AI-Generated Media for Exploring Alternate Realities

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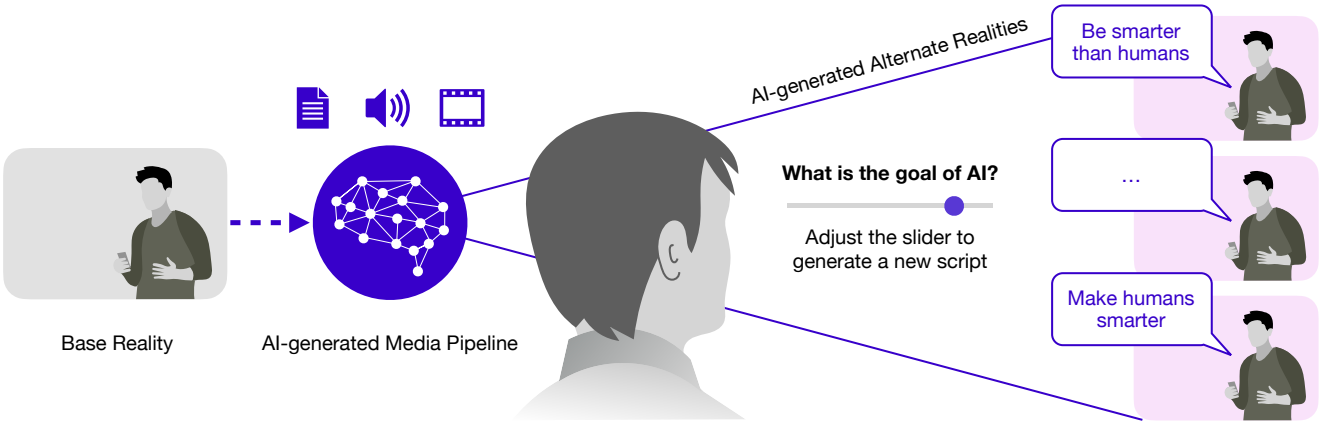

Figure 1: Our proposed approach utilizes AI-generated media to enable users to explore and interact with plausible future scenarios. To demonstrate this concept, we created "OpenOpenAI," a web-based platform that employs AI to generate multiple versions of a speculative keynote speech by OpenAI's CEO, Sam Altman.

ABSTRACT

This research investigates the potential of AI-generated media in enabling users to create and engage with alternate versions of reality. Drawing inspiration from the speculative design approaches, we propose leveraging modern AI techniques for the procedural generation of text, audio, and video to construct interactive possible futures. As a proof of concept, we developed "OpenOpenAI," a web platform that harnesses AI to depict varying renditions of a hypothetical 2024 keynote address by Sam Altman, CEO of OpenAI, based on user input. Although the platform may not influence the actual direction of the keynote address by Sam Altman and the direction of OpenAI, the system encourages participants to explore and imagine other ways that AI development could go and reminds them of alternate choices and values they could advocate for. Through a pilot user study, we seek to answer two research questions: 1) How might AI-generated media help users expand their perceived range of possible futures? and 2) How might a tool for simulating alternate realities be used to better understand the general public's opinion on the explored topic? The findings of this study contribute to the growing body of knowledge on the responsible use of AI for exploring speculative futures and understanding public opinion on critical issues such as the development of AI.

CCS CONCEPTS

• **Human-centered computing** → **Human computer interaction (HCI)**; **Systems and tools for interaction design**; **Collaborative and social computing systems and tools**; • **Applied computing** → **Performing arts**; **Media arts**; **Fine arts**.

