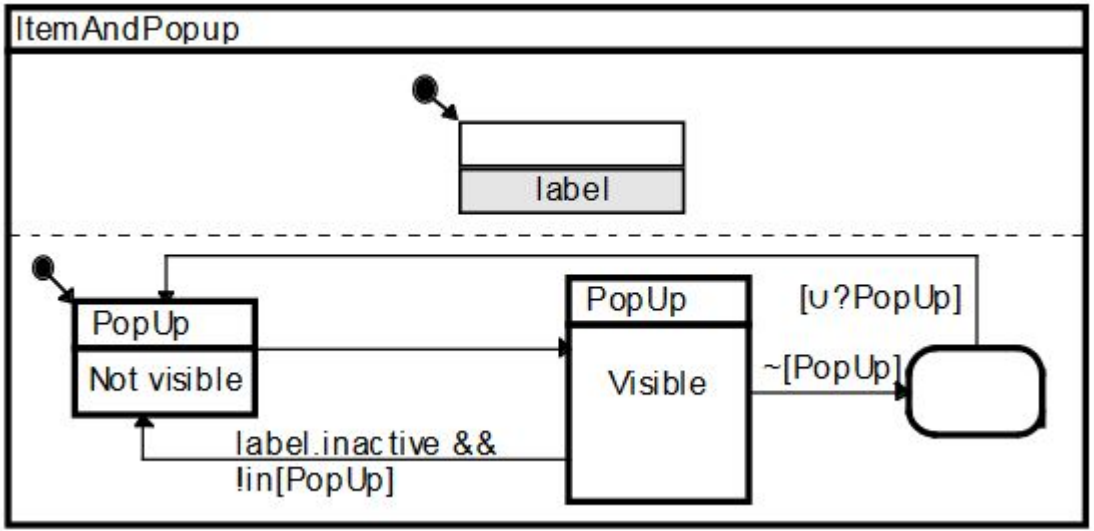
Interaction object graphs

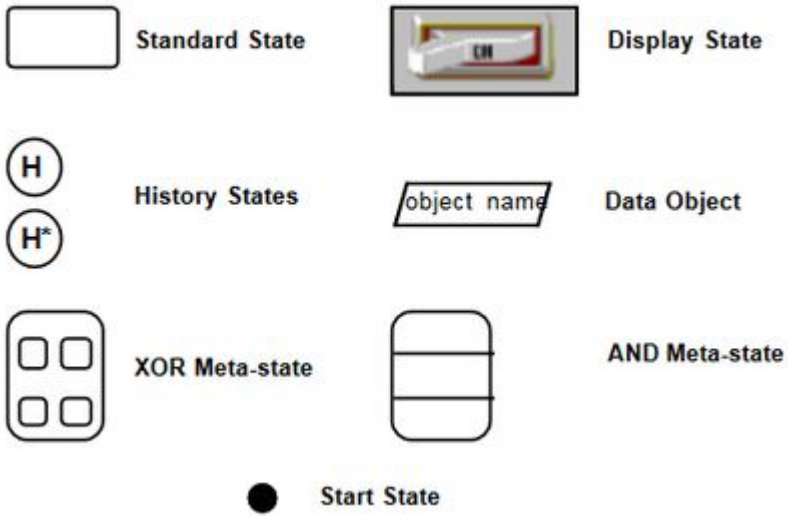
Carr, D.
Interaction Object Graphs: An Executable Graphical Notation for Specifying User Interfaces, Formal Methods for Computer-Human Interaction, P. Palanque and F. Paterno, editors, Springer-Verlag, 141-156, Nov. 1997

Introduction

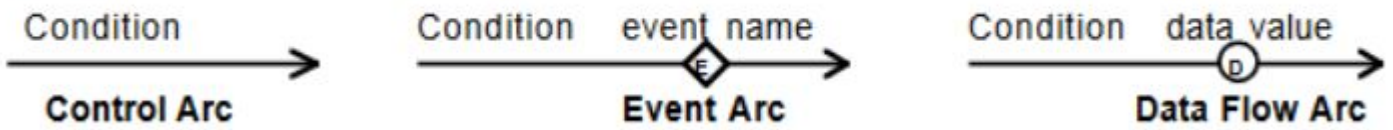
- Based on state machines
- Understandable representation of man-machine dialogs
- Add visualization for interaction on screen



