A Hands-on Tutorial for Building Agent Models in Soar

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The tutorial provides participants with an understanding of the details of Soar so that they can create simple Soar programs. This is a full-day tutorial, with an emphasis in the morning on understanding the syntax and structure of the architecture (the memories and processes), and an emphasis in the afternoon on agent development. In the morning, participants will learn to run, modify, and debug small demonstration programs that illustrate the various parts of Soar's structure. They will also be introduced to Soar's editing, debugging, and runtime tools. In the afternoon, we will work on simple agents that interact with a dynamic simulated environment. The students will build their own complete agents that navigate and compete in a simple maze world. The class will culminate with a competition among the agents designed by students.

Although Soar has been around for close to 20 years, it is still quite relevant for building knowledge-based systems and serves as an instructive example of the integration of reactive problem solving, planning, and learning. Soar also has some new innovative twists in it, such as probabilistic decision making, reinforcement learning, and an episodic memory that make it relevant for a broad class of problems today.

The Soar homepage is: http://sitemaker.umich.edu/soar. To download all of the tutorial, including the Soar software, the Visual Soar editor, and a step by step tutorial to Soar, go to: http://sitemaker.umich.edu/soar/getting_started.