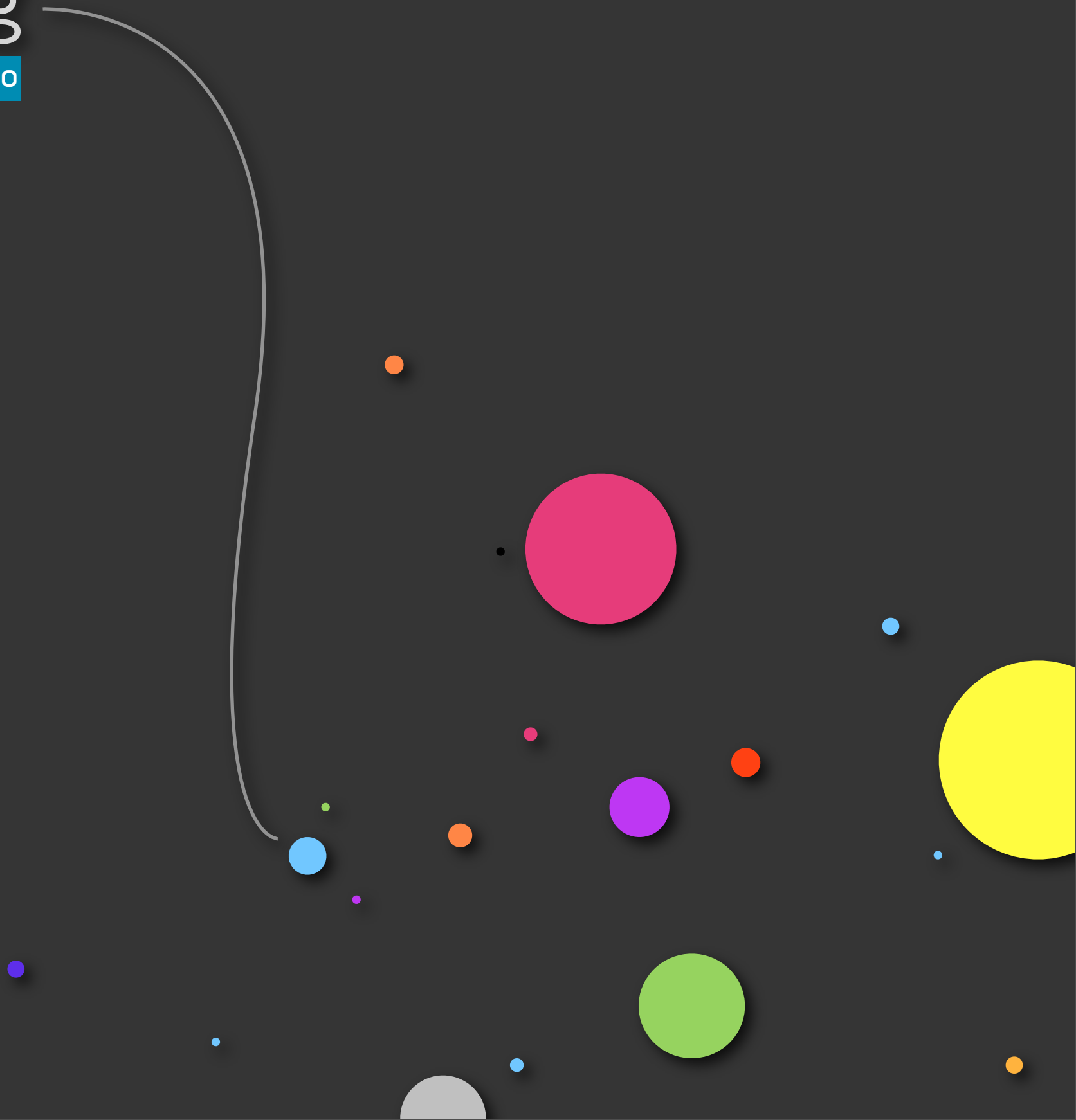


soundFishing

Claudio Lucio Midolo



This project is about a portable tool that captures sounds from the environment. Its actions are based on certain logical rules.

I like to call it **soundFishing**.

I'm deeply fascinated with everyday sounds that surround us. The fact that we usually don't take notice of them strikes me.

I want to rediscover the value of these lost perceptions through an object that is able to analyze the sonic environment around us, filter it and collect precious data for us out of our direct control.

