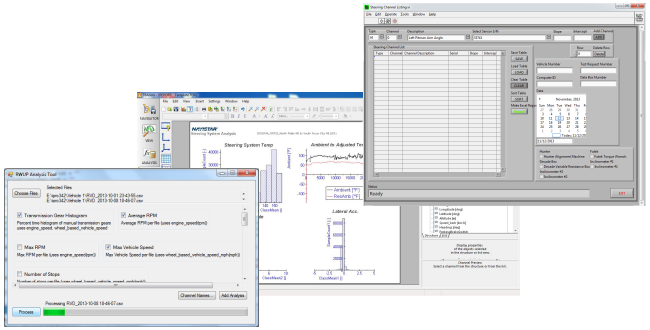
Working with Navistar, IPRO 342 is assisting in the data analysis process for the large amounts of data that is collected from Navistar equipment operating in the real world environment.

Collecting data in a real world environment is a unique and very powerful ability that both Navistar and IIT realize has massive potential and automating the workflow and data question is key to optimizing the data collected.

IPRO 342 has divided into three teams to undertake three specific tasks in the data analysis and automation process.
- Chthonian Lucidity
- Automation Acumen
- Vehicle Response

IIT and IPRO 497 - 342 would like to thank Navistar and the project leads from Navistar, for the opportunity to work with them and gain the valuable experience of working with a industry leading company.



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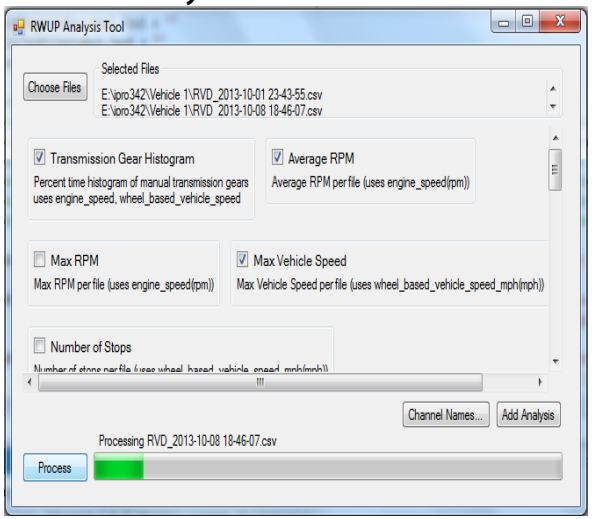
Chthonian Lucidity

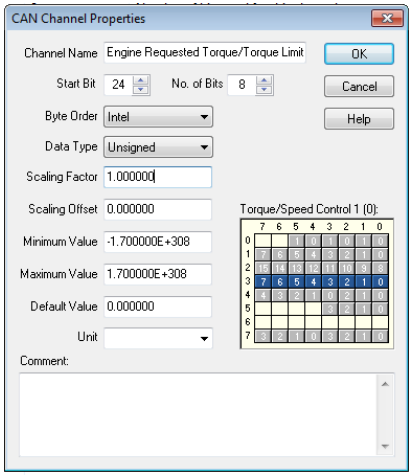
Chthonian Lucidity is focused on building an Analysis tool that can be dynamic enough to analyze what the engineer needs but also robust enough to not fail when common data errors occur. The group is also focused on making the integration with SharePoint seamless and data acquisition automated.

Below is a screen shot of the Analysis Tool running an analysis of CAN Data files.



Automation Acumen

Automation Acumen is focused on automating the task of testing the vehicle sensors through use of the CAN Data file and LabVIEW to correctly interpret the signals from the vehicles on board computer. The goal is to conduct the time intensive testing without having to have a human present for all steps.

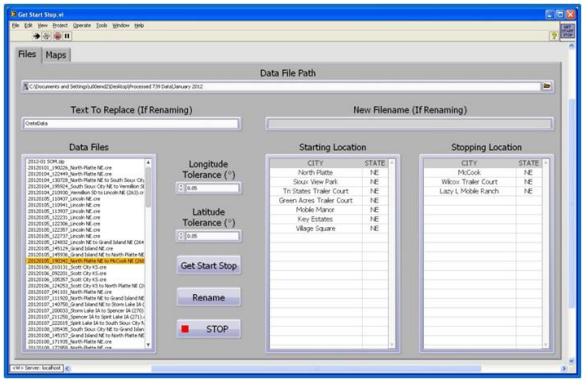


The above image shows the creation of a specific CAN Channel and the corresponding properties that needed to be defined (this demonstrates an understanding of J1939 message structure, since all of these parameters are determined by SAE J1939 documents).

Vehicle Response

Vehicle Response is focused on the analysis of data, collected from instrumentation on the vehicle. The data is received in the computer with LabVIEW then processed and analyzed by DIAdem.

LabVIEW is used to make sense of the electrical signals that are coming into the computer from the instrumentation and formats them in a way that can be analyzed by an analysis program.



LabVIEW Screnshot

DIAdem is used for analyzing the data that has been formatted and collected by

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