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Follow the line – Technical plan

While creating this project, we strive to follow the technical plan, but it is good to remember that there might be changes in the project tools as we proceed with our work.

The softwares and components we will be using:

- **Webots simulation environment** – We will use Webots as our primary platform for the robot's simulation and implement our line following algorithm
- **Robot model** – We will choose a suitable robot model within webots
- **Line track** – We will use Tinkercad to create the shape of the line that the robot should follow
- **Python** – The programming language we will use to program the code

The implementation steps of the development of the project work:

1. Set up Webots and select a suitable robot model for the project.
2. Set up the simulated environment with the line path.
3. Program the line detection algorithm to accurately detect the line under various conditions.
4. Program the decision-making algorithm to make real-time decisions based on the line following data.
5. Integrate the algorithms into a connected system.
6. Test the robot's performance in Webots, touching up the code as needed.
7. Create a Python-based user interface to set up the simulation, monitor the robot's progress and observe real-time data.

Teamwork plans:

Since there are only two of us, we will work together on the algorithms. Testing and debugging will also be a joint effort to ensure that all elements work well. We will also schedule regular meetings to share progress and discuss challenges.