WAC

1st Web Audio Conference

January 26–28, 2015

IRCAM & MOZILLA (Paris, France)

http://wac.ircam.fr

@WebAudioConf

WAC is the first international conference dedicated to web audio technologies and applications.
The conference welcomes web R&D developers, audio processing scientists, application designers and people involved in web standards.
The conference addresses research, development, design and standards concerned with emerging audio-related web technologies such as Web Audio API, Web RTC, WebSockets and JavaScript.

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WAC – 1st Web Audio Conference

January 26–28, 2015 IRCAM & MOZILLA (Paris, France)

MONDAY, JANUARY 26, 2015

MORNING - IRCAM - IGOR STRAVINSKY ROOM

8.00	Welcome - Lobby	
9.00	*WAC Introduction*	Samuel Goldszmidt, Norbert Schnell, and Hugues Vinet
9.15	**Keynote #1 *Audio and the Web***	**Chris Wilson**
10.00	Coffee Break (Gallery Level -2)	

10.30 - 13.00 Tools & Components

10.30	*Building a Collaborative Digital Audio Workstation Based on the Web Audio API*	Jan Monschke
10.50	*DAW Plugins for Web Browsers*	Jari Kleimola
11.10	*Meyda: An Audio Feature Extraction Library for the Web Audio API*	Hugh Rawlinson, Nevo Segal, and Jakub Fiala
11.30	*Web Audio Tools*	Jordan Santell
11.50	*Adventures in Scheduling, Buffers and Parameters: Porting a Dynamic Audio Engine to Web Audio*	Chinmay Pendharkar, Peter Bäck, and Lonce Wyse
12.10	*Audio Oriented UI Components for the Web Platform*	Victor Saiz, Benjamin Matuszewski, and Samuel Goldszmidt
12.30	*Of Time Engines and Masters — An API for Scheduling and Synchronizing the Generation and Playback of Event Sequences and Media Streams for the Web Audio API*	Norbert Schnell, Victor Saiz, Karim Barkati, and Samuel Goldszmidt
13.00	Lunch (Gallery, Level -2)	

MONDAY, JANUARY 26, 2015

AFTERNOON - IRCAM - IGOR STRAVINSKY ROOM

14.00	**Keynote #2** ***The First Computer Music Programming Language***	**Chris Lowis**

14.45 - 16.15 Languages & Environments

14.45	*Can WebAudio be Liberated from the Von Neumann Style?*	Emilio Jesús Gallego Arias
15.05	*Extending Csound to the Web*	Victor Lazzarini, Edward Costello, Steven Yi, and John Ffitch
15.25	*BRAID: A Web Audio Instrument Builder with Embedded Code Blocks*	Benjamin Taylor and Jesse Allison
15.45	*Interactive Music with Tone.js*	Yotam Mann

16.15 Demo / Poster Session #1 & Coffee Break (Gallery, Level -2)

	WAVE Project Demo and Enhanced Published Score	Benjamin Matuszewski and Samuel Goldszmidt
	Noteflight: A Web-Standards-Based Compositional Community http://www.noteflight.com	Joseph Berkovitz
	Web-Based Visualizations and Acoustic Rendering for Multimodal Data from Orchestra Performances Using Repovizz http://phenicx.upf.edu/	Oscar Mayor
	Repovizz - Multimodal Online Database and Visualization Tool http://repovizz.upf.edu	Quim Llimona
	Listening Guides: Ten Year Report	Rodolphe Bailly
	Music-Related Media Contents Synchronized Over the Web: The IEEE 1599 Initiative http://emipiu.di.unimi.it/	Adriano Baratè, Stefano Baldan, Davide Andrea Mauro, Goffredo Haus, and Luca Andrea Ludovico
	The Telemeta Platform and TimeSide Framework: Audio Archives Management and Automatic Analysis	Guillaume Pellerin
	Real-Time Client-Side Physical Modeling Harpsichord	Thomas Cipierre
	Delivering Object-Based 3D Audio Using the Web Audio API	Chris Pike
	Binaural Synthesis With the Web Audio API	Thibaut Carpentier
	Real-Time Acoustic Auralization on the Web http://chinpen.net/auralizr/	Chinmay Prafulla Pendharkar
	Birds of a Feather (Les oiseaux de même plumage): Dynamic Soundscapes using Real-Time Manipulation of Locally Relevant Birdsongs	Bill Walker and Brian Belet

17.00 - 18.30 Delivering & Listening - Igor Stravinsky Room

17.00	*Delivering Object-Based 3D Audio Using the Web Audio API and the Audio Definition Model*	Peter Taylour, Chris Pike, and Frank Melchior
17.20	*Towards the Next Generation of Web-based Experiments: A Case Study Assessing Basic Audio Quality Following the ITU-R Recommendation BS.1534 (MUSHRA)*	Michael Schoeffler, Fabian-Robert Stöter, Bernd Edler, and Jürgen Herre
17.40	*Spatially Distributed Sound Computing and Rendering Using the Web Audio Platform*	Lonce Wyse
18.00	*Personalization Support for Binaural Headphone Reproduction in Web Browsers*	Michele Geronazzo, Jari Kleimola, and Piotr Majdak

