

## swh-snd index

<b>Software Heritage Sound</b>	<b>1</b>
1. Introduction . . . . .	1
2. Build . . . . .	1
3. Research Question . . . . .	2
4. Background . . . . .	2
Software . . . . .	2
Universal Software Archive . . . . .	2
Research Software . . . . .	2
Sonification . . . . .	2
Data Sonification . . . . .	3
Software Sonification . . . . .	3
Software Sonification tools . . . . .	3
5. Technical References . . . . .	3
Bibliography . . . . .	3

## Software Heritage Sound

**swh-snd** is an sound art experiment on top of Software Heritage archive.

<http://swh-snd.4two.art>

### 1. Introduction

This project aims to investigate the software evolution throught the combination between data sonification and data visualization with approach experimental (not as in scientific experiment) and artistic.

The strategy of investigation takes inspiration from Paul Feyerabend:

The only principle that does not inhibit progress is: anything goes (Feyerabend 1975).

### 2. Build

Requires Pandoc 2.17.1.1 or later and citeproc.

```
make index.html
```

To build the pdf version.

```
make paper.pdf
```

Download [paper.pdf](#)

### 3. Research Question

Does data sonification combined with data visualization can enrich software evolution understanding?

### 4. Background

#### Software

TODO (SUBER 1988).

#### Software Evolution

#### Universal Software Archive

Software Heritage is ... building the universal software archive, the project collect and preserve software in source code form, the archive is accessible ... because only by sharing it we can guarantee its preservation in the very long term

```
<identifier> ::= "swh" ":" <scheme_version> ":" <object_type> ":" <object_id> ;
<scheme_version> ::= "1" ;
<object_type> ::=
    "snp" (* snapshot *)
  | "rel" (* release *)
  | "rev" (* revision *)
  | "dir" (* directory *)
  | "cnt" (* content *)
  ;
<object_id> ::= 40 * <hex_digit> ;
                (* intrinsic object id, as hex-encoded SHA1 *)
<hex_digit> ::= "0" | "1" | "2" | "3" | "4" | "5" | "6" | "7" | "8" | "9"
                | "a" | "b" | "c" | "d" | "e" | "f" ;
```

SWDID (Cosmo, Gruenpeter, and Zacchiroli 2018).

**Software Heritage mirror** TODO: <https://www.softwareheritage.org/mirrors/>

#### Research Software

TODO

How does the rate of swhid adoption has been evolving?

#### Sonification

TODO

Sonification isn't Data Sonification, sonification is the practical use of sound to solve a question.

- <https://en.wikipedia.org/wiki/Sonification>

### Data Sonification

TODO (Kaper, Tipei, and Wiebel 2000).

### Software Sonification

TODO (Mancino and Scanniello 2017; Andrade 2014).

### Software Sonification tools

TODO

## 5. Technical References

- Markdown With BibTeX References Using Zotero
- Pandoc User's Guide

## Bibliography

- Andrade, Sandro. 2014. "Software Evolution Sonification: Why and How." *II Encontro Nacional de Computação Dos Institutos Federais (ENCompIF) - XXXIV Congresso Da Sociedade Brasileira de Computação (CSBC)*. [https://www.academia.edu/7161604/Software\\_Evolution\\_Sonification\\_Why\\_and\\_How](https://www.academia.edu/7161604/Software_Evolution_Sonification_Why_and_How).
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- SUBER, PETER. 1988. "What Is Software?" *The Journal of Speculative Philosophy* 2 (2): 89–119. <http://www.jstor.org/stable/25668234>.