



TREE RING PROJECT

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OUTLINE



1

INTRODUCTION

What are we trying to measure?

2

CAPTURING

How does it work?

3

BUILDING OUR SYSTEM

Goals, Timeline & Ideas



TREE CORES

TREE COOKIES

INTRODUCTION

TRADITIONAL METHODS

- Look under the microscope
- Image processing for tree cores/cookies scans

GOAL

- Take good-quality photos
- Estimating the distance between rings
- Diameter varies from a few mm to 50cm

CURRENT OPTIONS:

- **CaptuRING:**
<https://www.sciencedirect.com/science/article/pii/S1125786522001011>
- **Skippy:** <https://www.wsl.ch/en/services-and-products/research-instruments/skippy.html>

CAPTURING



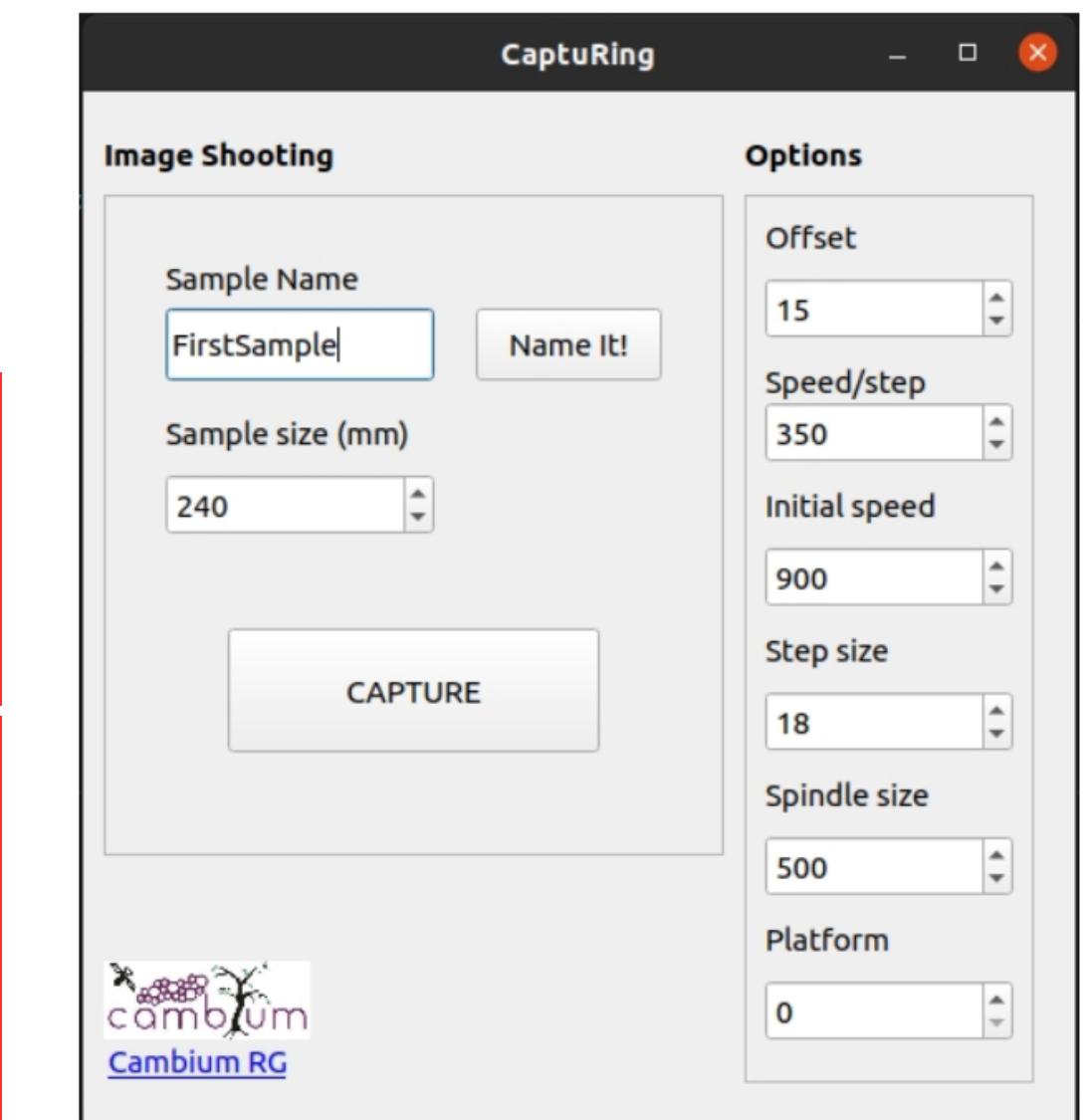
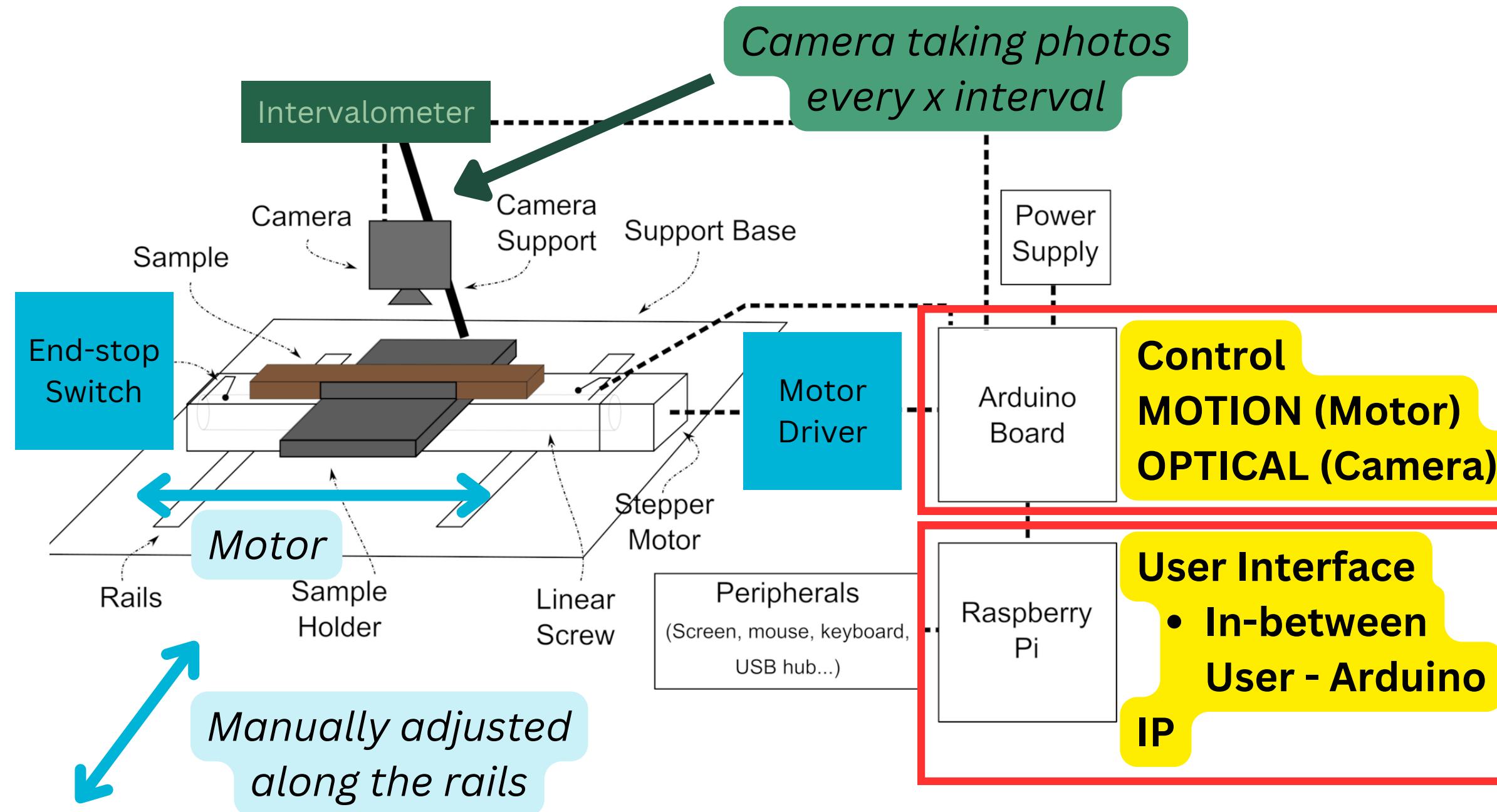
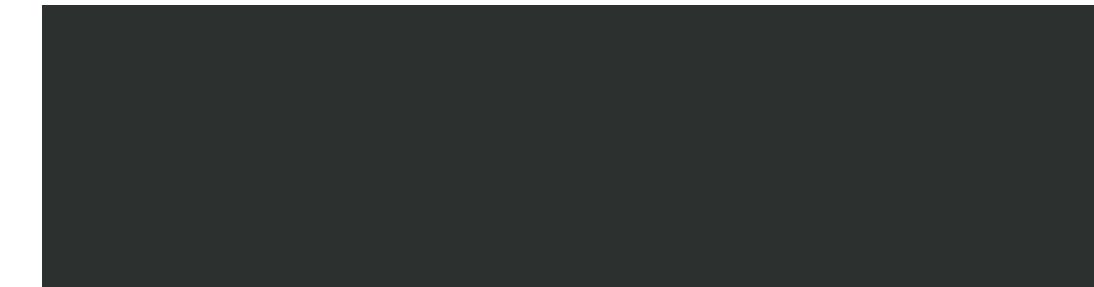
Video 3: 9:13-9:37

