



Mentored by the
Private Sector Program

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Project Objective

Assist the Private Sector program in determining industrial use cases for new technologies including:

- Oculus Rift and Leap motion
 - Use: Scientific and design visualization.
- Hadoop
 - Use: Bioinformatics and Seismic Processing

Approach

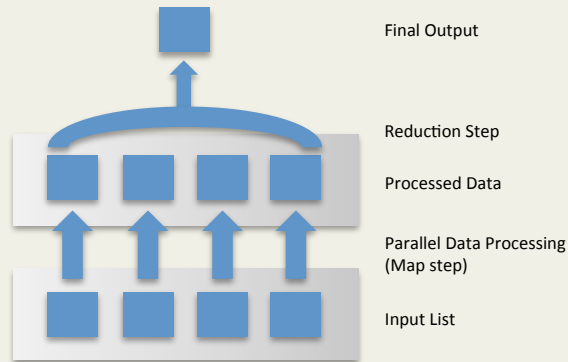
- Demo of 3D interaction with Leap Motion
- Very small deployment of Hadoop to test existing bioinformatics software

Status

First Semester this year we considered using the Oculus for industrial visualizations.

At the beginning of second semester, the NCSA acquired a new resource and we shifted focus towards Hadoop.

We spent second semester exploring usage of Hadoop for seismic and bioinformatics.



The MapReduce programming model allows massively parallel operations on large sets of data, without requiring programmers to write explicit synchronization code; more time can be spent developing algorithms.

Questions

- What is seismic data processing?
- Is it possible to run existing Seismic data processing software on Hadoop (avoid reinventing the wheel)?
- What are advantages and disadvantages of MapReduce?
- What limitations do existing 3D interaction solutions have?