

User Flagging for Posts at 3DTube.org: the First Social Platform for 3D-Exclusive Contents

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Abstract—Social networks have been a popular way for a community to share content, information, and news. Despite Section 230 of the Communications Decency Act of 1996 protecting social platforms from legal liability regarding user uploaded contents of their platforms in the USA, there has been a recent call for some jurisdiction over platform management practices. This duty of potential jurisdiction would be especially challenging for social networks that are rich in multimedia contents, such as 3DTube.org, since 3D capabilities have a history of attracting adult materials and other controversial content. This paper presents the design of 3DTube.org to address two major issues: (1) the need for a social media platform of 3D contents and (2) the policies and designs for mediation of said contents. Content mediation can be seen as a compromise between two conflicting goals: platform micromanaging of content, which is resource-intensive, and user notification of flagged content and material, prior to viewing. This paper details 3DTube.org’s solution to such a compromise.

Index Terms—social networks, censorship, platform policing, social media, 3D viewing

I. INTRODUCTION

3D photography is not a new technology. Stereoscopic photos and viewers go back to the year 1839 [1]. The first VR Head Mounted Display dated back to 1960 [2]. Since then, the technology has greatly grown in complexity, and now, 3D content is a major part of many peoples lives.

3D technology is closely related to virtual reality (VR). As of 2019, Sony’s PlayStation VR, Facebook’s Oculus Rift, and HTC’s Vive have collectively sold over 7 million units, with these numbers certainly growing since then.

A. 3D content sharing

Despite the sustained growth in 3D technology, and its continued development into video games and entertainment, major content sharing platforms have failed to address the clear need for a 3D content sharing platform.

Although many platforms (YouTube, Vimeo, Facebook, etc.) allow for 3D content uploading and viewing, the 3D content is many times intertwined with other 2D content and is hard

to find and view. Mobile-based platforms such as Google Cardboard and Within also seem to fall short regarding the uploading and sharing of 3D content. This clear need has led to 3DTube.org, the world’s first exclusively binocular (3D) content sharing platform.

The goal of this platform was to allow 3D content enthusiasts to enjoy 3D content intuitively, through an easy to use user interface.

B. 3D content grabbing

Another challenge of a 3D content sharing platform is providing a method for users to grab their own 3D photos and videos. As normal mobile phones do not allow for users to grab 3D content with the built in camera, it is necessary that they use some sort of 3D camera extension to their mobile phone, or use their own individual 3D camera all together.



Fig. 1. Stereo images of a user operating a 3D system. The system has two video cameras, a mobile phone, a 3D viewing goggle and a game controller.

Fig. 1 illustrates a possible 3D system that users can use, provided by GENISAMA LLC. The particular system has two highly related roles, 3D content acquisition and machine learning. The first role enables the user to record and share 3D contents as photos or video with his friends. In the second role, machine learning, using a general-purpose Developmental Network (DN) allows the user to teach the machine or run a learned machine [3].

A DN has been demonstrated to learn and perform stereo-disparity detection, vision-based navigation, visual recognition, vision-based ID verification, auditory recognition, and natural language understanding, however, this paper focuses on the first role, meaning that this system can be one of the many systems that 3DTube.org users can use to grab 3D content to share on the platform. The only restriction for sharing 3D content on 3DTube.org is that content must be binocular photos or videos — any method that the user uses to grab such content is acceptable for uploading to the platform; it does not have to be content grabbed using the system described above.

C. Content policing

Since 3D content often attracts adult materials and other controversial content, it was necessary to outline a design to address such issues and communicate clearly to the user the content they were to be clicking on prior to viewing. This attempts to avoid unwanted surprises or misleading clicks, a significant problem with social media platforms today [4], [5].

A common practice, which is done by Facebook, for example, is to have social media platforms contract out fact-checking services [6]. This can be a costly endeavor. In many cases, fact-checking is almost impossible.

