Low Power Programmable Wildlife Recorder

TECHNISCHE UNIVERSITÄT DARMSTADT

Integrated Electronic Systems

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April 21, 2023

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1 Introduction

The device to develop is a wildlife recorder designed for monitoring birds and frogs during dawn and night time. It can record audio at programmable times and has a long battery life. The device comes with an external microphone, which enables clear and precise audio recordings. It saves audio to an external memory source such as a SD-card, allowing easy transfer of data to computers for analysis and sharing. The recorder is ideal for both wildlife enthusiasts and professionals, as it captures high-quality audio of animals in their natural habitats.

2 Device

The device should be able to:

- Record audio at a defined time span
- Be battery powered
- Save the Audio to an external Memory (e.g. SD-Card)

Optional:

- 180h of runtime
- Bluetooth-Connectivity: Program times, Status
- Waterproof Case
- Support for larger, external Microphones

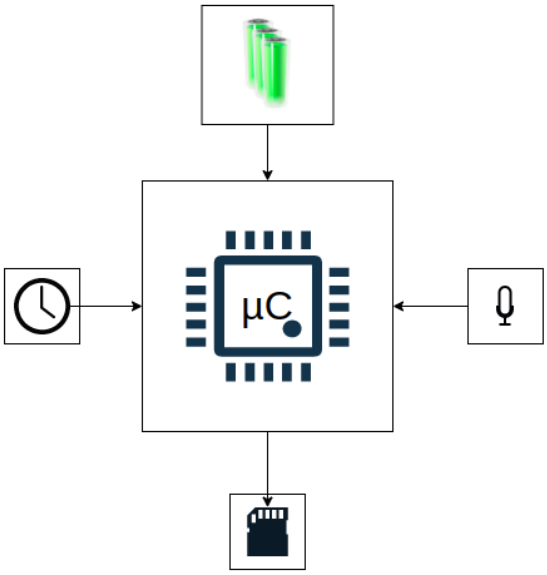

Figure 1: The Device should feature an external Microphone, a battery system, a timing module and an external memory system.

3 Tasks

The Task will include:

- Choose Platform: Raspberry PI / Arduino / ESP32 / ...
- Choose components
- Programm in preferred programming language