

pathfinder

*focus+context for
java program navigation*

Mik Kersten
University of British Columbia

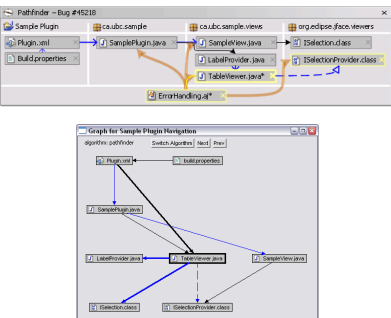


background

- Overview+details views are limited
- Navigation structure is not explicit
 - Editor tabs shrink
 - Navigation history is a flat list
- Idea
 - Model degree of interest (DOI)
 - Represent user navigation
 - Leverage program structure

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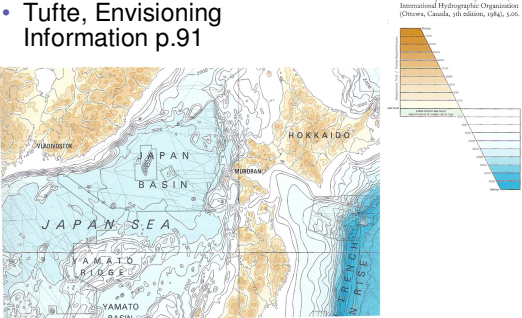
Attempts



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Inspiration


- Tufte, *Envisioning Information* p.91



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Pathfinder demo

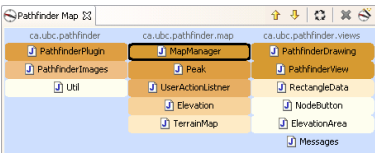
- Show existing map
- Create new map, build up by navigating
 - Linked highlighting
 - File status
 - Binary file
- Unit tests
- Errors
- Saving
- DOI & predictability
 - Show labels
 - Manual selection



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implementation

- User monitor: navigation and IDE lifecycle
- Map manager: DOI model and persistence
- Pathfinder drawing: visualization
- Pathfinder view: main UI component



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Lessons learned

- Tight IDE integration is key
 - Need to augment existing views
 - Some views could be hidden
- Predictability is important
 - Files appear/disappear frequently
 - Where to look needs to be obvious
- DOI stability is hard
 - Screen-estate effects
 - User-task effects
 - Current parameters are hand-tuned

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Future work

- Improving DOI function & user modeling
- Representing more structural relationships for OOP and AOP
- Surfacing more structure, guaranteed visibility of highest DOI
- Moving down to member granularity & providing semantics-based zooming
- Sharing of models and awareness of others' DOI for collaborative development

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