KEYWORDS

AI, Generative AI, LLM, Human-Computer Interaction, Alternate Reality

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1 INTRODUCTION

The ability to imagine alternative futures is critical for envisioning the seemingly unthinkable and navigating our world's complex challenges. As visionary science fiction author Ursula K. Le Guin believed the need to cultivate the collective imagination of alternative ways of living and being in our modern world: "We'll need writers who can remember freedom — poets, visionaries — realists of a larger reality" [35]. Science fiction literature and films help us imagine such alternate realities. For instance, Afrofuturism, as seen in Marvel's "Black Panther," depicts a technologically advanced African nation, presenting an empowering vision of what could have been and still can be. "The Man in the High Castle," by Philip K. Dick, imagined dystopian worlds where the Nazis emerged victorious in World War II, prompting reflection on the fragility of our timelines. Even the recent "Barbie" film offers a unique, fantastical take on the iconic doll's universe, deviating from our own reality to present a thought-provoking reimagining of society. These speculative visions expand our collective imagination and challenge us to contemplate alternative paths for humanity.

The idea of exploring alternative futures is echoed in various design-related fields, such as design futures [14, 50], speculative design [4], and design fiction [10]. These fields highlight the role of design in probing how values and decisions shape particular futures, simultaneously questioning the underlying norms and assumptions that guide them. Haraway's concept of "speculative fabulation" is also relevant in this context, as she explores how material artifacts contribute to the process of "worlding" [30]. By creating space for imagined aspects of real circumstances, we can gain fresh perspectives and make sense of those circumstances in novel ways [23].

Despite their potential for fostering critical thinking, speculative design approaches have been criticized for their limited use in direct public engagement. Scholars have argued that these interventions are often confined to museum exhibitions rather than being employed for social and community involvement [21, 24]. In response to this critique, projects have emerged that actively engage underrepresented communities through participatory workshops and games. These initiatives aim to collaboratively imagine alternative collective futures that challenge dominant narratives [12, 31, 32, 36]. The convergence of speculative and participatory methods in these projects has been described using various terms, such as "collaborative speculation" [37], "participatory speculation" [27], and "speculative civics" [22], highlighting the growing interest in leveraging speculative design for community engagement and social change [24].

Recent advancements in generative artificial intelligence (AI) have enabled new possibilities for dynamically creating customized, multimodal media. This paper presents AI-generated media as a means for exploring alternate realities to procedurally generate text, audio, and video. As AI is a rapidly evolving field that requires public engagement and input, we believe this platform can serve as a valuable tool for exploring the future of AI. To demonstrate the feasibility of this concept, we developed an interactive web platform called "OpenOpenAI." This platform leverages AI to generate various renditions of a hypothetical 2024 keynote address by Sam Altman, CEO of OpenAI.

Although the platform may have no influence on the actual direction of the 2024 keynote address by Sam Altman and the direction of OpenAI, the system empowers participants to imagine other ways that AI development could go and reminds them of alternate choices and values that they could advocate for. We are thus enabling "open-sourcing" scenarios where users traditionally have little input. This advocacy for open-sourcing is encapsulated in the application's name, "OpenOpenAI," which critiques OpenAI's evolution from a pure non-profit intending to democratize AI access to its current for-profit model. This proof of concept serves as a testbed for a pilot user study to determine the system's effectiveness in answering our research questions and illuminates new frameworks necessary for responsibly enabling the exploration of speculative futures. Our research questions are:

- How might AI-generated media help users expand their perceived range of possible futures?
- How might a tool for simulating alternate realities be used to better understand the general public's opinion on the explored topic?

The findings of this study contribute to the body of research on the responsible use of AI for exploring speculative futures and understanding public opinion on critical issues.

2 RELATED WORK

Speculative design and counterfactual thinking are powerful tools in HCI for examining the complex interplay between humans and technology. By creating alternative narratives and envisioning potential futures, these methods provide a ground for challenging assumptions, sparking imagination, and uncovering new possibilities in the evolving human-technology landscape [12, 14, 21, 24, 31, 32, 36, 50, 57]. Researchers have applied speculative design and design fiction to raise awareness of sustainability, which exemplifies the broad applications of these methodologies in engaging with societal issues [49]. Oogjes and Wakkary contribute to this discourse with their use of "Videos of Things" to speculate on the mediation of technology in human relationships [43]. This approach, along with counterfactual scripting as developed within Participatory Design by Huybrechts and Hendriks [33], emphasizes a pluralistic view of past and future possibilities. These inquiries not only expand our understanding of how speculative design can challenge and enrich our perspectives but also illuminate the paths toward more inclusive and imaginative futures.

