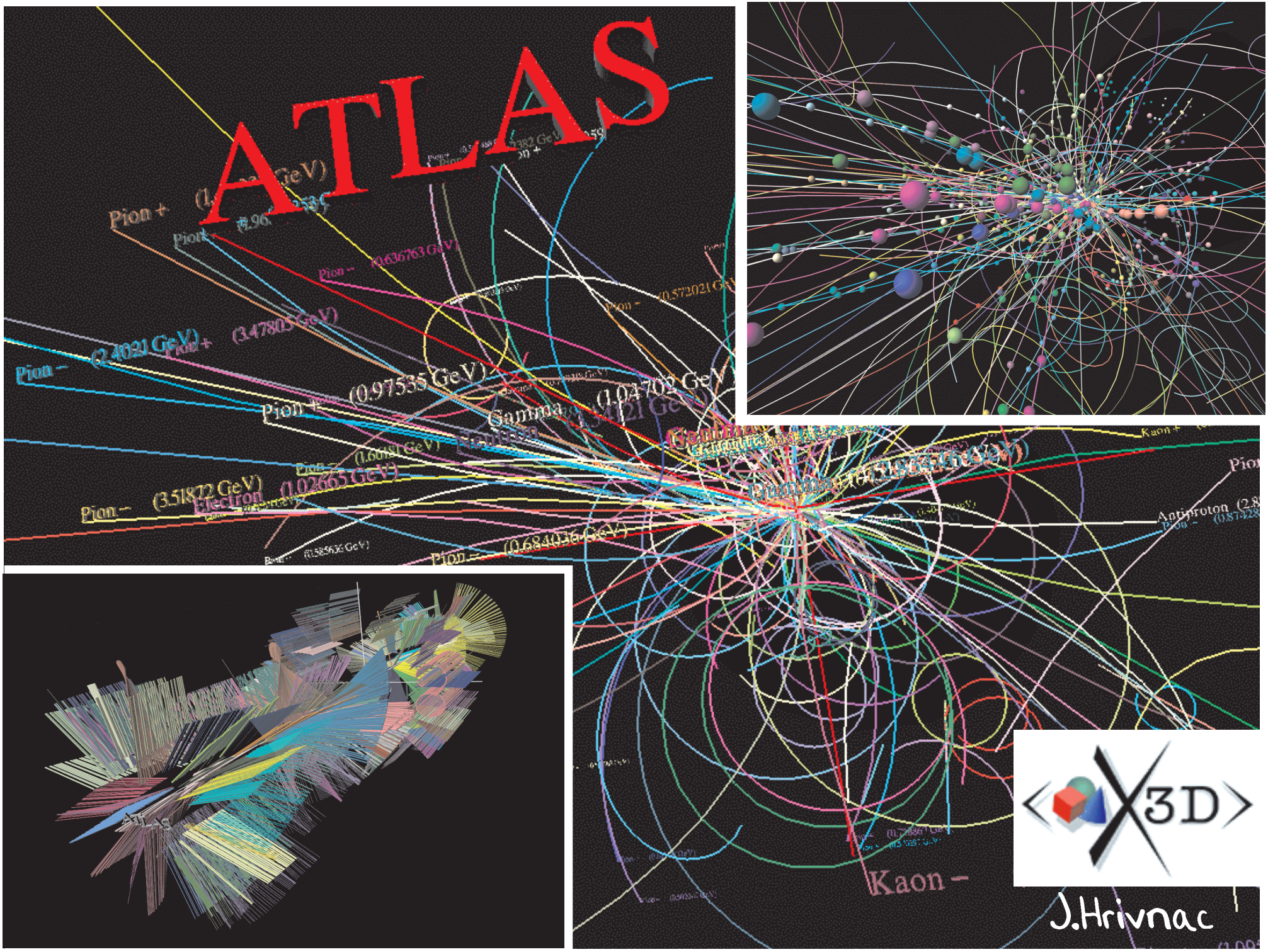

ATLAS
Pion +
Pion −
Electron
Gamma
Kaon −
Antiproton
J.Hrivnac

AGDD – VRML$^{2.0}$ – X3D

```
<box
  name="Example"
  material="Air"
  X_Y_Z="1 2 3"/>
<posXYZ
  volume="Example"
  X_Y_Z="5 6 7"/>
```

```
Transform {
  translation 5 6 7
  children [
    Shape DEF Example {
      geometry Box {size 1 2 3}
      appearance Appearance {
        material USE Air
      }
    }
  ]
}
```

```
<Transform translation="5 6 7">
  <Shape DEF="Example">
    <Box size = "1 2 3"/>
    <Appearance>
      <Material USE="Air"/>
    <Appearance>
  </Shape>
</Transform>
```

Three ways to describe the same entity.

