A Lab Specializing in Program Transformation and Analysis

SHIFT
Goals

- To provide tools and techniques facilitating the design and development of high-assurance systems
  - Verification
  - Automated Testing
  - Comprehension
  - Domain-specific Languages

- To use real world problems as the metric for gauging the effectiveness of a particular tool or technique
Tools

- **Stable**
  - TL – a general-purpose transformation system
  - Bascinet – an IDE for developing TL applications

- **Alpha**
  - Fathom – an access control-based document generation and viewing system
  - Migrator – a methodology for adapting Java source-code to restricted JVM’s
  - Assess – a tool to estimate the complexity of a Java code-base
  - Paradigm – a high-level architecture-independent microprogramming language
Projects

- **Present**
  - **Java Library Migration**
    - Tools: Migrator, Assess
  - **High-level Microcoding**
    - Tools: Paradigm

- **Past**
  - Development of a Document Generator for Active Oberon
  - Classloading for an embedded JVM
  - Constructing a safe train control function for the Bay Area Rapid Transit System (BART)