The advancement of generative AI in creating dynamic narratives and digital characters presents novel opportunities in education, well-being, and entertainment [1–3, 7, 8, 11, 15, 20, 28, 29, 39, 41, 46, 51, 53–55, 60]. The exploration of narrative-to-video and narrative-to-presentation frameworks by Chi et al. and Xia et al. extends the domain of AI-generated content, showcasing the seamless integration of narratives with visual and presentation media for multimodal storytelling experiences [18, 59]. Tools for conditional narrative generation, leveraging generative pretrained language models, further showcase the potential for creative storytelling

based on specific prompts [19]. Within this domain, the use of virtual characters has been identified as a promising avenue for bringing narratives to life, providing users with relatable and interactive digital personas that can enhance the storytelling experience [6, 9, 16, 17, 25, 42, 45, 52, 58].

The intersection of AI and speculative futures has garnered significant attention in recent years. "In Event of Moon Disaster" is a multi-faceted project that leverages deepfake technology to create a speculative narrative exploring an alternate history where the Apollo 11 mission ended in tragedy. This project highlights both the potential positive applications and the dangers associated with deepfake technology, sparking a conversation about its implications for media, politics, and society as a whole [40].

Another notable work is "Machinoia," a symbiotic augmentation that extends the user with two additional heads, each representing unique variations of the user's identity. Using generative adversarial networks (GANs) to synthesize life-like human faces and artificial attitude models extracted from social media data, the project brought to life past and future versions of oneself [47].

Speculative design has also been applied to explore plausible scenarios for generative AI and human coexistence. The "gAIrden" and "Onion AI" concepts present speculative designs of future generative AI tools and their use cases. By analyzing these designs through lenses of environment, data privacy, embodiment, and play, the researchers engage viewers in a conversation about the future of technology. They explore how generative AI might change the production of creativity and culture while considering potential positive outcomes and negative consequences [38]. By weaving together AI advancements with the principles of speculative design, we hope to open a gateway to a realm where users are not just passive recipients but active participants in co-creating stories that resonate with diverse audiences.

3 METHODOLOGY

To demonstrate the concept of AI-generated media as a means for exploring alternate realities, we selected the title "OpenOpenAI" to reflect on the paradox of OpenAI's mission to democratize AI benefits for humanity while maintaining a closed-source approach. With "OpenOpenAI," we speculate on a future where OpenAI opens itself to public participation in shaping the direction of AI development. By constructing hypothetical future scenarios for a possible OpenAI 2024 keynote address, we engage in a conceptual exploration using the very technology under scrutiny—AI—to frame these narratives. OpenAI's prominence in the field provides a backdrop against which many have already formed opinions, making it a fertile ground for stimulating participation and reflection. This strategic choice leverages OpenAI's notoriety so as to foster engagement with our tool, granting us valuable insights into people's reactions to our system and AI-generated media for exploring alternate realities.

3.1 Interactive Platform for Exploring Alternate Realities

The web application interface presents the synthesized OpenAI 2024 keynote video at the page's top, as seen in Figure 2. This initial display serves as an introduction to the potential futures shaped by AI, prompting user reflection.

Directly beneath the video, a preliminary poll asks users if they believe AI benefits humanity. This question is intended to set the stage for deeper engagement by priming users with a reflective mindset before they explore alternate AI-generated scenarios.

Central to the interface are eight question cards, which we believe cover a wide range of topics concerning the future of AI, including the future of work, relationships, and human creativity. Each of these questions features a range slider for user input. The design choice of a slider reflects our intent to illustrate that opinions on AI are not binary but exist on a spectrum and that we invite users to explore the range of responses to each question. Each position of the slider dynamically generates a unique narrative script at the intersection of extremes. The sliders are anchored by synthetic video snippets at each end, representing extreme perspectives on each AI-related question. These generated videos aim to enhance the user experience by offering a vivid visualization of these divergent futures. Users can watch these videos in a pop-out modal. By breaking down complex discussions into manageable, bite-sized questions and videos, we hope to make the content more digestible and engaging.

