Domain-Specific Modelling of complex User Interfaces

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Reading resources

- Interaction Object Graphs to Specify and Develop Graphical Widgets
  - David Carr , Ninad Jog , Harsha Kumar, Marko Teittinen and Christopher Ahlberg (1994)

- Statecharts and Class Diagram XML: A general-purpose textual modelling formalism
  - Glenn De Jonghe (2014)

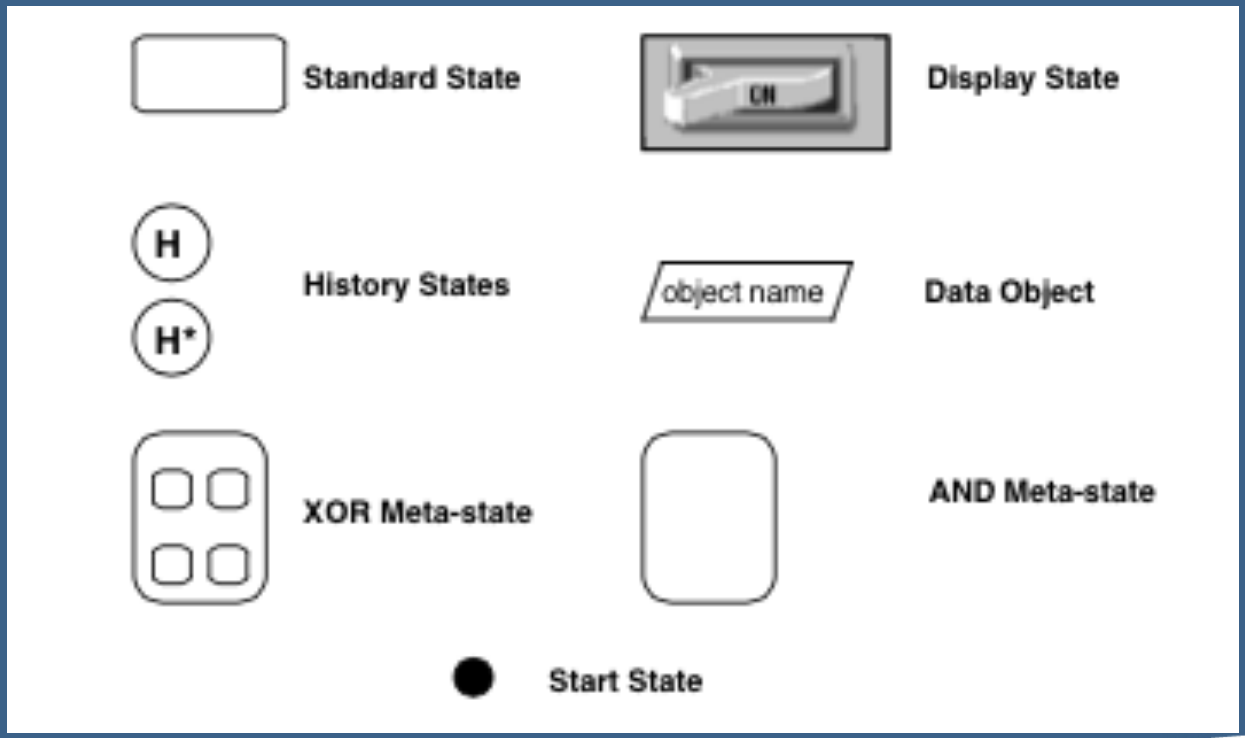
Interactive Object Graph

- Graphical widget specification

- Based on:
  - Interface Representation Graphs
    - Data flow
    - Constraint specifications
  - Statecharts
    - Transition based execution model
    - Meta-states
    - History states