Air is DEFined somewhere

Example can be USEd

Prototypes

```
<ProtoDeclare type="myBox">
  <Field id="mySize" type="Vector3">
  <Box size="mySize">
</Proto>
```

```
<ProtoInstance type="myBox" mySize="1 2 3"/>
```

Prototype can be external

```
<ExternProtoDeclare type="MyAtlas" url="http://atlas.cern.ch/Atlas.xml"/>
```

Prototypes,
together with DEF/USE (see previous slide)
and Script (see following slide),
create very powerfull environment.

Scripts

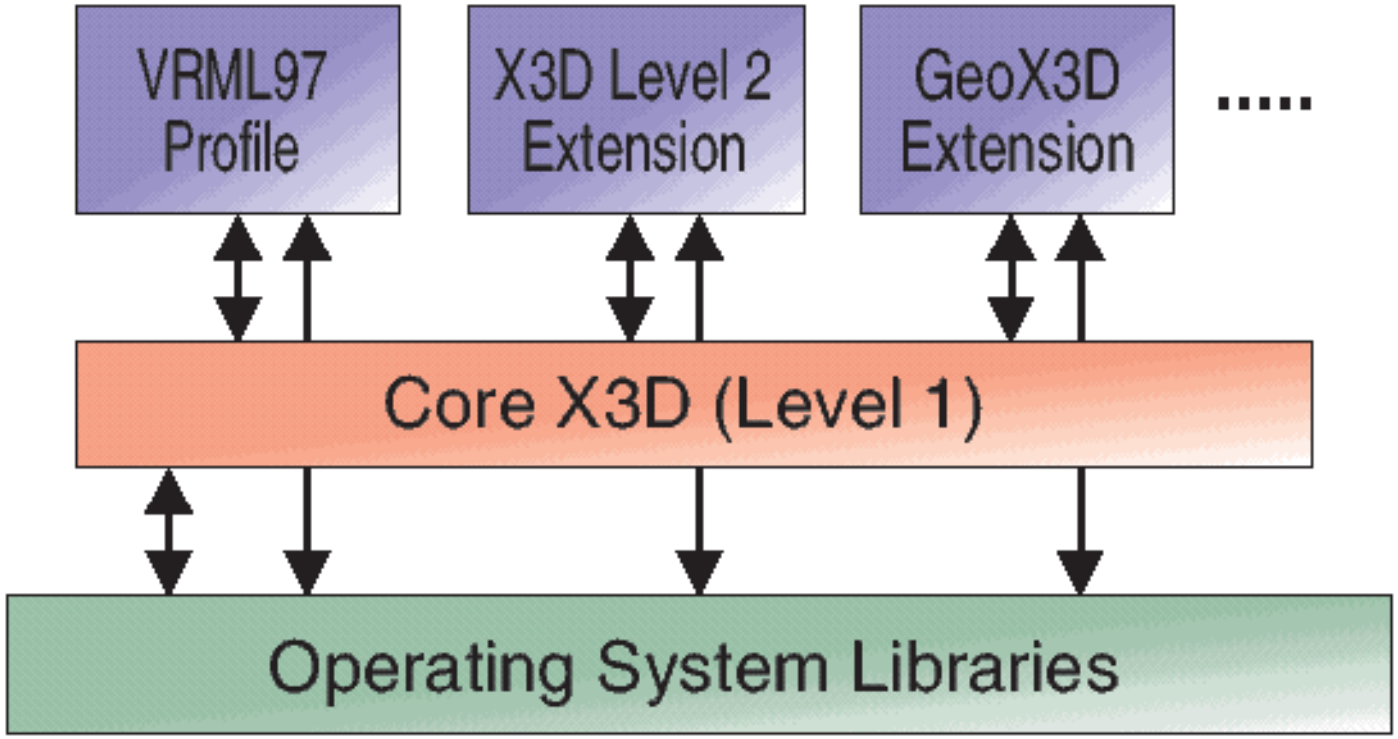
```
<Script
  url="java:
    if(Envelope.x > 5)
    {
      root.addChildren(new Box(anotherBox.x + 1, anotherBox.y + 1, anotherBox.z + 1));
    }"
</Script>
```

