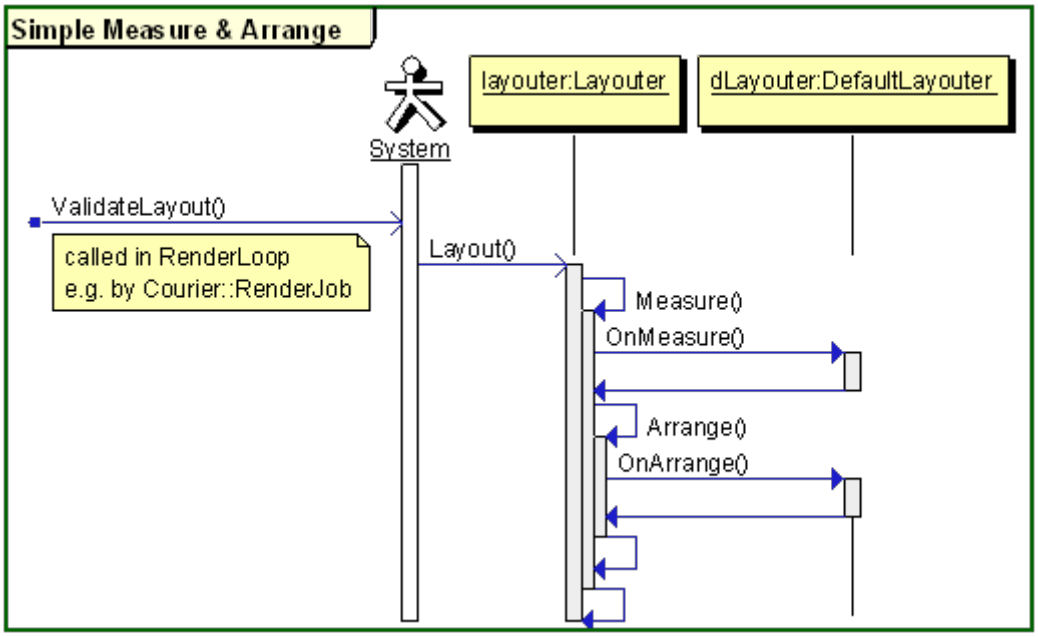
Dynamic View

Measure and Arrange

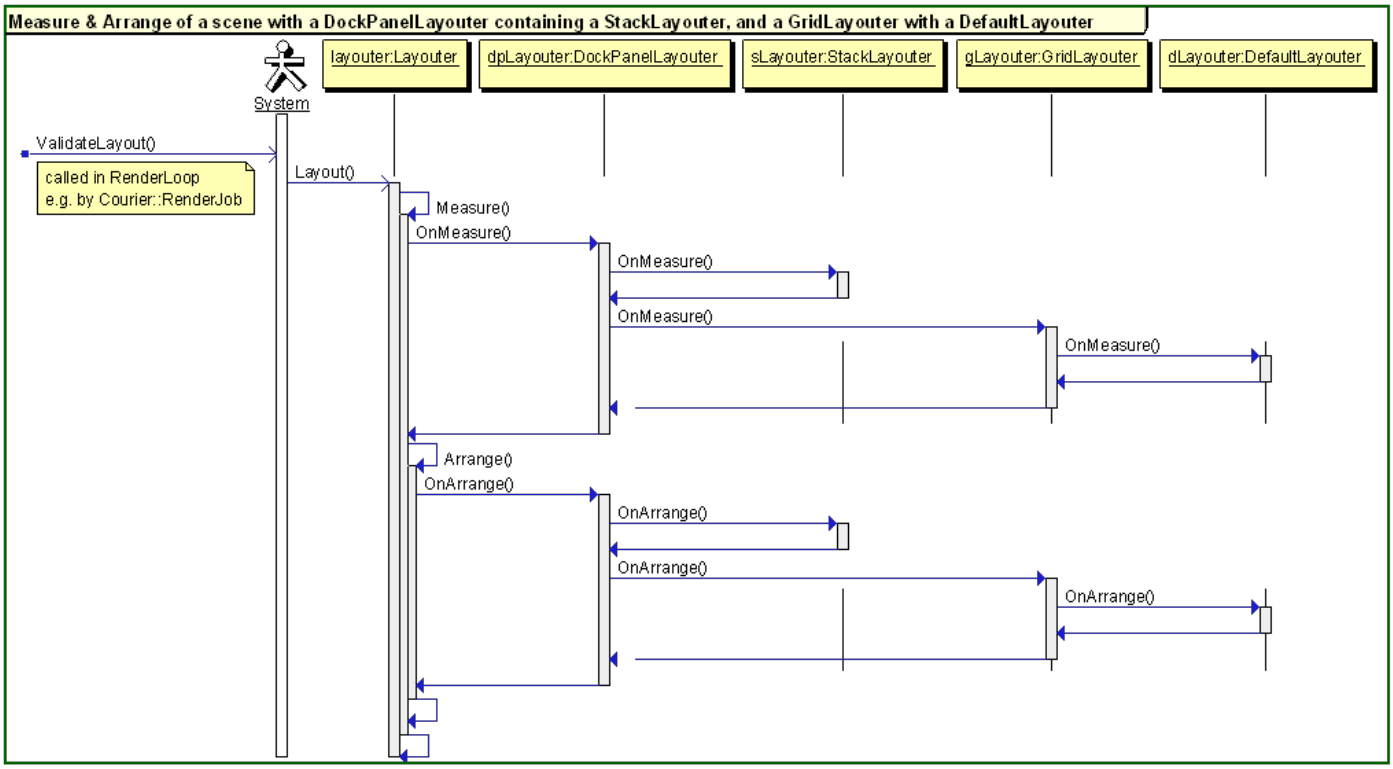
Computing the layout in CGI Studio consists of two calls: a measure call and an arrange call. In the measure call the system determines the elements' size requirements. The parent element tells its child elements how much space is available and the child elements tell their parent elements how much space they require. In the arrange call the layout system finalizes the size and position of the elements.

Sequence diagram for layout computation

For a simple 2D scene with a DefaultLayouter, the sequence of computing the layout is as follows: The RenderLoop (e.g. Courier::RenderJob) calls Scene2D::ValidateLayout(), which triggers a call to the Layouter::Layout(). Then the measure call is started with a call to Layouter::Measure(), that calls DefaultLayouter::OnMeasure(). After that, the arrange call is started with a call to Layouter::Arrange(), that calls DefaultLayouter::OnArrange().



For a scene with a DockPanelLayouter containing a StackLayouter and a GridLayouter with a DefaultLayouter, the sequence diagram looks as follows:



Revision #5
Created 2023-02-27 08:01:27 UTC by Tsuyoshi.Kato
Updated 2026-08-19 02:07:36 UTC by Tsuyoshi.Kato