The US Department of Justice issued the *Department of Justice's Review of Section 230 of the Communications Decency Act of 1996* [7] which stated: “Based on engagement with experts, industry, thought-leaders, lawmakers, and the public, the Department has identified a set of concrete reform proposals to provide stronger incentives for online platforms to address illicit material on their services, while continuing to foster innovation and free speech.” “It therefore makes little sense to immunize from civil liability an online platform that purposefully facilitates or solicits third-party content or activity that would violate federal criminal law.” This indicated a potential transition away from the previous protections for platforms from the Communications Decency Act. We believe that this current transition stems from recent conflicting events on large social media platforms, such as Facebook and Twitter.

In one instance, Twitter flagged a video tweeted by Donald Trump, which Twitter claimed to contain a fake CNN news segment about a “racist baby”, “adding a warning label that the post contained manipulated media” [8]. In another instance, Twitter placed a label over one of President Donald Trumps tweets, claiming he violated the platforms policies against abusive behavior [9]. Next, “Twitter removed a tweet that had been retweeted by President Donald Trump that falsely said that there was a cure for the coronavirus” [10]. It is not clear how Twitter’s content managers or contracted fact-checking services are capable to judge whether posted content is factually accurate or not, especially when it pertains to recent developments in media, such as there being a cure to the coronavirus.

Consider somebody posting to twitter a claim that conscious AI is possible, for example. Twitter may flag such a post, or

remove it completely. However, indeed, the last author has posted a technical article about a model of conscious AI [11]. This brings up the platform wherein the conscious AI model is published arXiv.

The question arises of where do platforms such as Twitter draw the line on content removal or flagging, when certain posts or claims on the platform can be misleading or false, while others may appear to be misleading or false, but are in fact true and supported?

It makes sense for the platform itself to manage and monitor its content, but that means that the platform must choose what information to censor or delete, as it deems fit. Yet, who are they to decide what should and should not be censored? Although, in the US, they are within their right to make this decision [7], it may not be in the best interest of the platform or its users for the platform to police its own content.

Another approach, which is free of content policing, used by arXiv, is to only check for text overlap, plagiarism, correct classification of submissions, rejection of papers without much scientific value, and asking authors to fix format-related problems [12]. This form of policing is not suitable for social media platforms, however, as many times, text overlap, for example, can be encouraged on a platform, indicating a strong support for a certain idea.

The clear lack of an effective and fair strategy for content policing led to the design and creation of 3DTube.org’s self-policing strategy, which will be discussed in this paper. Our approach lets each user see how other users flagged a post, if they have flagged a post, so that the user himself can decide on whether or not to view certain content. This method, although seemingly better than the current method, still does not appear to solve all potential problems, as we will discuss below.

The remainder of the paper is organized as follows. Section II discusses the motivation for a social platform for 3D-exclusive contents. Section III deals with policing contents. Section IV outlines other features. Section V summarizes future plans. Section VI gives concluding remarks.

II. 3D-EXCLUSIVE SOCIAL PLATFORM

Fig. 2 shows the home page of 3DTube at 3Dtube.org. The lower part is a summary of 3D posts. To give a clean summary, the title figure of each 3D post is a monocular image, although the content is in 3D, still or video. The caption under each title figure only shows two text lines. A click on the title figure brings up the post page for the corresponding post, as shown in Fig. 3.

In the post page, the figure is binocular, either a still image (without a play sign) or a video (with a play sign). If this page is shown on a mobile phone, the 3DTube View software allows the user to adjust the size and location of the 3D contents to fit the 3D goggle, when viewing through the 3DTube View application, to be discussed later.