Users are invited to synthesize a comprehensive keynote upon answering all questions by clicking the "Synthesize Keynote Presentation" button at the bottom center. While we ultimately imagine this action generating an entirely new, end-to-end comprehensive keynote presentation video, the current implementation concatenates the generated scripts for each question into a narrative and is displayed to the user as text. The ordering of questions was thoughtfully curated to ensure the narrative maintains flow and coherence. Once the keynote script is synthesized, the system captures a comprehensive log of the user's inputs via a Google Sheets App Script API endpoint for analysis.

The application is predominantly a front-end system developed using JavaScript with React. The application is hosted on Vercel, facilitating efficient serving and leveraging Vercel's serverless functions for back-end operations.

3.2 System Architecture

The web application is powered by an ensemble of generative models for text, speech, and video synthesis tailored to a web application interface. This technical blueprint demonstrates the feasibility of an interactive web experience powered by AI for democratizing the exploration of narratives.

3.2.1 Text Generation. The text generation component of the system employs OpenAI's GPT-4 model, which is conditioned by a text prompt to blend divergent narratives at user-specified percentages [13]. This synthesis of opposing views is the product of a human-AI collaborative process. Scripts of the most extreme responses to each question were pre-generated and stored in a large JSON file. Here, GPT-4 generates new textual narratives based on percentages defined by the user, showcasing a dynamic and interactive approach to generating mixed narratives without pre-existing templates, highlighting the system's capacity for immediate, user-driven content creation.

3.2.2 Speech Generation. The synthesized text serves as the transcript for a cascaded 1) speech cloning, 2) audio generation, and

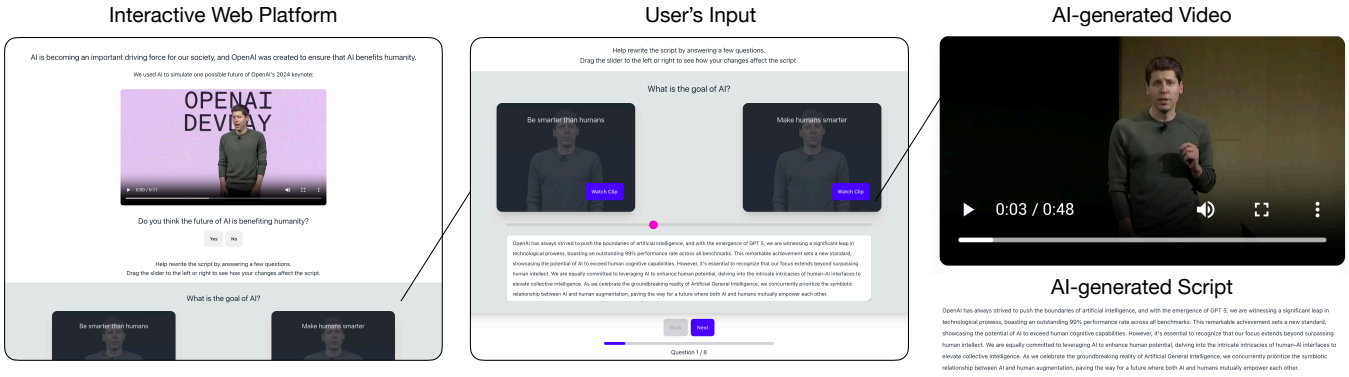

Figure 2: The web platform for exploring AI-generated future scenarios, with a synthesized OpenAI 2024 keynote video prominently displayed at the top. Users engage with eight question cards spanning key AI topics, inputting their opinions through range sliders that highlight the spectrum of views on AI. The sliders dynamically generate unique content based on the user's selected position, enabling the exploration of diverse AI-generated scenarios at the intersection of various perspectives.

3) video generation pipeline. For the voice cloning, we use the commercially available PlayHT Parrot model [34], which performs zero-shot voice cloning using speech encoding [5] to clone a voice using a few seconds of audio.

