Support for Static Concept Location with sv3D

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Visualization Support for Processes

• Most visualization tools
  – show data (e.g., dependencies)
  – support activities (e.g., browsing)
  – high level processes (e.g., comprehension)

• Few visualization tools
  – support well defined processes (i.e., sequence of activities)
Can We Provide Support for Processes?

• Need to
  – visualize data
  – capture interactions
  – change visualizations in real time
  – interact in real time with IDEs or other user tools
  – anything else?
Static Concept Location

- Locating the implementation of a concept or feature in the source code
- Static
  - Dependency based search [Chen’00]
  - String based search (i.e., grep)
  - IR methods [Marcus’04]
- Dynamic
  - Execution traces - Reconnaissance [Wilde’92]
- Combined (using concept analysis) [Eisenbarth’03]
- Used in incremental change, comprehension, debugging, etc.
IRiSS
Information Retrieval based Software Searching

- Integrated with MS Visual Studio .NET
- Indexes source code with LSI
- Allows users to search with natural language queries
- Display ranked list of results
- **Mini-process:**
  1. query -> results (visualized)
  2. investigation of results (visualized!)
  3. query refinement
  4. go to 1.
sv3D – source viewer 3D
www.sv3d.org
One More Issue on Vis Tools

• Exchange of visualization tools
  – we failed so far 😞

• Interoperability of tools

• Use Vissoft as a platform to achieve this goal