

Exploring the Community of Blind or Visually Impaired People on YouTube

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ABSTRACT

We explore a community of blind or visually impaired (BVI) people through video blogs (vlogs) on YouTube. Many researchers have used vlogs as a means of identifying communities of video bloggers (vloggers). Nevertheless, little is still known about how BVI vloggers interact through vlogs in video-based social media. To fill the gap, we identified BVI vloggers and types of the vlogs they produced by analyzing videos on YouTube. Also, we found how BVI vloggers were connected with each other through vlogs. To our knowledge, this is the first attempt utilizing vlogs to understand the community of BVI people on YouTube.

Keywords

Blind; Visually Impaired; Vlogs; YouTube; Online Community; Accessibility

1. INTRODUCTION

The number of people sharing videos on social media (e.g., YouTube) is increasing. As of June 2017, it is reported that the total number of YouTube users is over 1,000,000,000 [8]. In addition, 44% of all internet users in the world watch a vlog each month [7]. As the demand of vlogs increases, it is important to understand benefits of vlogging. It is known that personal and contextual disclosure by a video medium build social support among vloggers with chronic illness and commenters on YouTube [2]. Vlogging also enables people to share knowledge with other people in the similar situations (e.g., medication treatment of cancer patients) [3].

Along with the growth of vlogs, researchers investigated the communities of vloggers with diverse background in video-based online communities. One study focused on the population of YouTube users with motor impairments [1]. This study revealed how they interacted with touchscreen devices by analyzing YouTube videos. Another study focused on the population of patients with Anorexia Nervosa [5]. This

study showed how the patients expressed their symptoms and experiences to a public audience through vlogs by analyzing metadata, such as viewers' comments, text of script, number of views and subscribers on the vlogs produced by the patients. Nevertheless, to our knowledge, no prior studies investigated how BVI vloggers interact through vlogs. To fill the gap, we collected and analyzed vlogs produced by BVI vloggers on YouTube.

2. METHOD

We gathered videos produced by BVI people on YouTube. To extract the videos, we queried them from YouTube using combinations of a conditional keyword ("visually impaired" or "blind") and a vlog keyword ("vlog", "vlogs", "vlogger", "vlogging" or "blog"). We focused on reviewing vlogs where BVI people talk to viewers in order to understand how BVI people share their thoughts and stories with others. The eligibility criteria for identifying videos were: 1) video must contain either "blind" or "visually impaired" in its title and/or description, 2) video features only one person. Instead, we excluded commercial, marketing, sponsored, or product review videos that focus more on advertising products or organizations, as well as game plays or animated videos that do not feature the vlogger. After eliminating duplicates, we identified a final set of vlogs produced by individual BVI vloggers.

Next, we watched the collected vlogs to identify the characteristics of each vlog and tagged them with codes based on the similarities between them using an open coding method [4]. We then used the codes to assign one of the following categories to each vlog: Tag, Q&A, How-To/Guide, Awareness, and Daily log. A Tag vlog is produced when a vlogger is mentioned by another vlogger to answer certain questionnaire and recommend other vloggers to produce similar videos. For instance, Visually Impaired People Tag vlogs consist of 10 questions (e.g., What is the best part about being blind or visually impaired?) that help BVI vloggers present their vision conditions and share their thoughts or stories about blindness with others. On the other hand, in Q&A vlogs, vloggers voluntarily answer a specific question or a set of questions from friends, family, comments, or other resources. How-To/Guide vlogs explain structured steps or processes that viewers can follow while Awareness vlogs provide information or advice about lifestyle, experiences, or community of BVI people. Daily logs are videos in which vloggers share their thoughts or stories about their daily life. Among the categorized vlogs, we watched Tag vlogs again

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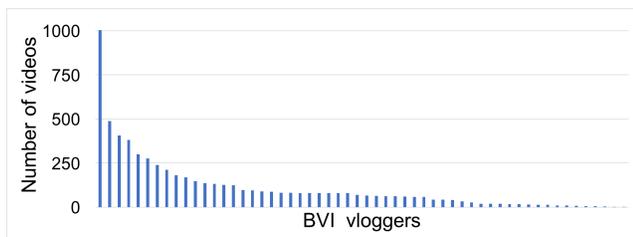


Figure 1: The distribution of the numbers of videos across 56 BVI vloggers.

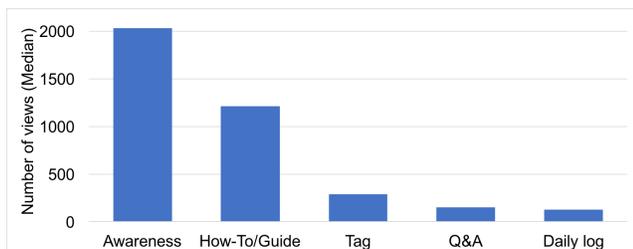


Figure 2: The popularity of the categorized vlogs is represented by the median of the numbers of views.

to identify BVI vloggers producing the vlogs. We traced the next tagged vloggers from the identified vloggers to investigate how they are connected each other through the vlogs.

3. FINDINGS

We found 56 individual BVI vloggers (37 females) after reviewing 115 filtered vlogs. The vloggers produced 6,178 videos in total (avg: 110.3, std: 160.4). This high standard deviation indicates that there is a large gap between those who produce many videos and those who do not (see Figure 1). Also, we identified five distinctive categories of vlogs produced by the vloggers that present the characteristics of the vlogs: 37 Daily logs, 35 Awareness, 20 How-To/Guide, 16 Tag vlogs, and 7 Q&A. In particular, the Awareness category was most popular to viewers, as the median of numbers of views for Awareness vlogs was the highest (see Figure 2). In addition, we identified how 29 BVI vloggers were connected with each other by Tag videos (see Figure 3). Each node represents an individual vlogger and is labelled with his/her initial. Each arrow indicates the direction of influence from one to the other by tagging. This connected network of vloggers shows that vlogging may facilitate social and peer supports between them.

4. CONCLUSION AND FUTURE WORK

The primary contribution of this study was to explore community of BVI people through vlogs on a video-based social media. In addition to common empirical investigation process, our study shows that the method analyzing the vlogs and vloggers could be alternative strategy to identify the needs of BVI people who use video-based social media, such as YouTube. Similar to having supports from public audience on other social media platforms [6], vlogs provide open communication channels for BVI people. This suggests potential opportunities for designing tools to facilitate communication among BVI people. As for the future work, we

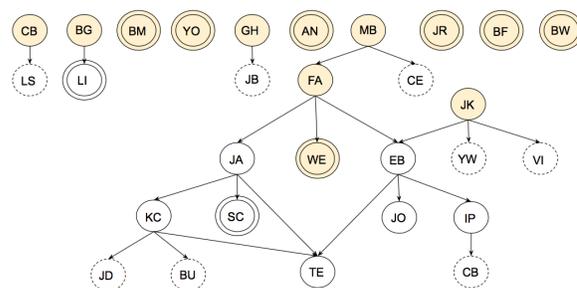


Figure 3: Yellow-colored nodes represent BVI vloggers who produced Tag vlogs we identified voluntarily, white-colored nodes the next tagged vloggers, concentric-circled nodes the vloggers who do not tag others, and dotted-line nodes the vloggers who were tagged by others but did not produce vlogs yet.

plan to conduct interviews with BVI vloggers on the connected network to identify their needs and barriers when interacting with other vloggers or viewers. In particular, the large variation of the numbers of videos produced by BVI people suggests the needs of conducting separated interviews for those who produced many videos and for those who did not based on the level of vlogging experience.

5. ACKNOWLEDGMENTS

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