

Friday Interactive Workshop:

The Systo toolkit for building modelling-enabled web pages

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The aim of Systo (<http://www.systo.org>) is to make it easy to build web pages which support interactive modelling: viewing, building and editing models, and running simulations. Some of these pages might look rather like a conventional web page describing a specific model - with the model diagram, equations and graphs - except that all these elements can be interactive rather than static images: you can manipulate the diagram, or run simulations live. Other pages might look rather like a conventional System Dynamics modelling tool, and provide the ability to build new models from scratch, save/load models, and explore the behaviour of the resulting models.

The basic idea is to have a toolkit of "widgets" (a combination of user-interface and underlying code), each of which performs some standard task. For example, displaying/editing the model diagram; listing model equations; providing sliders for model parameters; and plotting results. A web page developer can, with very little HTML, design their own page layout using whatever widgets they want to include. In addition, anyone (with some coding ability) can make their own widget, to improve an existing one or provide some new feature. The end result will be a blossoming of resources on the web offering access to models and modelling, and a stimulus to creativity as people think of new and exciting ways to interact with System Dynamics models.

Robert Muetzelfeldt was until 2002 a lecturer in ecological modelling in the Institute of Ecology and Resource Management at the University of Edinburgh, with a particular interest in the methodology of ecological modelling and the development of software tools to improve the practice of building and using models. This included links for many years with the AI department in Edinburgh, exploring the possibility of developing expert systems to help people build models. During this time he led the project to develop Simile, the SD- and object-based modelling software used in a number of international projects. [Disclosure: Robert is a Director and shareholder in Simulistics Ltd, which markets Simile.] He took early retirement in 2002 in order to pursue this interest as an "independent academic" and now concentrates on the development of web-based modelling tools.