# Aalborg University Copenhagen

## Department of Medialogy

**Semester:**       MED 10

**Title:**       Investigating Ecological Computing:
Using Analogue User Input for Sonification of
a Human-Computer Interface

Aalborg University Copenhagen
Lautrupvang 15, 2750 Ballerup,
Denmark
Secretary: Dortea Koldborg Jepsen
Phone: 9940 2468
dkj@imi.aau.dk

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**Supervisor(s):**     Stefania Serafin

**Members:**

Christian Hagelberg Nielsen

**Abstract:**

This project is divided into two parts. where part 1 investigate how an ecological approach to sound can be used to enhance the experience of using a human-computer interface, and part 2 takes on a practical approach, constructing a prototype to test if the use of sound generated from analogue user input, will enhance the experience of interacting with a computer interface.

By addressing different approaches to human perception, it is found that the ecological approach provides some useful concepts when designing sound for human-computer interfaces. Together with the concept of everyday listening, these form the basis for the practical approach to sonification called auditory icons.

Auditory icons are caricatures of real world sounds, and is shown to provide a wealth of useful information when sonifying human-computer interfaces.

As it is pointed out, sound plays a very little role in comtemporary human-computer interfaces – particularly auditory icons. The reason for this observation is reported to in part be due to annoyance. It is therefore hypothesised that the use of sound that adapts to the analogue input by the user will enhance the experience of interacting with computer interfaces.

In the second part of the project, it is shown how a prototype capable of producing a realistic sonic feedback, adaptive to analogue user input, can be constructed. The prototype is used for testing if sound generated from analogue user input will enhance the experience of interacting with a computer interface.

The results show that the use of interactive adaptive sonification does in fact improve the experience of interacting with the provided user interface, relative to both static sounds and no sounds.

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