

CASE STUDY

Creating Multi-Cultural Technology

User-centric and Culturally Appropriate Technical Communication

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A. Introduction

The creation of user-centric, culturally appropriate technical communication is a critical component of technologies that effectively address the diverse needs of a global user base. As technological advancements continue to permeate various sectors, the ability to design communication strategies that are both functionally efficient and culturally resonant has become increasingly important. Technical communication must not only prioritize clarity, accessibility, and usability but also account for the cultural, linguistic, and social contexts of the intended audience. This requires an in-depth understanding of society and culture to ensure that technical content is sensitive and aligns with users' expectations. The integration of culturally appropriate communication minimizes misrepresentation, enhances user engagement, and builds trust in the technological product. By prioritizing the principles of user-centered design and cultural sensitivity, such communication practices not only enhance the efficacy of technological tools but also promote inclusivity, ensuring that technologies are both globally relevant and contextually appropriate.

B. Case

Kable AI: Personalisation and Prejudice

Mahira, an undergraduate student and an avid reader, had always nurtured a deep love for Literature. Whether it was for her coursework or her personal interest, she would lose herself in stories that spanned genres, themes, and worlds. Every year, she meticulously curated an ambitious list of books to read, often turning this personal endeavor into a shared activity by organizing reading challenges with her friends. Together, they embarked on reading challenges, debating interpretations, annotating, and swapping books. However, as her academic responsibilities piled up, she began to struggle with managing her reading records.

One day, while scrolling through her phone during a moment of leisure, Mahira stumbled upon an advertisement for a reading application called Kable, made for bibliophiles like her. The application, promoted by her favourite bookstagrammer app, promised a tailor-made experience. Her heart quickened with the thrill of discovery and she began watching more videos about Kable. Kable's features of joining reading groups, digitally collaborating and annotating books, and joining spoiler-free discussion forums, among a plethora of other features, deeply intrigued her. Finally convinced that the application was like a dream come true, she installed it.

Without hesitation, she explored the interface and soon began populating her personal library with books from her current reading list. Over the course of a week, she immersed herself completely in the application and was thoroughly impressed of the application's user-friendly functionality. Enthusiastically, she recommended Kable to her friends, who quickly adopted it as part of their reading challenge.

Together, they decided to use the application and embark on a new reading challenge. This challenge was particularly meaningful, as they decided to delve into marginalised voices, reading works of authors of colour, queer writers, Dalit Indian authors, and finally narratives from people with disability, and understand characters with disability. Their new reading challenge, and the discussions that it led to were richer than ever, and the application became an integral part of their shared reading experience.

As the year drew to a close, Mahira and her friends were met with an announcement from Kable that sent a ripple of excitement through their group. The application had launched a new feature powered by Artificial Intelligence (AI). This feature analysed users' reading habits, including genres, authors, and pace, and then generates a personalised summary of their literary year. To top it off, it also promised to include a friendly and humorous roast of their reading tendencies.

The feature, akin to the popular Wrapped and Roast by AI segments of other digital platforms, quickly gained traction among users.

The anticipation was palpable as Mahira opened Kable. She had read voraciously that year, diversifying her selections, and discovering her new favourites. Excited by the prospect of seeing her reading year distilled into a witty and insightful summary, Mahira eagerly accessed the new feature. As the summary loaded, her heart raced with excitement. But the moment the results appeared, this turned into utter shock. She frantically called her friends, urging them to check their summaries. Each of her friends reported back with a response that mirrored her situation. Far from the expected clever analysis, the AI-generated results were glaringly problematic, bordered on insensitivity, reducing their carefully curated choices to shallow stereotypes, and thus perpetuating insensitive comments. They exchanged bewildered glances, searching for an answer to how an app that had seemed so perfect falter so significantly?

Embarrassed and frustrated by the ordeal, Mahira decided to share her experience with fellow users online. She posted screenshots of the AI-generated response, detailing how it had misrepresented her reading habits and crossed the line from humour to insensitivity. Her friends, equally appalled, joined the discourse by attaching snippets of their own summaries in the comments. The post quickly gained likes and comments, drawing the attention of netizens, who were flabbergasted by the situation. Many began tagging the company, demanding accountability and transparency regarding the AI model's training and implementation process. The incident sparked widespread debates, with users criticising the company for releasing an unrefined feature that lacked cultural and contextual understanding.

Faced with mounting backlash, the company issues a public apology. In their statement, they admitted that they had not adequately tested the AI's response generation before launching the feature. They promised to perform better and emphasized their commitment to improving user experience. However, this admission of oversight only fueled further outrage. As criticism continued to pour in, the company was compelled to take immediate action by removing the AI feature altogether, promising to develop more robust tools.

Despite the apology, Mahira's frustration lingered, especially when the company suggested adding an option to enable or disable the AI feature, as per the will of the user. To her, this was a superficial solution, and a manner to shift responsibility onto users rather than addressing the root problem of properly training the AI using robust methods. She saw it as an attempt to promote the unchecked use of flawed technology. While some of her friends were more forgiving, Mahira and many others, uninstalled the application entirely, solidifying her resolve to not engage with algorithms that perpetuate insensitivity and social harm.

Synopsis: A case of ethical and societal implications of flawed AI systems through the experiences of a reading app user whose personalized feature perpetuated insensitivity.

