Introduction

- Existing multimedia presentations playback pre-recorded material, with only the synchronisation dynamic.
- This isn’t always sufficient:
  - Responsive presentations may require too much material,
  - The multimedia author would need to define all this material..time consuming!
- Dynamically constructed sound is possible, but it is far harder to author dynamic visual material.

Animation & Multimedia

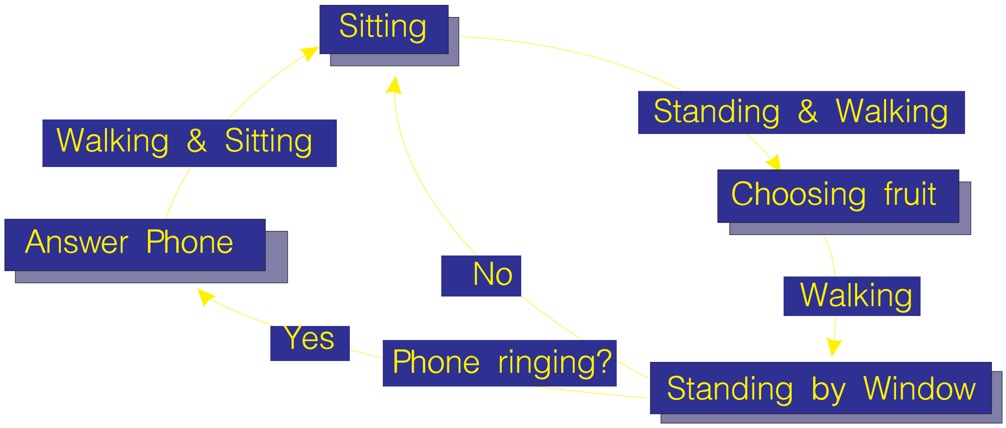
- Interactive computer animation seems to be a promising way of defining 'responsive media'.
- Using this the animator can define how the responses of the user affects the animation.
- Images are not the same every time.
- This is useful for multimedia:
  - Can enliven more traditional multimedia documents
  - Can produce multimedia documents which rely on 3D information, e.g., a construction manual for a complicated engine.

Our Approach

- The presentation is split into two levels
  - Those sequence of events which do not respond to the user, which we call the *Macro Level*
  - The description of which portions of the presentation are generated dynamically, the *Micro Level*.
- An author constructs a normal presentation at the macro level, into which is embedded micro level descriptions of the 3D interactive animation.
  - Author works in a familiar environment, and
  - Synchronisation between dynamic & static components easy to monitor.

Micro Level (2)

- The IAM is a series of nodes & arcs



- Nodes correspond to keyframes in conventional animation, i.e., they denote positions in spacetime.
- The path between nodes is decided at *run-time*.
- Arcs represent motion synthesis tools.

Example Presentation

- Example presentation using animation to enliven an alphabet education game.
- Display shows
  - 3D world,
  - Letter to the left of the screen, and
  - A four possible letters which might follow it.
- Child chooses one of the candidate letters, if correct then reward.
- To enliven this the child picks, but the letter is carried across the screen by the animated cup.