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Cyber Bullying Detection Using Text, Image and Voice

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Abstract: ***Through social media, users may have access to a lot of information as well as a pleasant communication experience. Social media, on the other hand, can have negative implications, such as online bullying, which can have a negative impact on people's life, particularly children and teenagers. Cyberbullying is defined as an individual or a group of individuals engaging in aggressive, deliberate acts against a victim using digital communication channels such as sending texts and writing comments. Unlike traditional bullying, which occurs in a face-to-face interaction at school, online bullying on social media sites can occur anywhere at any time.***

Keyword: Cyber Crime, Cyber Bullying, Speech to Text,social media, OCR.

I. INTRODUCTION

Due to the increasing popularity of mobile technology and social networks among teens, cyber bullying is now one of the most talked-about societal issues recently. Online bullying has been receiving more and more attention from the media, decision makers, market players, and society as a whole over the last decade. The most devastating repercussions of online bullying, which have led to teen suicide, have grabbed the media attention and the general public. Online bullying has been impacting a large number of individuals, especially children, teenagers, and adults, due to the growth with the use of mobile devices with constant connection to the web, and also a sense of anonymity and unaccountability. We are going to make a suggestion that automatic recognition of bullying communications in social media is now feasible thanks to data mining techniques, which might aid in the creation of a safe and healthy social media space.So in this project we are trying to detect bullying words by three means:

1) From direct text
2) Extracting text from image
3) Speech to text

II. RELATED WORK

Undertaking a literature review is the most important step in the development of the proposed system. Even before a tool can be built, the flow time, economic, and organisational strengths must all be established. The next ten stages are to determine which os and scripting languages is used to develop the tool once all of the prerequisites have been completed. When the programmers start working on the device, they will need a lot of help from others. Experienced coders, publications, and sites may all be able to assist you with this. Before the suggested system was built, the above mentioned factors are taken into account.

A. Stop Bullying in the Workplace

Beat Bullying was really an international body that intended to empower younger people to lead anti-bullying programs within their schools also by empowering youth to support the process. Beat Bullying created anti-bullying programs for teens by teens, focusing on "peer-to-peer" education and empowering teens to participate in bullying situations and aid another in doing just that, either online or off. Internal suggested age indicates bullying incidents have fallen by 39 percent over the same period at institutions where Beat Bullying has also been introduced.

B. Bullying in the traditional sense vs. cyberbullying

The development of technologies is typically linked to the development of human cultures. The Internet, as well as other significant advancements, has fundamentally altered how people communicate. While these developments have enabled the humankind to make considerable improvements in areas, they have also made disobedience more common and pervasive. This is especially obvious when you consider how traditional harassment evolved from what is currently known as cyberbullying. While there are many similarities in terms of consistency and strategy between bullying and cyberbullying, thereare also important differences. Cyberbullying, unlike traditional bullying, allows hackers to conceal under a computer and cover his or her identity.

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Because of the concealment, the offender can hit the target without having watched the victim's physical reaction. In comparison to traditional face-to-face abuse, the distance effect that contemporary technologies have on today's children sometimes encourages students to speak and do harsher things.

III. EXISTING SYSTEM

Cyber - bullying has arisen as a serious problem impacting youngsters, teenagers, and younger people as a result of the rising use of social networks. Automatic recognition of bullying communications in social networks is now feasible because of data processing techniques, which could aid within the creation of a secure and cozy social media space.

IV. PROPOSED SYSTEM

To address this challenge, we provide a unique represents learning approach during this work. An [Semantic-Enhanced Marginalized Denoising Auto-Encoder] (smSDA) may be a conceptual modification of the famous stacked denoising auto encoder. The lexical extensions are formed from semantics dropouts' noises and sparseness restrictions, with the semantically dropouts noisy being created using spatial information and therefore the text classification approach. [Our suggested technique can learn durable and exclusionary representations of texts by utilizing the fantastical world architecture of bullying information].

V. METHODOLOGIES

In our proposed methodology contains 3 steps: in first step adding data to the collection with the specific 5 categories namely, Violence, Vulgar, Offensive, Hate, Sexual each category will contain the set of bullying words. In Second step the inputted text from the user and our dictionary words will be converted to lower case as part of matching strategy. In last step if the bullying words are matched user will notable that not to share the posts. If the bullying words are not matched user will notable to share the posts.

