

Basic MASON Model and its Relationship to GUI Controllers

A model consists of a Schedule, SimState, and MersenneTwisterFast, plus various agents scheduled in the schedule, plus various Fields containing objects the agents are free to manipulate.

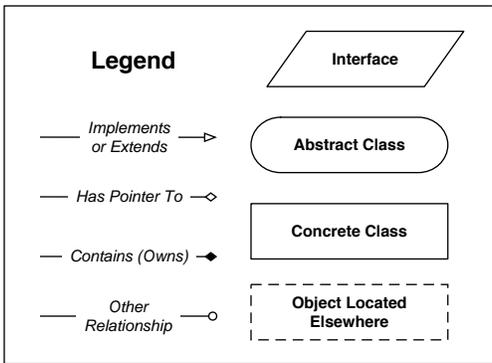
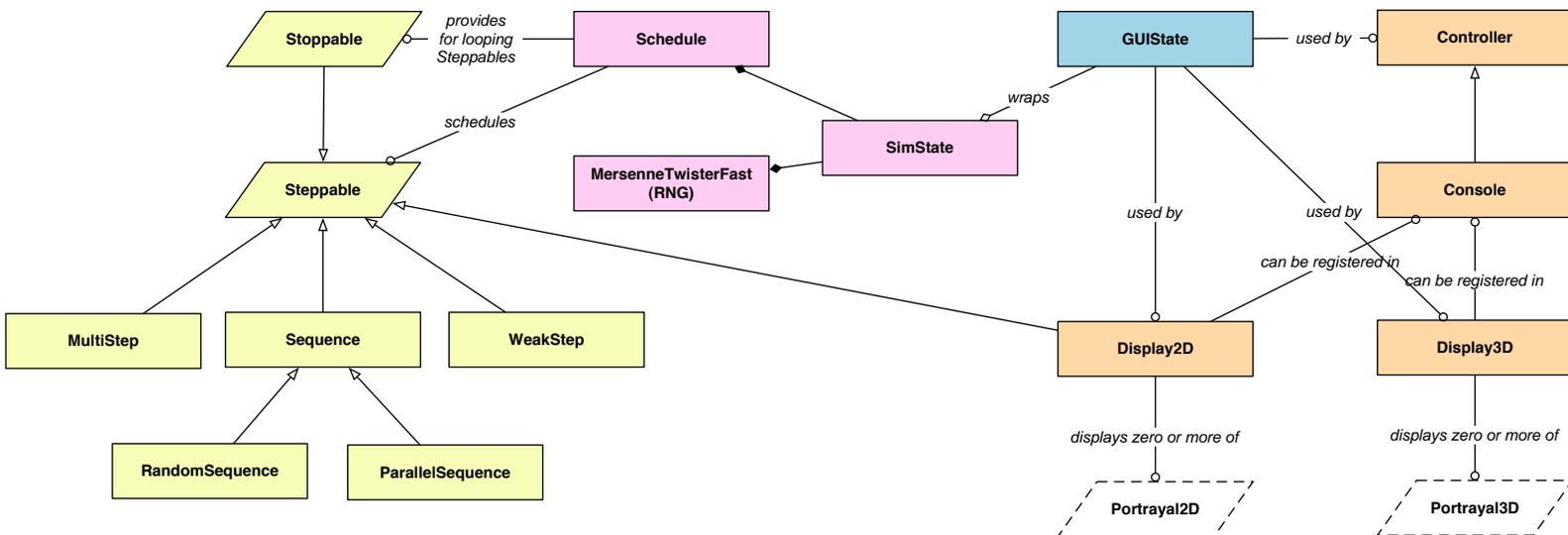
The user can manipulate the schedule through the Console, and view and manipulate fields and objects through Display2D and Display3D

Schedulable Objects ("Agents")

