Speech-Based Game Playing

This presentation explores a project focused on creating a speechcontrolled game, improving accessibility and interaction in gaming.

By Anirudh Sharma, Kshitij Takale, Moksh Handa



## The Challenge: Access for All

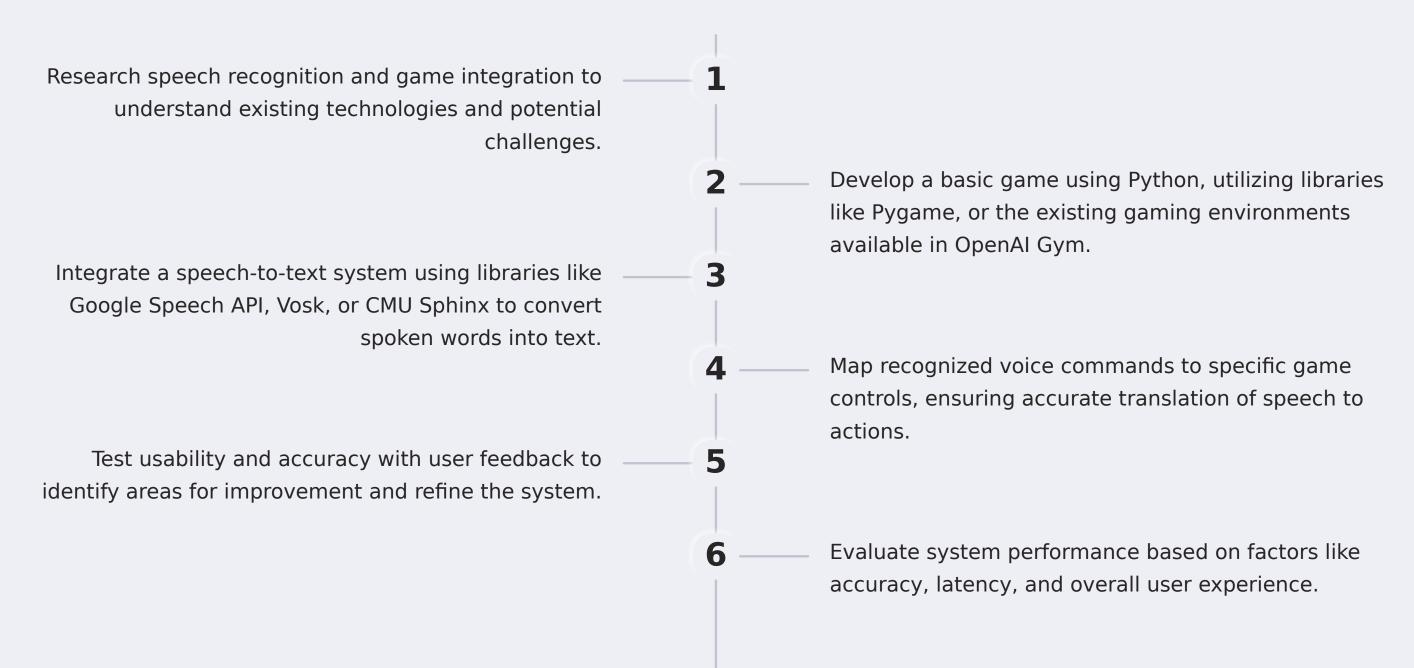
#### **Limited Accessibility**

Many games rely on keyboard or joystick inputs, excluding players with disabilities from fully enjoying the experience.

#### **Our Goal**

This project aims to develop a speech-controlled game, enabling players to control classic Atari-style games using only their voice.

## Our Approach: Building the System



## **Speech Recognition: The Key**

#### **Speech-to-Text**

Utilize speech recognition technology to convert spoken words into text, enabling the system to understand player commands.

### **Accuracy and Latency**

Ensure high accuracy and low latency in the speech recognition process to provide a seamless and responsive gaming experience.

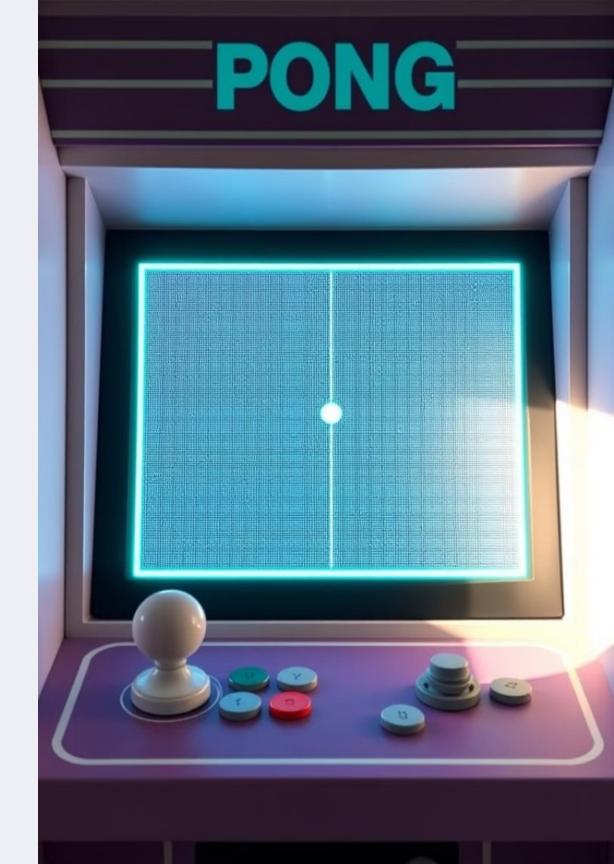
# Game Integration: Mapping Actions

#### **Voice Command Mapping**

1 Establish a clear mapping between recognized voice commands and specific game actions, enabling the player to control the game with their voice.

#### **Intuitive Controls**

2 Ensure that the mapping of voice commands to game actions is intuitive and consistent to minimize learning curve and maximize player enjoyment.



## **User Feedback**

### **Usability Testing**

Conduct extensive usability testing with diverse users to gather feedback on the system's functionality and ease of use.

## **Accessibility Evaluation**

Evaluate the system's effectiveness in promoting accessibility, identifying potential barriers and exploring solutions.



## **Prototype and Outcomes**

## **1** Functional Prototyp∈ **2**

Develop a fully functional prototype of a speech-controlled game, demonstrating the feasibility of the concept.

## **Insights and Improvements**

Gain valuable insights into usability, accessibility improvements, and potential future enhancements based on user feedback and testing.



## **Future Plans**

# **Sound Intensity Recognition**

Implement algorithms to recognize the intensity of the voice, so that we can implement the program on a wider range of games.

# **Adaptive Difficulty Levels**

Introduce adaptive difficulty settings that adjust based on player's skill level and input method, insuring an engaging experience for all the users.

# **Community Feedback Loop**

Establish a feedback mechanism to continuously gather insights from users, ensuring that future updates and features align with needs and preferences.