DESIGNING VIRTUAL CHARACTERS AS EDUCATIONAL CONTENT SUPPORT FOR ANANTAKA FOUNDATION

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Abstract

With the rise of digital technology, social media platforms such as Instagram and YouTube have become essential tools for disseminating educational materials, reaching a broader and younger audience. This project focuses on the design of virtual characters as a supportive tool for educational content production by the Anantaka Foundation, a non-governmental organization dedicated to social education in Semarang. Virtual YouTubers (VTubers), animated characters who interact with audiences via video platforms, represent a growing phenomenon in digital content creation. This project proposes creating a VTuber model that aligns with Anantaka's signature brand identity, aiming to enhance the foundation's outreach, especially among teenagers, by integrating anime art styles. The design process involved several stages, including brainstorming, sketching, outlining, coloring, and rendering, using digital tools such as Clip Studio Paint. The final product will serve not only as a visual mascot but also as an engaging element in Anantaka's educational content across social media platforms. By creating a virtual character, this project seeks to attract new audiences, maintain brand identity, and offer a fresh, interactive way to disseminate educational information. This innovative approach demonstrates the potential of VTubers beyond entertainment, proving their effectiveness in the fields of education and social outreach.

Keywords: Digital Media, Character Design, Virtual YouTubers, Educational Content

INTRODUCTION

Entering the 21st century, humans are faced with rapid technological advancements, one of which is the development of information technology. Nowadays, society can easily access various information through social media, such as national news platforms available on smartphones. This has led to a change in behavior and the way people think, as they become more responsive to the information they receive and more active in searching for it. For instance, people today are more likely to search for information online rather than relying on conventional information sources like television or newspapers (Zaharany et al., 2021). With the advancement of technology, social media has become the primary source of information for the younger generation, replacing the role of traditional media like television and newspapers. This has led to significant changes in how people get news and entertainment, as well as how public opinion is formed. One key factor driving this change is the higher accessibility offered

by digital technology. With mobile devices, users can access information in real-time from various platforms, including social media, blogs, and websites, without being tied to specific times or locations (Nisa et al., 2024).

The use of social media in today's digital era has made it significantly easier for individuals to search for important information in various fields. Social media allows users to interact and share information in real-time, making it an effective tool for spreading news and educational materials (Ganggi, 2018; Mutma et al., 2023). Platforms like Instagram, YouTube, and others not only serve as communication tools but also as the primary source of fast and easily accessible information. With a large number of users, these platforms also serve as a means to build information networks among users, where information can spread quickly, especially during crisis situations, such as the spread of information related to COVID-19 by government agencies via social media (Dwitania & Pratiwi, 2022). For example, Instagram is not only used to share photos and videos but also as a platform for disseminating health, education, and political information. Studies show that users rely on Instagram for relevant and up-to-date information because the platform offers attractive visuals that can educate and inform the public (Jasmine & Permatasari, 2023).

Soon, the term "Content Creator" became popular across the entire social media landscape. Content creators, especially those producing video content, have become a growing phenomenon influencing how people access information and entertainment. On platforms like YouTube, TikTok, and Instagram, content creators produce not only entertaining but also informative content, many of which focus on various themes, from beauty to health (Liu et al., 2024). One development in the world of content creation is the rise of Virtual YouTubers, or VTubers. The term VTuber refers to animated characters or avatars that use modeling technology to interact with audiences on video platforms like YouTube and Twitch. This phenomenon first appeared at the end of 2016 and has since rapidly grown into an integral part of the entertainment and digital marketing industries. VTubers are usually voiced by voice actors, who provide the voice for the characters. They create content across various genres, from gaming and music to discussions, intending to entertain and engage audiences directly (Deng, 2023).

The history of Virtual YouTubers started with a content creator from Japan named Ami Yamato, who used computer-generated characters for vlogging in 2011. However, the term 'VTuber' was first introduced by Kizuna Ai, who debuted in 2016. Using motion capture technology, Kizuna Ai attracted a large following and became an icon in the VTuber community (Ponsen & Setiana, 2023). This character featured in-depth interactions with viewers via webcam and microphone, offering content that included video games, songs, and casual conversations. Kizuna Ai's success inspired many individuals and studios to create other VTubers, expanding this trend into a variety of characters and content (Widodo et al., 2023). In addition to Kizuna Ai, the first VTuber from Indonesia was Maya Putri. Maya debuted on August 20, 2018, and is known for producing various content, including singing (covering songs), interacting with fans, and engaging in fun activities through YouTube. To this day, Maya Putri is considered a pioneer in the VTuber scene in Indonesia. However, she has been on hiatus since 2019 and has not posted any updates on her YouTube channel.

