# JRD301: Mini Project in Robotics (Second Semester 2019‐20)

Weekly Progress Report (From: 17/02 /2020 To: 21/02/2020)

**White colour detection**

1. We were getting issues of detecting lines in shadows, footpaths and other obstacles that were interfering with our algorithm and giving incorrect values. To solve this we used a colour detection algorithm in which we detected a range of white colours in the video captured and then processed only those areas for lanes.
2. This gave us better results as footpaths and other areas were ignored. But this posed a few major issues –
   1. As we are traversing the entire image pixel by pixel to find white region, this reduced the speed of the algorithm significantly increasing the time of giving output. As a result, car movement couldn’t be handled.
   2. Also the colour density of side lanes was dependent significantly on sunlight and also varied highly for different side lanes. Therefore the colour code tuned for a particular side lane will be of no use for other side lanes.

**Rejecting the Bounding Box Method**

1. In order to reduce the wobbling nature of correction of heading direction of the car, we earlier adopted the bounding box approach. But, we observed that this was leading to the car direction not being corrected completely and the car instead kept moving at a non-zero very small angle with the heading direction. This eventually led to significant deviation in the long run of the car.
2. Hence, to overcome this error in control in order to prevent the car moving at a non zero small angle, we removed that bounding box and kept using the average value method for minimization of wobbling.

# Submitted by (student’s name with signature) Endorsed by:

Group member 1: Harman Mehta (2016BB50003) Supervisor 1: Prof. Sunil Jha

Group member 2: Tanmay Goyal (2016ME20757)