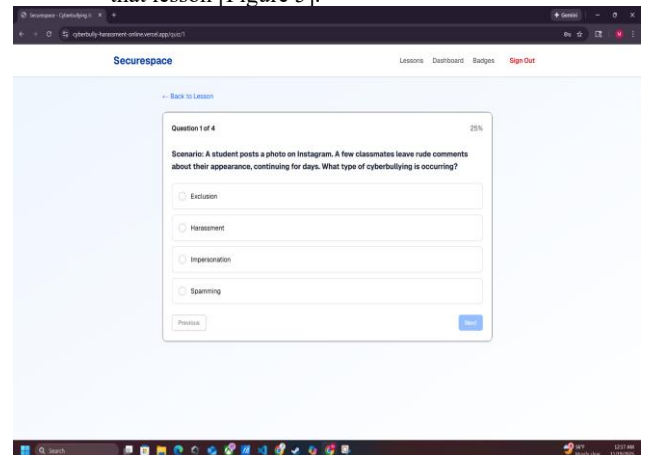


Fig 5: A quiz

Step 5: Answer Quiz Questions [Figure 6]

- Each question appears with multiple-choice options.

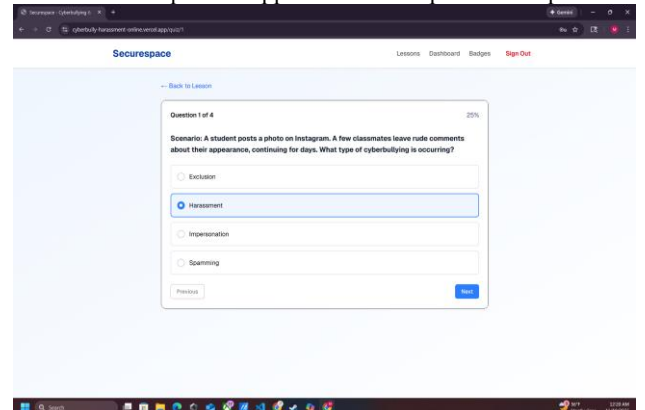


Fig 6: Choosing an answer.

Step 6: View Your Score

- After completing all 4 questions, the system displays a results page [Figure 7] showing:
- Your total score
- Correct answers

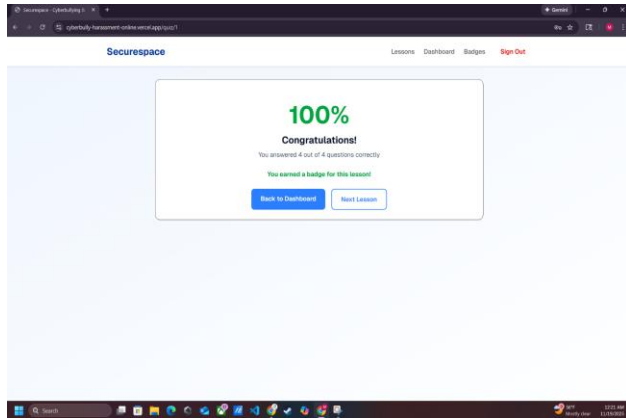


Fig 7: Result page

Step 7: Mobile Mode [Figure 8]

- The website is responsive. On mobile, the layout rearranges automatically:
- Buttons stack vertically
- Text becomes center-aligned
- Quizzes adapt to smaller screens

