GP1003	Design and Fabrication of an All Wheel Steer (AWS) Platform Capable of Zero Turn Radius		
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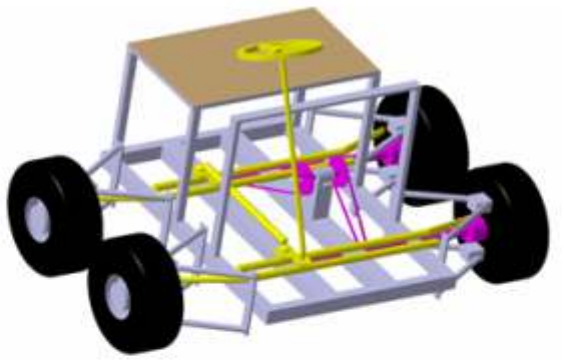
With the growing number of future vehicle registrations, traffic congestion and parking space problems get further intensified. Hence a suitable steering mechanism on a vehicle, which can enable comfort and abide parallel parking, parking issues in a well-organized manner, is essential. This project focuses and aims on designing an All Wheel Steer platform, which is capable of achieving Zero Turn Radius. It forms a solution for above discussed problem. Zero Turn Radius steering mechanism steers the wheels in a unique manner such that four wheels of the vehicle shall follow a circular path, so that the chassis/platform will be capable of rotating about a fixed point. Hence, this would reduce the requirement of moving the vehicle in a defined path with large turn radius, as employed in traditional steering systems.

Further along with provision of above solutions, the developed steering platform will consist total of 3 steering configurations, which would further bring feasibility and comfort to the driver. The three steering configurations enabled in this platform are: Zero Turn Radius, Traditional Steering and Minimum Radius Turn Configuration.

The traditional steering is a commonly employed system existing in current production vehicles, while minimum radius turn configuration will reduce the turn radius of vehicle to nearly 50% in comparison to traditional steering mechanism, by turning rear wheels in opposition to front wheels reducing the turn radius. In order to demonstrate all the above discussed steering configurations, a pedal mechanism has been incorporated just to propel the vehicle forward, depicting the vehicle's steering capability. The test results for various configurations have been appended in the report. Further its future scope and recommendation have been suggested.



Development stages of All Wheel Steer Platform: Virtual model and its construction