<https://github.com/CambiumRG/CaptuRING/tree/main/manual>

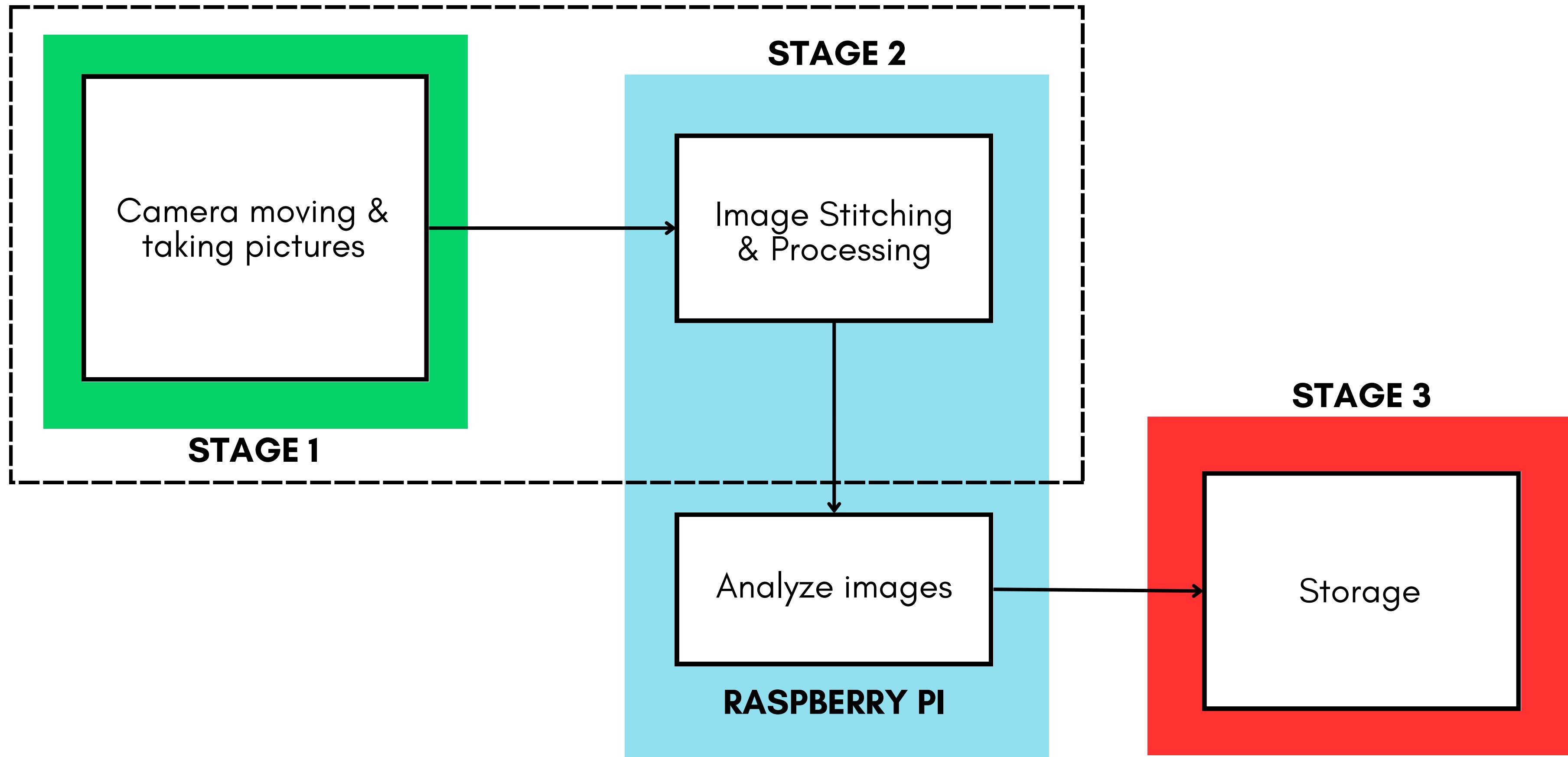
What CaptuRING does

- Take photos - **MOTION & OPTICAL**
 - Platform moved
 - Photos taken in intervals
 - Customizable parameters
- Image stitching and processing - **IP**

CAPTURING



SYSTEM OVERVIEW - BLOCK DIAGRAM



STAGE 1

