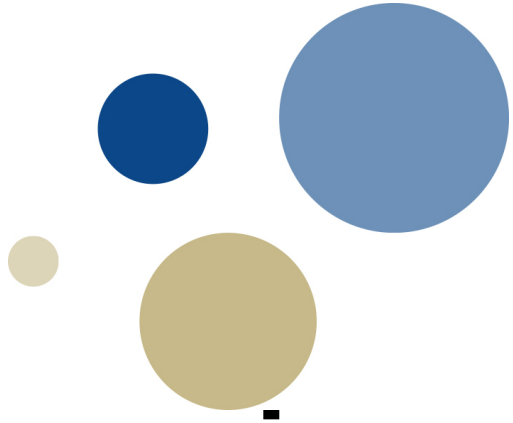

MCT4048: Audio Programming

Introduction

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15 January 2015

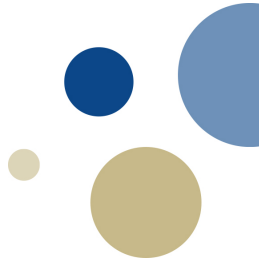
Warm-up activity: paper discussion

Task: In the context of the topics discussed in the article, be ready to discuss in class your favourite computer music programming language (it could be one of the languages listed in the article, or another one).

- What are the advantages and limitations?
- How do they process events, gestures and sounds?
- To what extent it is a general-purpose vs. task specific programming language?

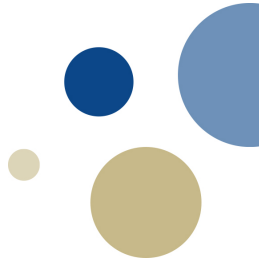
Reference: Dannenberg (2018). Languages for Computer Music. Frontiers in Digital Humanities, 5, 26.

Syllabus



https://uio.instructure.com/courses/17406/pages/syllabus

Why Web Audio API?



- It is written in one of the modern programming languages.
- It is easy to sketch ideas and get prototypes built.
- It is easy to test, implement, and distribute.
- It showcases the fundamental concepts of audio programming.
- It gives room for artistic expression.
- It is an employable skill.
- We will be hosting the Web Audio Conference 2019 at NTNU in Trondheim!

Web Audio API?

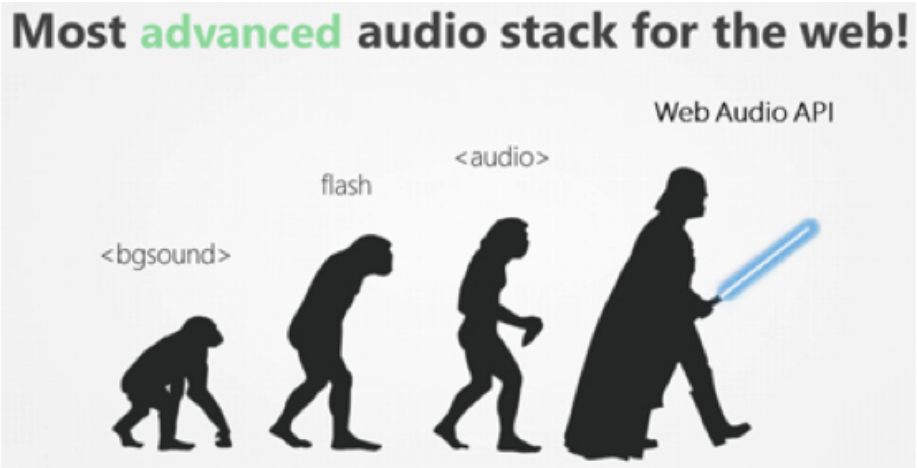


Image source: http://www.sitepoint.com

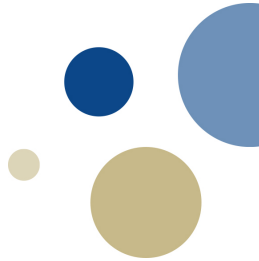
High-level JavaScript API for processing and synthesizing audio in web applications.

- Cross-browser way of playing audio on the Web.
- Native support for audio playback in all modern browsers.
- Support of tasks found in modern desktop audio production applications.

Pseudocode

- It is an informal high-level description of the operating principle of a computer program or other algorithm. (Wikipedia)
- It omits machine-level information (e.g. variable declarations).
- It should be easy to understand.
- It is an efficient and environment-independent description of the key principles of an algorithm.

Exercise: Pseudocode



Task: Write the program in pseudocode of a sampler that plays 4 sound samples when pressing 'a', 'x', 'd' and 'w' respectively. Add a key that switches between looping and not looping the current sound. Optionally, add 4 different effects when pressing four other keys. Consider loading the sounds first. Report back to the class the result and the challenges faced when writing the algorithm in pseudocode.

Reference: `https://en.wikipedia.org/wiki/Pseudocode`