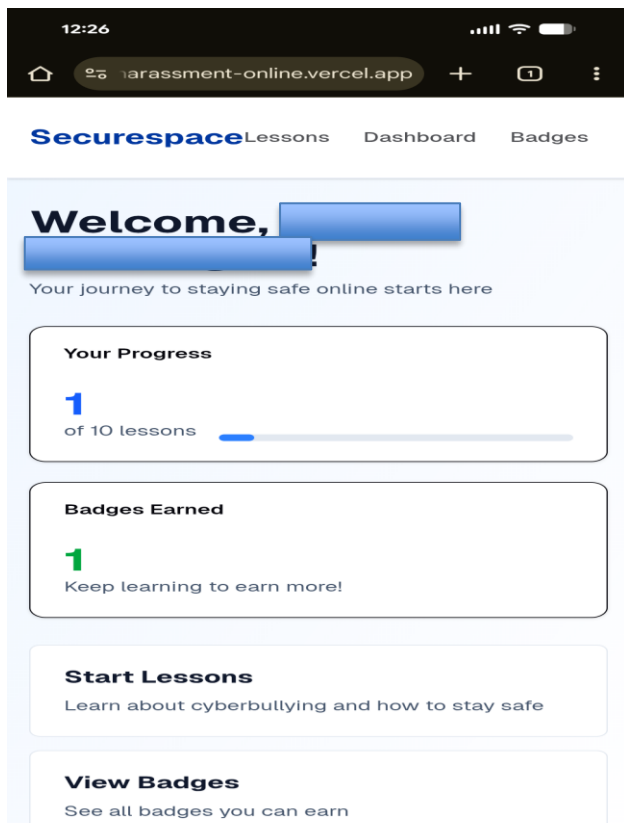


Fig 8: Mobile Mode

Step 8: User views their badge after completing the lesson

- Navigate to badges to see badges earned after completing lessons [Figure 9]

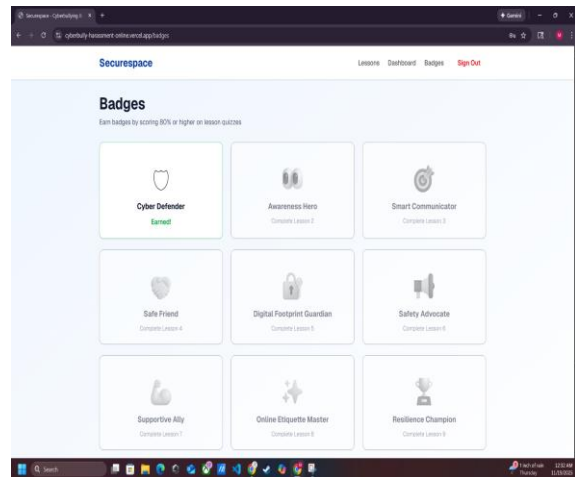


Fig 9. Badge

Finally, the user closes the website after they are done.

4.4 Issues

This project involves numerous practical and ethical issues that must be addressed to ensure the safe and responsible use of the learning website, Cyberbullying & Online Harassment Safety.

Next are the Practical Issues

- **Device and Browser Compatibility:** Users will be accessing the website from different devices: phones, tablets, and laptops. Ensuring that this is fully responsive and works equally on all platforms is sometimes tricky. Solution: Test regularly across devices and browsers to ensure stability in functionality.
- **Technical Errors or Broken Pages:** Links, quizzes, or some lesson components may not load correctly, or may behave unpredictably. Solution: Continuous debugging, test each update, and use fallback UI for components that fail.
- **No Internet Connection:** Users with slow or unstable internet may face loading delays. Solution: Keep the website lightweight, optimize images, and minimize large dependencies.
- **Accessibility Limitations:** Some elements may be difficult to navigate for users with visual or cognitive challenges. Solution: use readable fonts, high-contrast themes, clear buttons, and simple language.

Next are the Ethical Issues

- **Sensitive Content Exposure:** Topics of bullying, harassment, and emotional harm may be triggering. Solution: The language used should be neutral, without using vivid examples, and also include messages that encourage help-seeking behavior.
- **Privacy and Data Storage:** If user progress or scores from quizzes are saved, data needs to be dealt with securely. Solution: Avoid the collection of personal information and, if necessary, store only non-identifiable data on progress.
- **Bias in Scenario Design:** Examples should not target specific races, genders, communities, or identities. Solution: Develop neutral, inclusive scenarios free of stereotypes.

5. USABILITY EVALUATION ANALYSIS

This section presents the analysis of the data collected through both quantitative and qualitative evaluation methods to assess the usability and effectiveness of the website. The quantitative data were obtained using a structured Likert-scale questionnaire,

where participants rated various aspects of the system such as ease of navigation, clarity of instructions, interface design, responsiveness, and overall user satisfaction. The responses were analyzed using mean scores to determine general trends in user experience and identify strengths and areas for improvement. This approach provides an objective measure of usability performance and user perception across key evaluation criteria.