A. Data Collection

Firstly, we need to collect the Bullying words of different language from different source of internet.

B. Data Pre-Processing

All the collected data will be segregated into five categories namely Violence, Vulgar, Offensive, Hate, Sexual each category will contain the set of bullying words.

The creation of the dataset

d={Hai,Hello,How,you,idiot,raskel}

Typical Procedure::

d= matching the database table from the Bag of Words.

```
 if(d==0)
{
Cyberbullied message
{
If (d==1)
{
Non Cyberbullied message
}
}
```

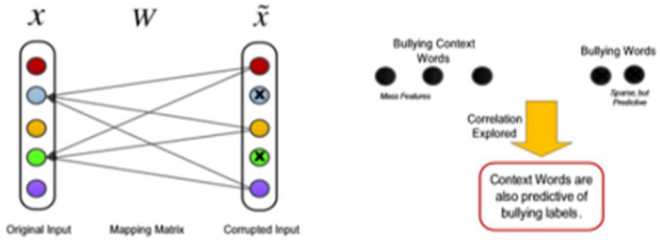


Figure 1: Data Processing

C. Algorithm

Semantic-Enhanced Marginalized Stacked Denoising Auto Encoder

1) First, we present the notations employed.

2) Let D = {w1,...,wd} Assume that D is a dictionary that contains every word found in the corpus of text.

3) Each message is represented by a BoW vector x ∈ Rd.

4) The entire corpus can therefore be represented as a matrix:

X = [x1,...,xn] ∈Rd×n

where n represents the number of open positions.

The marginalised stacked denoising auto-encoder is briefly reviewed next, followed by our proposed Semantic improved Marginalized Stacked Denoising Auto - encoders.

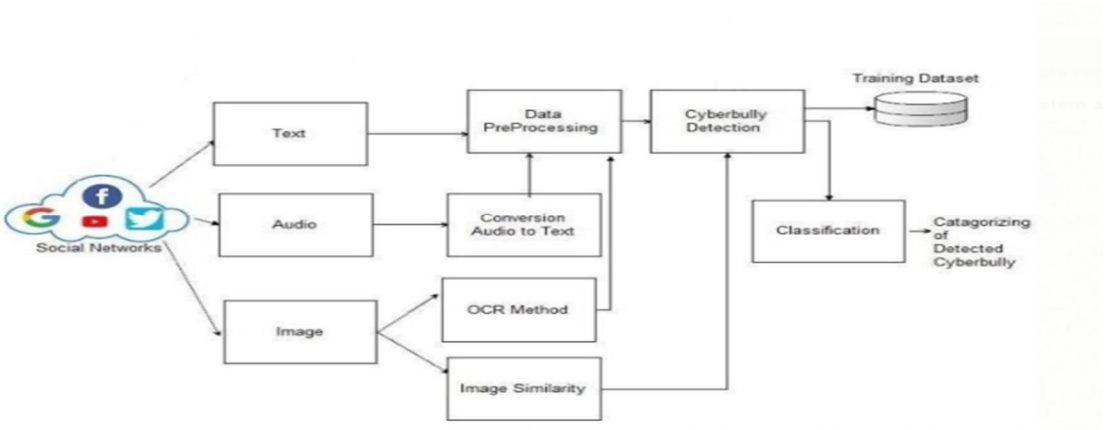


Figure 2: System Architecture

VI. WORKING OF THE SYSTEM

1) *Step 1:* Enter the text data, Image data or voice which will be further converted to text to share the post.

2) *Step 2:* Posted text will be evaluated under 5 categories.

3) *Step 3:* If posted data contains bullying words it will be detected and segregated by the category.

4) *Step 4:* Until and unless the bullying words are removed the posted data will not be shared and system will show the number of bullying word counts as well.

5) *Step 5:* If no bullying words are there entered data will be posted.

VII. RESULTS AND DISSCUSSION

We tested the system with both Bullying and non-bullying words to ensure that the algorithm utilized in the system is robust. As predicted, the algorithm detected the bullying words and blocked the post until removal of bullying words.



