



Fake Voices: The Ethics of Deepfakes

High School | Grades 9 – 12

Lesson 1

Overview: Code Your Own Fake Voices

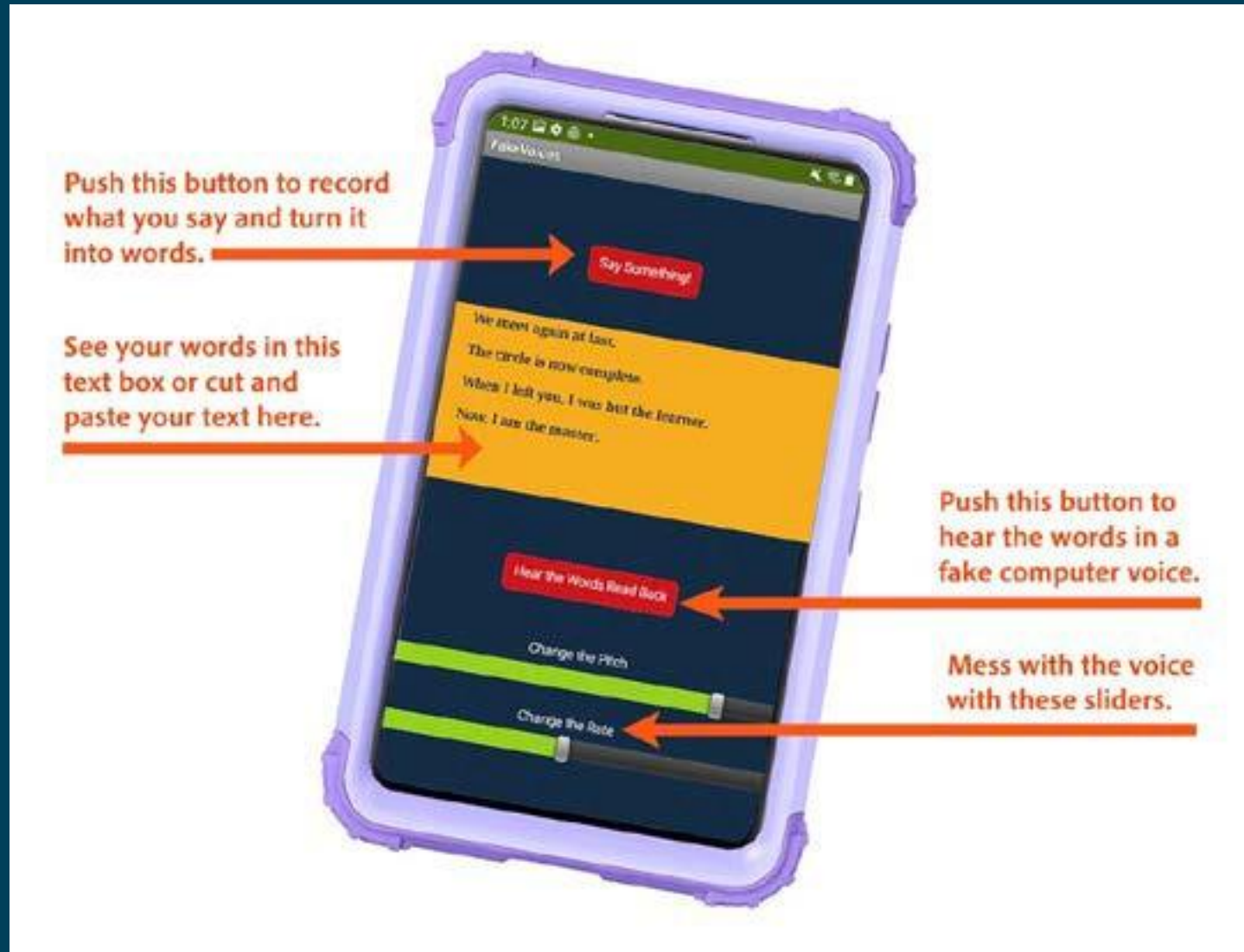
- Discuss deepfakes.
- Code an app that makes computer-generated speech.
- Start thinking about questions and concerns you may have about the role of synthetic voices in society.

What Are Deepfakes?

