



Creating a Simpler, Cheaper, and more Versatile Vehicle Data Logger

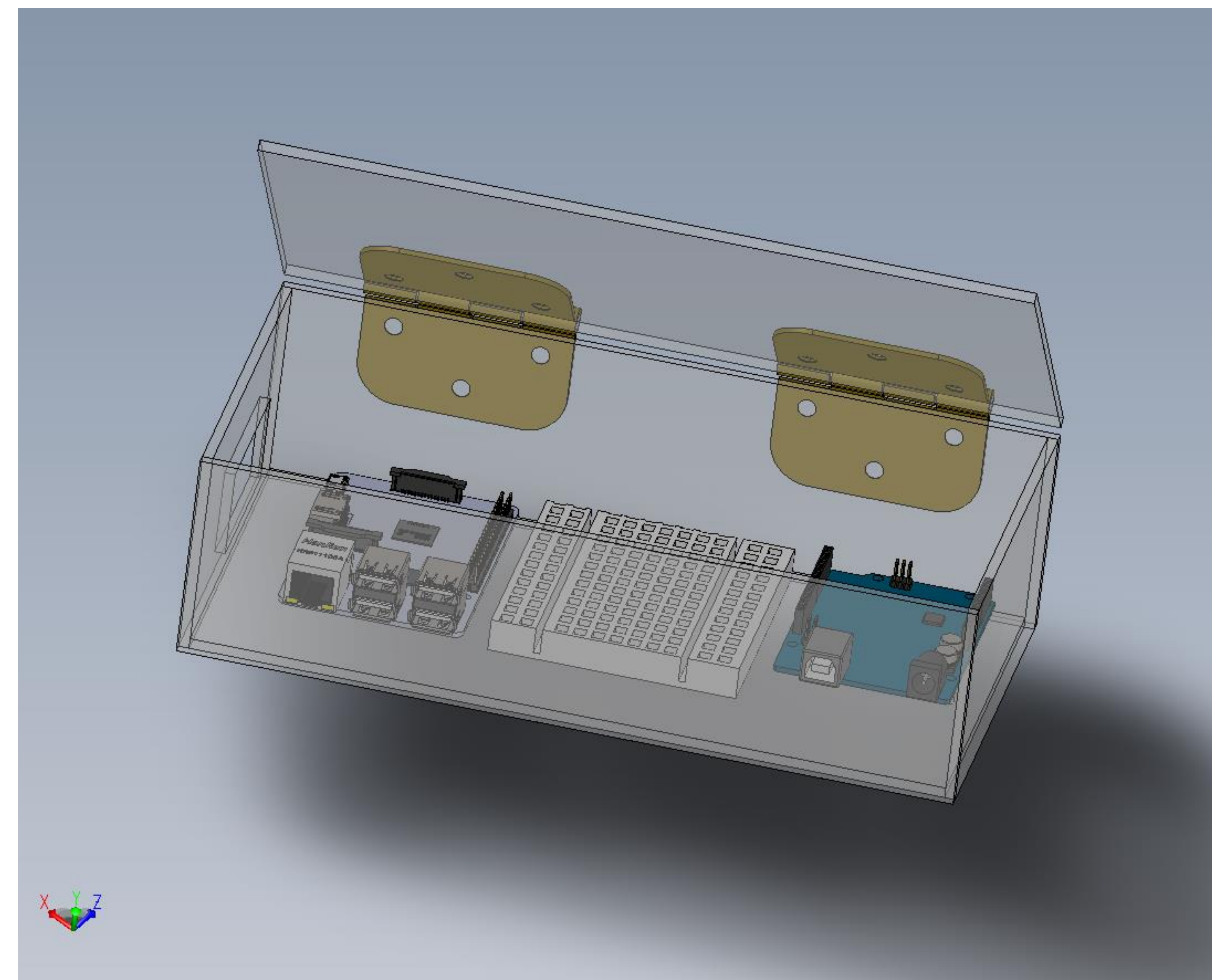
Peter Irvine - irvin124@umn.edu, William F. Northrop Ph.D. - wnorth@umn.edu

