

CS-184: Computer Graphics

Lecture #18: Forward and Inverse Kinematics

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Today

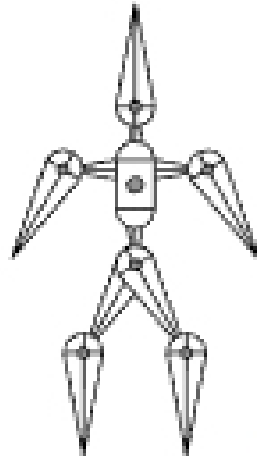
- Forward kinematics
- Inverse kinematics
 - Pin joints
 - Ball joints
 - Prismatic joints

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Sunday, November 15, 2009

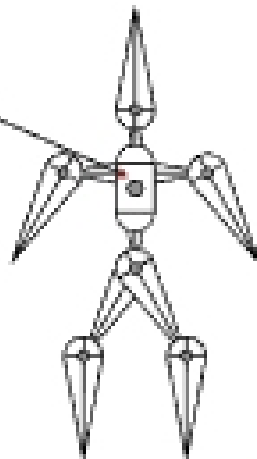
Forward Kinematics

- Articulated skeleton
 - Topology (what's connected to what)
 - Geometric relations from joints
 - Independent of display geometry
 - Tree structure
 - Loop joints break "tree-ness"



Forward Kinematics

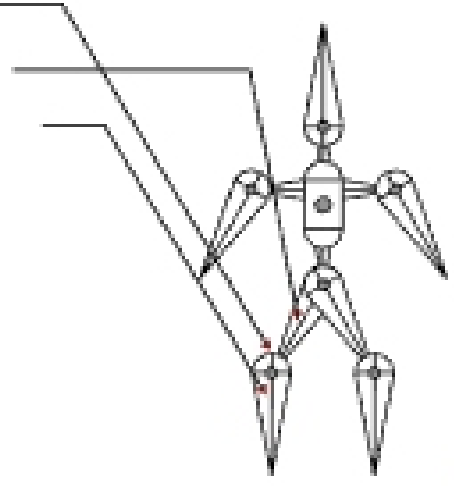
- Root body
 - Position set by "global" transformation
 - Root joint
 - Position
 - Rotation
 - Other bodies relative to root
 - Inboard toward the root
 - Outboard away from root



Forward Kinematics

- A joint

- Joint's Inboard body
- Joint's outboard body



Forward Kinematics

- A body

- Body's Inboard joint
- Body's outboard joint
- May have several outboard joints