should be declared in anotherBox as ExposedField

Any language is allowed in principle.
Only Java and JavaScript are used as they allow
1) easy interaction of the 3D Scene with
   the Browser (Java+Java3D) and external
   software (Moving Worlds),
2) interpreted mode.

Any attribute is accessible (if declared as Exposed).
Attributes in different Elements can be directly
connected by ROUTEs – Elements can interact.

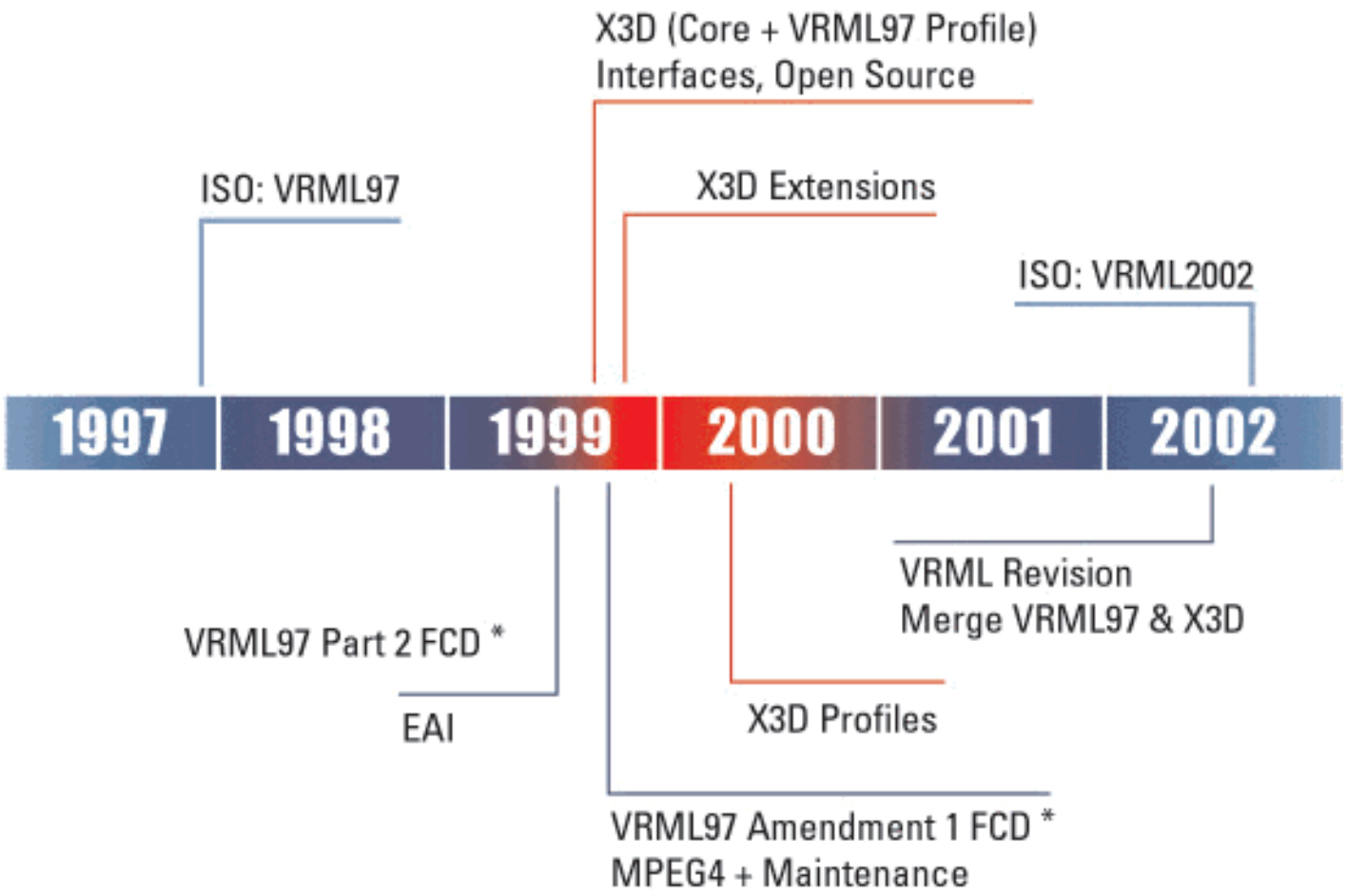
X3D Architecture



Why not AGDD Profile ?

