Penerapan Internet of Things untuk Mengembangkan Sistem Anti Ngantuk untuk Pengendara. *(Application of the Internet of Things for the Development of Anti-Drag Systems for Motorists*).

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ABSTRACT

Most of the traffic accidents are caused by drivers who forget to rest while driving, drivers are sleepy so they can't control the vehicle. Therefore, it isnecessary to have a device that can detect the drowsiness of the driver while driving and provide a warning if the driver is in a drowsy state so that the driver can avoid accidents. The development of this anti-drowsiness system uses a heartbeat, the heartbeat can describe a person's condition whether he is normal, sleepy or asleep. In this study, heart rate is used as a medium for data sources to be taken using the photoplethysmography method which is implemented using the MAX30100 sensor. The system then groups the obtained heart rates according to gender and age range 18-23, 24-34, >34 years and determines the driver's levelof sleepiness based on the grouping of heart rates with BPM output. The results ofthe design are made with a Node MCU microcontroller and a MAX30100 sensor which is integrated with mobile apps via a hotspot. Measurements in this study had an average accuracy value of 96.8% obtained from the comparison between the MAX30100 sensor and Mi Band 5. The results of grouping heart rate in sleepyconditions obtained an average BPM value for males aged 18-23 of 67.44 71.28 women, men aged 24-34 68.2 and women 74.44, and men aged > 34 67.67 and

women 81.36.

Key words: *Heart Rate, Photoplethysmography, MCU Node, Sensor MAX30100*