EE/CprE/SE 491 WEEKLY REPORT 4

10/22 - 11/7

Group number: 32

Project title: Development of a Smart Sensing System for Road Performance Data Collection

Client &/Advisor: PROSPER - Bo Yang & Halil Ceylan

Team Members/Role: Victor Guerra, Ethan Young, Michael Petersen, Shlok Singh

- **Weekly Summary:**
  After our meeting this week, we have decided to use the double integration method of IRI calculation. We are also currently breaking down the steps of the integration method,filtering process, and IRI calculation from the filtered sensor data.

- **Past week accomplishments**
  - Decided on accelerometer module
  - Continued Research into IRI calculation
  - Made decisions regarding IRI and filtering methods

- **Pending issues**
  - Currently debating methods of accelerometer noise reduction and finding the most accurate method of IRI calculation and relationship between the two

- **Individual contributions**

NAME	Individual Contributions	Hours this week	HOURS cumulative
Victor Guerra	Documentation	8	29
Ethan Young	Worked on PSD calculation	8	33
Michael Petersen	Design Document, Filtering Research	8	29
Shlok Singh	Parts list	8	29

- **Plans for the upcoming week**
    - Breakdown IRI calculation and begin code planning. Outline the design of the filters, and moving average required for reducing noise from accelerometer data. We should receive the parts we ordered within a couple weeks so we will be preparing the code setup required to begin creating a working prototype.

- **Summary of weekly advisor meeting**

  Met with Bo to discuss methods of IRI calculation: double integration, and power spectral density. After speaking with him we determined we will be utilizing double integration method to calculate IRI.