The post page has the counts of positive votes (thumb-up) and negative votes (thumb-down). Here, a user can see the

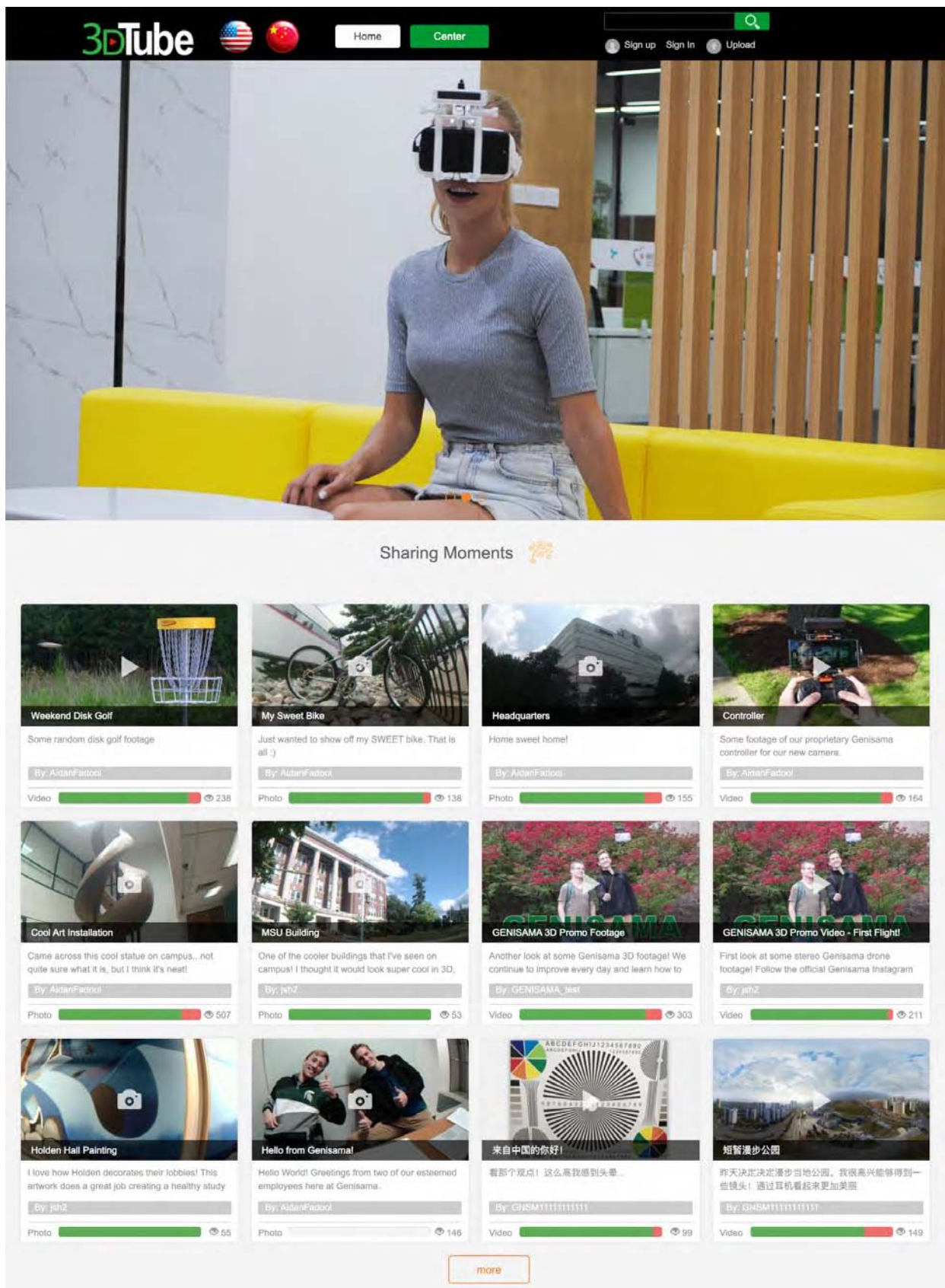
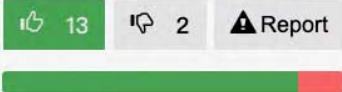


Fig. 2. The home page of 3DTube at 3Dtube.org.

Cool Art Installation



Author: AidanFadool Source: Location keywords: Content keywords: Limited keywords:



Description: Came across this cool statue on campus...not quite sure what it is, but I think it's neat!