As time passed, the VTuber industry grew rapidly, with many agencies being formed

specifically to manage and promote VTubers. One of the most famous is Hololive Production, launched by Cover Corporation. Hololive has several well-known VTubers who produce content in multiple languages, including English and Indonesian. Hololive Indonesia, for example, was introduced to create Indonesian language content and has gained significant attention among local and international fans (Aulia & Iqbal, 2025; Liman, 2023). In addition to Hololive, more local Indonesian agencies are entering the VTuber market. One such agency is Re:Memories, which started as an unnamed community founded by Evelyn in 2019. In 2020, the community rebranded as Re:Memories and introduced new members, including Lily Ifeta, Chloe Pawapua, and Reynard Blanc, as part of its second generation. The presence of VTuber agencies in Indonesia marks a shift in how people consume entertainment, where virtual characters now compete with traditional celebrities and gain attention in events and creative campaigns. This trend benefits both content creators and fans, who enjoy a wide range of variations and innovations in the content presented (Liman, 2023).

Seeing the growing popularity of VTubers in Indonesia, many people, especially teenagers and adults, are beginning to develop the VTuber concept for purposes beyond live streaming. One example of applying the VTuber concept in the government sector is the use of a virtual character to create informative content about weather and natural disasters by BMKG Gowa, South Sulawesi. This character, named Shinna Faultline, became quite popular among the VTuber community from the moment of her debut. Shinna's content primarily includes up-to-date weather information, news about natural disasters, and sometimes funny internet trends. Shinna's presence proves that the VTuber concept can be used not only for entertainment but also for educational and informative purposes. The role of content creators in delivering information and education to the public is becoming increasingly important, especially with the growing use of social media and digital platforms as primary sources of information. Research has shown that social media can be an efficient tool for expanding learning materials and sharing knowledge among users (Prasetya et al., 2024).

Image 1. VTuber from BMKG Gowa
(Source: Instagram)

To maximize the delivery of educational content and meet target objectives, it is necessary to have a community or organization with experience in public education. One

example is Anantaka. Anantaka is a non-governmental organization focusing on educational, arts, and cultural issues in the city of Semarang. Established in 2017, Anantaka has been actively developing social education programs ever since. One of Anantaka's programs is to support street children in returning to school, as well as educating children and teenagers at the elementary to junior high school level about everyday issues. To improve performance and reach a broader audience, Anantaka plans to start using social media platforms like Instagram and YouTube as tools to provide important and educational information to the public.

This project aims to support one of Anantaka's programs by creating educational content through character design, which will be used as a supporting tool in producing educational content. Furthermore, this project is expected to help expand its reach to a broader audience.

IMPLEMENTATION METHOD

In the creation of the project "Designing Virtual Characters as Educational Content Support for Anantaka Foundation," several stages were involved, as follows:

1. Pre-Production
   a) Discussion and Socialization

   During the pre-production phase, the author held discussions and socialized with Anantaka to clarify the objectives and develop the concept that would later be used for creating educational content for Anantaka.

   b) Ideation and Brainstorming

   After determining the concept, the next step was brainstorming and gathering references to be used in the character design process.

   c) Preparation of Tools and Media

   Next, the required tools, such as laptops, a mouse, and a pen tablet, were prepared.

   d) Determining the Technique

   After preparing the tools, the author chose the technique for creating the work. The author decided to use digital techniques with the Clip Studio Paint application.

2. Production
   a. Sketching

   The production phase began with creating sketches based on the brainstorming results and references that had been collected. This process was done using the Clip Studio Paint application, previously prepared on the computer. Sketching was done using a Pen type that was slightly rough.

   b. Outline

   After completing the sketch, the next step was the lineart process, also known as outlining. The purpose of creating the outline was to clean up the sketch and give the character a defined shape.

   c. Coloring and Rendering

   Once the outline was complete, the next step was rendering, or detailing the coloring process. This phase involved coloring using Base Color and Shading.

   d. Finishing

   Once the rendering process was finished, the last step was the finishing phase, which

involved refining the Outline and finalizing the Shading before the character design was handed over to Anantaka.

    e.   Exporting

Once the design was finalized, the character design was exported in .png format.

3. Post-Production

    a.   Reviewing

Anantaka then reviewed the final output before the final handover.

    b.   Submission

Once approved by Anantaka, the exported file in .png format and the project file in. clip format were handed over to Anantaka for use in creating educational content.

RESULTS

Anantaka, as a social foundation working to improve the welfare of street children while promoting education and the arts among children and teenagers, has significant experience in educating and improving the welfare of children, including street children and victims of bullying. As technology and times evolve, Anantaka is planning to expand its educational programs. One of the programs involves creating educational content that will be uploaded to social media platforms like Instagram and YouTube. Social media offers a way to share engaging content, such as tutorial videos and infographics, which can reach a wider and more diverse audience. This is especially important for the younger generation, who are more familiar with using technology and social media in their daily lives (Pambudi et al., 2023). The content published can utilize more interactive and visually appealing elements, motivating students to learn (Husna et al., 2021).

