- **Introduction & Source Analysis (Group Member 1)**

  - • **Start: Paragraph 1**
    - o "It didn't take long for Edward Chang to see the implications of what he was doing."
    - o Introduce the source: **"We Want to Hear Your Thoughts" by Avery Hurt**, published on **November 1, 2024**. Discuss the context of the publication and the relevance of the topic. Provide an overview of the theme: advances in brain decoding technology and their ethical implications.

- **Summary of Research by Edward Chang (Group Member 2)**

  - • **Start: Paragraph 2**
    - o "By implanting an array of electrodes between the outer and inner membranes of the brain, directly over the area of the brain that controls speech, he and his team were able to detect distinct patterns of brain activity associated with specific sounds."
    - o "Once people's words and sentences are reconstructed through analysis of those brain patterns, the words can be displayed as text on a screen."
    - o Summarize Edward Chang's research at UCSF, focusing on how he studied brain activity related to speech. Explain how Chang's team used machine learning to analyze brain patterns associated with speech sounds, detailing the potential benefits for individuals who have lost the ability to speak.

- **Summary of Research at the University of Texas (Group Member 3)**

  - • **Start: Paragraph 4**
    - o "A team led by Alexander Huth, a computational neuroscientist, uses functional magnetic resonance imaging (fMRI), rather than implants, to monitor brain activity."
    - o "Basically, we build a model of a person's brain."
    - o Discuss the work of Alexander Huth's team at the University of Texas at Austin, highlighting the use of fMRI to monitor brain activity. Explain the concept of the semantic decoder and provide an example from the Nature Neuroscience paper published in May 2023.

- **Potential and Ethical Concerns (Group Member 4)**

  - • **Start: Paragraph 6**
    - o "TERRIFYING or not, all of this research to date has not crossed the threshold into mind reading — at least not yet."
    - o "Still, what worries some people isn't what the technology can do now, but what it may one day be able to do."
    - o Summarize the researchers' concerns about the technology's implications, emphasizing the distinction between current capabilities and the potential for mind reading. Discuss the ethical issues raised by the technology, including privacy and control over one's thoughts.

- **Discussion Leader (Group Member 5)**

  - • **Start: After all summaries**
    - o Open the discussion by summarizing the ethical concerns and implications highlighted throughout the presentation. Prepare open-ended questions, such as:

      - ▪ "How do you feel about the future of this technology?"

- "What ethical safeguards should be in place?"

- Encourage participation from the group and the audience to share their thoughts on the potential uses and dangers of mind decoding technology.