
eCITY: A Tool to Track Software Structural Changes using an Evolving City

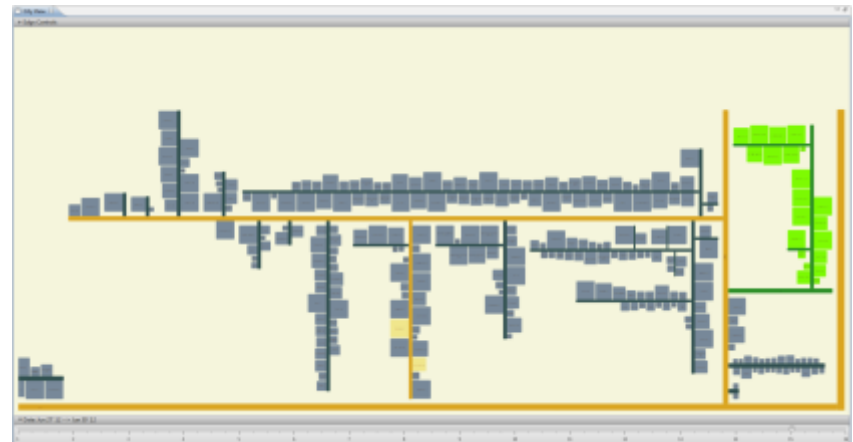
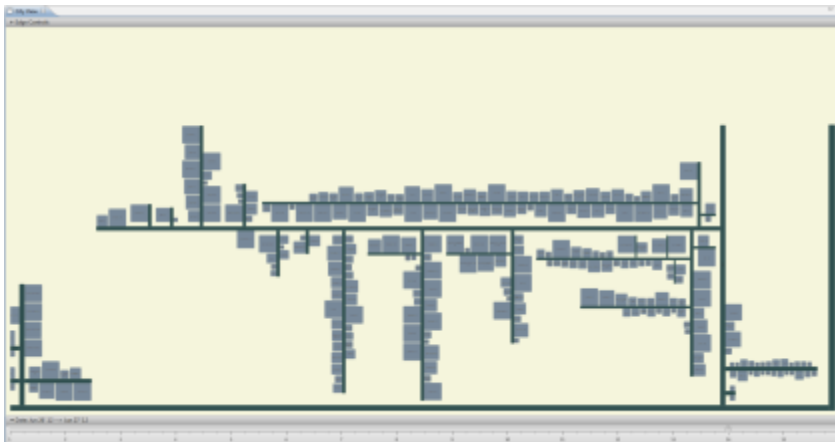
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Motivation

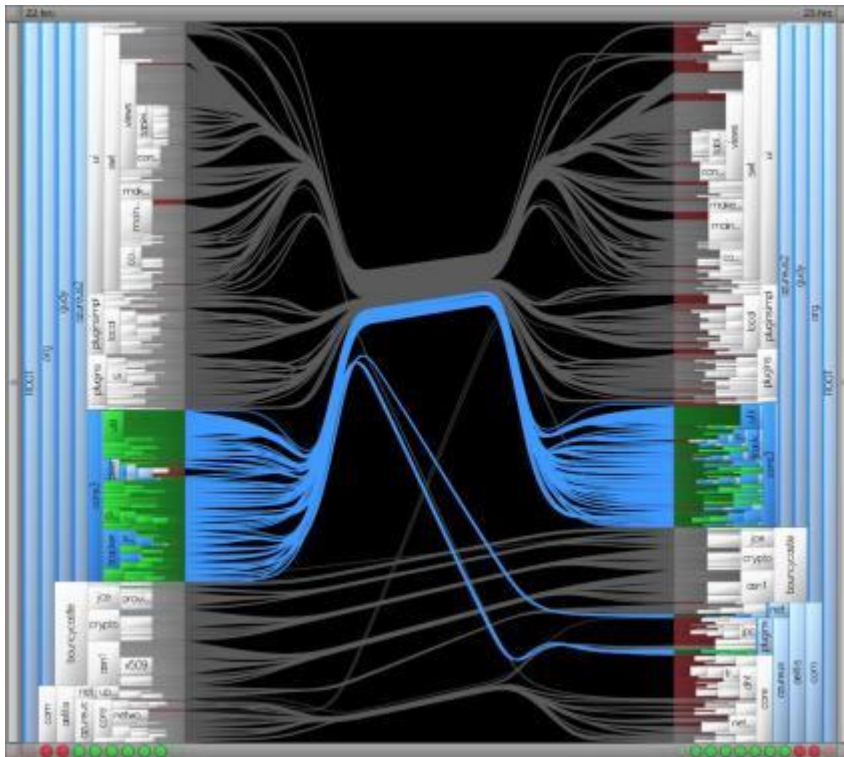
- Software evolution has highest costs
- Visualization as an aid to reduce these costs
 - Lots of data – standard visualizations do not work
 - Need for stable layouts
 - Interactively explore software's evolution



