Development Tracking for New Weed Processor

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# Task 1: Processor updates.

## Goal

To implement a Kalman filter to recognise if weeds have already been sprayed or not.

## Things done:

1. Created a Proposal.
2. Created a GitHub to develop on.
3. Added a Python video cutting file
4. Adapted the video processor to take in videos and briefly sectioned the code using comments.
5. Added a file to flick through video frames to manually measure the pixels per second for development.
6. Modularize the code and make it maintainable.
7. Measure the pixels per second for our development video.
8. Create the Kalman Filter.

## To do:

1. Check frame by frame to see if a weed has already been spotted or sprayed.
2. Display this within the video.
3. Evaluate the performance.
4. Integrate.

Note: when turning the cx will be changing too much for the weeds to have been spotted through frames. May not have to change anything to stop it from spraying while turning.

# Task 2: Linear Speed Control and Readings

This is more related to integration. Will need to find ways of testing/developing concurrently to the development of the new chassis and the processor.

## Goal:

* To control the linear speed of the robot (nothing else in currently controlling this) using the weed detection processor.
* To receive a speed from the robot and convert it into pixels per second for the video processor.
* To use the Kalman Filter in the processor to configure how fast the robot should currently be going. (this part must wait until the processor is finished).

# Task 3: Performance testing

Come up with evaluation metrics to test the new processor against the old one.

* Preferably quantifiable.
* Allows us to have a metric to optimize a processor against.
* Also something to talk about in the report.

This could be coded up to import the processor in a separate file and test it.

# Task 3: Get Data

Thought I should just put this here to keep it in our minds.

Need to do this as soon as the robot is ready.

# Task 4: Full Integration