TimeLine

Web3D ISO Road Map



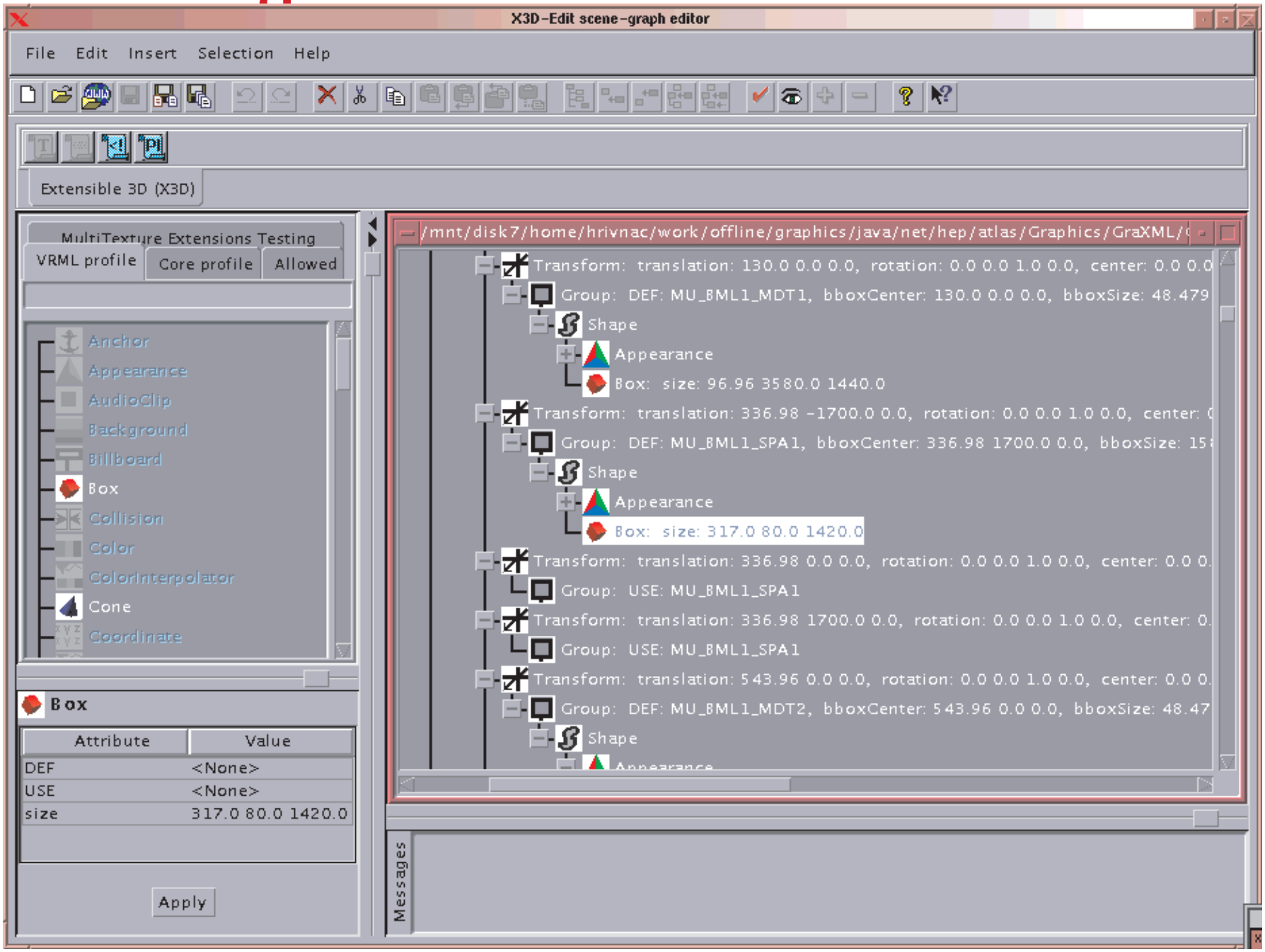
*Final Committee Draft

Current status:
1) draft DTD
2) XSL for VRML
3) X3D Editor
4) API libraries in Java and C++
5) prototype appl. in Java