To fulfill Anantaka's needs, the author and Anantaka discussed the creation of a product that could support Anantaka's educational content. From these discussions, it was identified that Anantaka needed a character design that could serve not only as a mascot but also as an engaging visual element in the creation of educational content. The character was expected to attract a new audience while maintaining the unique traits of Anantaka so that it would be easily remembered by both new and existing audiences. One of Anantaka's distinct traits is its staff uniform, a Polo shirt in bright red, which makes Anantaka easy to recognize in the community, especially in Semarang.

Image 2. One of Anantaka's staff members on duty
(Source: Author's documentation)

To meet Anantaka's needs, the author decided to create a "VTuber Model" type character. This type of character can later be developed into a VTuber character after going through Live2D rigging so that it can move. This type was chosen for its high flexibility, as the character design could be used even without going through rigging. Additionally, to reach a wider audience, especially teenagers, the author chose an anime art style, as anime culture is very popular among young people. The character will still showcase Anantaka's signature, the red Polo shirt, to maintain the identity of Anantaka. This also brings a creative and innovative touch to the virtual world while still preserving the familiar staff uniform.

DISCUSSION

To facilitate understanding, the author divides the key discussion into several parts, as follows:

a. Sketching & Brainstorming

Creating sketches and brainstorming is a crucial step in the character design process, both in graphic design and product design. Ceylan and Soygeniş highlight that the design process prioritizes the combination of various cognitive activities, where sketches help facilitate the exploration of new ideas (Ceylan & Soygeniş, 2022). Through sketches, designers can easily test various design elements, such as proportions, body structure, and facial expressions, before moving to a more detailed development stage.

Image 3: Sketching result

To maintain the signature look of Anantaka, the character design needed to reflect reality. Therefore, the character was depicted wearing a long-sleeved Polo shirt. The character's face was designed to look like a young woman who appeared attractive and cute, reminiscent of characters from popular anime series. Special attention was given to the clothing design, as the main target audience is teenagers, so it was important to avoid overly tight or revealing clothing. The character is depicted wearing cargo pants, which are loose and non-restrictive. The pose was created to show the character walking forward, with one leg slightly behind, suggesting a dynamic and lively character.

b. Outline

The function of creating an outline is an essential step as it helps define the basic shape, proportions, and structure of the character before more complex details are added. This process provides a clear framework and allows the designer to identify the key elements that will shape the character (Kuspiyah et al., 2021).

Image 4. Outline creation process result

In this phase, the author re-emphasized lines that were previously inconsistent or rough, shaping the objects into clearer and sharper forms. This step is important in character creation and will significantly aid in the following stages of coloring and rendering. In addition to emphasizing lines, new objects, and details were added to complete the character and make it appear more lifelike.

c. Coloring and Rendering

The coloring and shading process is crucial in character drawing as it enhances aesthetics and gives dimension to the character. Coloring allows the designer to bring the character to life, providing colors that match the character's personality and the context of the story, while strengthening the emotions they want to convey (Kuspiyah et al., 2021). Shading also plays a vital role in adding depth and realism to the character. Proper shading techniques create the illusion of volume and lighting, making the character look more alive and dynamic. Shading typically involves varying dark and light tones that follow the direction of the light source, adding a three-dimensional feel to the character (Yulianti, 2023).

Image 5. Base color and shading (rendering) implementation result

In this process, the character began to look more alive, although not yet perfect. The use of red as the base color for the character's clothing matched the hex code found in Anantaka's logo, E52B50. To make it more contrastive, black was chosen for the pants, and white accents were added to the sleeves and shirt cuffs to separate the red from the black. The blue in the eyes symbolizes trust, dedication, and responsibility, aligning with Anantaka's principles of earning public trust to bring about positive change, as well as its dedication and responsibility in carrying out its tasks. The shading process included adding shadows and light effects that made the character appear more vibrant and dynamic.

d. Finishing

The finishing phase is the most critical stage in character design because it requires precision to minimize any design flaws or errors before handing the design to the client.

Image 6. Final result of the character design process

In this final phase, besides refining lines and colors that were less neat, the author also added four facial expressions for the character. This not only made the character appear more lifelike but also served as a reference for when the character is developed further using Live2D rigging systems, as seen with typical VTubers. Adding these four expressions enhanced the flexibility of the design, meaning that it could already be used to create content without the need for Live2D rigging, simply by utilizing the available expressions.

e. Exporting and File Submission

Once the project was considered complete, it was exported as a .png file and sent to Anantaka, along with the Clip Studio Paint project file in. clip format.

CONCLUSION

The project titled "Designing Virtual Characters as Educational Content Support for Anantaka Foundation" focuses on creating a virtual character model that will be used as a support tool in creating educational content for Anantaka Foundation. The character created is a representation of Anantaka's staff, depicted as an anime character with attributes and elements that align with the real-life staff. The author aimed to create a unique virtual character design, without losing the distinct appearance of Anantaka's staff, which is characterized by the bright red Polo shirts.

The goal of creating this virtual character is not only to support content creation but also to bridge the gap in reaching new audiences, especially teenagers who are fans of anime and VTuber culture.

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