IOG state diagrams



IOG state diagrams



Interface Data Model

- Booleans, numbers, strings
- Points
- Regions
- Icons
- View ports
- Windows

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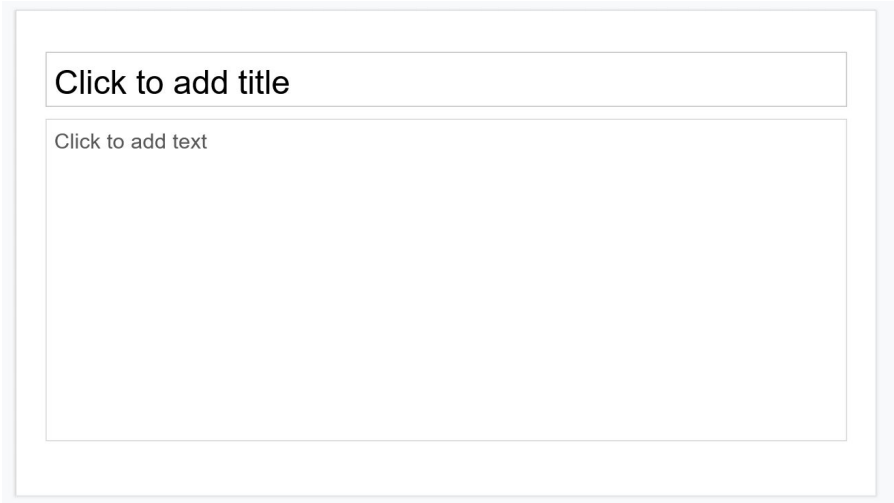