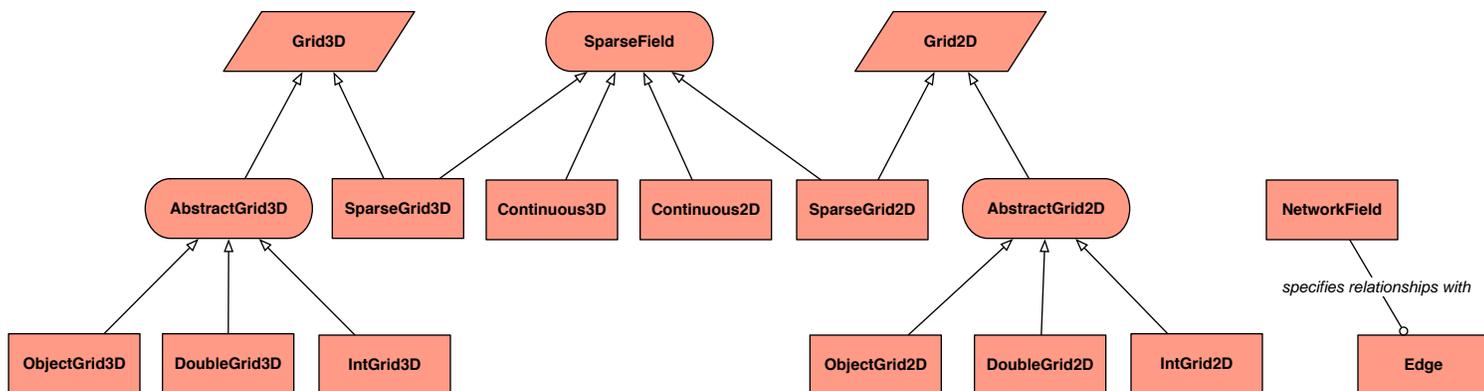
Model Elements

The API Between The Model and the GUI

GUI

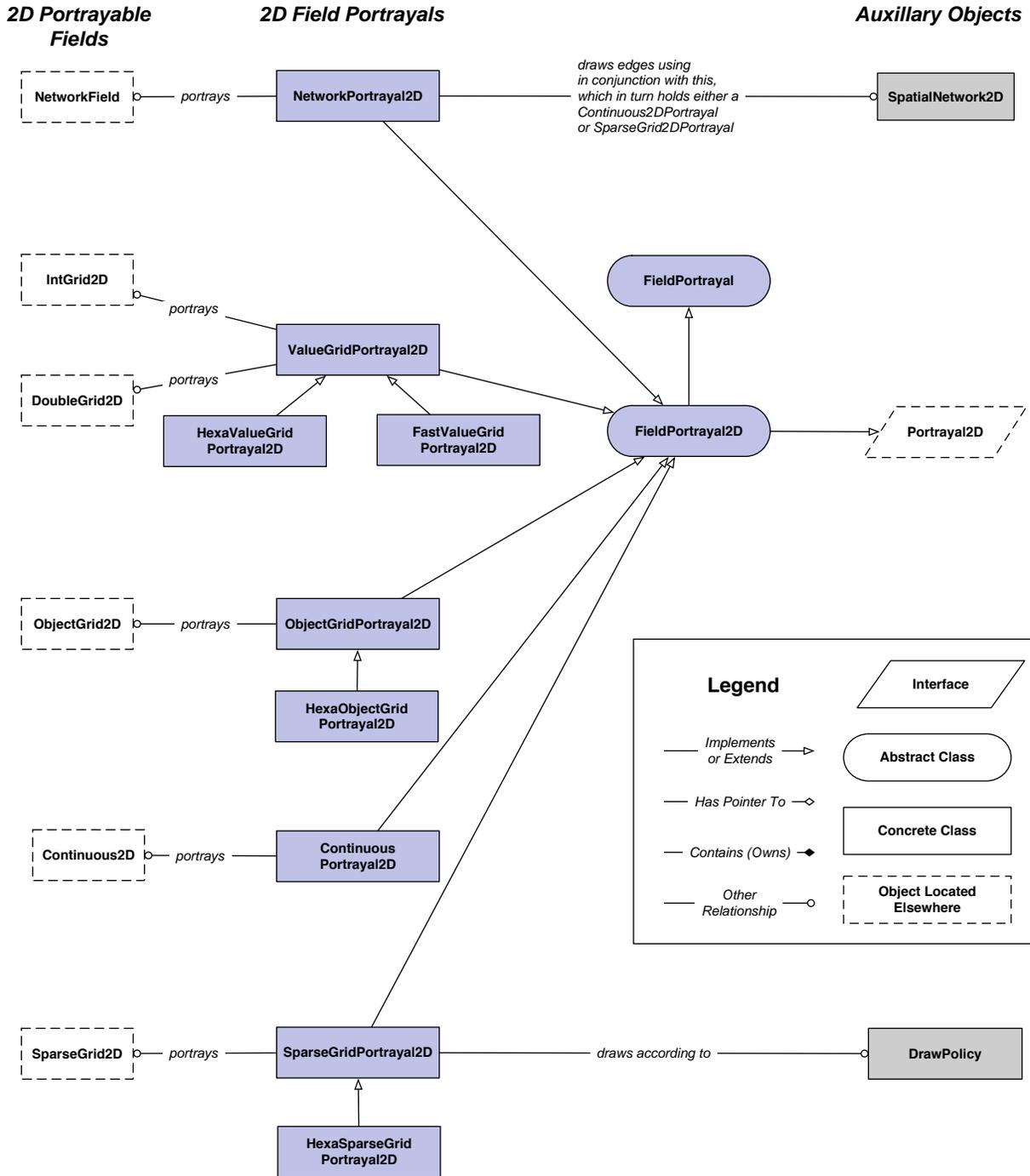


