

SOUNDMAKER: A WEB-BASED TEACHING TOOL FOR SOUND DESIGN

Ryan Cavis, Sever Tipei

Computer Music Project, School of Music
University of Illinois

Volodymyr Kindratenko

National Center for Supercomputing Applications
University of Illinois

TEACHING TOOL

Command line version

- developed for use in an introductory Computer Music course
- also available to students enrolled in general Music Theory courses
- used to demonstrate elements of psychoacoustics
- provides access to the internal structure of sounds
- learning rudiments of C++ that will enable the students to modify the code to better fit their needs

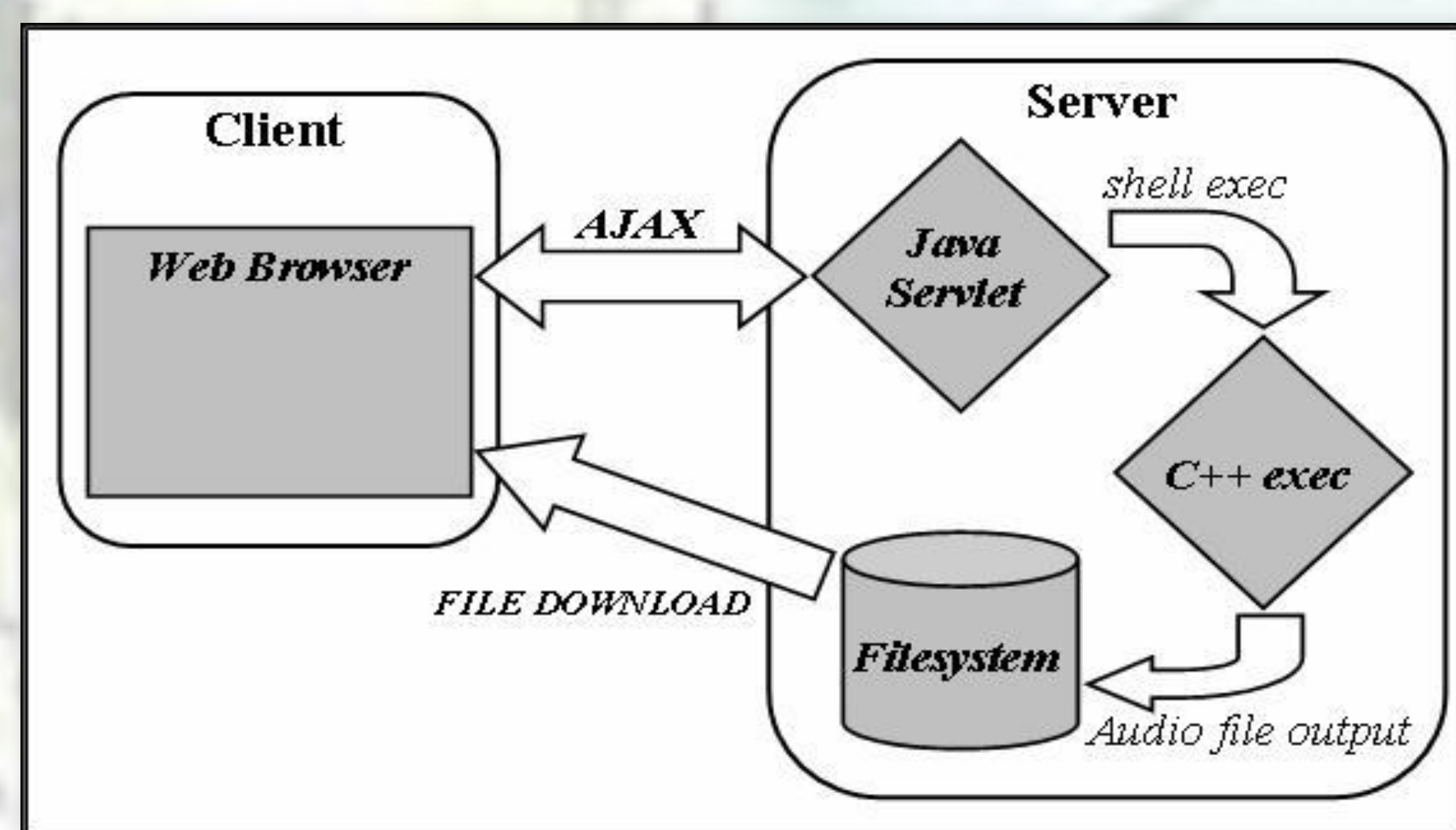
Script version

- uses a script (text file) prepared in advance
- produces significantly more sounds and allows for experimentation

Random version

- values are chosen according to a given distribution
- can produce even larger number of sounds, enhances experimentation

