SHAPE GRAMMAR INTERPRETER FOR RECTILINEAR FORMS

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PRESENTATION
OVERVIEW

1. Shape Grammar Interpreter
2. SGI and Virtual Worlds
3. DEMO
SHAPE GRAMMAR INTERPRETER

- General, 2D Shape Grammar Interpreter
- Multi-platform, JAVA based, RCP Eclipse
- User-friendly definition of shapes and rules
- Plug-in based extendable framework
- Labeled rules
- Different generation procedures / protocols
TREE SEARCH PROTOCOL

Root Node (staring shape)

Explored Nodes

Rule Nodes

Shape Nodes

Unexplored Nodes
Faster, but limited version of Krishnamurtis’ algorithm

Algorithm based on finding transformations of points from the possible subshape to the original shape

Transformation created from 3 intersection points and the rest is evaluated
OPTIMIZING

SUBSHAPE DETECTION

- Maximal lines / maximal shapes

- Outer and Inner Intersections
SPEEDING UP SUBSHAPE DETECTION

- **Intersections (Intersection triplets)**

  - pt 1
  - pt 2
  - angle

- **Boundary Check**

  - Boundary pass
  - Boundary fail
SHAPE GRAMMAR INTERPRETER

Shape/Rule List
Dynamic Menu
Editor
Generator
Property List
USING SGI FOR 3D VIRTUAL WORLDS
VIRTUAL WORLD GRAMMAR
EXAMPLES II.
DEMO?
THE END
THANK YOU
QUESTIONS?