Write your thoughts...

Submit

7 Comments

Sort By Language: ▾

Fig. 3. A post page titled “Cool Art Installation”.

contents caption, the positive votes, the negative votes, and also comments made by other users. On this page, users can also choose to give a positive or negative vote, as well as leave their own comment in the comments section. The comments can conveniently be sorted by English or Chinese, as well, with future language support being planned.

After viewing the 3D contents, the user can opt to submit a report by clicking the button labeled “Report” to be discussed in the next section.

III. POLICING METHOD

In order to further understand the need for such a self-policing strategy, recent history with censorship and the media must be explored.

Censorship via social networks has been a major topic of discussion of late. In the United States of America, conservatives and liberals alike claim to be censored on many major media platforms [13]. Be it through fact-checking, hiding content, or removing content, there has been an outcry that

the social media platforms themselves are using their own platforms to push their own political agenda. True or not, this public opinion is not healthy for any social media platform.

In places such as China, media censorship is an unfortunate norm [14]. In Hong Kong, for example, following the Umbrella Movement, there has been a slow transition to tightened censorship [15].

Even though social media platforms do not have the explicit power of governments, their jurisdiction sees very few border lines and thus carries significant weight. Ultimately, freedom of speech and expression should be a fundamental right, and a social media platforms direct involvement in the restriction of this right can be not only costly to them but creates clear moral concerns.

Although it remains true that misleading content or the spreading of false information is harmful, censoring one of the most important freedoms, we argue, is even more harmful. Here, we propose a new method, one that not only protects free

speech, but also communicates potentially harmful content to users prior to viewing.

Our method is centered on the idea that the people of the platform should dictate if content should be deemed as harmful or not. If content is said to be harmful, by the community, we will label it as harmful and notify the user, rather than simply removing it. This method protects viewers from content they wish not to view, while also preserving basic freedoms of speech online.

The main goal of our method is to offer transparency to users prior to viewing content. For this reason, we notify the user of all relevant flagging information prior to clicking on a content.

In the 3DTube main user interface, the likes and dislikes of content are displayed on the platform prior to the user clicking on a photo or video, which is one indicator to the user of whether or not that content is worth viewing. This strategy can cut down on the role of “clickbait” in misleading titles or thumbnails attracting users and views, a major issue of today’s social media.

As there is a direct correlation between “clickbait” and views [16], content creators are motivated to take part in this malpractice. Openly communicating the likes and dislikes of content, is one simple way for the community to regulate “clickbait” and misleading information from content creators.

Being transparent in likes and dislikes is a start, but is not enough to claim a truly self-policing platform. This is why we created our user content reporting system. After clicking on a piece of content, the user is given the option to report a piece of content, if they deem necessary, by clicking on a report button.

After clicking on the report button, 3DTube pulls up the interface in Fig. 5, where the user selects why that content is harmful and clicks submit. Their report is then recorded.

A single reporting may not deem a content as harmful, however. Our current implementation follows a threshold of views to reports. If a content is reported over 10 percent of the time, we then flag the content on the home center to notify the user of a potential violation. This 10 percent threshold may be a bit low or high depending on circumstance, and is hence subject to change in the future as necessary. Some form of threshold does seem necessary, however, in order to account for unnecessary reporting, for example.

Fig. 5 displays the updated card when a content has been flagged. Users are still able to view flagged content. Another important part of our design is that we communicate why a particular content has been flagged. If the user hovers their mouse over the warning icon in the upper left-hand corner of Fig. 5, we then display a pop-up communicating why that content has been flagged. This allows the user to see why a certain content has been flagged prior to viewing the content.

It must be noted that our system may fall short when illegal content is posted to the platform. Regarding illegal content,

Submit a Report

Excessive violence or gore

Pornographic or overly explicit imagery

Promotes hateful or antagonistic behavior

Contains abusive content

Content is not 3D

Contains spam

Title is purposefully misleading

Violates copyright

Exposes private or confidential information

Caption contains harmful or explicit language

Additional Comments

Close Submit

Fig. 4. The reporting interface where users select why a certain content is harmful.