The text-to-speech (TTS) model utilizes this newly generated voice clone to generate a fictional OpenAI 2024 keynote speech. The generated text had to be modified to help the TTS model pronounce some difficult phrases and words, for example, acronyms such as AI, GPT-5, and DALL·E 3D and proper nouns such as names of researchers and industry leaders. In these cases, the names were converted into their phonetic sounds, and acronyms were changed to their explicit form. The modified text input was then provided to the model to generate the final speech.

3.2.3 Video Generation. To generate the video for a fictional OpenAI 2024 keynote, we started with OpenAI's DevDay keynote address on 6th November 2023 as input [44]. For the pre-processing step, we selected frames from the video that only included the speaker's face. This helped us feed the preprocessed video and generated audio samples to Wav2Lip model [48]. The model utilizes Convolutional Neural Network based lip-sync expert model to generate the video with the speaker's lips synchronized to the audio.

4 RESULTS & DISCUSSION

This section presents an analysis of the results gathered from a pilot study involving 30 participants from Prolific's standard participant pool in the US who interacted with the OpenOpenAI system. The study aimed to gather opinions on the future of AI and understand how users perceive the platform as a tool for exploring potential futures. In addition to answering the 8 Likert scale questions on the future of AI within the application, participants were asked to complete a survey of 11 Likert scale questions to gauge their overall experience with the system and respond to one open-ended question to ascertain what they valued most in the system. We aggregated the results and created visualizations to understand the distribution of participants' perspectives.

4.1 OpenOpenAI Keynote Synthesis Results Reveal Public Sentiment on AI

Figure 3 offers insight into public sentiment on AI's trajectory and ethical considerations. The data suggests a strong preference for AI that enhances human intelligence, reflecting a desire for AI as an augmentation tool rather than a replacement. A division in perspectives on AI's capability to substitute human relationships also emerges, with a majority leaning towards the irreplaceability of human connection. Intriguingly, while there is a clear preference for 'Outcome Valued' over 'Process Valued' in the future of work, there is also a strong agreement that AI should augment human creativity rather than replace it. This dichotomy might stem from question phrasing, where the notion of value in work is presented as a prediction. In contrast, the question of creativity directly queries personal preference, highlighting how the framing of questions can strongly influence responses.

The perspectives on AI ownership and model release strategies reveal a preference for decentralized, smaller, and safer AI models over larger centralized ones, which could signal a concern for security and the democratization of AI technology. Similarly, there is a strong sentiment in favor of the open release of AI models. The question regarding updates to OpenAI's Board of Directors showed a clear preference for celebrating diversity and inclusivity over prioritizing expertise and industry leaders. Lastly, The future is primarily seen as brighter with AI, indicating a positive long-term public perception of the technology's potential. These insights offer a nuanced view of public expectations and concerns about AI's evolving societal role and provide valuable feedback for AI developers and policymakers.

4.2 Users' Feedback on AI-generated Media for Exploring Alternate Futures

Figure 4 presents an overview of user feedback on the overall web application's capacity to expand users' perception of future possibilities and the tool's ability to create an alternate reality. The plot delineates the degree of agreement with various statements about

