An Introduction to BRL-CAD

An Open Source Solid Model CAD System

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Outline

Why BRL-CAD?

A History of BRL-CAD

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- Open Source since December 2004

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My Thoughts About BRL-CAD

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- Not sure how to get from BRL-CAD to Finite Element Analysis
- Not sure how to get from BRL-CAD to CAD (ie, mill, lathe, 3D printer)
- Hardest part of probably ANY CAD system: understanding blueprints

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- OpenCASCADE – an Open Source foundational library

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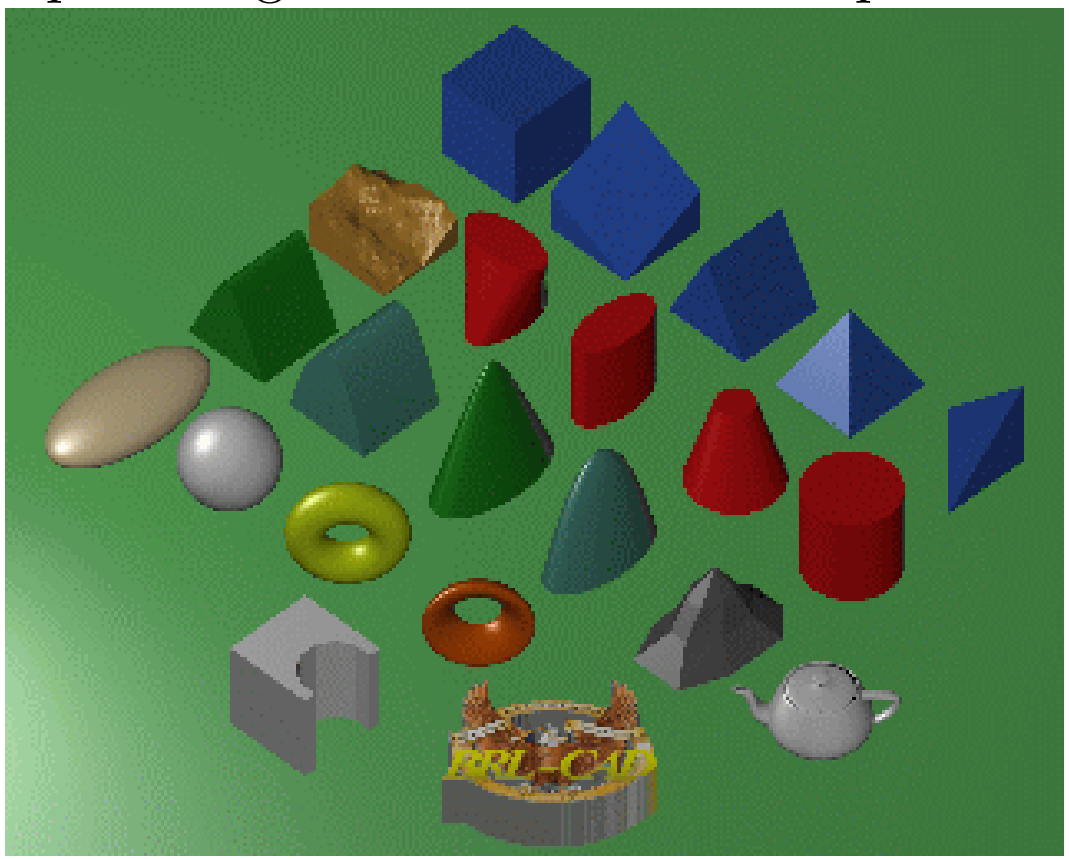
Philosophy of BRL-CAD

Complex “regions” are built from “primitives”



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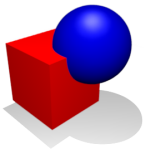
-  Union

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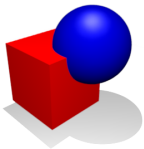
-  Union
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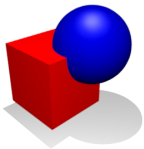
-  Union
-  Intersection
-  Difference (Subtraction)

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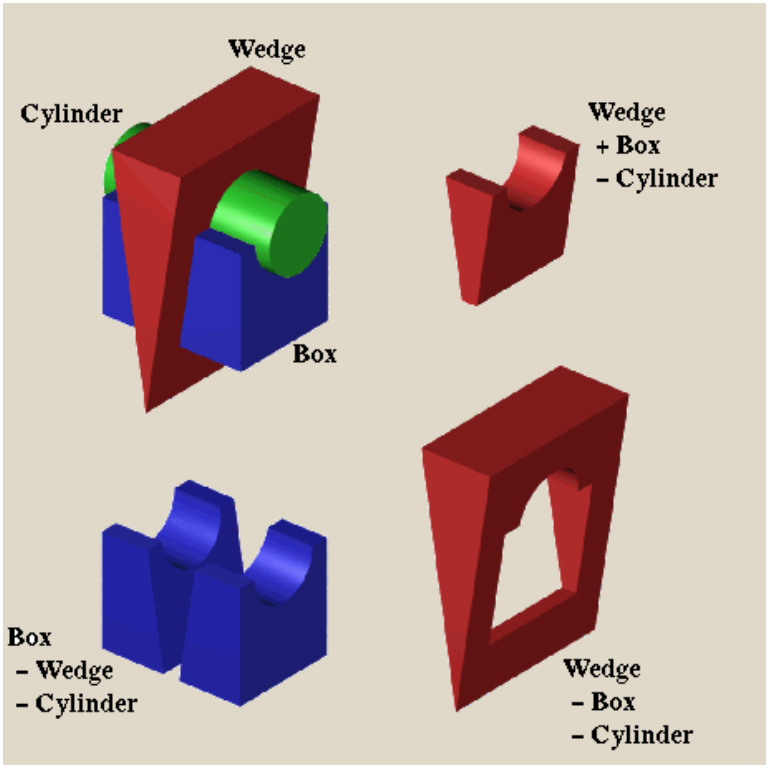

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- BRL-CAD's raytracing

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Questions

Any Questions?

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Resources

- BRL-CAD – https://brlcad.org
- SolveSpace – http://solvespace.com/index.pl
- FreeCAD – https://www.freecadweb.org
- OpenSCAD – http://www.openscad.org
- OpenCASCADE – https://www.opencascade.com
- FEM Lisp – http://www.femlisp.org