School Book: How Misinformation and Fake News Spreads

An interactive activity for middle school students that simulates the spread of misinformation

Presenters

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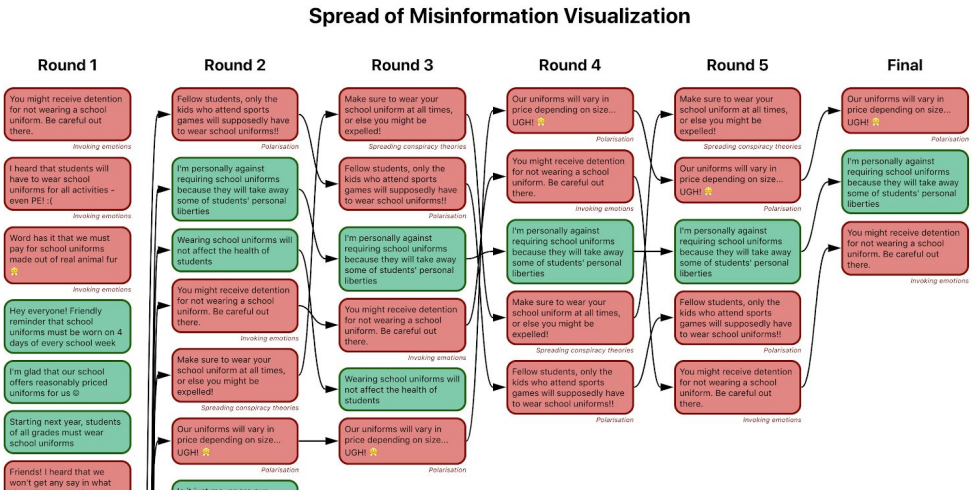

Fig 1: Visualization of the spread of information that students decided to share in the School Book

Abstract

Misinformation, defined as false or inaccurate information, deliberately intended to deceive, has been known to spread faster and wider than real information. A rapid spread of misinformation has serious consequences for evidence-based decision making on societal issues like politics, climate change, healthcare. As young children become familiar with social media tools that often witness and fuel the spread of misinformation, they are likely to observe its effects and participate in its extent. Applications of generative machine learning techniques such as Deepfakes make misinformation seem authentic and believable, and may cause false beliefs that result in misguided behavior. In an attempt to make children aware of misinformation -- what its features are, how it affects people, and how it can be spotted -- we designed an online school book simulation in which students participate in a news sharing activity about dress codes. We deployed this activity with 113 middle school students as a part of five remote online STEM workshops. Students encountered and shared news headlines, half of which include salient features of misinformation such as polarisation and invoking emotions. In subsequent rounds, students saw headlines that their peers shared and further selected a headline to share with their community. Most popular headlines remained in the game and were circulated to the students in the future rounds, with less popular headlines getting removed. With 1-2 headlines remaining at the end of the game, students were shown a visualization of the news headlines' propagation through the rounds (Figure 1) and observed trends in sustained stories. Students then had an open discussion in which they demonstrated an understanding that generated media may be believable but not necessarily true, contributing to the quicker spread of misinformation. They were also able to identify why misinformation may be harmful or lasting, drawing specific examples to social settings that indicate human-centered implications. Finally, students discussed how misinformation typically spreads wider, and real-world examples of this phenomenon. The tool can be modified by educators to include their own content and can be used in classrooms to demonstrate how misinformation spreads.

Intended Audience
Middle-school educators or instructors interested in discussing unintended consequences of social media platforms such as the spread of misinformation or fake news; Developers interested in building tools that focu on the societal impact of computing; Students interested in learning about how misinformation spreads.

Presenters Biography
Safinah is a PhD student in the Personal Robots Group at MIT Media Lab. She is interested in co-creativity, educational games and social robots for education. She helped develop and deploy the Creative AI Education curriculum for middle school students.

Daniella is a MS graduate research assistant with expertise in human factors, user-centered design, STEM learning technologies for children. Her research interests include understanding the ethical, social, and emotional implications of technology.

Jenna is a MEng student in the Personal Robots Group at the MIT Media Lab. Her interests are in cognitive science, developmental psychology, and the responsible use of AI for social good. She has helped develop AI education curricula that emphasize creativity, ethics, and multidisciplinary learning.

Victor is an undergraduate researcher in the Personal Robots Group at MIT Media Lab. He is interested in artificial intelligence and web application development. Along with Safinah and Grace, he built the misinformation game used in the Creative AI curriculum for Middle School students.

Grace is an undergraduate student at MIT. She is interested in education outreach, computer science, and web development. She helped with web tools, teaching, and data collection for various AI and Ethics curricula for middle school students.

Professor Breazeal leads a project to democratize AI and foster diversity and inclusivity in an AI literate society. Her research investigates new ways for K-12 students to learn about AI concepts, practices and ethics by designing, programming, training and interacting with robots.

Materials Provided
Attendees will be using their laptops and connecting to a web-link to interact with the tool.

Rough Agenda for the Demo
0-10 minutes: Attendees will participate in the online school book simulation activity
10-20 minutes: Attendees will view a visualization of the way news spread in their activity. We will discuss features of misinformation and how fake news spreads faster and wider
20-30 minutes: Audience discussion and feedback about the activity. Presenters will answer questions.

Audio/Visual and Computer Requirements
Internet connection on a laptop with the ability to video call, share screen and chat with the audience. Web browser to be able to play the game.