Prototipe Protokol Untuk *Collision Avoidance* Secara *Cooperative* Pada Persimpangan Jalan

Rahajeng Anggi Puspita[1], Bayu Erfianto[2], Sidik Prabowo[3]

[1,2,3]Fakultas Informatika, Universitas Telkom, Bandung
[1]rahajenganggi@students.telkomuniversity.ac.id, [2]erfianto@telkomuniversity.ac.id,
[3]pakwowo@telkomuniversity.ac.id,

Abstract

In Indonesia, there are many T-junction without traffict light, this makes driver difficult to know the condition of the road if the driver wants to turn left or right, because the view of the driver is very limited, blocked by buildings, gates, and plants. Communication and information technology experienced significant development in various fields,one of them is transportation field. One of the developments of technology is VANET. VANET is a communication network that has 2 types of communication, V2V (Vehicular to Vehicular) and V2I (Vehicular to Infrastructure). This thesis discussed the aplication of VANET network in communication process between vehicles with "turning" study case. In 'turning' prototype, speed data contained in the ECU (Electronic Control Unit) of the car with the help of OBD-II port was used. The data exhange system is used when turning right or turning left, where data is matched to existing rules. Device used for data transmission is LoRa (Long Range).The result of this prototype is to build communication between vehicles to facilitate the process of turning right or turning left at a T-junction blocked by buildings, gates, or plants and overcoming collision avoidance at the T-junction without traffict light.

Keywords: LoRa, OBD-II, Ad-Hoc, VANET, V2V, V2I, ECU.