ABSTRACT

Performance monitors are required in race competition, just as important as in motogp and formula one competition. The monitoring involves several parameters in the car, such as tire pressure, fuel capacity, speed, and many more. Those parameters are needed for Pitstop team, especially for team strategy such as analysis of performance behavior in the race.

For that purpose, reliable telemetry system is needed. The reliable telemetry system involved data transmission with adaptive condition, according to race area or field effect. For prototype use, this system is using cellular modem which is quite adaptive in several areas or field. In the system design, it's system involve minipc which is raspberry pi as communicator inside the car. Also the car has a LCD monitor for the driver need which is to monitor the parameters along the race. Client-server connection are involved here so the car and Pitstop team's monitor could be connected each other. In this system, several trials of monitoring occur during testing, which is many parameters will be involved in information exchange. The result of this system will be producing the reliable and adaptive telemetry system which is could be possible to use in public car.

Eventually this project results the quite reliable telemetry system, even thought it's can't produce the real-time system. This system will work literally everywhere, as long as cellular network is in modem coverage. Unfortunately the latency still makes quite number for a telemetry matter, which is over 1 seconds average latency for a few trials

Keywords: motogp, formula one, GAP Time, LAP Time, Internet