

# Signoff – 11/17/2021 - Navigation Controller

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For our navigation control, we are aiming to target either a Raspberry Pi V4 or another Arduino Mega. However, this decision cannot be finalized until we are able to experiment with both hardware platforms. Because of this, we are looking to purchase a Raspberry Pi for now. A Raspberry Pi contains 26 GPIO pins which will be used to interface with the various sensors on the robot. However, the main driver for using a Pi over an Arduino is that it would be able to run the Robotics Operating System (ROS) which is an extremely powerful tool for robotics. Also, if we decided that a vision system is required, the computational requirements of such a system would be better handled by a Raspberry Pi with a higher clock rate and much more RAM than an Arduino. We would like as much RAM as possible for any computer vision system, so we are targeting the 8GB model which is available at <https://www.amazon.com/Raspberry-USB-C-Adapters-Vilros-Quickstart/dp/B089ZSGF8M/> for \$90

Note: I'm honestly surprised that I was able to find one at this price, so this purchase is probably one of our top priorities. If this one becomes unavailable, the price will probably be 1.5 - 2x this