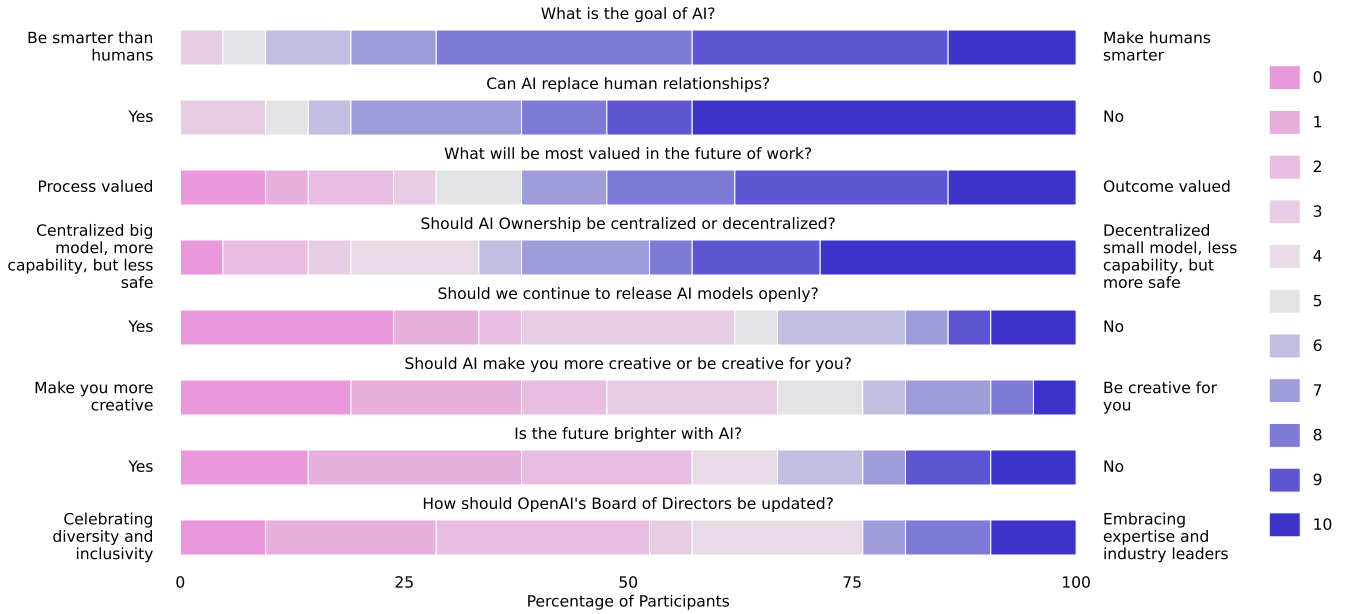

Figure 3: The visualization of public opinion gathered from the web platform offers insight into public sentiment on AI's trajectory and ethical considerations.

users' experience, ranging from 'Strongly Disagree' to 'Strongly Agree.' Most notably, the highest levels of agreement are observed for statements related to the system's ability to open users' minds to new ideas and perspectives. These outcomes indicate that the system effectively engages users' curiosity. Additionally, a strong sense of engagement and control within the alternate scenarios is suggested, as evidenced by the strong agreement with the ability to engage and customize aspects of the scenario actively. However, there appears to be a relatively lower level of agreement with the statement regarding the stimulation of questioning history and society. This highlights an opportunity to refine the system further and foster a more thought-provoking exploration of the societal implications of these alternate realities.

In analyzing responses to the open-ended question about the experience's most valuable aspects, key themes emerged, including personalization, education, and creativity. Respondents particularly valued the experience's personalized nature, with one noting, "The most valuable aspects of this experience were undoubtedly the personalized touches." Others applauded "the ability to choose," suggesting a perceived sense of control in the personalization. The educational element was also critical; comments like "It educated me on the value of AI" and "I learned quite a bit about how AI can impact society in ways that feel relevant to me" suggest the experience deepened the audience's understanding of AI's capabilities and value. Additionally, users seemed to appreciate the consolidation and presentation of opposing viewpoints on AI, with one user praising "the ability to see two different perspectives without [needing] to do extensive work." Finally, others confirmed the ability of our tool to encourage users to think creatively about the future, with one user noting that "the alternate reality future presented by the app sparked creativity." Overall, several participants recognized the positive aspects of AI, such as its potential to enhance life, diversity, and applications in personal and professional areas.

However, the experience was not universally positive, with some participants expressing that the platform unearthed concerns about AI's safety. One user responded, "It made me feel less safe about AI, and the media inclusion stuck it firmly in the uncanny valley for me." While unnerving, this comment might suggest the system helped expose the user to a perspective they were unfamiliar with. Another user noted the disjointed nature of the experience, stating, "Everything seemed to be too disjointed to feel immersed in the whole keynote." This suggests there is room for improvement on both the technical and user experience aspects of our system.