SOUNDMAKER AS A WEB INTERFACE

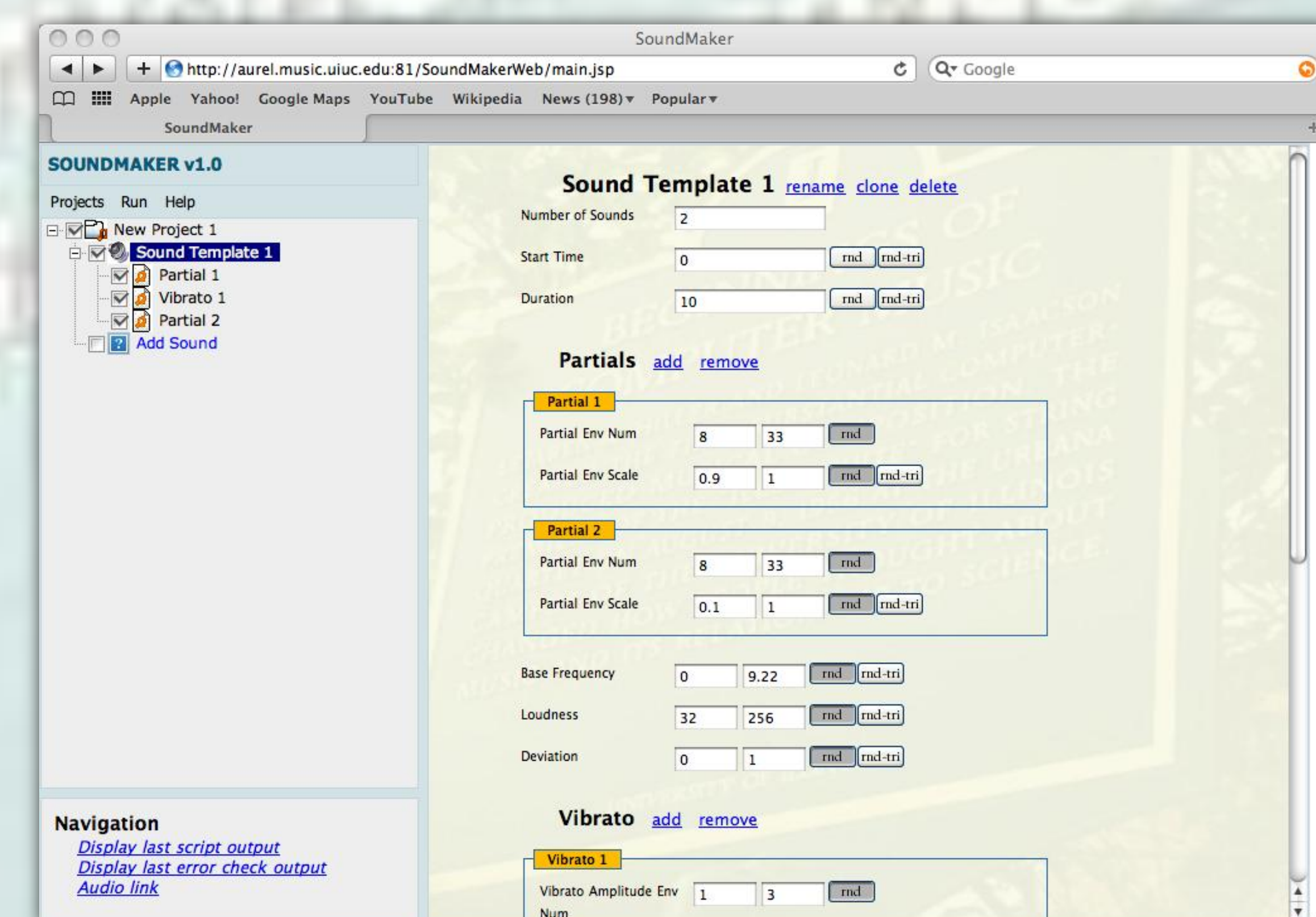


System Design

- uses JavaScript functions and AJAX
- client side: interface running within a web browser
- server side:
 - Java servlet interacts with the web browser through AJAX.
 - servlet builds its own representation of the project and transforms it into a script file.
 - calls an executable of the **SoundMaker** C++ program
- back-end service: **SoundMaker**

Interface Design

- inputting and displaying multiple sounds
- clean, visually representative of the conceptual data
- fast way of inputting data
- composed of two major sections:
 - current project tree and commands (on the left)
 - sound display/output area (on the right)
 - input box / tool tips; Readme file
 - random functions available
 - sound templates may create multiple sounds



Future Work

- add the ability to open more than one project at a time
- addition of a graphical envelope manager

Work in Progress

- test case for a DISSCO interface