Snapshots

Figure 3: Home page

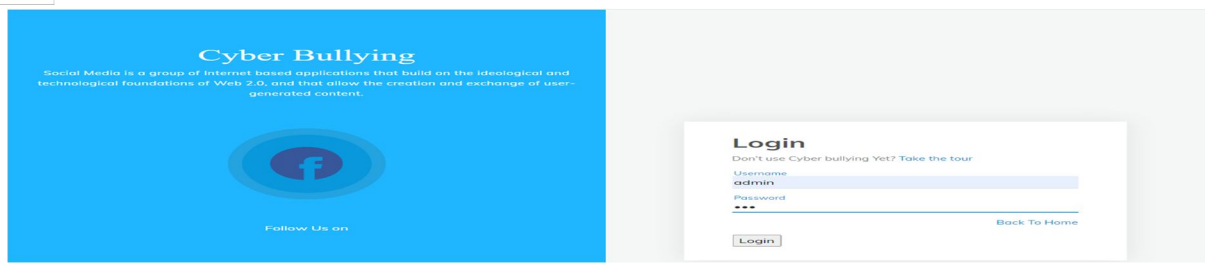


Figure 4:Admin login page



Figure 5: Add bullying words page

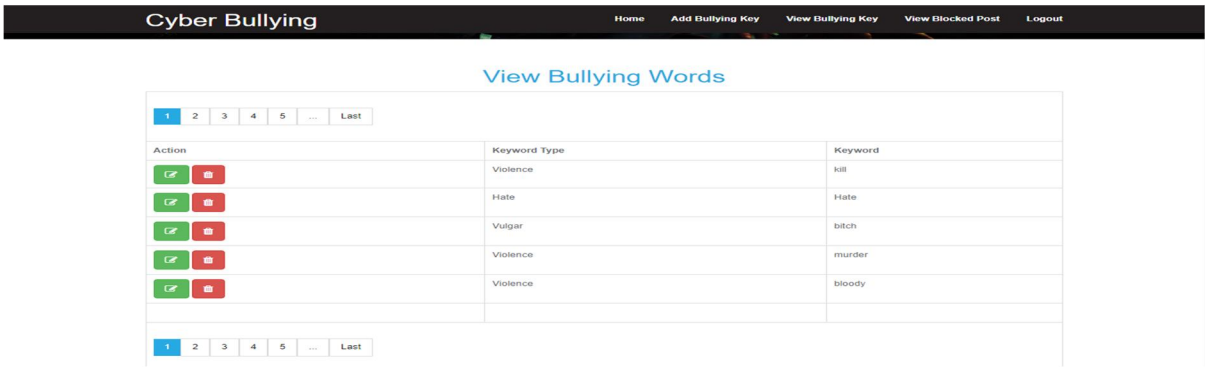


Figure 6: view bullying words page

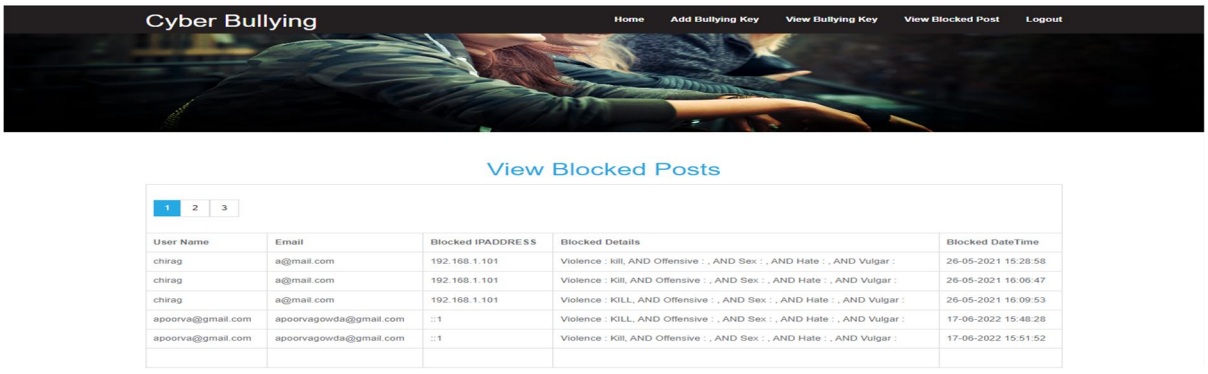


Figure 7: Blocked posts page

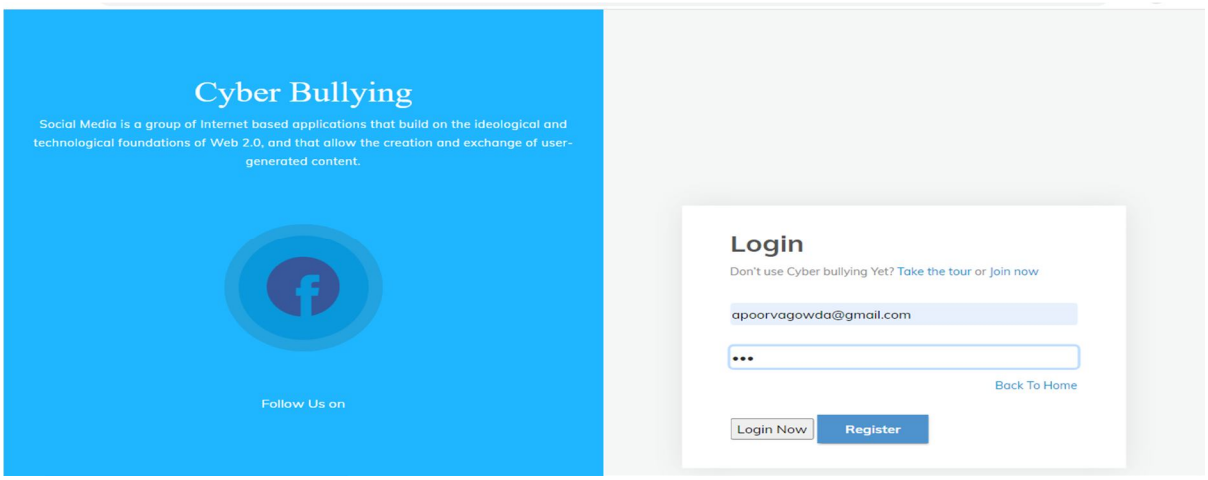


Figure 8: User login Page

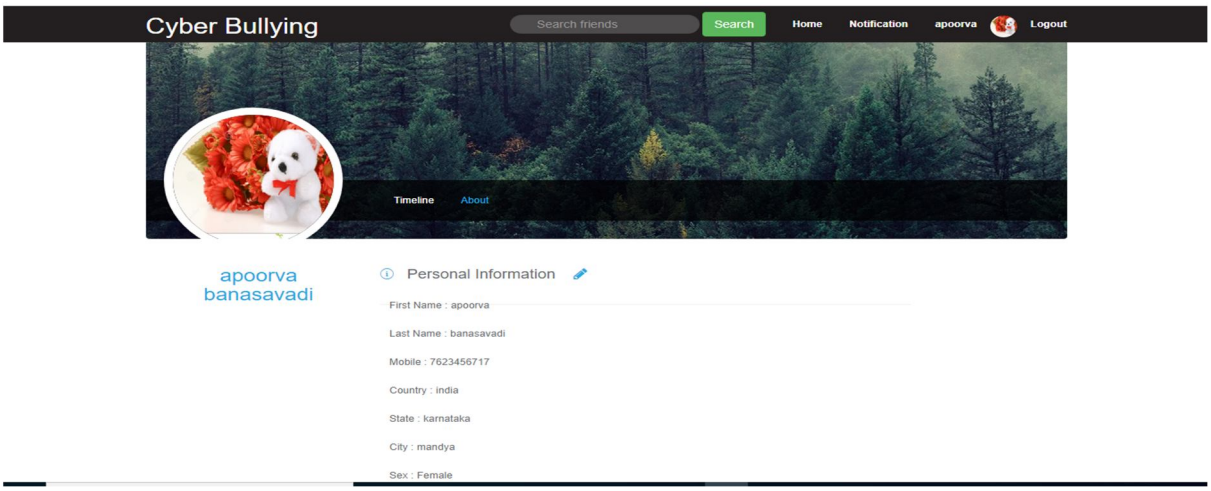