- “Deepfakes” are video and audio files made by artificial intelligence.
- Powerful computers make deepfakes by learning from existing recordings of humans.
- In fact, the name *deepfake* comes from “deep learning.”
- In this audio track, Jay-Z was deepfaked to say things he never said: [Deepfake Jay-Z Video.](#)

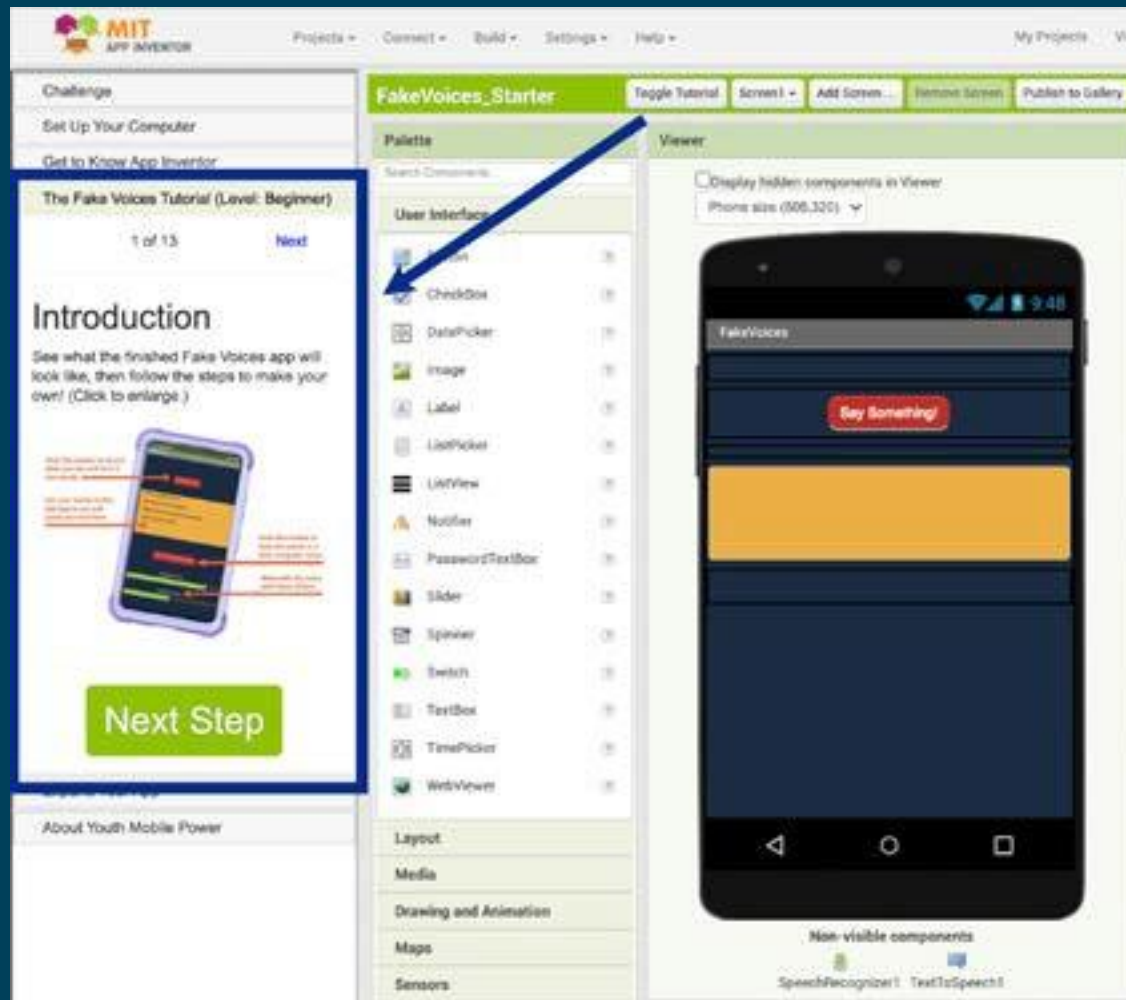


The Fake Voices App



Make Your Own Fake-Voices App

Go to the [Fake Voices Tutorial](#).