TUESDAY, JANUARY 27, 2015

MORNING - IRCAM - IGOR STRAVINSKY ROOM

9.15	**Keynote #3 - *Web Audio API vs. Native: Closing the Gap***	**Paul Adenot**
10.00	Coffee Break (Gallery, Level-2)	

10.30 - 13.00 Applications

10.30	*Lissajous: Performing Music with Javascript*	Kyle Stetz
10.50	*EarSketch: Teaching Computational Music Remixing in an Online Web Audio Based Learning Environment*	Anand Mahadevan, Jason Freeman, Brian Magerko, and Juan Carlos Martinez
11.10	*Hyperaudio*	Mark Boas
11.30	*Birds of a Feather (Les oiseaux de même plumage): Dynamic Soundscapes using Real-Time Manipulation of Locally Relevant Birdsongs*	Bill Walker and Brian Belet
11.50	*VenueExplorer, Object-Based Interactive Audio for Live Events*	Matthew Paradis, Rebecca Gregory-Clarke, and Frank Melchior
12.10	*Noteflight: A Web-Standards-Based Compositional Community*	Joseph Berkovitz
12.30	*Music Performance by Discovering Community Loops*	Gerard Roma and Xavier Serra
13.00	Lunch (Gallery, Level -2)	

TUESDAY, JANUARY 27, 2015

AFTERNOON - MOZILLA

15.00 Demo/Poster Session #2

	The Collective Sound Checks Mobile Web Audio Applications	Norbert Schnell
	Soundworks – A Playground for Artists and Developers to Create Collaborative Mobile Web Performances	Sébastien Robaszkiewicz and Norbert Schnell
	Humming Mississippi	Jesse Allison
	Scrolling Through Sound http://zya.github.io/scrollsound/	Ehsan Ziya
	Web Audio Synthesizer Design	Luke Teaford
	Two Online N-gon Wave Synthesisers	Dominik Chapman
	LFO Low Frequency Operators on Streams	Victor Saiz
	Visualizing Audio with p5.js	Jason Sigal
	Quint.js: A JavaScript Library for Teaching Music Technology to Fine Arts Students http://quinta.audio/Quint	Ian George Burleigh and Thilo Schaller
	A Dynamic Audio Experience Creation Platform in Web Audio http://wac.sonoport.com/	Chinmay Pendharkar, Peter Back, and Lonce Wyse
	Websocket Server for MaxMSP	Oliver Larkin
	Streaming Live Content to Web Audio API	Raphaël Goldwaser and Emmanuel Fréard
	VenueExplorer (Demo) Object-Based Interactive Audio for Live Events	Matthew Paradis
	MT5: a HTML5 Multitrack Player for Musicians	Michel Buffa, Amine Hallili and Philippe Renevier
	Adaptive, Personalised "In Browser" Audio Compression	Matthew Paradis and Andrew Mason
	Seismokraft	Ethan Geller
	SimScene: A Web-Based Acoustic Scenes Simulator	Mathias Rossignol, Gregoire Lafay, Mathieu Lagrange, and Nicolas Misdariis
	Querying Freesound with a Microphone	Gerard Roma and Xavier Serra
	Composing a Web of Audio Applications	Sarah Denoux, Yann Orlarey, Stephane Letz, and Dominique Fober

17.00 Web Audio Gigs #1

	The Tomb of the Grammarian Lysias	Ben Houge
	Traversal	Jesse Allison
18.00	Happy Hour	

TUESDAY, JANUARY 27, 2015

EVENING – MOZILLA

19.00 Web Audio Gigs #2

	Drops	Sébastien Robaszkiewicz and Norbert Schnell
	Smartphone Jam Session with Audience	Toshihiro Kita
20.00	Buffet	

21.00 Web Audio Gigs #3

	Pearl River	Benjamin Taylor
	Fields #2	Sébastien Piquemal and Tim Shaw

WEDNESDAY, JANUARY 28, 2015

MORNING – IRCAM – IGOR STRAVINSKY ROOM

9.30	Coffee	
10.00	*W3C Audio Working Group Plenary Session*	Matthew Paradis, Joe Berkovitz, Chris Lowis, Paul Adenot, and Chris Lilley
12.00	Free Time	

AFTERNOON – MOZILLA

14.00 - 18.30	Experiments, Hacks, Informal Presentations, and Discussions

KEYNOTES

MONDAY MORNING

Chris Wilson – *Audio and the Web*
The web has supported multiple media since its inception - however, only recently has it become a viable platform for building audio applications. The talk will examine the journey of audio in the web platform, the intersection of interesting technologies that make this a pivotal point for audio and the web, and will highlight the opportunities unlocked by web audio and where we go from here.

