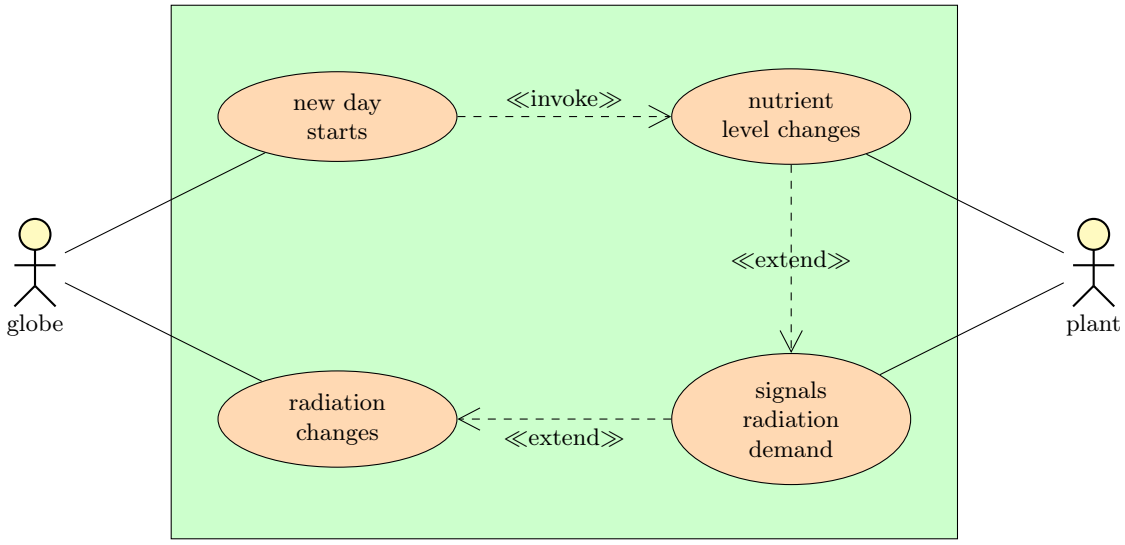
TikZ-UMLD worked example: a radiation simulation

This example models a small simulation and draws four diagrams of it. A planet is populated by plants of three species. Each day the planet radiates the plants with alpha radiation, delta radiation or none; the radiation changes a plant's nutrient level, and a surviving plant then signals how much it wants alpha or delta radiation the next day. If the alpha demand exceeds the delta demand by at least three, the planet switches to alpha; in the opposite case it switches to delta; otherwise there is no radiation.

Each section below says which TikZ-UMLD features the diagram exercises.

