

## **Sprint Planning Document (Sprint 2)**

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# High-level Project Overview

## **Project Mission:**

- Provide a client-server architecture to develop educational systems to support STEM interest in K-12 students

## **Problems We Are Solving:**

- There is limited previous work in the field of quadruped research in K-12 students
- Development of interesting, child-friendly educational resources
- Develop STEM interest in young students

## **Project Overview (High-Level Features):**

- **Cloud Server**
  - Cloud connection to link the microphone & voice files with the PuppyPi
  - Support for quadruped control, sending and receiving commands, sending and receiving sensor data
- **Voice Recognition Using LLM**
  - Using a large language model to recognize & process voice data into words to transmit as commands to PuppyPi
- **ROS Programming**
  - Using action groups to take the PuppyPi through a series of preprogrammed motions
    - Sit, lay down, moonwalk, shake

# Sprint 2 Planning

## Sprint 2 Goals:

1. Link voice, cloud, and ROS
2. Be able to use USB microphone in docker
3. Finish reverse engineering WonderPi app
4. Work on chaining commands, length of commands, command interruption, and other aspects of app - color tracking, face detection, following mode, etc. (continue through Sprint 3)
5. Work on continuous listening (continue through Sprint 3)
6. Improve latency & noise (continue through Sprint 3)
7. Test commands/command interpretation (continue through Sprint 3)

## Sprint 2 Deliverables:

- **Link voice, cloud, and ROS**
  - **Assigned:** All team members
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- **Be able to use USB microphone in docker**
  - **Assigned:** Eli Weber, Archer Taylor
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- **Finish reverse engineering WonderPi app**
  - **Assigned:** Alicia Reed
  - Look at app provided by HiWonder and see if there is anything helpful in the code for our project
- **Chaining commands, length of commands, command interruption, other app modes**
  - **Assigned:** Olivia Monteiro, Eli Weber
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- **Continuous listening**
  - **Assigned:** Archer Taylor, Danny Steuer
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- **Improve latency & noise**
  - **Assigned:** Archer Taylor, Danny Steuer
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- **Test commands/command interpretation**
  - **Assigned:** All team members
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