

ABSTRACT

Communication and information technology experienced a significant development one of them is in the field of transportation. ITS (Intellegent Transportation System) is a transportation technology that has been developed. The technology is expected to provide the level of comfort and safety in traffic. With the development of technology, then emerged a VANET (Vehicular Ad-Hoc Network) communication network as the development of existing ITS technology. VANET has two types of communication namely V2V (Vehicular-to-Vehicular) and V2I (Vehicular-to-Infrastructure). In this final project discusses the application of VANET network in communication process between vehicles with case study of overtaking process. In this prototype overtaking utilizes the speed data contained in the OBD-II and also the closest distance data of the car coming from the laser sensor (LIDAR).

Communication between vehicles is done by sending data or request based on the ID of each node that has been known before. Request is sent broadcast to the associated node. The system used in the data communication process during overtaking adopts from the way com unication work on UDP protocol. Where each node can work as a client or server. This data communication system is used during overtaking process, where data is analyzed and matched according to rules or rules. In this final project the device used at the time of data transmission is nRF24L01 +.

Keywords: ITS, VANET, V2V, V2I, OBD-II, LiDAR, ID, request, UDP, nRF24L01 +.