Chris Wilson is a Developer Advocate on the Google Chrome team. He started working on web browsers in 1993 when he co-authored the original Windows version of NCSA Mosaic before working on Internet Explorer for fifteen years at Microsoft. He has separate and combined passions for digital audio, music and the web, and co-edits the Web Audio and Web MIDI specifications at the W3C. He also specializes in playing many different instruments badly.

MONDAY AFTERNOON

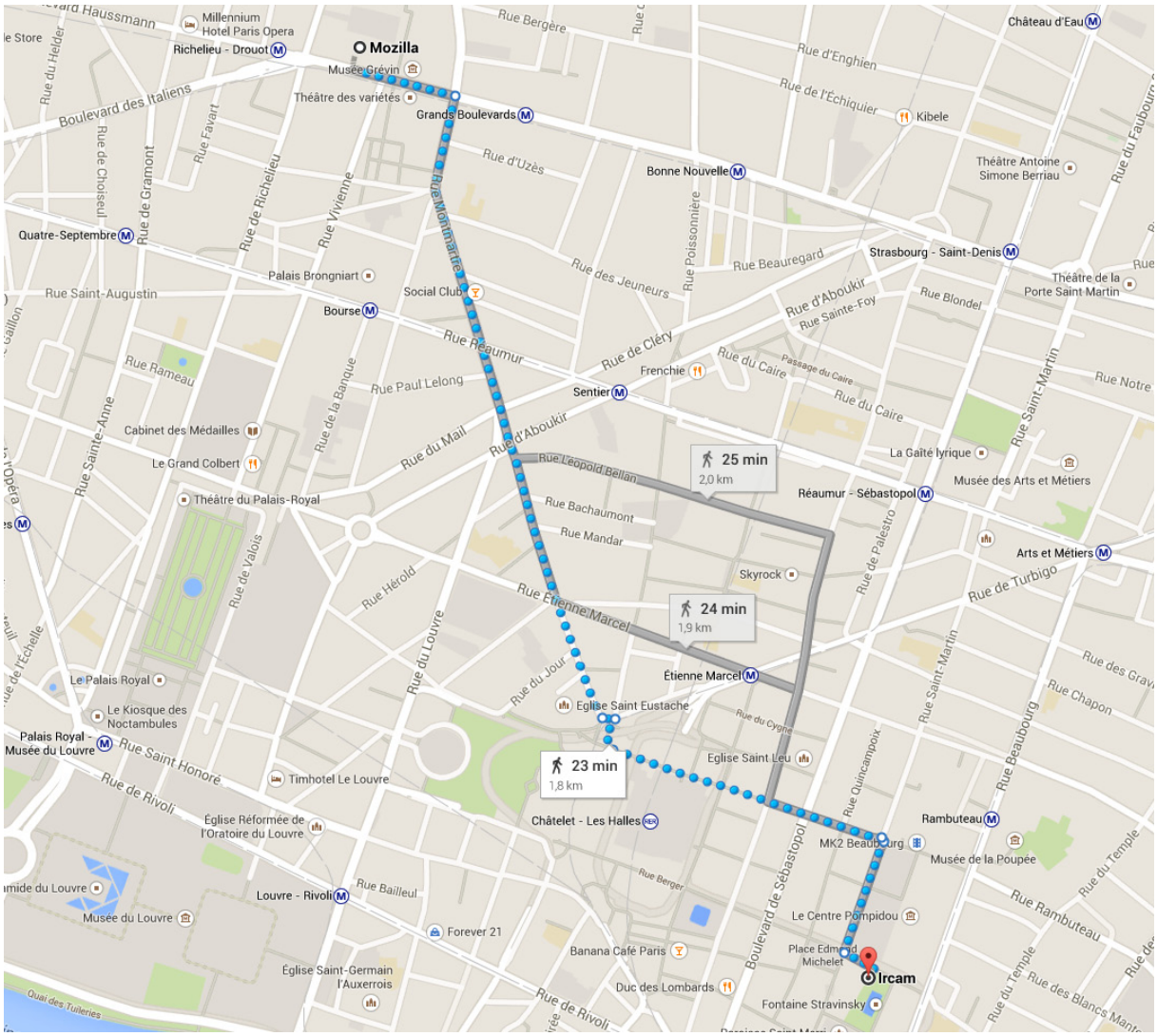
Chris Lowis – *The First Computer Music Programming Language -*
MUSIC was a programming language developed by Max Mathews at Bell Labs in 1957. In this talk we'll learn more about Max Mathews, the origins of computer music, and by building a compiler for MUSIC in JavaScript hear what some of the very first computer music compositions sounded like.