5.1 Quantitative data Analysis

Next is the questions of Quantitative Evaluation Form used.

Choose one option for each question.

Scale: 1=Strongly Disagree, 2= Disagree, 3= Neutral, 4=Agree, 5= Strongly Agree

1. The system was easy to navigate 1[], 2[], 3[], 4[], 5[]
2. The instructions were clear 1[], 2[], 3[], 4[], 5[]
3. The quiz questions were understandable 1[], 2[], 3[], 4[], 5[]
4. The interface design was appealing 1[], 2[], 3[], 4[], 5[]
5. The website responded smoothly 1[], 2[], 3[], 4[], 5[]
6. It was easy to complete all tasks 1[], 2[], 3[], 4[], 5[]
7. The content was useful and relevant 1[], 2[], 3[], 4[], 5[]
8. I would recommend this website to others 1[], 2[], 3[], 4[], 5[]
9. The visuals and icons were clear 1[], 2[], 3[], 4[], 5[]

The usability evaluation results from the quantitative analysis [Figure 10] indicate a highly positive user experience, with all criteria receiving mean scores above 4.0 on a 5-point scale. The highest-rated aspect was “The content was useful and relevant” with a score of 4.75, suggesting that users found the information presented by the website valuable and meaningful. This result demonstrates that the website successfully achieved its educational objective of increasing awareness and understanding of cyberbullying. Several criteria received a score of 4.5, including ease of navigation, clarity of instructions, understandability of quiz questions, ease of task completion, and willingness to recommend the website to others. These scores indicate that users were able to navigate the website efficiently, understand the learning activities, and complete tasks without difficulty. The strong recommendation score also reflects overall user satisfaction and acceptance of the platform. The categories interface design, website responsiveness, and clarity of visuals and icons each received a score of 4.25. Although these ratings remain highly positive, they are slightly lower than the other categories, suggesting opportunities for further refinement in visual presentation and interface responsiveness. Enhancing graphical elements, icon consistency, and performance optimization may further improve the user experience.

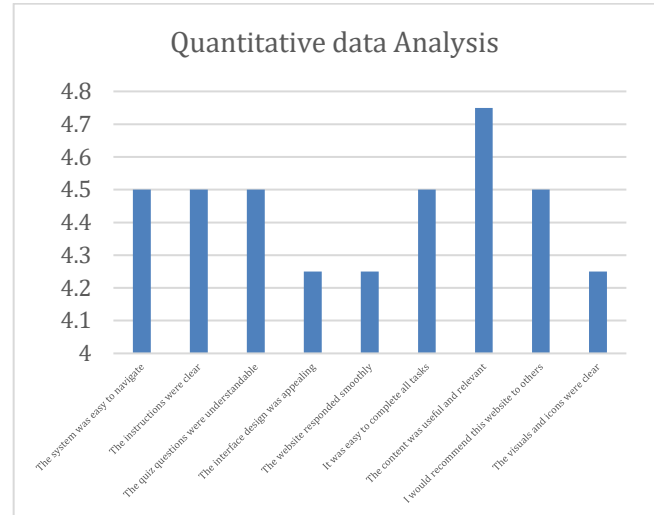


Fig 10: results of the Quantitative data analysis

Overall, the findings demonstrate that the website is user-friendly, effective, and well-received by participants. The consistently high ratings across all evaluation criteria indicate that the platform provides an accessible and engaging learning environment for educating users about cyberbullying and promoting responsible online behavior.

Table 1 presents the descriptive results of the website usability evaluation. The findings show a highly positive user perception, with mean scores ranging from 4.25 to 4.75 on a five-point Likert scale. The highest-rated criterion was the usefulness and relevance of the content (M = 4.75, Rank 1), while interface design, website responsiveness, and clarity of visuals and icons received the lowest, but still highly positive, ratings (M = 4.25, Rank 6).