Fields



2D Field Portrayals

2D Field Portrayals draw Fields inside a Display2D



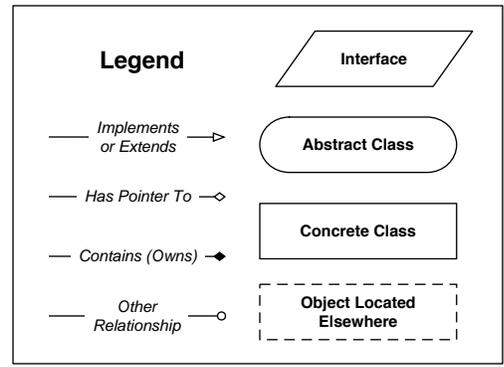
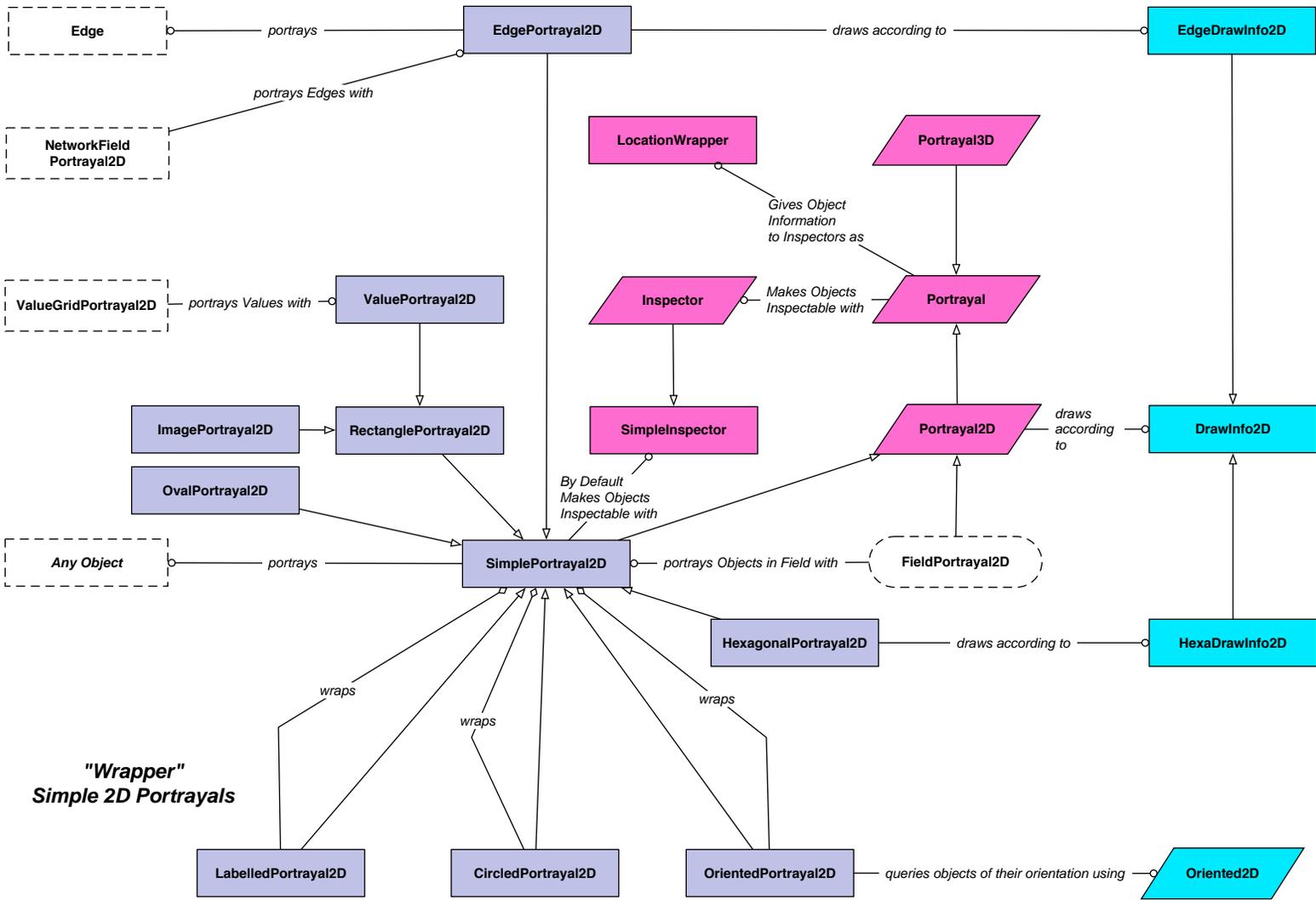
Top-Level Portrayal Facility and 2D Simple Portrayals

