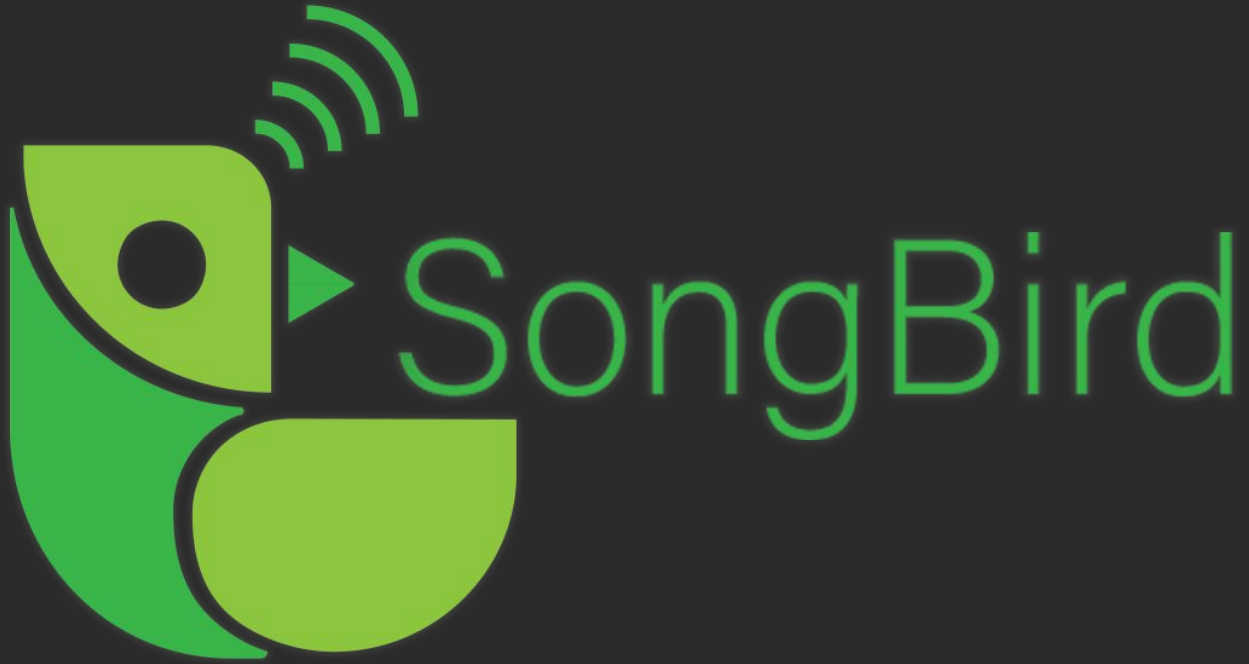

BiVo: An Open-Source Foundation for Remote Monitoring of Bird Vocalizations

Introduction

- The Team
  - Kevin Imlay
  - Daniel Mercado
  - Yasmin Vega-Nuno
  - Anqi Wang
- What is BiVo?
  - An open source foundation for remote monitoring of bird vocalizations

Problem Description

- Birds play an important role in ecosystems
  - We don’t fully understand them
- Monitoring systems are used to gather information
  - These systems could be improved
- We need a better way to monitor birds & record their vocalizations

Western Bluebird

The Client

Dr. Paul Flikkema

- Professor of Computer Science and Electrical Engineering at NAU
- Experience working on the SEGA and UAV-RT
- Works with a machine learning research group in Milan, Italy
- Needs a solution to collect better data for the team’s (and scientific community) research

Dr. Paul Flikkema

Current Solutions

- Expensive devices that require a person at all times.
- Audiomoth has little documentation and requires daily maintenance.

In-person monitoring

AudioMoth

Plan for Development

- Weekly meetings with drafts of Dataflow

Potential Problems/Decisions?

- Efficiently programming the board
- Effectively analyzing data.
- Wireless communication
- Desktop application.

Silicon Labs Thunderboard EFM32GG12

Conclusion

- We are developing BiVo, an open source foundation for remote monitoring of bird vocalizations
- Data collected by BiVo will greatly help the scientific community to answer important questions about birds
- Current monitoring solutions are problematic
- BiVo will provide cheaper, easier, and more extensible use for the scientific community