Motivation and Background

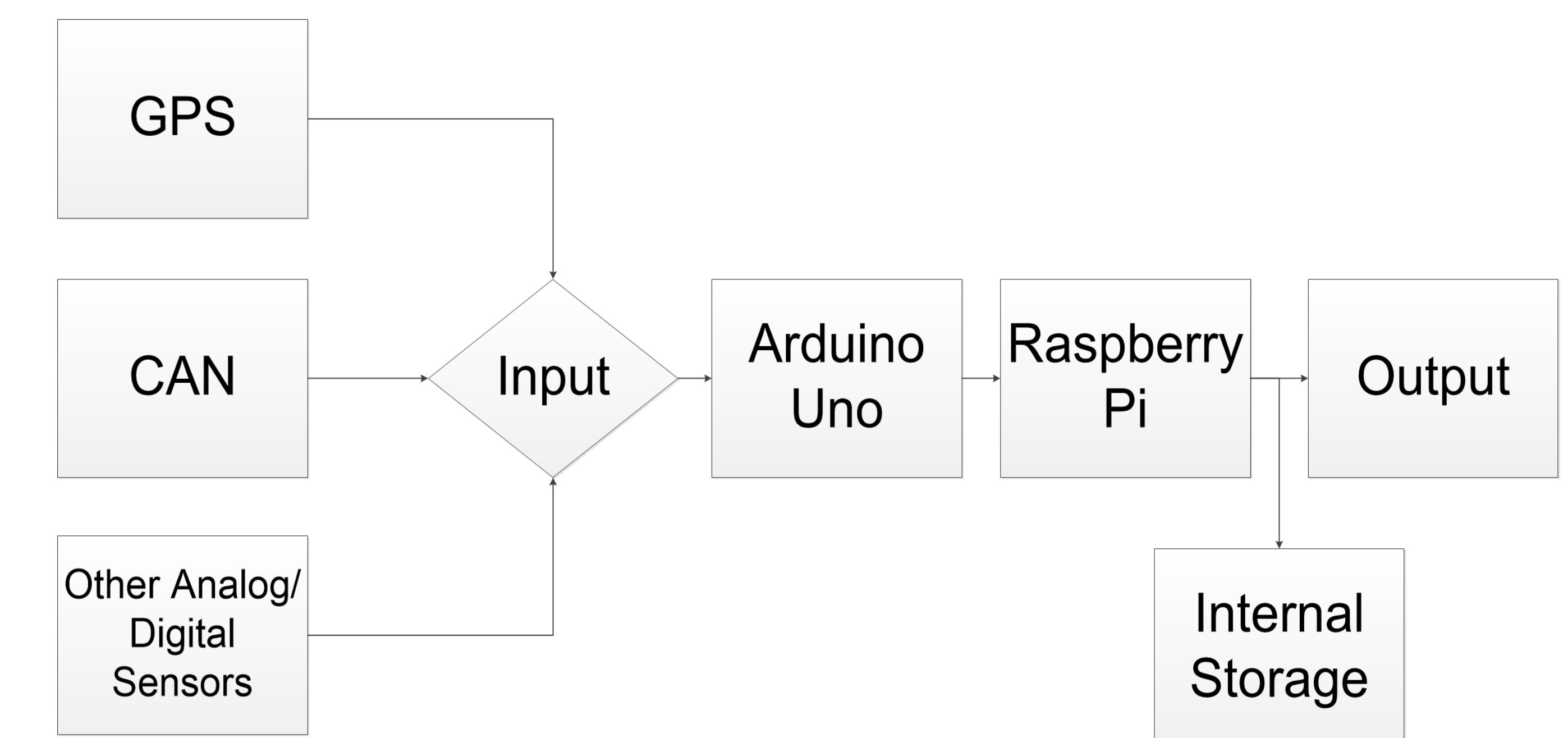
- The goal of the project was to build an inexpensive data logger.
- Professional research data loggers are expensive and limited in capabilities
- ISSAC data logger ~\$1000 each
- Not cost effective for large scale testing

Assembly and Programming

- The breadboard and Arduino are mounted on a platform which is attached to the polycarbonate box.
- The Raspberry Pi is mounted on standoffs to the box
- The Arduino is programmed using the default language
- The Raspberry Pi uses a Python script to get the data from the Arduino and saves to a uniquely named file.



How it Works



Results and Future Work

- Total cost: \$206.13 ~ 1/5 of the cost a ISAAC Data Logger.
- Effective for large scale testing.
- Future plans include incorporating this logger with work done by Professor Northrop's research group to count passengers on the Campus Connectors

Item	Price
Raspberry Pi	\$24.35
PiCAN	\$51.55
GPS Breakout	\$39.95
Accelerometer	\$49.95
Arduino Uno	\$25.23
Other Items	\$15.00
Total	\$206.13