Table 1. Descriptive Results of the Usability Evaluation

Item	Evaluation Criterion	Mean (M)	Rank	Interpretation
1	The system was easy to navigate	4.50	2	Strongly Positive
2	The instructions were clear	4.50	2	Strongly Positive
3	The quiz questions were understandable	4.50	2	Strongly Positive
4	The interface design was appealing	4.25	6	Strongly Positive
5	The website responded smoothly	4.25	6	Strongly Positive
6	It was easy to complete all tasks	4.50	2	Strongly Positive
7	The content was useful and relevant	4.75	1	Strongly Positive
8	I would recommend this website to others	4.50	2	Strongly Positive
9	The visuals and icons were clear	4.25	6	Strongly Positive
Overall	Overall usability evaluation	4.44	—	Strongly Positive

Note that the rank is based on the mean score, with the highest mean receiving Rank 1.

5.2 Qualitative Data Analysis

Next are the questions used for the Qualitative Evaluation. Please answer the following open-ended questions based on your experience with the system.

1. What aspects of the interface did you find most helpful or effective?
2. What parts of the system were confusing or difficult to use?
3. What improvement would you suggest to enhance the overall usability?
4. Where there any features you expected but did not find in the system?
5. How would you describe overall experience using this tool?

The qualitative feedback indicates that participants had a positive overall experience with the system. Users frequently highlighted the website's ease of navigation, clean layout, professional appearance, and smooth performance. The quizzes were also viewed favorably, with participants describing them as engaging and easy to understand. These responses suggest that the system successfully provides an accessible and user-friendly learning environment.

Regarding potential improvements, participants recommended adding more visual elements and interactive features to enhance engagement. Suggestions included incorporating additional icons, sound effects for quiz feedback, explanations for quiz answers, and progress indicators to help users track their completion status. These recommendations indicate opportunities to further improve user interaction and learning support.

Most participants reported experiencing no significant difficulties while using the website. Feedback indicated that the system functioned smoothly and that instructions and content were generally clear. Only one participant noted needing to reread a question, suggesting a minor opportunity to improve question clarity.

Additional comments were overwhelmingly positive, with participants describing the website as useful, well-designed, and effective for learning. Several users expressed satisfaction with the overall experience and encouraged further refinement of the user interface. Overall, the qualitative results demonstrate strong user acceptance, effective usability, and positive perceptions of the website's educational value.

6. CONCLUSION

This study presented the design, development, and evaluation of an interactive educational website aimed at increasing awareness of cyberbullying and promoting responsible online behavior. The platform successfully integrates structured learning modules, interactive quizzes, and practical guidance to help users recognize, prevent, and respond to cyberbullying incidents. Usability evaluation results demonstrated high levels of user satisfaction, particularly regarding content relevance, ease of navigation, and overall accessibility. These findings indicate that the website provides an effective and engaging learning environment for students, educators, and families.

The development process highlighted the importance of user-centered design principles in creating educational technologies. Feedback obtained during testing contributed to improvements in usability, visual presentation, and navigation, resulting in a more intuitive and accessible platform. Although the system performed effectively, minor challenges related to interface

consistency, responsiveness on smaller devices, and visual design optimization were identified.

Future work will focus on enhancing the platform by incorporating additional interactive features, such as progress tracking, personalized learning paths, multimedia content, and detailed feedback for quiz responses. Further improvements may include expanding the range of cyberbullying scenarios, integrating gamification elements to increase user engagement, and improving accessibility features for diverse user groups. In addition, larger-scale evaluations involving broader participant groups will be conducted to assess learning outcomes and long-term effectiveness. These enhancements will contribute to the continued development of a comprehensive educational tool that supports safer, more respectful, and inclusive digital communities.