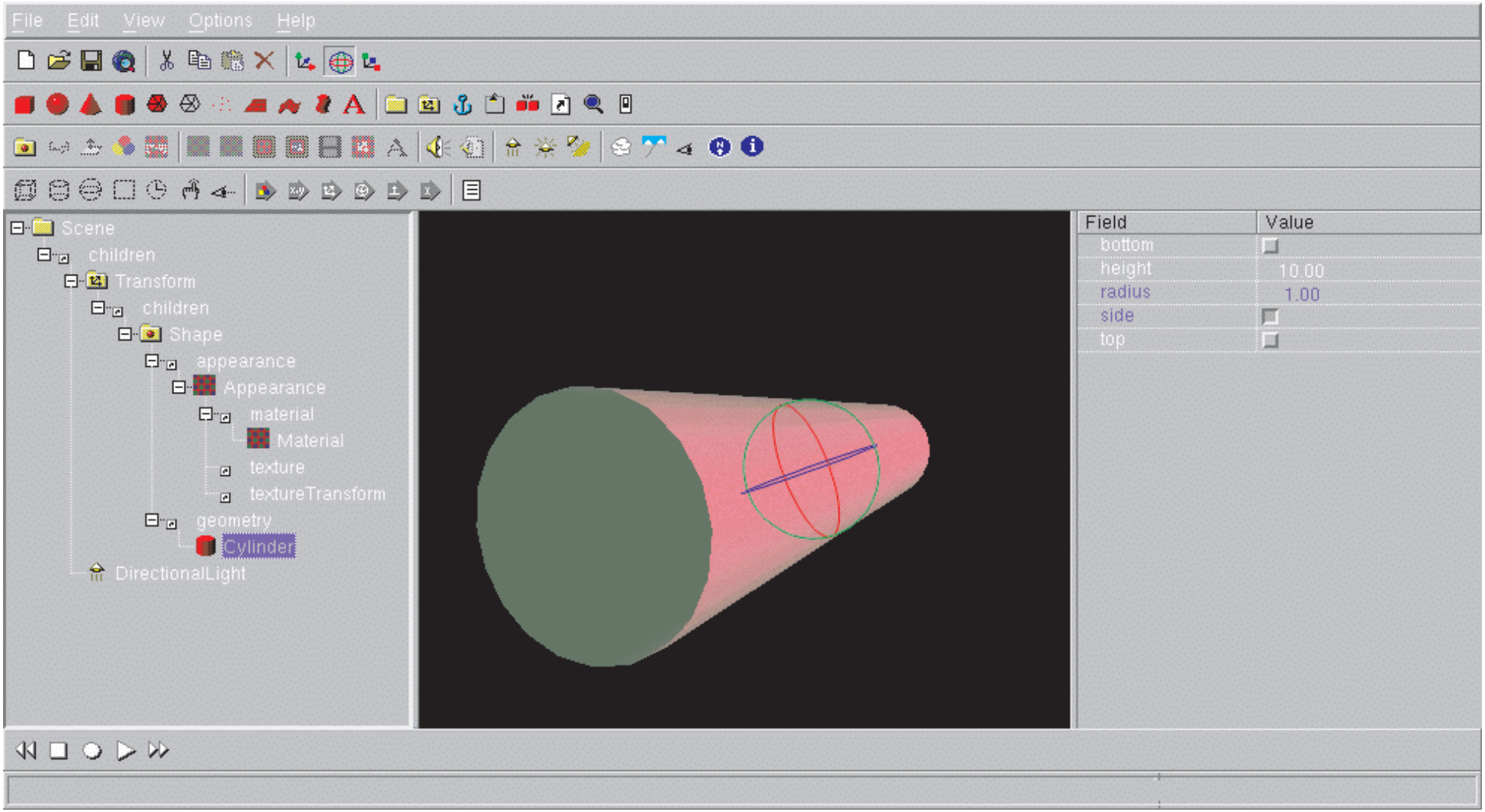
Plans:
1) direct support in WWW browsers
2) 3D WYSIWYG modellers
3) Profiles and Extensiones