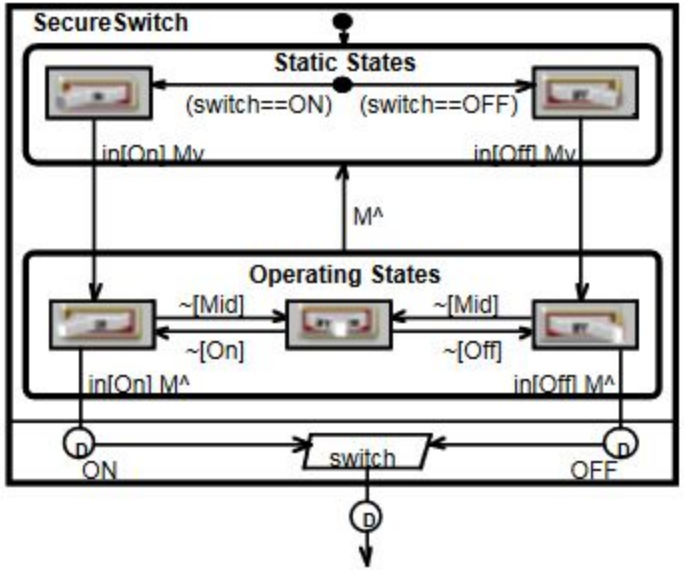
Event description

Region access → ~[Region] [Region]~

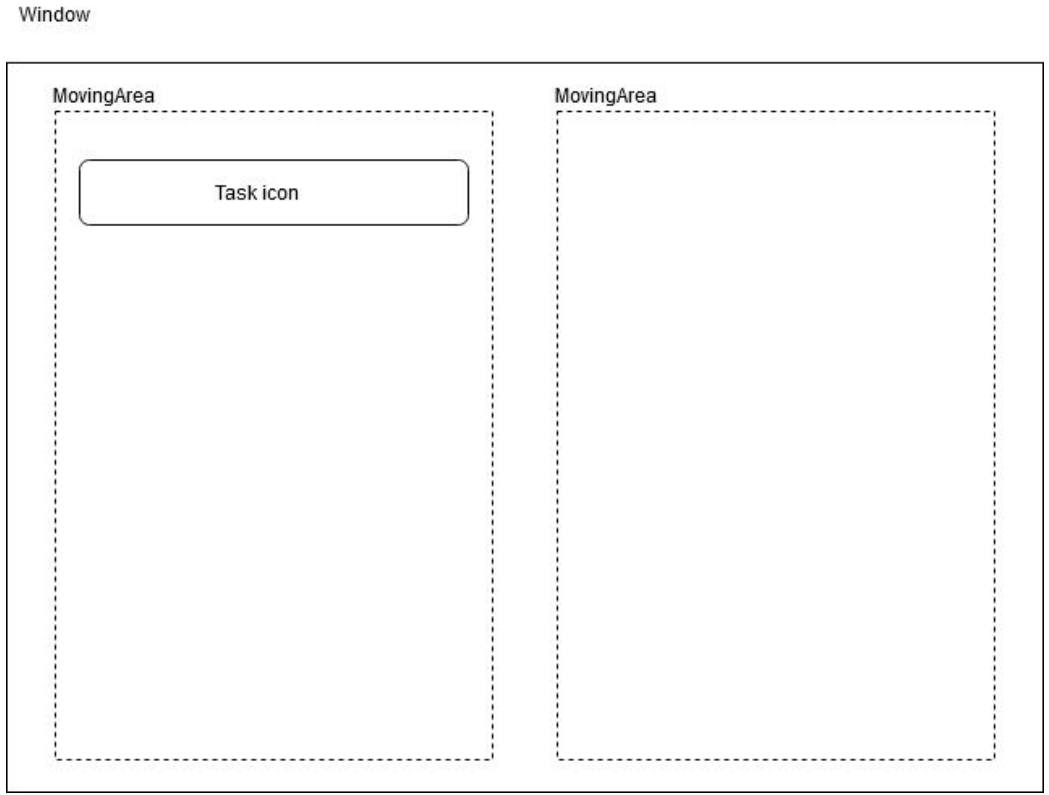
Mouse clicks → M^ Mv

Mouse changes → MΔ

Example model



Dragable icon example



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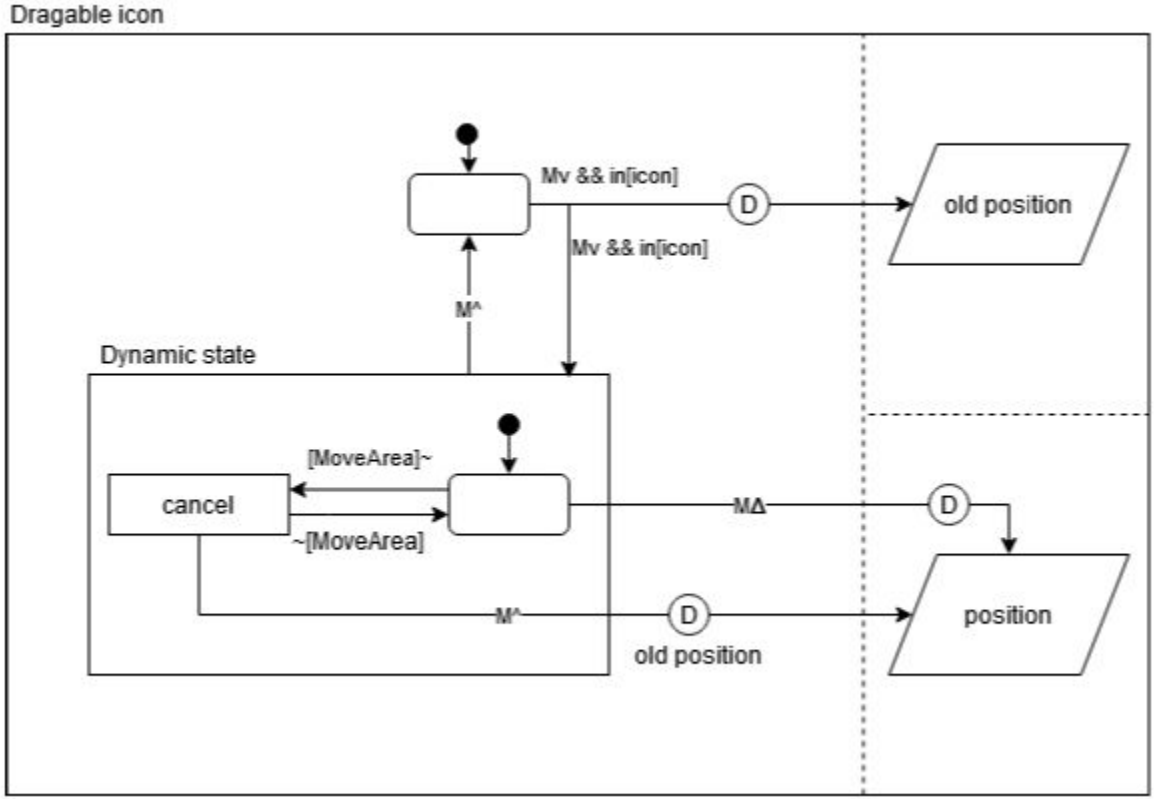
