

This program was written by Curtis Chen of Caltech for NASA's Jet Propulsion Laboratory. Further information is contained in a TSP (see page 1). This software is available for commercial licensing. Please contact Don Hart of the California Institute of Technology at (818) 393-3425. Refer to NPO-30906.

e-Stars Template Builder

e-Stars Template Builder is a computer program that implements a concept of enabling users to rapidly gain access to information on projects of NASA's Jet Propulsion Laboratory. The information about a given project is not stored in a data base, but rather, in a network that follows the project as it develops. e-Stars Template Builder resides on a server computer, using Practical Extraction and Reporting Language (PERL) scripts to create what are called "e-STARS node templates," which are software constructs that allow for project-specific configurations. The software resides on the server and does not require specific software on the user machine except for an Internet browser. A user's computer need not be equipped with special software (other than an Internet-browser program). e-Stars Template Builder is compatible with Windows, Mac-

intosh, and UNIX operating systems. A user invokes e-Stars Template Builder from a browser window. Operations that can be performed by the user include the creation of child processes and the addition of links and descriptions of documentation to existing pages or nodes. By means of this addition of "child processes" of nodes, a network that reflects the development of a project is generated.

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Software for Acoustic Rendering

SLAB is a software system that can be run on a personal computer to simulate an acoustic environment in real time. SLAB was developed to enable computational experimentation in which one can exert low-level control over a variety of signal-processing parameters, related to spatialization, for conducting psychoacoustic studies. Among the parameters that can be manipulated are the number and po-

sition of reflections, the fidelity (that is, the number of taps in finite-impulse-response filters), the system latency, and the update rate of the filters. Another goal in the development of SLAB was to provide an inexpensive means of dynamic synthesis of virtual audio over headphones, without need for special-purpose signal-processing hardware. SLAB has a modular, object-oriented design that affords the flexibility and extensibility needed to accommodate a variety of computational experiments and signal-flow structures. SLAB's spatial renderer has a fixed signal-flow architecture corresponding to a set of parallel signal paths from each source to a listener. This fixed architecture can be regarded as a compromise that optimizes efficiency at the expense of complete flexibility. Such a compromise is necessary, given the design goal of enabling computational psychoacoustic experimentation on inexpensive personal computers.

This program was written by Joel D. Miller of QSS Group, Inc., for Ames Research Center. For further information, access <http://human-factors.arc.nasa.gov/SLAB/>. Refer to ARC-14991-1.