Despite a few concerns, the overall sentiment reflected a blend of appreciation for the web application's personalized, educational, and creative dimensions. Further work is needed to build a more immersive and cohesive alternate reality experience to engage users fully in the simulated scenario.

4.3 Future Work

To improve our system's generative pipeline, we plan to modularize the process and implement strategic checkpoints between model interactions. This will help isolate and mitigate errors amplified by the cascading sequence of generative model interactions, ensuring a more robust, reliable, and efficient generative process.

In our proof-of-concept, the voice clone resembled the target voice but was not an exact match. Future work could explore high-fidelity voice cloning by fine-tuning a base voice model [5] on the target voice. Lip synchronization and video synthesis can be enhanced using diffusion-based models like Diff2Lip [56] and attention-based mechanisms like AttnWav2Lip [26]. A thorough analysis of AI-generated text and video content is necessary to

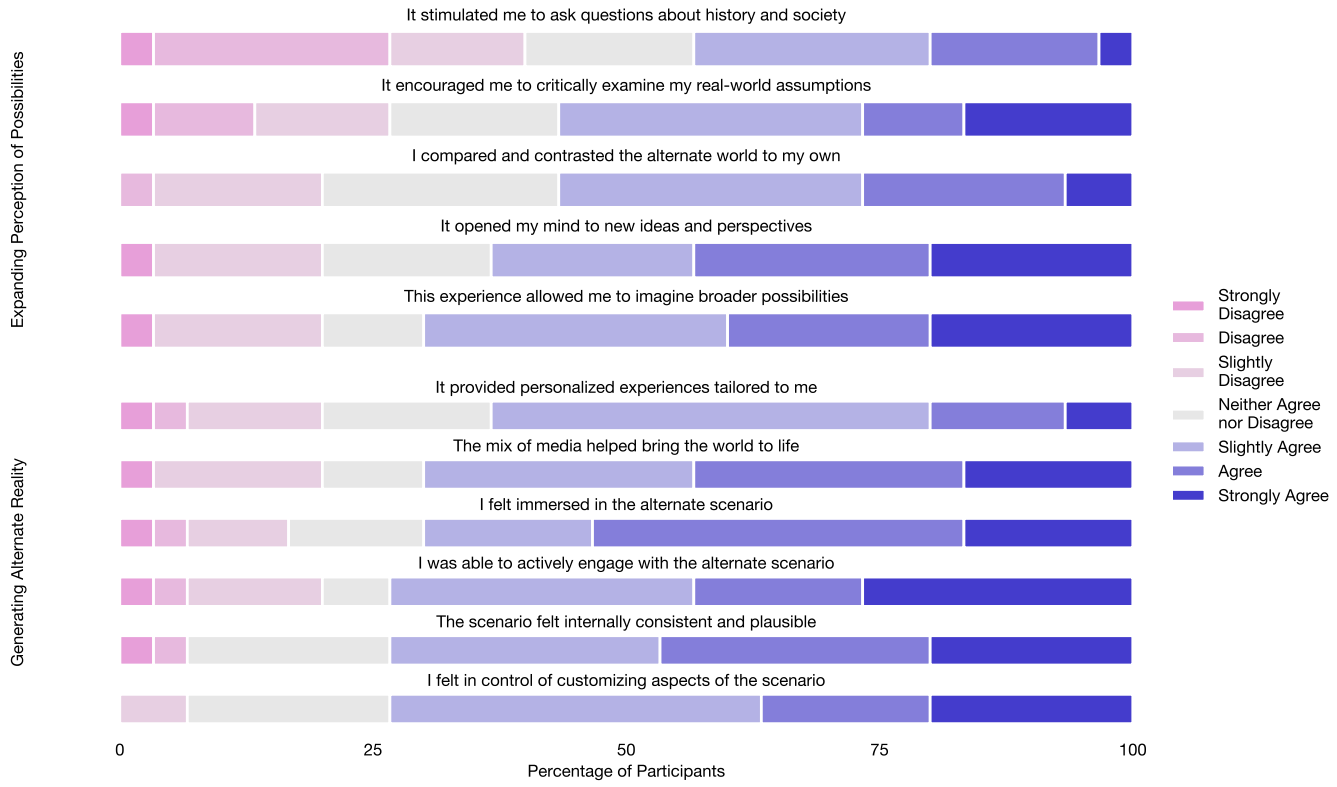

Figure 4: The visualization of user responses regarding the web application's capacity to expand users' perception of future possibilities and the tool's ability to create an alternate reality

understand the affordances of AI-generated media over polls in gauging public opinion.

