

Archive By Army: Platform for Crowdsourcing Community-Specific Alt Text

DREU 2023 Final Report

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1. INTRODUCTION

Alt text, or alternative text are text-based image descriptions that are usually embedded in the code of webpages or software in other domains, such as mobile phone applications on iOS and Android [4]. It is intended to make images accessible to visually impaired users who might require the help of a screen reader. In 2016, the number of people with a visual disability in the United States was estimated to be 7,675,600, accounting for 2.4% of the U.S. population [5]. Despite this large number, alt text is still underutilized across the web and software. A previous study found that only 39.6% of important images on the homepages of the 500 most high-traffic websites are assigned alternative text [6]. The percentage is even less regarding social media sites such as Twitter, with only 0.1% of images containing alt text among 1.09 million tweets with images sampled [4].

Furthermore, creating high-quality alt text is also challenging. Next to manually created alt text, AI systems have also been adopted to produce alt text. However, there are problems with both sources that pose a challenge to generating high-quality alt text. While humans can write detailed and accurate alt text, many content authors often do not take the time and effort to create alt text [4]. Additionally, the quality of human-generated alt text can greatly vary based on their understanding of alt text [1].

Current research has looked at how 1) to educate people in writing useful alt text, 2) to use machine learning and other methods in order to scale alt text creation in large social media environments, and 3) the importance of contextual clues in provided alt text. The largest problems with alt text continue to be: 1) motivating people to create and use the alt text functionality when uploading images and 2) having the alt text be contextually relevant for a specific community.

This project aims to create a community-based social media platform to help generate, verify, and provide alt text that is contextually relevant for community members. The project looks into how to design to motivate community members to participate in the crowdsourcing aspect of the alt text platform even if they are not disabled, and how this design potentially helps educate non-disabled people on the importance of using alt text.

2. BACKGROUND

2.1. Community Case Study: BTS Army

Dr. Ringland has conducted an ongoing ethnographic study of the ARMY community on various social media platforms, including Twitter [3]. ARMY is the fandom of BTS, a musical group of seven members from South Korea. BTS has a large and consistently growing fanbase ever since their debut in 2013, ranging in the millions. ARMY has proved to be a diverse, global community, representing more than 100 countries [3]. Initial research has also shown that this

community is highly motivated by altruism, actively advocating for social justice causes. Exemplary of this is the #MatchAMillion campaign, in which ARMY raised more than one million UDS for the Black Lives Matter movement to match a donation made by BTS and their company [3]. Additionally, this community is digitally savvy, whose presence can be found across a variety of social media platforms. Given this, the ARMY community will be a good place to pilot this community-based alt-text platform.

2.2. Alt Text and Image Sharing

Prior to the start of the project, a survey was conducted in the ARMY community in regard to their knowledge of alt text and image-sharing practices. The study found that over 60% of content shared among the community is images, gifs, and videos. The survey respondents also show overwhelming favor for an app specifically dedicated to sharing BTS media content. However, only 1.9% of respondents said that they always include alt text in the images and gifs they share, while nearly 60% said they never include alt text and/or do know about alt text and its use. Nonetheless, the majority of the community shows enthusiasm for learning how to write alt text and contributing to a community-wide effort to provide alt text.

3. METHODS

The research employs an ongoing ethnographic study conducted primarily by Dr. Ringland, utilizing findings and observations from the ARMY community across platforms to enable a community-informed design. Further down the development process, we will utilize common user research methods such as surveys, interviews, and usability testing.

4. CURRENT WORK

As of now, the initial research and initial designs of the platform have been completed. Team members are currently working on the development of the website.