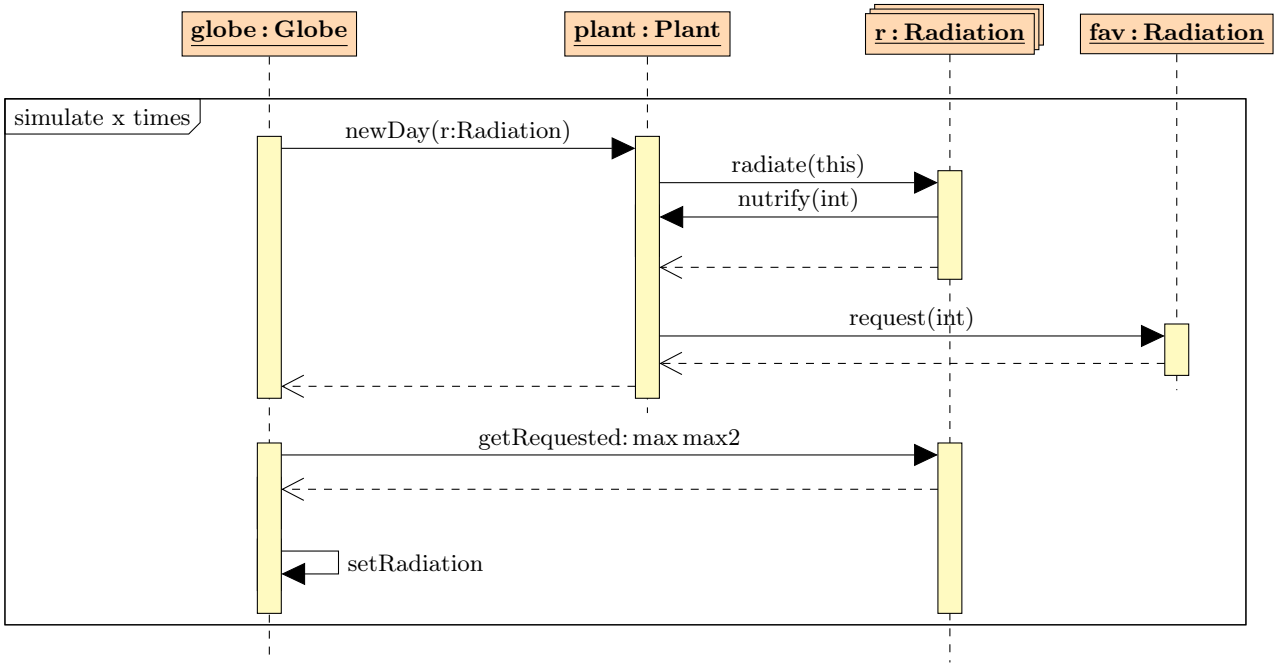
1 Use case diagram

A system boundary with a fill colour, use cases of a fixed width, and dependencies whose stereotype label is moved with `st:anchor`.



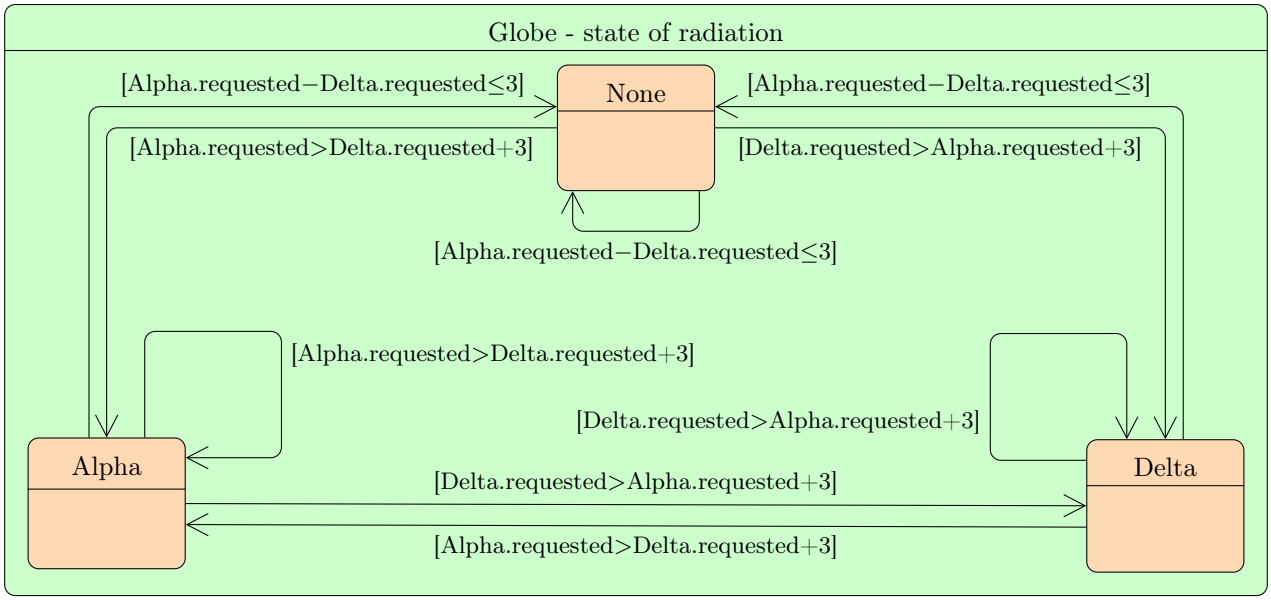
2 Sequence diagram

Nested synchronous calls, a call with an empty return label (`return=\,`), a multi-object (`\umlmulti`) and an enclosing loop fragment with extra horizontal padding.



3 State machine diagram

Transitions that leave and enter states from chosen angles (`anchors`), horizontal–vertical and vertical–horizontal routing, and recursive transitions with explicit loop geometry.



4 Class diagram

The largest diagram, set on a wide page. It combines abstract and singleton classes, constrained attributes and operations (`\umlcon`), pure-virtual and overriding operation markers, aggregation and composition with routed arms, orthogonal inheritance, and pointed notes with custom geometry.