Lesson 2

Overview

- Discuss the computer voices in your app.
- Talk about how deepfakes are generated by artificial intelligence.
- In groups, explore various categories of deepfakes.
- Begin to talk about possible impacts on society.

The Voices in Your App

- Did the fake voice in your app sound realistic?
- How could the voice be used to deceive someone?
- What would make your synthetic voice sound better?

President Kennedy Deepfaked

JFK Unsilenced (2:10)

Summary: On November 22, 1963, President John F. Kennedy was supposed to give a speech in Texas about the United States's position in world politics. Instead, the whole world mourned his assassination.

Recently, computer engineers used artificial intelligence to clone President Kennedy's voice so we could hear what it would be like if he was able to give his original speech. They used over 800 of the President's real speeches to teach the computer his Boston accent as well as the way he paused or emphasized words.

The Ethics of Deepfakes

- What are some positive ways people could use the Kennedy video?
- Have you seen deepfakes of other politicians online?
- What are some harmful ways deepfakes of politicians could be misused on the internet?

Kinds of Deepfakes

There are many types of deepfakes, but here are a few categories for starters:

- Commerce
- Assistive Technology
- Pop Music
- History
- Crime

Questions for Your Deepfake Category

- Was a real person deepfaked in the video? Who? (If your group has two videos, answer for both.)
- What was convincing about the deepfake? What was not convincing?
- Who made the deepfake (if known)?
- Why do you think the deepfake was made? What do you think was the creator's intent?
- Do you think the actual person who was deepfaked was happy to be copied or not? Why or why not.
- In the future, how could this type of deepfake be used for good or harm?

Category: Commerce

Google Duplex AI Assistant (4:11)

Summary: Most small businesses do not have a way to make appointments with customers through the internet. In this video, Google's CEO describes a new service that uses deepfakes to call businesses for a haircut appointment or restaurant reservation to save you time.

Category: Assistive Technology

Voice Banking Helps People with Motor Neuron Diseases (2:52)

Summary: A company in Scotland uses artificial intelligence to help people who cannot speak. The technology allows people to type and have it come out in their own voice.

A Hollywood Actor Gets His Voice Back (1:49)

Summary: An artificial intelligence company has helped Val Kilmer speak again. The actor had throat cancer and recovered, but lost the ability to speak clearly. The company used his old movies and speeches to recreate his voice.

Category: Pop Music

A Pop Star Sings Again (3:01)

Summary: In 2021, a famous pop star in South Korea gave a live concert over 25 years after his death. How? An artificial intelligence system modeled the singer's voice using 20 recordings so fans could hear him sing new material again.

Jay-Z Reads Hamlet (1:19)

Summary: A programmer known only as “Vocal Synthesis” created a series of deepfakes of rapper Jay-Z. Meanwhile, Jay-Z's company unsuccessfully sued the YouTube channel to take down the recordings, saying: “This content unlawfully uses an AI to impersonate our client's voice.”

Category: History

Moon Disaster (6:14)

Summary: In 1969, the world gathered to watch the moon landing. The mission was extraordinarily risky, so the President's staff wrote a backup speech just in case something went wrong.

Of course, the moon landing went well, and the speech was never delivered. But in 2020, a team of artists and programmers at MIT's Center for Advanced Virtuality created a deepfake to see what it would be like to experience another version of history.

Category: Crime

Fake Voices Pull a Bank Heist (3:38)

Summary: In late 2019, the employee of a British energy company received a strange call from the company's CEO demanding to send \$243,000 to a company far away. The voice was fake and the money was soon gone. This video is a dramatic recreation of how it happened.

Could AI-Powered Videos Cause an Economic Collapse? (3:47)

Summary: The potential for future deepfakes in financial crimes is explored in this video.

Lesson 3

Overview

- Discuss your deepfake category with your group.
- Present your group's predictions to the class.
- Compare your group's findings with the whole class.

Your Group Should Address these Questions in Your Presentation

- According to your group, what are some possible positive or negative consequences of deepfakes like the ones in your category?
- Make a prediction about how these types of deepfakes might evolve in the future.
- What recommendations for laws or policies would your group make to government leaders or social media companies? Should videos like the ones in your category be supported or discouraged by them?
- If your group does not have a definitive answer, what would you do to explore the consequences further?