

Collective sonic interaction with web-based applications

Recent integration of real-time audio functionalities in the web browsers such as [Web Audio API](#) and [WebRTC](#), in addition to the audio reproduction and streaming support introduced with HTML5, has permitted new potentialities and developments in the field of web-based interactive and distributed audio systems.

Everyone, given an HTTP URL and a web application can experiment sonic interaction even through a mobile device, for example:

- a smartphone can produce sounds depending on the device motion,
- a performer can control the speakers of spectators' smartphones during a performance,
- a visitor can connect with an installation and let the sound mediate the interaction with it.

We are looking for master thesis students interested in investigating, implementing, and evaluating how to manage audio in a web application considering both communication issues such as latency and source synchronization, and sonic issues related to the information conveyed by the sound, its meaning and emotional content. The activity can be carried out without being physically present on a day-to-day basis at the Politecnico.

Tags: multimedia, networking, audio, web technologies

Thesis type: applied research, software development

Additional references:

- [Sound Music Movement Interaction at IRCAM](#)

Requirements:

- Knowledge of web and Javascript programming
- [optional] Attended the "Elaborazione e trasmissione di informazioni multimediali" (ETIM, Processing and Transmission of Multimedia Signals) or "Internet Streaming" or "Elaborazione dell'audio digitale" (EAD, Digital audio processing) class

If interested, please submit your CV and statement of interest to: antonio.servetti@polito.it