Keywords: Algorithmic Bias, User Experience, Accountability in Technology, Inclusivity,

Learning Objectives:

- Understand the role of AI in personalized user experiences by analysing how AI features can enhance or detract from user satisfaction.
- Understand how unrefined AI systems can perpetuate algorithmic bias through stereotypes or insensitivity.
- Assess accountability in technology deployment by identifying the ethical responsibilities of developers in testing and implementing AI models.
- Understand the need for critical evaluation of digital tools to assess the strengths and limitations of from a user-centric perspective.
- Promote inclusive design practices in AI systems by developing culturally aware and sensitive AI features.

Discussion Questions:

1. In what ways did the AI in Kable fail to follow ethical principles, and how could these failures have been mitigated during development?
2. Was the company's response to public criticism adequate? What alternative actions could have improved user trust and satisfaction?
3. How can developers address biases in AI training datasets to create more inclusive and respectful systems?
4. What steps should companies take to ensure that AI-generated content aligns with user expectations?
5. How much responsibility should users bear in using or rejecting flawed AI features? Should companies create such a burden on their customers?

C. Teaching Note

Case Overview

This case examines the ethical challenges and societal implications of flawed AI-driven personalization through the experiences of Mahira, an undergraduate student and avid reader. Mahira, along with her friends, installed Kable, a reading application that promised to enhance their reading experiences and engagements. The application offered innovative features such as collaborative reading groups, spoiler-free forums, and digital annotation tools, quickly becoming an integral part of their reading routines. Toward the end of the year, Kable introduced an AI-powered feature designed to analyze users' reading habits and generate personalized summaries with a humorous roast of their literary year. However, instead of delivering clever and insightful results, the AI produced insensitive, stereotypical comments that misrepresented the users' reading choices. Mahira shared her experience online, posting screenshots of the AI-generated responses, and her friends joined in, sharing their own disappointing summaries. This led to widespread agitation among users, sparking online discussions about algorithmic bias and cultural insensitivity. The post garnered significant attention, with netizens tagging the company and demanding accountability regarding the AI's training and implementation. The company issued an apology, admitting to insufficient testing of the feature, and removed it in response to the backlash. However, Mahira criticized the company's suggestion to simply offer an option to disable the feature, arguing that the focus should have been on improving AI training methods. Disillusioned, Mahira and many others uninstalled the app, signaling a refusal to engage with AI systems that perpetuate social harm.

Learning Objectives

- **Understand the role of AI in personalized user experiences**
Objective: Students will recognize that while personalization is appealing, AI must account for cultural sensitivity and social awareness to avoid negative consequences. By analyzing Kable's AI, students will learn how lacking societal awareness can perpetuate biases and stereotypes.
- **Examine algorithmic bias and its societal impact**
Objective: Students will explore how unrefined AI systems can reinforce stereotypes and harm marginalized groups. The Kable case illustrates how flawed data sets lead to algorithmic errors. Students will evaluate how bias arises and its societal impact, emphasizing the need for careful AI design.
- **Assess accountability in technology deployment**
Objective: Students will identify developers' ethical responsibilities in testing, implementing, and deploying AI. By reviewing Kable's response to backlash, students

will reflect on the importance of testing, transparency, and corrective actions in addressing AI flaws.

- **Encourage critical evaluation of digital tools**

Objective: Students will develop the ability to assess digital tools from a user-centric perspective, analyzing their strengths, limitations, and ethical considerations.

- **Promote inclusive design practices in AI systems**

Objective: Students will discuss strategies for developing culturally aware and inclusive AI systems that respect diverse users and avoid harm

Discussion Questions

1. **In what ways did the AI in Kable fail to follow ethical principles, and how could these failures have been mitigated during development?**

Students should identify specific breaches in the AI's design and suggest preventive measures, such as more comprehensive testing and diverse data inclusion.

2. **Was the company's response to public criticism adequate? What alternative actions could have improved user trust and satisfaction?**

This question asks students to evaluate the company's actions following the backlash, considering whether they addressed the root causes and proposing more effective solutions.

3. **How can developers address biases in AI training datasets to create more inclusive and respectful systems?**

Students should reflect on methods to identify and reduce biases, such as diversifying data sources and implementing fairness algorithms in AI systems.

4. **What steps should companies take to ensure that AI-generated content aligns with user expectations?**

The focus here is on strategies for aligning AI systems with user needs, such as incorporating user feedback, continuous testing, and transparent content guidelines.

5. **How much responsibility should users bear in using or rejecting flawed AI features? Should companies create such a burden on their customers?**

This question prompts students to analyze the ethical burden placed on users, debating whether the responsibility lies with developers or consumers in managing flawed technology.

Key Teaching Concepts

1. **Cultural Sensitivity in AI Systems:** The importance of cultural awareness in algorithms to prevent the perpetuation of stereotypes and biases, highlighting how neglecting such sensitivity can lead to harmful outcomes.

2. **Ethical Responsibilities in AI Development:** The obligation of AI developers to thoroughly test and refine algorithms, ensuring they are ethically sound and do not propagate insensitivity or bias in the user experience.
3. **Transparency and Accountability in AI Deployment:** The need for transparency in AI system implementation and the requirement for companies to take responsibility for their technology's impact, especially when it leads to negative user reactions.
4. **Inclusive Design in Technological Innovation:** The integration of inclusive design principles in the development of AI systems, ensuring they are culturally competent and accessible to a diverse set of users, thus preventing unintentional harm.

Teaching Approach

- In-depth Case Analysis
- Group Discussion and Feedback
- Concluding Note

In conclusion, user-centric, culturally appropriate algorithms are essential for creating technology that is both inclusive and effective. By integrating cultural sensitivity with clear, accessible communication, developers can enhance user experience, gain trust, and ensure that technology meets the diverse needs of global audiences while promoting ethical and socially responsible design practices.

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