Figure 9: About user

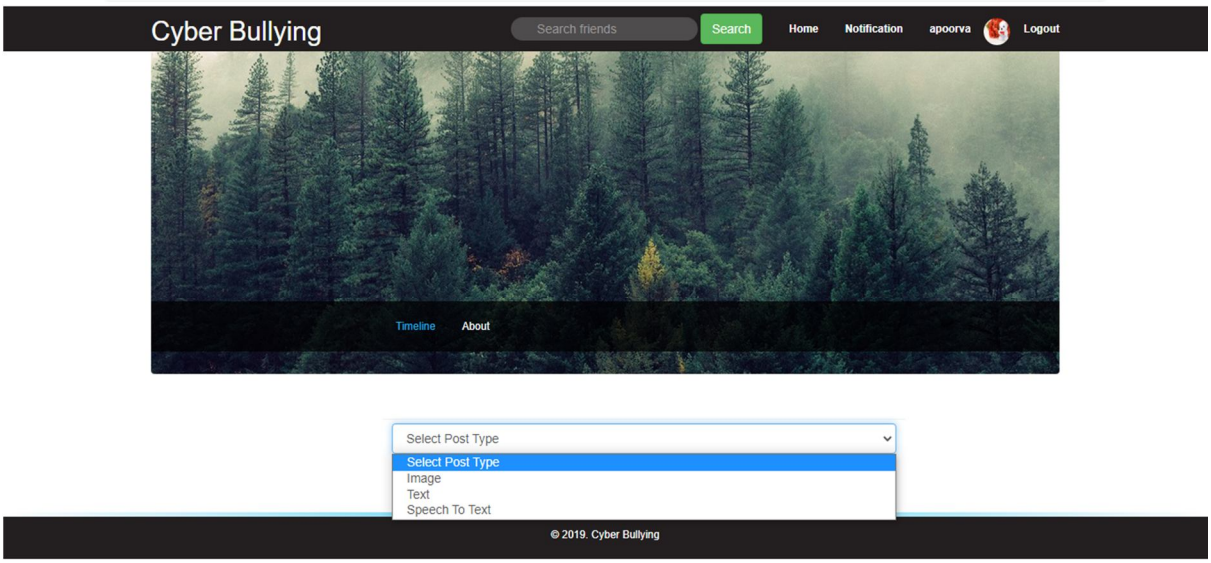


Figure 10: Post type page

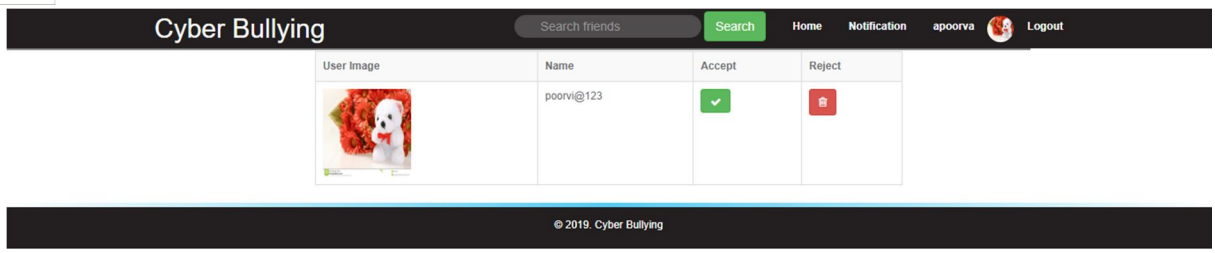


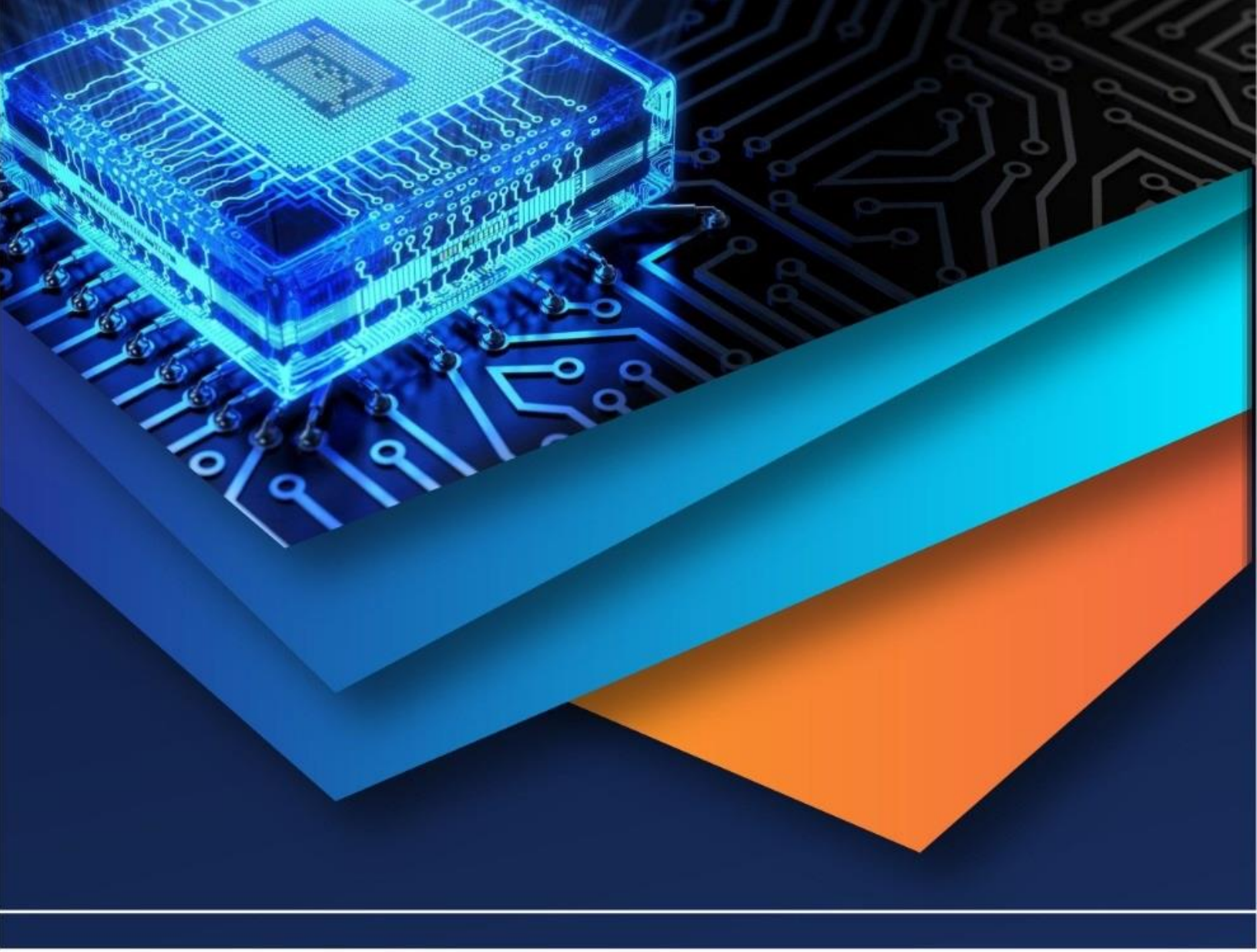
Figure 11: Friend request page

VIII. CONCLUSION

These online systems allow users to create and share their own material. Consumers may have access to a wealth of knowledge, as well as a comfortable communications experiences, through social networks. However, social networking may have bad consequences, including such harassment, which can negatively influence people's lives, especially kids and teens. Harassment is described as hostile, purposeful activities taken by a person or a group of individuals through the internet, such as sending texts and making remarks. The suggested methodology can take use of the harassment data's fantastical world pattern. In future we utilized a Dotnet Framework and C# language to construct the software, and it was a success. In Browsers, our project has been successfully tested. We also looked into the project's uses and future scope. Our solution can be by trying to implement like by extracting the bullying content from the videos.

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