Tunneled Arrows

- Arrows that provide information at one level of decomposition but are not needed at another (parent, child) level.

- Does not appear on parent
- Does not appear on child
- Does not appear on parent
- Does not appear on child
Call Arrows

- Special case of mechanism arrow.
- Caller box does not have its own child diagram.
- Detailed by another box in same or other model.
- Example: same “Fly aircraft” model called by
  - “Fly aircraft in climb”
  - “Fly aircraft in cruise”
  - “Fly aircraft in descent”

Box Numbers and Node Numbers

- Box numbers
  - Single box in context (A-0) diagram numbered A0 (“Activity” 0).
  - Boxes in context diagram’s child numbered A1, A2, A3, … [A6].
  - Boxes in A1’s child diagram numbered A11, A12, …
  - Boxes in A2’s child diagram numbered A21, A22, …
  - Boxes in A21’s child diagram numbered A211, A212, …
  - and so on …
- Node – for our purposes, another name for an activity/process
- Node numbers
  - Context diagram is node A-0
  - A-0’s child node is node A0
  - A0’s children are nodes A1, A2, …
  - In general, a node bears the same number as the box in the parent node it details.
Node List, Node Tree

- **Node List**
  - A-0: Assemble widgets
  - A0: Assemble widgets
    - A1: Restock parts
    - A2: Get widget parts
    - A3: Assemble parts
      - A31: Hold widget base
      - A32: Position parts in place
      - A33: Secure parts to base
      - A34: Release assembled widget
    - A4: Inspect widgets

- **Node tree (horizontal)**
Node List, Node Tree

- Node tree (vertical – AI0Win)

- Node tree (vertical – Visio)

Reading IDEF0 Diagrams

1. Scan boxes of diagram to gain impression of what is being described.
2. Refer to parent diagram.
   - Note arrow connections to parent box.
   - Try to identify “most important” input, control, output.
3. Consider arrows of current diagram.
   - Try to determine if there is a main path linking “most important” input or control and “most important” output.
4. Mentally walk through the diagram, from upper left to lower right.
   - Note how arrows interact with each box.
   - Determine if there are secondary paths.
   - Check story being told by diagram by considering how familiar situations are handled.
5. Check to see if a related FEO diagram exists.
6. Read text and glossary, if provided.
Creating IDEF0 Diagrams

- Select Context, Viewpoint, Purpose.
- Create Context (A-0) Diagram.
- Create topmost (A0) diagram.
  - 3-6 subprocess boxes.
  - May be necessary to switch back and forth between A0 and A-0 several times to get a good start.
- Create child diagrams
  - Detail each A0 process box into 3-6 subprocess boxes.
  - May be necessary to redraw several times.
  - Split and cluster boxes until satisfied.
- Create supporting materials: text, glossary, FEOs.

Detailing Boxes

- Select a box:
  - Select the hardest part.
  - Select the box whose detail will give the most information.
- Gather data.
- Structure: draw and re-draw.
- Write text carefully.
- Draw boxes.
  - Make process box names verbs or verb phrases.
  - Lay out diagonally, upper left to lower right.
  - Place boxes that “dominate” in the upper left.
  - All boxes should have a consistent “flavor”.
Drawing interface arrows.

- Think control and constraint, not flow.
  - Don’t worry about sequence.
  - All boxes may be active simultaneously.
- Bundle groups of arrows, when possible.
- Don’t clutter with arrows.
- All boxes must have control arrows, but they don’t require input arrows.
- Give arrows noun or noun phrase names.

Developing IDEF0 Models With AIWin0

- Click to add an outline