3DTube will simply remove that content, regardless of whether or not it was reported or not by users. However, this is only the last resort, as it is costly for 3DTube to constantly watch new posts. Furthermore, we are not sure if the website manager is knowledgeable about laws to make an informed decision on content removal — such training could be costly.

Another potential problem is that the warning sign in Fig. 5 might not work well for children, as they do not have the capacity to make informed decisions regarding their own internet practices. This is a well-known internet issue, however, and is why parents must effectively control their children’s access to the internet.

IV. OTHER NOTABLE FEATURES

3DTube currently supports both English and Chinese, with Google translate also being functional on all pages of the site. With that, we have decided to integrate uploaded content from the Chinese supported site and the English supported site.

The rationale behind this was that in keeping content specific to language, culture, or location, there becomes a separation that could potentially be an unintentional censorship of perspectives and ideas. As an open platform, we wanted to avoid this.

Furthermore, the attraction of 3D content is many times

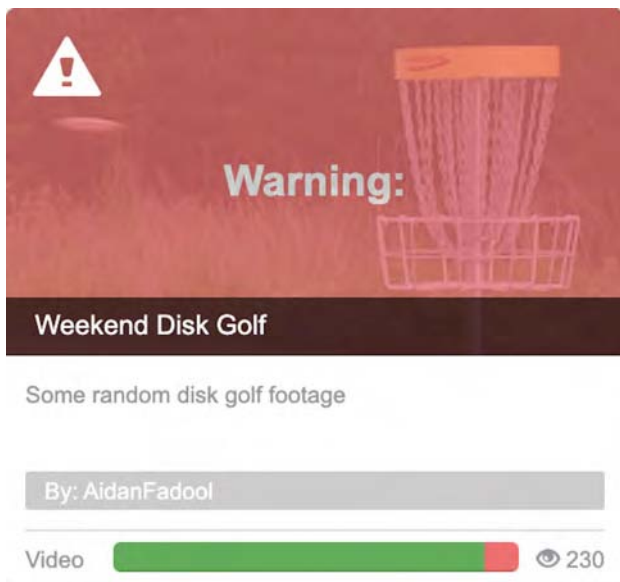


Fig. 5. The content card that is displayed when content is deemed as harmful in any way.

in the experiences of 3D and is not necessarily bound by a linguistic understanding, therefore, we believe that our platform could newly explore worldly integrations of content.

V. FUTURE PLANS

In the future, regarding 3DTube, we hope to grow its features so that our platform transforms into a more holistic platform for content sharing.

Such future features include adding a circle of friend feature, where individuals can share content within a specified circle of friends. This feature is attractive as many people do not like sharing personal 3D photos and videos openly on the internet.

We also have explored the idea of adding more complex search features and a recommended page, where users are provided with recommended content based on prior viewing history. This type of feature would require a much more comprehensive backend, however, and may provide itself to be more costly.

Something else that we have started working on and are hoping to continue to grow is our 3DTube View mobile application. The purpose of this application was for users to be able to view 3D content from their mobile phones without having to navigate to our website. Other benefits of the mobile applications are the potential for viewing 3D content hands-free, for a fully immersive 3D content viewing experience. Our 3DTube View application will eventually replicate most features of our 3DTube, with the application potentially having its own special features as well.

VI. CONCLUSIONS

In conclusion, this paper details a user-policed platform, which is beneficial to the platform for not only protecting

basic freedoms, including freedom of speech and expression, but also in saving the platforms time and resources, as the platform must spend less resources in policing content.

It is still too early to predict how fast this 3D-exclusive social network will grow. The current barrier for ubiquitous use of 3D contents includes the availability of 3D imaging devices, although the cost of such equipment is quickly going down. Another factor is how 3D vision based machine learning technology [3], [17] can meet the expectation of a wide array of applications, such as vision, audition, and natural language understanding.

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