Portrayals draw and allow the user to inspect and/or manipulate objects.
 FieldPortrayals draw/inspect/manipulate Fields, calling upon SimplePortrayals to draw/inspect/manipulate the objects within those fields.

Simple 2D Portrayals

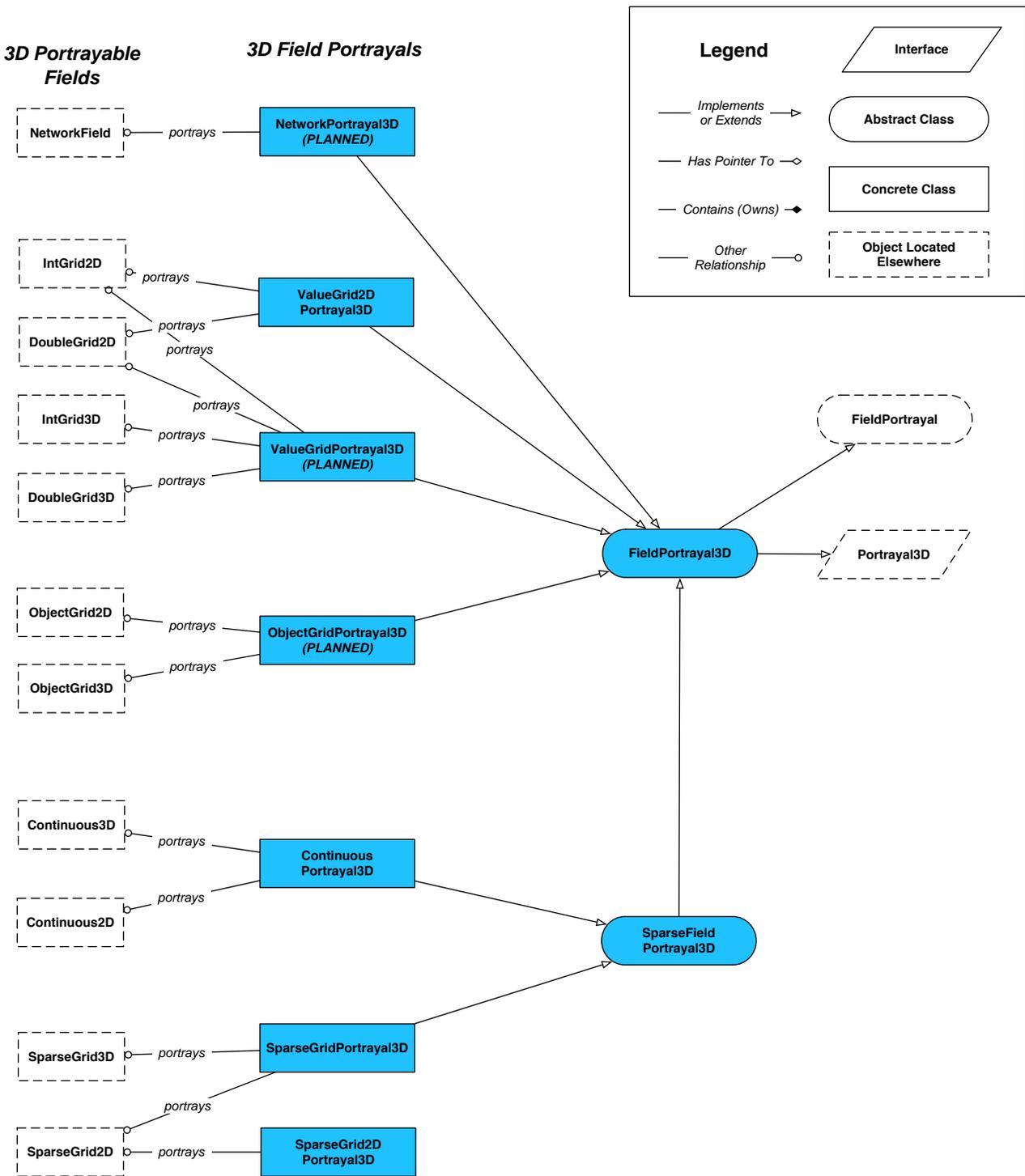
Top-Level Portrayal and Inspection Facility

