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Toyota Prius Hybrid Plug-in Conversation and Battery Monitoring system MICHAEL MCINTYRE, ROBERT KESSINGER, MAEGAN YOUNG, JOSEPH LATHAM, KRISHNANUNNI UNNIKANNAN, Department of Engineering, Western Kentucky University, Bowling Green, KY 42101 — The objective of the project was to analyze the performance of a Toyota Hybrid. We started off with a stock Toyota Prius and taking data by driving it in city and on the highway in a mixed pre-determined route. The batteries can be charged using standard 120V AC outlets. First phase of the project was to increase the performance of the car by installing 20 Lead (Pb) batteries in a plug-in kit. To improve the performance of the kit, a centralized battery monitoring system was installed. The battery monitoring system has two components, a custom data modules and a National Instruments CompactRIO. Each Pb battery has its own data module and all the data module are connected to the CompactRIO. The CompactRIO records differential voltage, current and temperature from all the 20 batteries. The LabVIEW software is dynamic and can be reconfigured to any number of batteries and real time data from the batteries can be monitored on a LabVIEW enabled machine.

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None

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