7. REFERENCES

- [1] R. Mitsu and E. Dawood, "Cyberbullying: An overview," *Indonesian Journal of Global Health Research*, vol. 4, pp. 195–202, Feb. 2022.
- [2] L. Lu, "Understanding cyberbullying: Causes, consequences and comprehensive intervention strategies," *Trends in Sociology*, vol. 3, pp. 1–20, May 2025.
- [3] N. B. Alotaibi, "Cyber bullying and the expected consequences on the students' academic achievement," *IEEE Access*, vol. 7, pp. 153417–153431, 2019, doi: 10.1109/ACCESS.2019.2947163.
- [4] S. M. Serra and H. S. Venter, "Mobile cyber-bullying: A proposal for a pre-emptive approach to risk mitigation by employing digital forensic readiness," *2011 Information Security for South Africa*, Johannesburg, South Africa, 2011, pp. 1–5, doi: 10.1109/ISSA.2011.6027507.
- [5] P. Srivastava, R. Sharma and A. K. Pandey, "A novel web application to detect malicious intent people in society," *2020 International Conference on Electrical and Electronics Engineering (ICE3)*, Gorakhpur, India, 2020, pp. 365–369, doi: 10.1109/ICE348803.2020.9122837.
- [6] B. V. Chowdary, M. Akhil, K. Pavan, B. P. Teja Reddy and V. S. Gunjan, "Empowering Online Safety: A Machine Learning Approach to Cyberbullying Detection," *2024 2nd International Conference on Intelligent Data Communication Technologies and Internet of Things (IDCIoT)*, Bengaluru, India, 2024, pp. 1187–1191, doi: 10.1109/IDCIoT59759.2024.10467617.
- [7] S. Abarna, J. I. Sheeba and S. P. Devaneyan, "A Systematic Investigation of Cyber Harassment Intention Behaviors and Its Impacts on Social Media Platforms," *2023 International Conference on Computer Communication and Informatics (ICCCI)*, Coimbatore, India, 2023, pp. 1–7, doi: 10.1109/ICCCI56745.2023.10128460.
- [8] P. Dedeepya, D. Karishma, S. G. Manuri, T. Raghuvaran, V. Shariff and S. Sindhura, "Enhancing Cyber Bullying Detection Using Convolutional Neural Network," *2023 4th International Conference on Smart Electronics and Communication (ICOSEC)*, Trichy, India, 2023, pp. 1260–1267, doi: 10.1109/ICOSEC58147.2023.10276007.
- [9] A. Rajeevan and N. Krishnaraj, "Detection Of Cyberbullying based On Online Social Networks," *2023 International Conference on Computer Communication and Informatics (ICCCI)*, Coimbatore, India, 2023, pp. 1–4, doi: 10.1109/ICCCI56745.2023.10128506

- [10] V. Pawar, D. V. Jose and A. Patil, "Explainable AI Method for Cyber bullying Detection," *2022 IEEE 2nd International Conference on Mobile Networks and Wireless Communications (ICMNWC)*, Tumkur, Karnataka, India, 2022, pp. 1-4, doi: 10.1109/ICMNWC56175.2022.10031652.
- [11] R. Jadhav, N. Agarwal, S. Shevate, C. Sawakare, P. Parakh and S. Khandare, "Cyber Bullying and Toxicity Detection Using Machine Learning," *2023 3rd International Conference on Pervasive Computing and Social Networking (ICPCSN)*, Salem, India, 2023, pp. 66-73, doi: 10.1109/ICPCSN58827.2023.00017.
- [12] S. Biswal, "SCOUT: Surveillance and Cyber harassment Observation of Unseen Threats," *2024 International Conference on Artificial Intelligence, Metaverse and Cybersecurity (ICAMAC)*, Dubai, United Arab Emirates, 2024, pp. 1-6, doi: 10.1109/ICAMAC62387.2024.10828792.
- [13] N. K. M R, V. D, M. Ahmed D M, D. K J, M. K J and N. K V, "An Efficient Approach to Deal with Cyber Bullying using Machine Learning: A Systematic Review," *2024 Second International Conference on Emerging Trends in Information Technology and Engineering (ICETITE)*, Vellore, India, 2024, pp. 1-8, doi: 10.1109/ic-ETITE58242.2024.10493443.
- [14] P. Pandiaraja, K. Muthumanickam, M. Geetha, P. C. S. Mahesh, V. S K and C. Selvarathi, "An Innovative Method to Detect Cyberbullying on Social Media," *2025 International Conference on Electronics and Renewable Systems (ICEARS)*, Tuticorin, India, 2025, pp. 855-858, doi: 10.1109/ICEARS64219.2025.10940598.
- [15] H. Aqeel and A. Kamble, "A Hybrid Classifier of Cyber Bullying Detection in Social Media Platforms," *2022 Fourth International Conference on Emerging Research in Electronics, Computer Science and Technology (ICERECT)*, Mandya, India, 2022, pp. 1-5, doi: 10.1109/ICERECT56837.2022.10060739.