Chris Lowis is an invited expert on the W3C's Audio Working group. He studied acoustics and signal processing at the Institute of Sound and Vibration Research in Southampton, and recently worked at the R&D department at the BBC. He loves to use the Web Audio API to bring old synthesisers back to life, and to write about audio on the web in his newsletter Web Audio Weekly.

TUESDAY MORNING

Paul Adenot – *Web Audio API vs. Native: Closing the Gap*
Audio is one of the domains where developers try to get every bit of performance out of the device. On the other hand, the Web Audio API looks like an high-level API with a lot of constraints for developers. What does the web platform need for the Web Audio API to be competitive with native audio? What problems does the platform have that can be solved today?

Paul Adenot is an audio developer at Mozilla, working on the Firefox web browser. He works on the Firefox Web Audio implementation, as well as the platform-specific audio code on all platforms, and WebRTC. He also co-edits the Web Audio API specification at the W3C, and is a long time guitar player.



PLACES

IRCAM
1, Place Igor Stravinsky, 75004 Paris, France
Metro: Hôtel de Ville, Rambuteau, Châtelet, Les Halles
Phone: +33 1 44 78 48 43 | +33 1 44 78 15 45

Mozilla
16 bis, Boulevard Montmartre, 75009 Paris, France
Metro: Grands Boulevards, Richelieu-Drouot

COMMITEE

Chairs

- Samuel Goldszmidt, IRCAM, Paris, France
- Norbert Schnell, IRCAM, Paris, France
- Raphaël Troncy, Eurecom, Sophia Antipolis, France
- Victor Saiz, IRCAM, Paris, France - Web Audio Gig Chair
- Benjamin Matuszewski, IRCAM, Paris, France - Demo/Poster Chair

Local Organization Commitee

IRCAM – STMS joint research unit with the CNRS
and the Université Pierre et Marie Curie – Paris

- Sylvie Benoit, IRCAM, Paris, France
- Samuel Goldszmidt, IRCAM, Paris, France
- Benjamin Matuszewski, IRCAM, Paris, France
- Victor Saiz, IRCAM, Paris, France
- Norbert Schnell, IRCAM, Paris, France
- Renaud Vincent, IRCAM, Paris, France
- Hugues Vinet, IRCAM, Paris, France

The WAC takes place within the WAVE project. The WAVE project, funded by French National Research Agency, aims to formalize new means of editing, visualization, and interaction with temporal audiovisual objects online.

This project will lead to the design and development of software bricks concerning user interfaces and interactions, digital audio interfaces, client/server interfaces, and their data exchanges. These software bricks will come from the results of the analysis of expert musical practices compared to their ordinary use in web applications and standards, with the goal of offering innovative uses for them.

The project's objective is to integrate these software bricks in existing software to develop new services and improve existing ones. New means of purchasing and sharing musical and audiovisual documents online, these services will be put in place during the project and made available to users by project partners using the W3C standards (particularly HTML5 and the new Web platform), completing them if necessary, and also proposing interaction via new terminals in order to offer coherent interfaces, accessible and innovative, and new user experiences adapted for consultation, interaction, annotation, transformation, and sharing of temporal objects.

In a fluctuating web technology situation, the formalization and instanciation of these multiple interfaces in different technologies supported by WC3 standards and recommendations will contribute to the surfacing of a truly hypermedia and interactive Internet.

In the context of the cultural industry's crisis, and particularly those connected to music, companies and institutions can make use of these cases and explore new markets via innovative systems for listening and consultation that are interactive and enhanced with temporal streaming from the Internet.

IRCAM, the Institute for Research and Coordination in Acoustics/Music, is one of the world's largest public research centers dedicated to both musical expression and scientific research. A unique location where artistic sensibilities collide with scientific and technological innovation, Frank Madlener has directed the institute since 2006, bringing together over 160 people.

IRCAM's three principal activities — creation, research, transmission — are visible in IRCAM's Parisian concert season, in productions throughout France and abroad, in a new rendezvous created in June 2012, ManiFeste, that combines an international festival with a multidisciplinary academy.

Founded by Pierre Boulez, IRCAM is associated with the Centre Pompidou, under the tutelage of the French Ministry of Culture and Communication. The mixed STMS research lab (Sciences and Technologies for Music and Sound), housed by IRCAM, also benefits from the support of the CNRS and the University Pierre and Marie Curie, as well as Inria (team-project MuTant).

Mozilla is a global, nonprofit organization dedicated to making the Web better. We emphasize principle over profit and believe that the Web is a shared public resource to be cared for, not a commodity to be sold. We work with a worldwide community to create open source products like Mozilla Firefox, and to innovate for the benefit of the individual and the betterment of the Web. The result is great products built by passionate people and better choices for everyone.

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