Visualizing Execution Traces using Hierarchical Edge Bundles

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Hierarchical Edge Bundles – Intro

- New method for visualizing compound graphs – approach is based on visually bundling adjacency edges together

- Hierarchical Edge Bundles:
  - Decrease visual clutter
  - Can be used on top of any tree visualization
  - Show low- and high-level relations simultaneously

- Received Best Paper award at IEEE InfoVis 2006
Hierarchical Edge Bundles – Example
Call-i-Grapher

- Visualize, explore and analyze program execution traces

- Combination of Hierarchical Edge Bundles for high-level exploration and “Massive Sequence Chart” for detailed, low-level inspection

- Use-Cases:
  - Change request analysis
  - Multi-level analysis of communication behaviour
  - Polymorphism analysis
  - Communication outlier detection
Call-i-Grapher Demo
Future Work

- Analyze Cromod traces using Call-i-Grapher to support suggested use-cases (ICPC 2006 / VisSoft 2006)

- Determine feasibility of TreeComparer-approach by developing it further and by testing it on refactored software hierarchies

- Make Call-i-Grapher and TreeComparer available to Reconstructor partners to receive feedback / suggestions for improvement
Questions?
Thank You!