Editing GUI

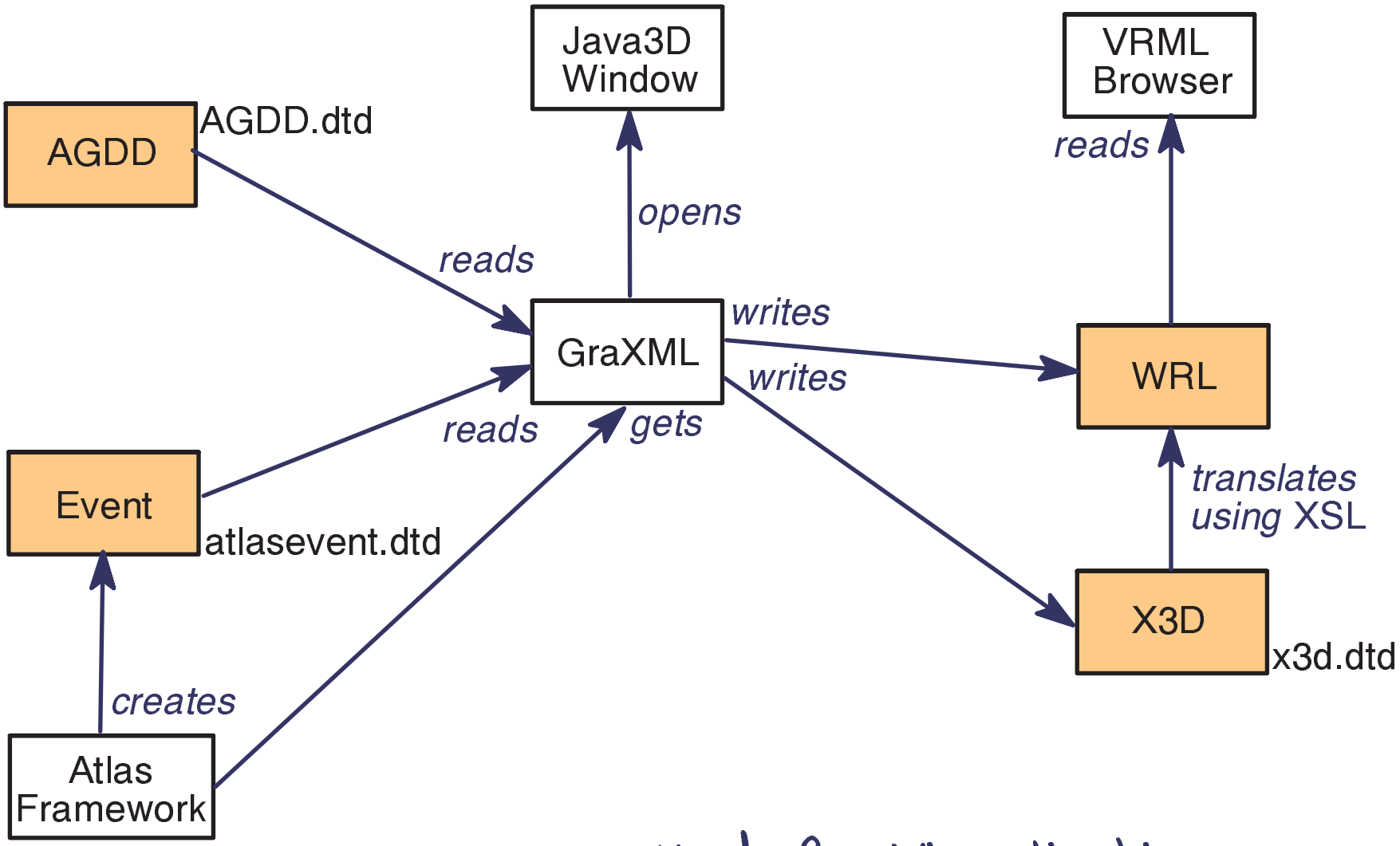
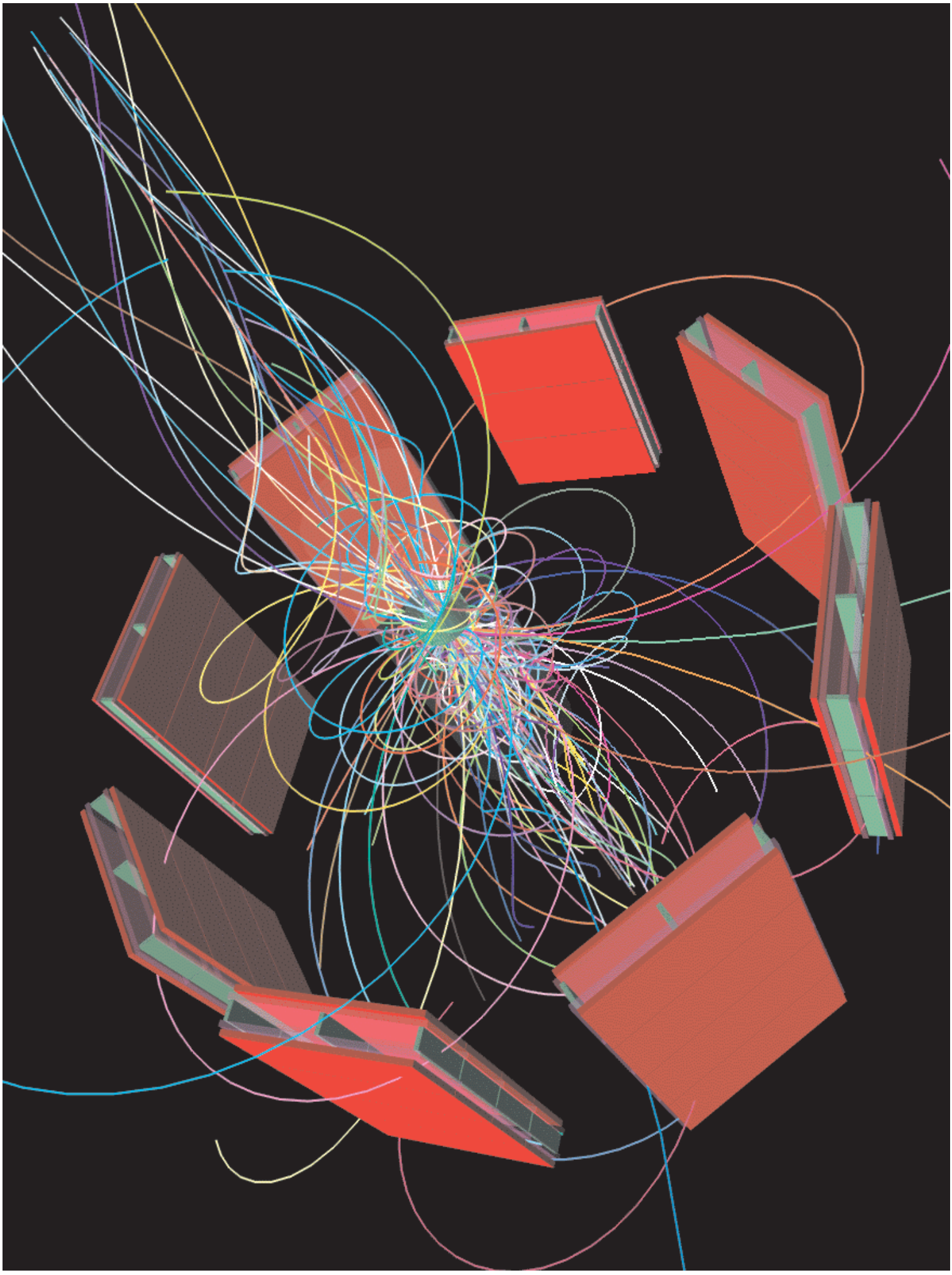
Based on Xeena XML editor.



Modeller


File
Edit
View
Options
Help
Scene
children
Transform
children
Shape
appearance
Appearance
material
Material
texture
textureTransform
geometry
Cylinder
DirectionalLight
Field
Value
bottom
height
10.00
radius
1.00
side
top

Current Use in Atlas



Used for Vizualisation.