IMPROVEMENT

Motor control on both axes

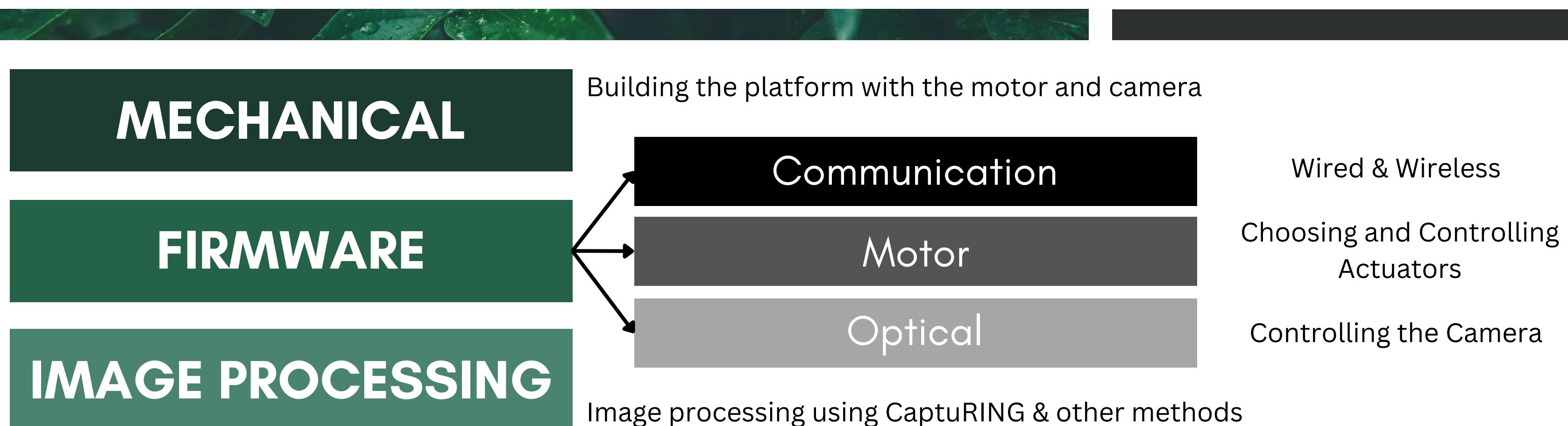
Bigger platform --> Not as easy to move anymore

Camera move? --> Wireless communication between Raspberry - Arduino

THINGS TO FIGURE OUT

Can we use only the image processing feature of CaptuRing?

Adjusting focus of the camera?



PROPOSE TIMELINE