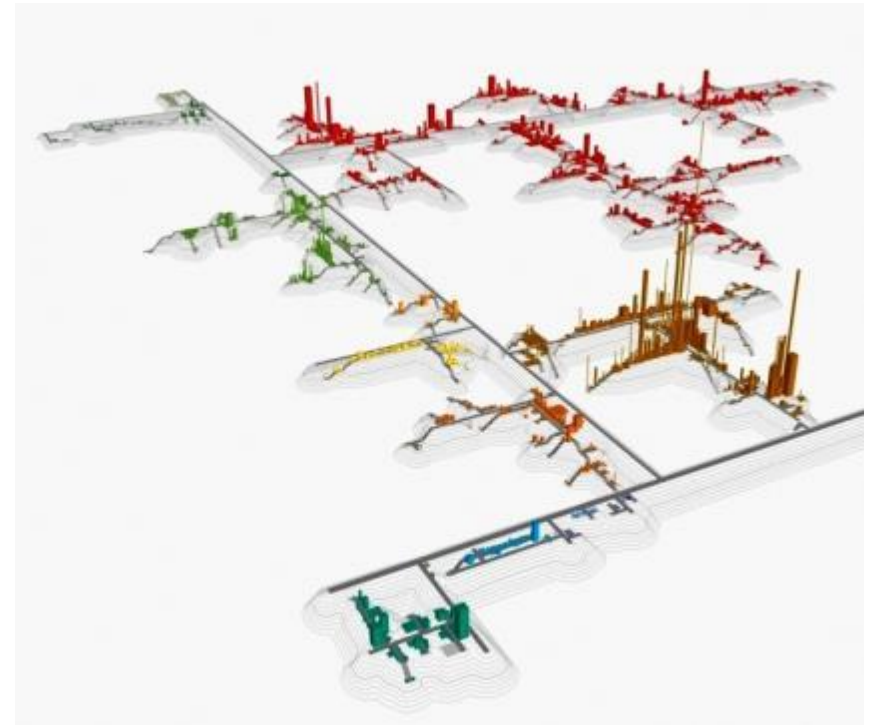
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Related Work

Visual Comparison of Hierarchical Data
 D. Holten



Representing Development History in Software
 Cities – F. Steinbrückner



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Main Contributions

■ Timeline View

- **Overview of changes made to the system over time**
- **Combination of bar-charts**
 - Overview & details at a particular point in time

■ City View

- **Track where changes are made**
 - Overview of entire system architecture at a particular point in time
 - Slider and key frame animation technique to interpolate colors and layout
 - Several interaction and animation possibilities

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DEMO

DEMONSTRATION



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Conclusion and Future Work

■ Conclusion

- Stakeholders can interactively get an overview of structural changes over time
- Implementation was found to be both natural and intuitive
- Improved efficiency and effectiveness in performing basic software evolution tasks

■ Future Work

- Evolution of relationships and dependencies
- Side-by-side comparison of two disjoint point-in-times
- Embedded search engine and improved navigational context

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Questions?

