

Virtual Executive Toys: Hybrid Systems on the Internet

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Abstract

Hybrid systems are systems which combine both continuous and discrete components. The Discrete and continuous components here means a system that can both flow and jump. These components are used to model systems in the real world. A visualisation is very much essential to understand the behaviour of these systems on a web page.

This project primarily focuses on the creation of web interface for the models of the hybrid systems. The web interface here means the representation of the hybrid system on a web page. AJAX technology is used in the project. It is specifically designed for updating a webpage dynamically. So a virtual hybrid system will be created to demonstrate the state of the hybrid system through a visualisation containing some fields to control the parameters of the model. The virtual hybrid system is a model of the hybrid system on a web page, implemented in some programming language.

In the final stage, a graph application for the double pendulum model as an example of hybrid system was developed. This application allows the user to choose variables for plotting the graph which is visualised on a web page. These variables represent the states of the double pendulum model.