

# Models of Computation in Hollywood

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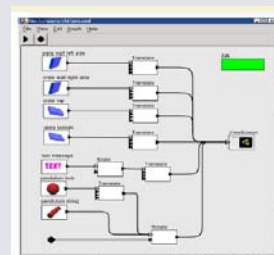


5<sup>th</sup> Biennial Ptolemy Miniconference  
Berkeley, CA, May 9, 2003

## Background



- I was a student of Professor Lee from 1999-2001
- I worked on the SDF, DT, GR domains of Ptolemy II
- I am now a special effects engineer in Hollywood
- This talk will be about how my education and use of MOCs in Ptolemy II has better prepared me for my current work



## Models of Computation in Action

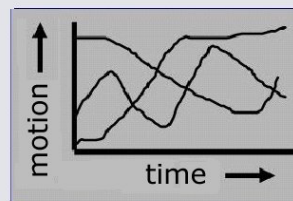
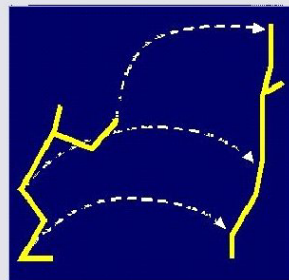
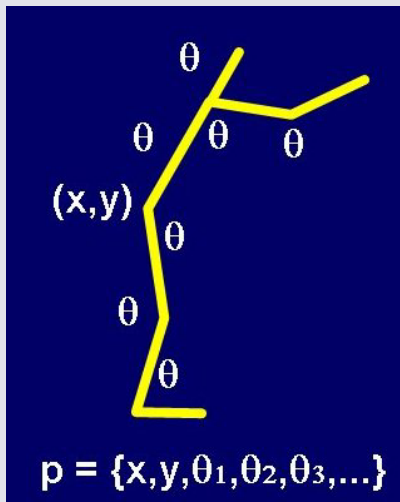


- SDF / DT for motion processing
- CT for dynamic animation
- GR scene graphs for geometric hierarchy



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## Motion and Animation

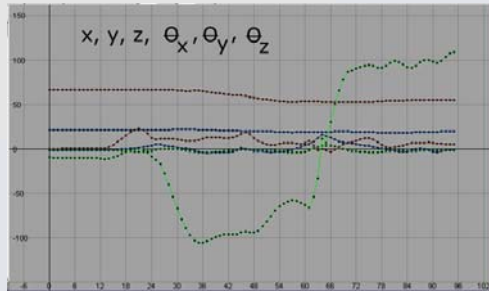
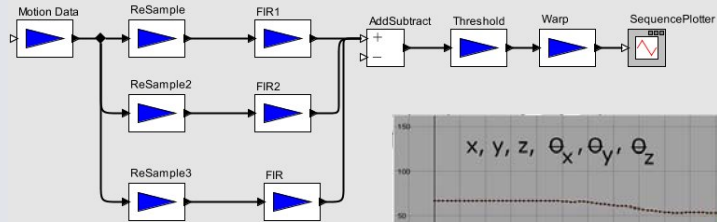


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# SDF motion signal processing

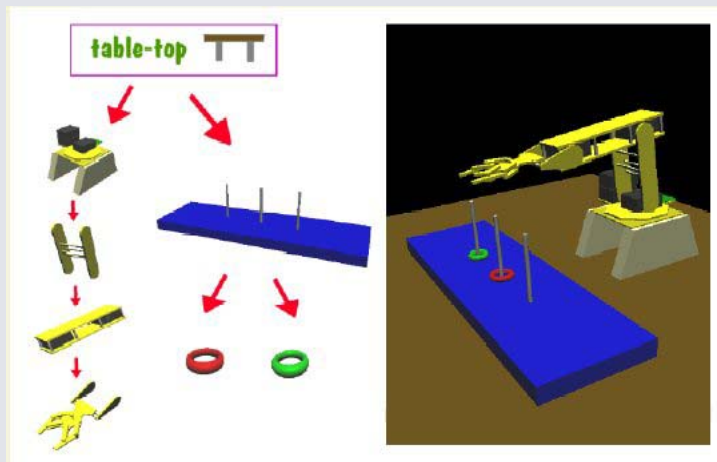


SDF Director



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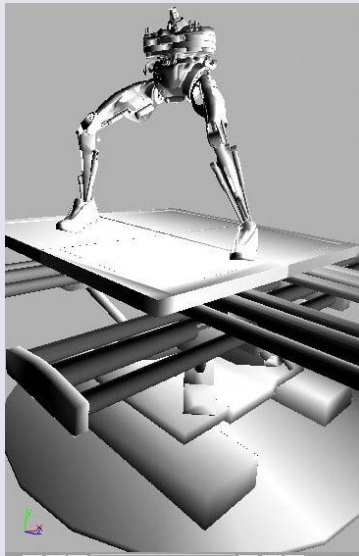
# GR domain scene graphs