Drawing Support Objects



3D Field Portrayals

3D Field Portrayals draw Fields inside a Display3D

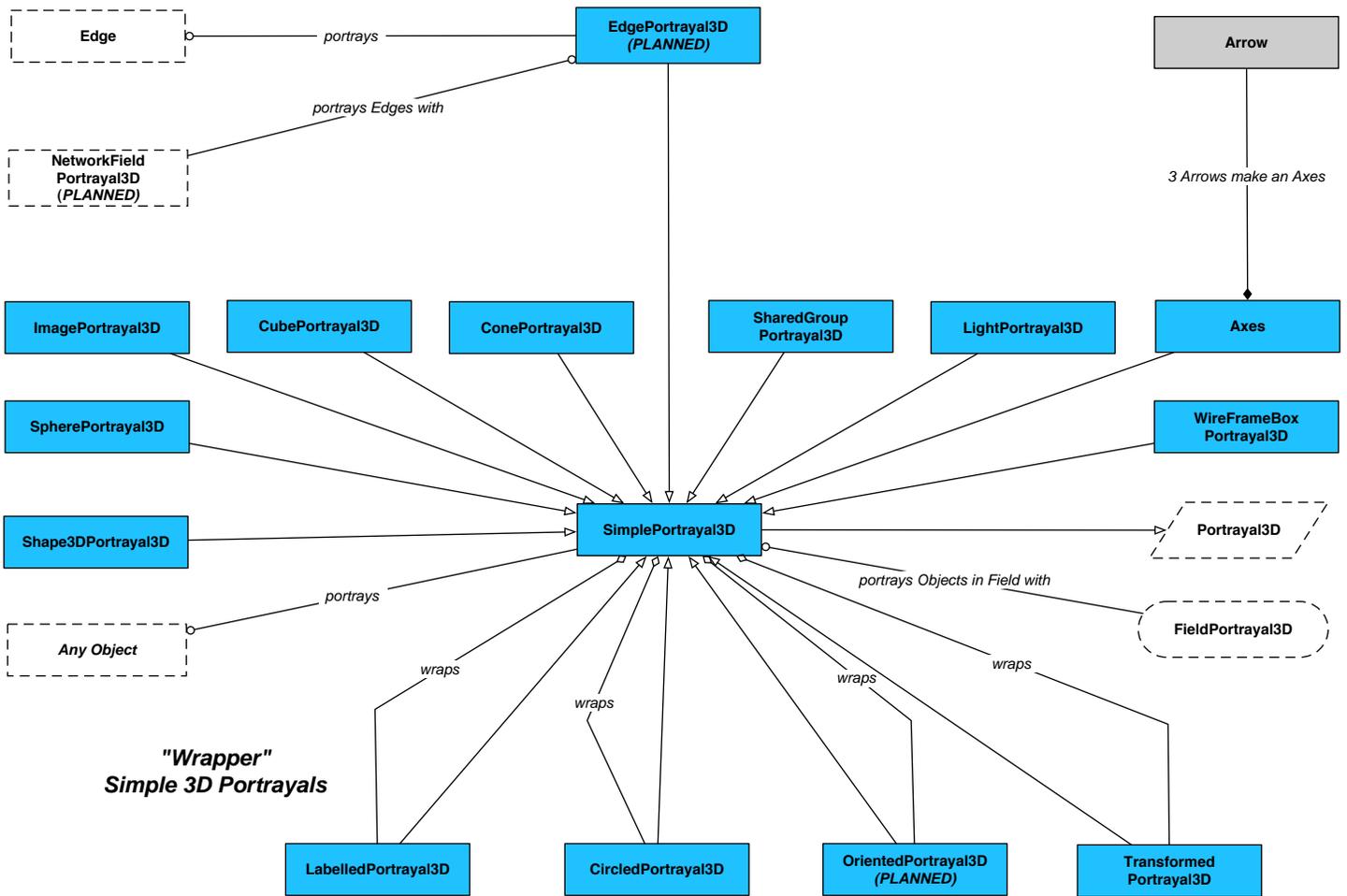


3D Simple Portrayals and QuadPortrayals

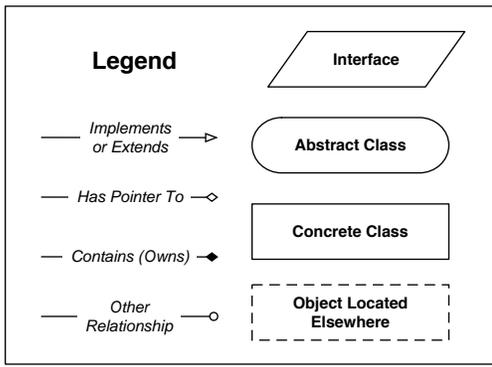
3D SimplePortrayals portray the objects within Fields, when called upon to do so by 3D FieldPortrayals. QuadPortrayals draw 2D values in 3D for the ValueGrid2DPortrayal3D FieldPortrayal.

Simple 3D Portrayals

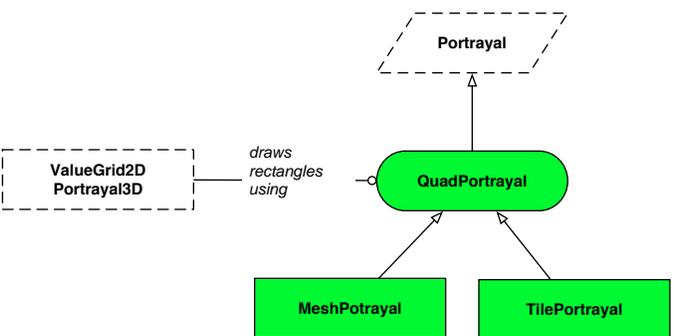
Auxillary Objects



"Wrapper" Simple 3D Portrayals



QuadPortrayals



The Big Picture

The GUIState wraps the Simulation Model and separates it from the visualization and user manipulation facilities. The model can be completely broken off and run on its own (without GUIState or Visualization stuff), and can be serialized to/from disk.