The platform will be housed on a website that provides a place for community members to do the following key tasks:

- Crowdsource the creation of alt text and other metadata (e.g., tags, titles, dates) for community-specific images and gifs
- Track the changes made to alt text and other metadata for images
- Crowdsource verification of alt text and other metadata (e.g., through an “upvote” type function)
- Search for images along with their alt text and other metadata
- Download images
- Provide educational tutorials about how to write quality alt-text

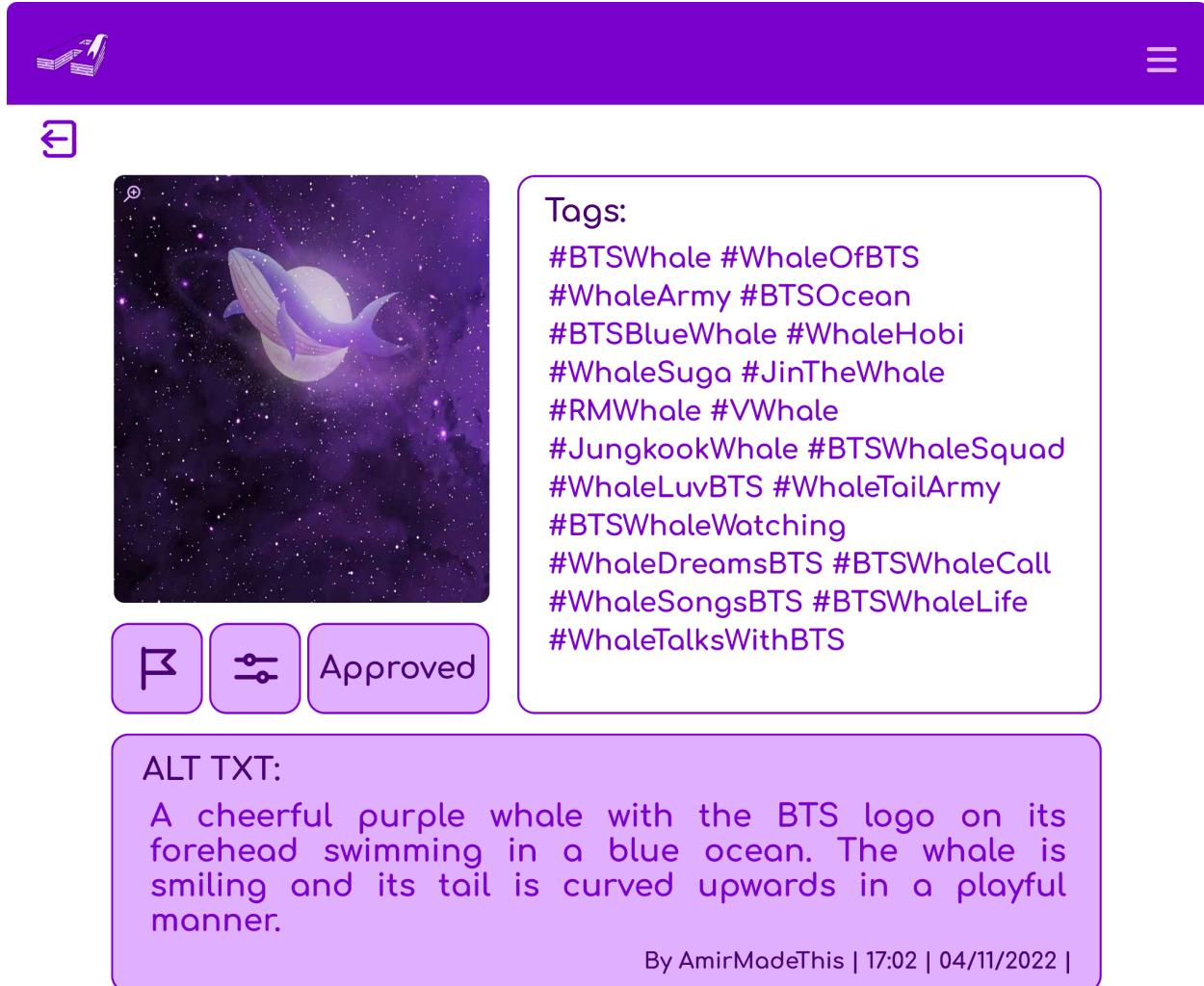
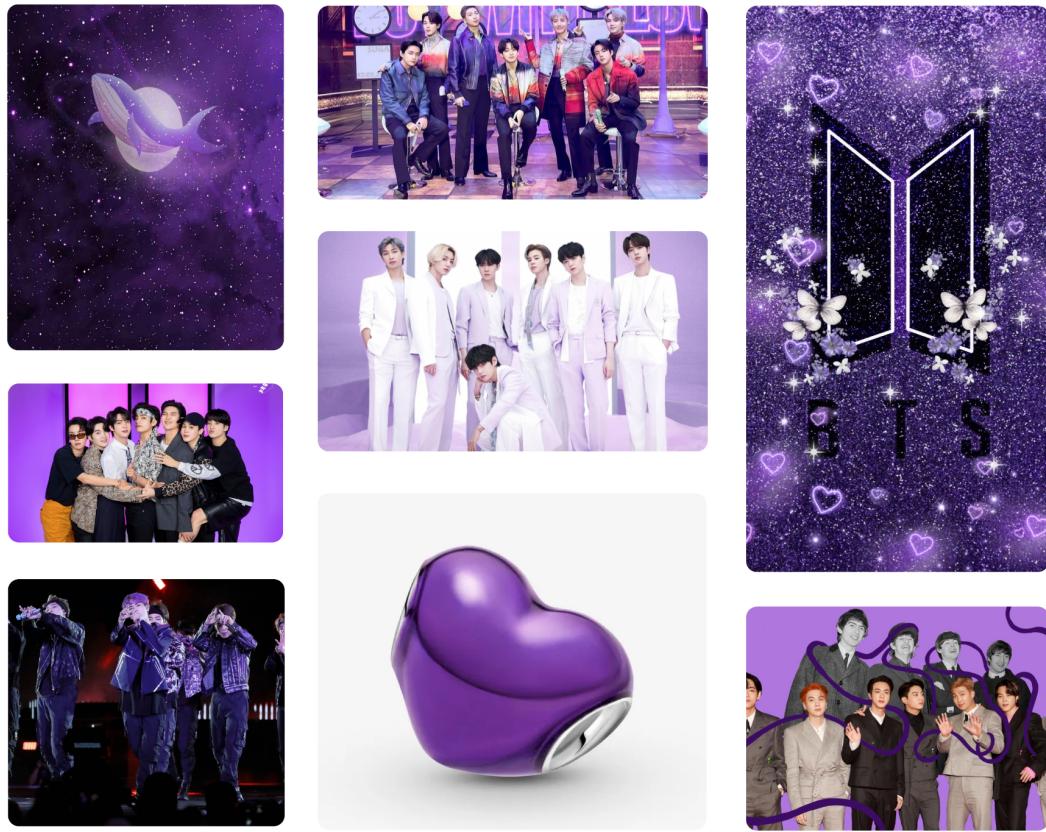


Figure 1: Initial design for a single post display of the website.



1, 2, 3, ..., 613

Figure 2: Initial design for the main page.

Help Center

Help Center

Alt Text

- What is Alt Text?
- How to Alt Text?
- Best practices for Alt Text
- Examples of Alt Text
- Further reading on Alt Text

Tagging

- What is tagging?
- How to tag?
- Best practices for Alt tagging
- Examples of tagging
- Further reading on tagging

Pictures

- What pictures are allowed on the archive?
- What pictures are not allowed on the archive?
- How to upload pictures?
- How to rate pictures

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Figure 3: Educational page for tutorials on how to author alt text, with Plorbo, a community-specific possible mascot interacting with the tutorials to better the learning experience.

5. FUTURE WORK AND CONCLUSION

Since this is a long and ongoing project, I did not get to participate much in the user research process. We anticipate the first prototype to be finished by the end of September in order to start individual and group testing with community members who volunteered through a prior survey. After the initial beta testing, we plan to close down the website for final refinements before officially deploying into the community in October or November. We also plan to conduct analysis to answer the initial research questions 1) how to design to motivate community members to participate in the crowdsourcing aspect of the alt text platform even if they are not disabled, and 2) how this design potentially helps educate non-disabled people on the importance of using alt text.

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