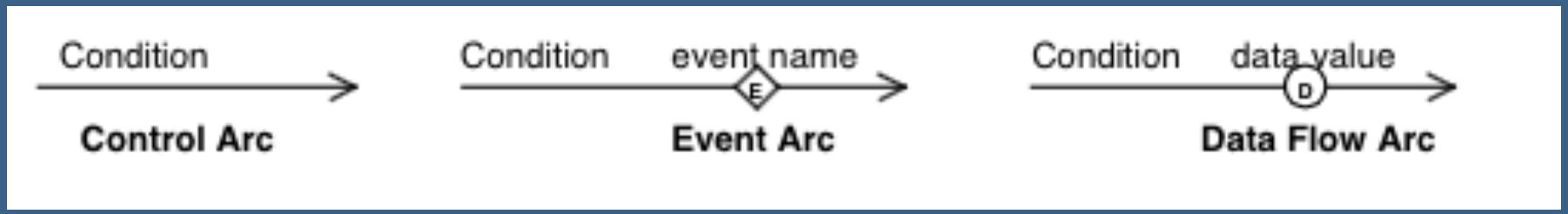
Interactive Object Graph

- Node symbols



Interactive Object Graph

- Arc symbols

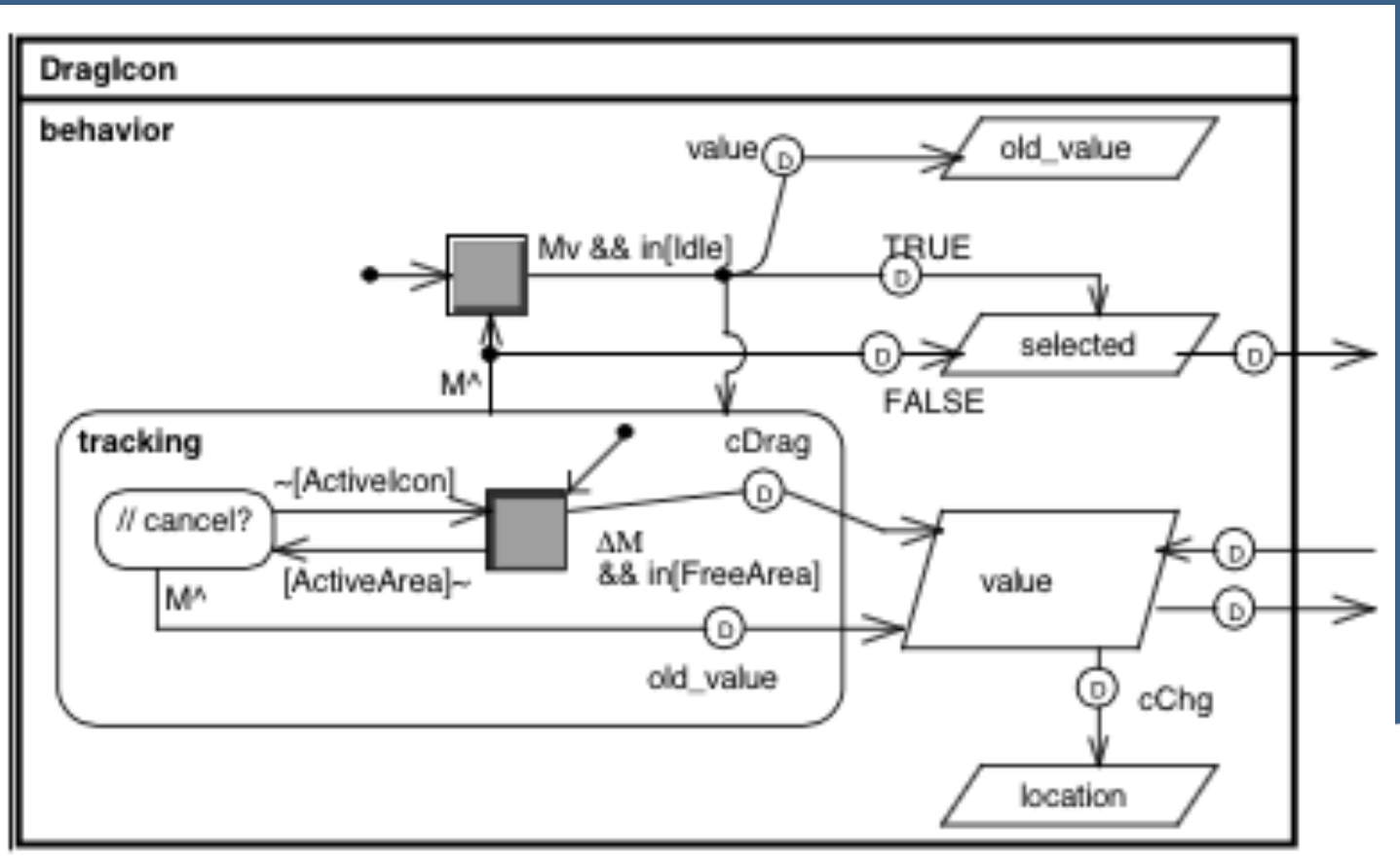


Interactive Object Graph

- Object Types
  - Booleans
  - Numbers
    - Real / integer
  - Strings
  - Points
    - (x,y)
  - Regions
    - Origin, height, width
  - Icons
    - Region with graphical display
  - Window
  - User inputs

Interactive Object Graph

- Draggable icon example



Project goals

- What ?
  - Implement IOG formalism in AtomPM
  - Map to other formalism:
    - SCCDXML
    - Code
- Why ?
  - Rapid prototyping and testing of widgets
  - Allows non-programmers to design UI

Questions ?