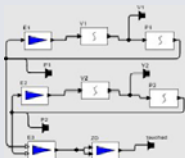
presented in Ptolemy MiniConference 2001

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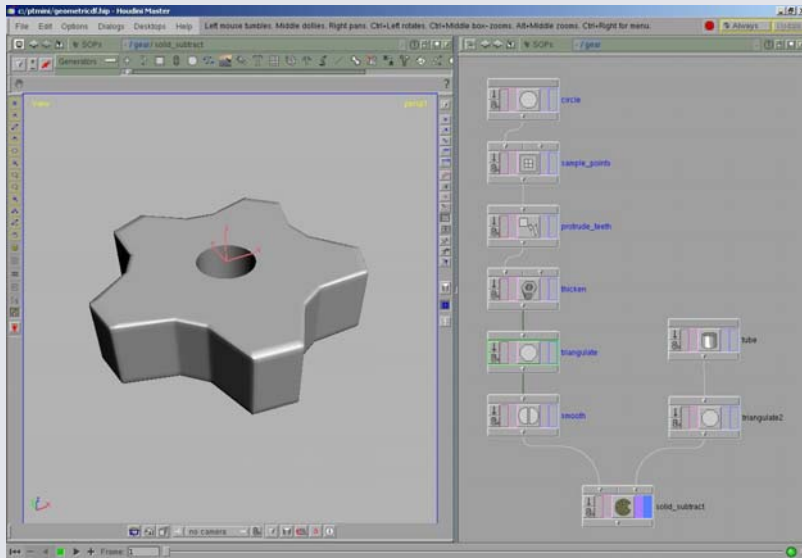
# Dancing Robot Scene Graph



# CT-like dynamics

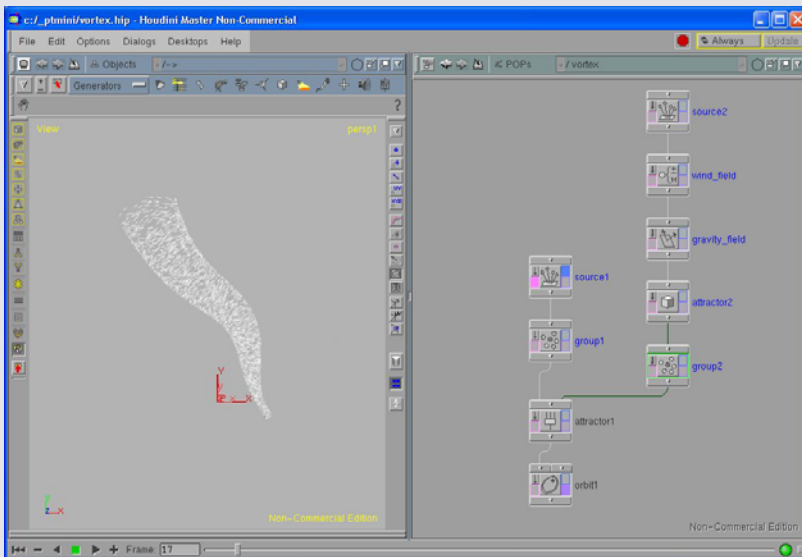


# Geometry Dataflow Processing (Houdini)



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# Particle Systems Dataflow (Houdini)



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## Mixed MOCs example



SDF (human motion) +  
GR (scene hierarchy) +  
SOPs (geometry) +  
POPs (water particles) +  
CT (dynamics)



**DAREDEVIL**

## Conclusion



- Models of Computation are useful in computer graphics and special effects
- Animation Packages like Alias/Wavefront [Maya](#) and Side Effects [Houdini](#) are components-based
- Future work ...