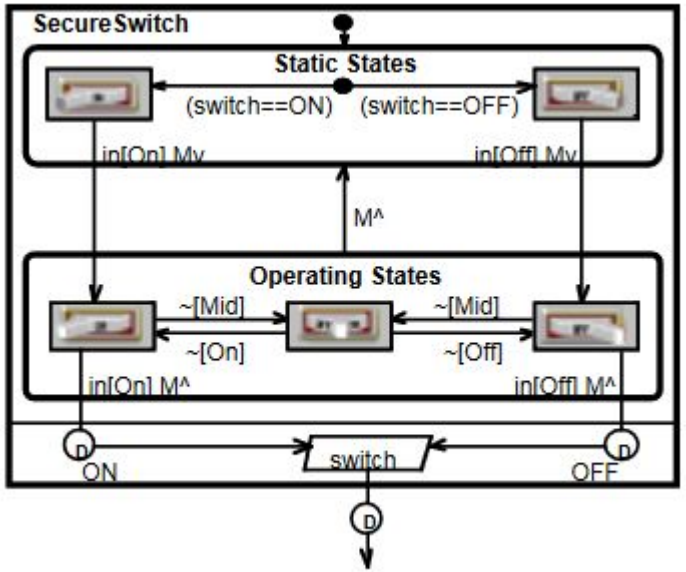


Analyzing IOG

- Predictability
- Reachability
- Completeness
- Consistency
- Reversibility

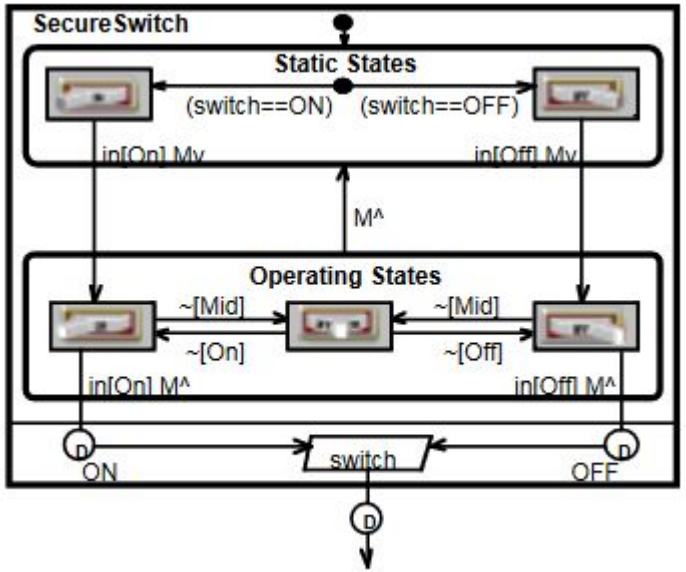
Analyzing IOG

- State invariance



Analyzing IOG

- State invariance
- Dialog completion



Questions ?