consistently turn very close the exact angle needed (since the robot will turn until the input angle is equal to or greater than the gyro angle). **Another** sensor that we have is the colour sensor. We added this sensor so that the robot would not fall off the stage during the performance. We found the values for black and white colours (which we can adjust in different environments thanks to our calibration function), then we added some margin for error and made the controller check that the colour sensor is reading white, if it’s not then the robot will move back until it’s a safe distance away from the edge. This is another safety feature which will save hours of work and lots of money.

Next we have the gyro sensor. Previously, the method we used for turning was to find the time it takes to turn 180 degrees, then divide that by 180 and multiply by the angle we want the robot to turn. The problem was that all of the motors, although technically the same could still turn at different speeds (or if the batteries are low, meaning the motors will spin slower) The impact of which is that the robot would fall out of sync as well as sometimes not turn enough or overturn. Overall, this was very unreliable so we decided to add a gyro sensor which makes sure that no matter how fast or slow or inhibited the motors are, the robots will

Hello, my name is Daniel and I’m representing the team ‘Robot Makers’. Now, let’s start with the hardware. Our robot uses the ultrasonic sensor and it makes the robot wait until it’s activated by a person with the ultrasonic sensor, we increase safety, since as soon as we plug in a robot to program it, it will start which means the robot could drive into something or burn the computer if it can’t handle the current the robot is drawing. Furthermore, while the robot is moving, the controller is constantly checking the ultrasonic sensor to see if there is anything in front of the robot (such as a human or a minion), if there is, it will wait until the object is going before continuing forward (or turning).