Rover

VILNIUS UNIVERSITY, FACULTY OF MATHEMATICS AND INFORMATICS, INFORMATION TECHNOLOGIES STUDY PROGRAMME

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Outline

- Introduction of idea and vision
- Project requirements
- Technologies used
- Implementation plan
- Current status

Introduction of idea and vision

Main capabilities:

- Sensing
- Movement
- Intelligence

Basic Rover structure:

- Raspberry pi
- 3D printed casing
- Various sensors and motors

Functional requirements

- Free movement
- Movement is decided without user input
- Obstacle detection
- Obstacle avoidance
- Sound signals

Non-functional requirements

- Robot will be operational until turned off
- Expected battery life – 2 hours
- Easy to operate

Hardware

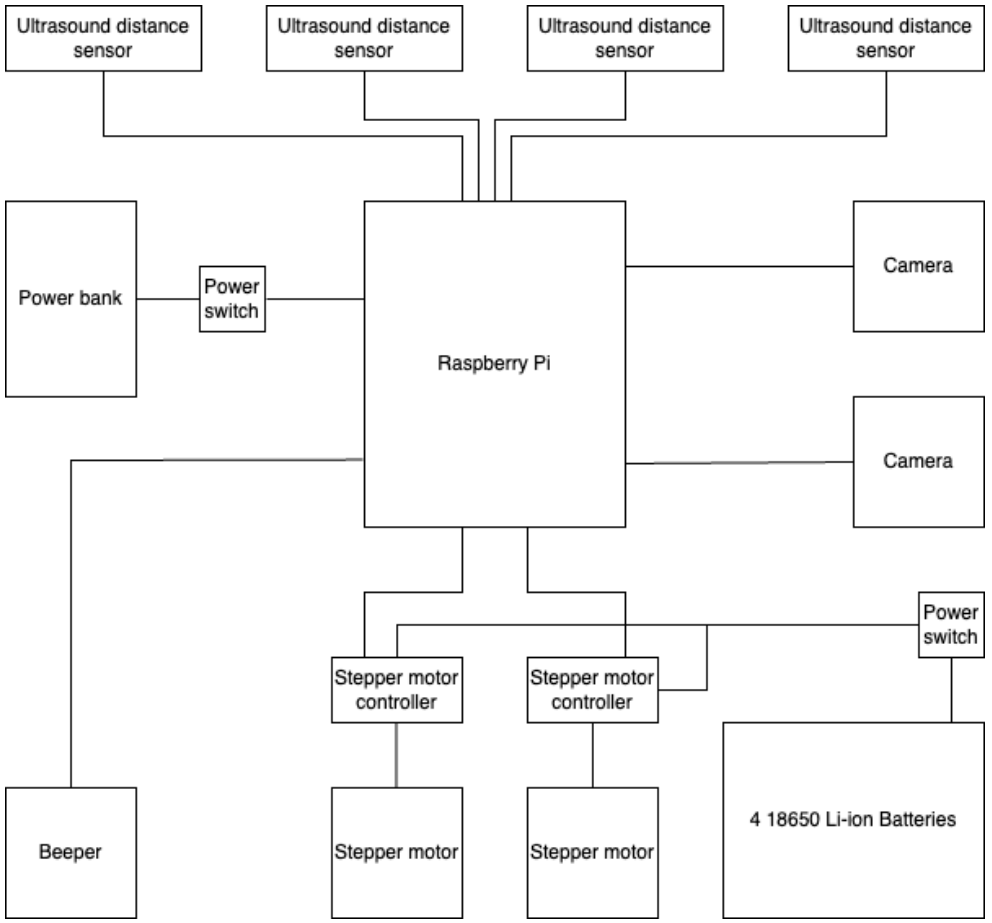

Figure 1: "Rover" hardware diagram.

Software

- Linux OS
- Python
- OpenCV
- BASH
- Git
- C++ (Possibly)

Accomplishments

- Acquired hardware components
- Robot body prototype
- Printed robot base
- Testing hardware

Current Status

- Hardware assembly
- Robot body modeling/printing
- Deciding on wheel type

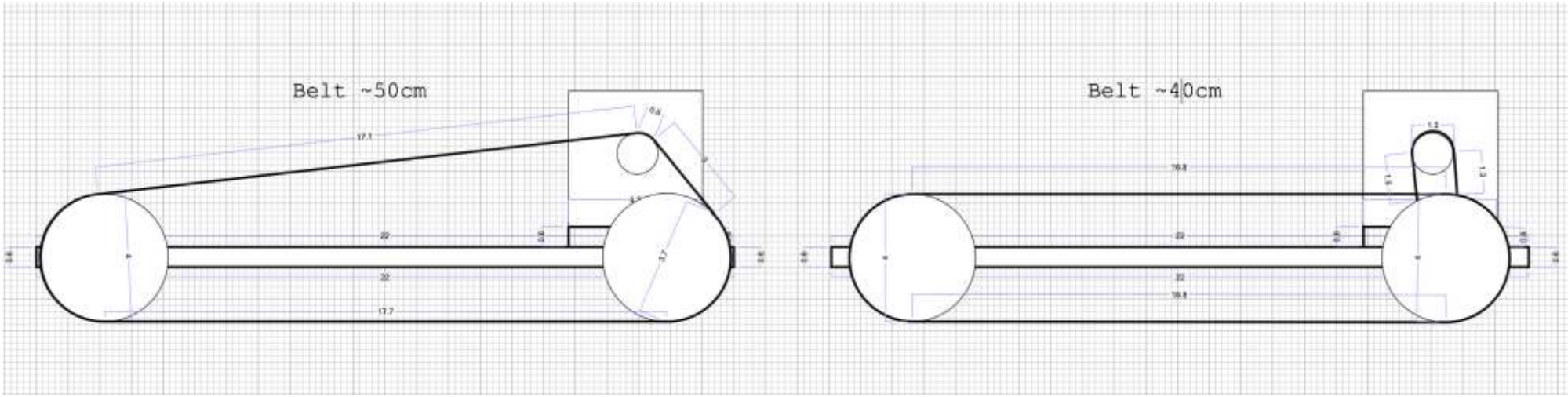

Figure 2: belt diagram

Future Goals

- Moving robot

THANK YOU FOR YOUR ATTENTION

QUESTIONS?