Future planned developments also include scaling the system into a comprehensive platform that supports diverse characters, scenario branching, and topics, thereby offering users the flexibility to customize their experiences. This expansion will allow users not only to engage with a wider range of subjects but also to actively visualize the societal consequences of their interactions. By doing so, we aim to transcend the limitations of a static 'talking head' model and create a more immersive environment. This will enable users to not only interact with figureheads but also explore the broader context of the alternate realities.

Finally, we intend to explore ways in which the platform can generate videos that represent alternate realities collectively supported by the public as a representation of public opinion. By aggregating user interactions and preferences, the system could dynamically create and present scenarios that align with the collective vision of the users. This approach would provide a unique and powerful way to gauge public sentiment and visualize the potential outcomes of collective decision-making.

4.4 Broader Implications & Open Challenges

The Broader Implications of our system extend beyond the immediate application of AI-generated alternate realities for OpenAI's keynote scenarios. Notably, it offers a framework for exploring novel possibilities based on news, providing a creative and insightful means to forecast and analyze potential future events and trends. This capability can be transformative across various domains, including policy-making, education, and entertainment, where the generation of dynamic, hypothetical worlds can inform decision-making processes and foster a deeper understanding of complex issues. However, with such powerful technology come significant open challenges. The creation of these AI-generated worlds poses the risk of fabricating misleading or manipulative narratives that could distort public perception or decision-making. We discuss the ethical considerations of our project in the next section.

5 ETHICAL CONSIDERATIONS

Our research involved generating potential scenarios for a future OpenAI's 2024 keynote using text, speech, and video generation technologies. We considered the ethical implications inherent in such an endeavor, especially regarding the use of synthesized representations of public figures. It is paramount to acknowledge the delicate balance between innovative research and ethical responsibility, particularly in AI technology, where the potential for misuse and misrepresentation is significant. Principles of respect, transparency, and integrity guided our approach.

Firstly, we ensured that all synthesized content, including Mr. Altman's voice, was created and used solely for academic and research purposes. The representations were designed to be hypothetical

and clearly marked as AI-generated within the research context to avoid any misleading impressions. While public figures are often subjects of scholarly analysis, it remains our ethical duty to ensure that such analyses do not infringe upon an individual's rights or misrepresent their persona.

Moreover, this project served as a platform to address broader ethical concerns surrounding the potential for AI-generated content to influence public opinion or impersonate real individuals. Our research underscores the necessity for ongoing dialogue and policy development in these areas as the capabilities of AI continue to advance at a rapid pace. We advocate for the responsible use of AI technologies, emphasizing the need for ethical guidelines and regulatory frameworks that protect individual rights while fostering innovation and the beneficial applications of AI. We hope this project contributes to enhancing human creativity and critical thinking while highlighting the ethical considerations crucial to responsible AI advancement.

6 CONCLUSION

This paper presents a web application leveraging AI to enable users to explore alternate realities through a multimodal media experience. Our analysis of user feedback revealed the application's potential for fostering open-mindedness, curiosity, and critical thinking. However, the feedback also identified areas for improvement around enhancing the sensory richness and coherence of the multimedia elements to create more lifelike virtual worlds. Addressing these aspects could enhance the user experience, making the virtual scenarios more convincing and engaging. This research demonstrates the transformative impact of AI in expanding the human imagination and facilitating speculative exploration of complex domains. As AI continues to evolve, it is imperative to focus on developing technologies that are not only advanced but also ethically grounded and user-centric. This approach will ensure that AI is a powerful tool for positive societal transformation, promoting a deeper understanding of our world's myriad possibilities and challenges.

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