

Flexible Remote Data Collection for CAN Networks



Robust Self-Configuring
Embedded Systems

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Objective

To remotely access the CAN network of an automobile, experiment with live or realistically collected data in the lab, and anticipate future experimental needs.

Architectural Strongpoints

Modular

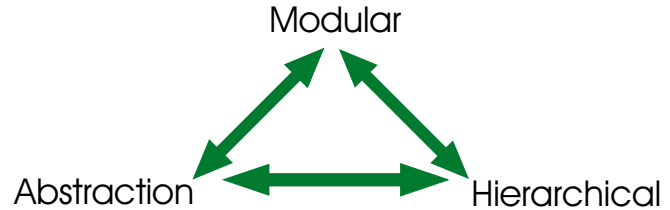
- New functionality can be added (or removed) without redefining the architecture
- This gives rise to a plug-and-play architecture
- This has been done with User Interfaces and CAN protocols

Hierarchical

- True object oriented design

Abstraction

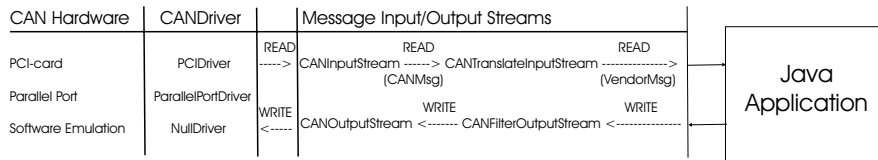
- Hierarchical design hides lower level details



Underlying Software Architecture

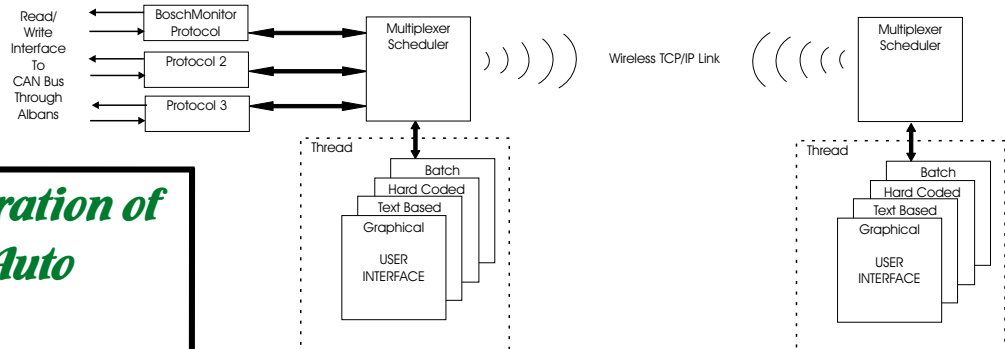
ALBANS

- A Java I/O Library to interface applications with the CAN bus
- Streams based objects maximize communication flexibility



LUDFORD

- Intelligent interfacing with the car for local and/or remote access
- Different pluggable user interfaces available



MORTIMER: A Demonstration of Gracefully Degradable Auto Navigation

- Can applications survive the loss of a critical sensor?