The key concepts that work as foundation for the soundFishing interface design research are the following:

sounds as an intimate diary

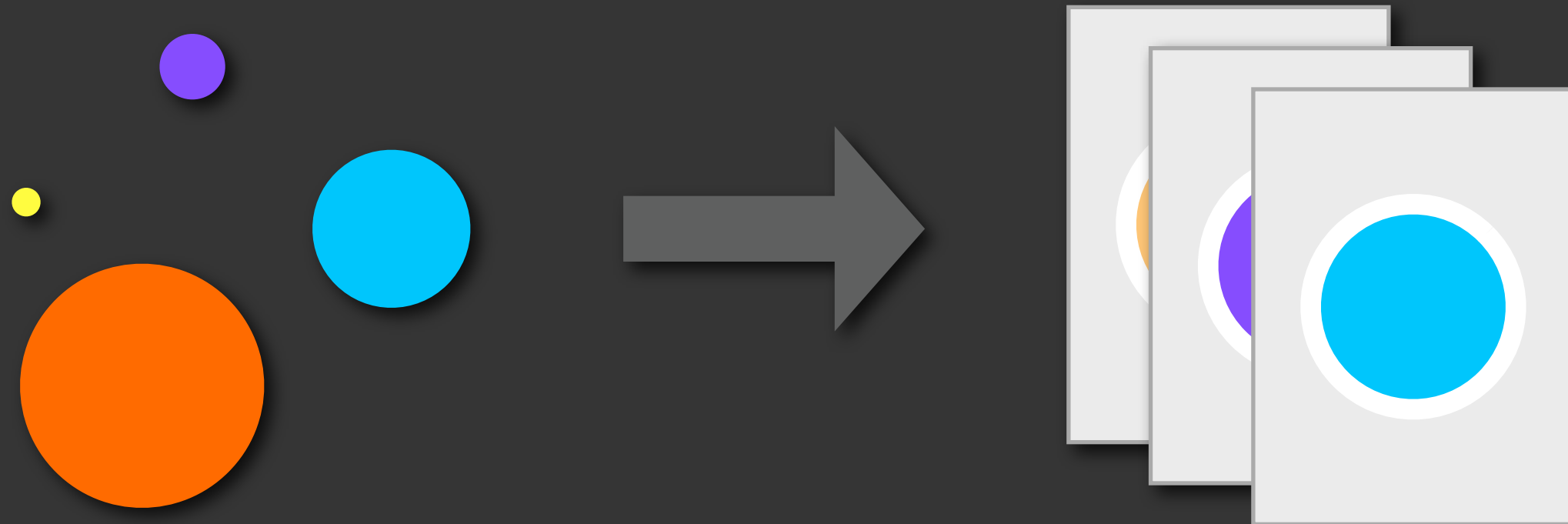
conscious vs non conscious action

generative sampling - automation

multiplicity

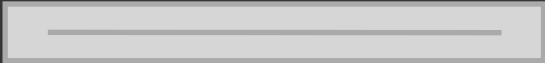
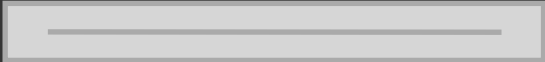
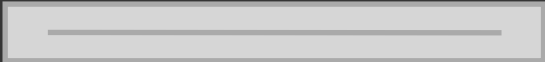
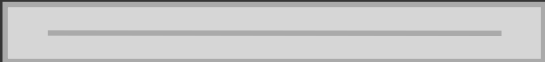
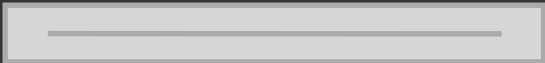
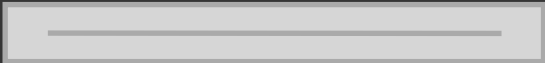
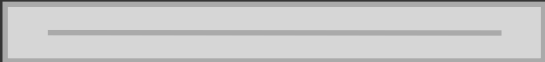
expanded cinema

sounds as an intimate diary

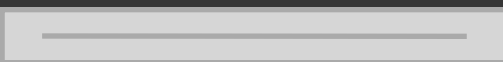
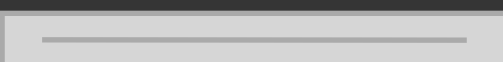
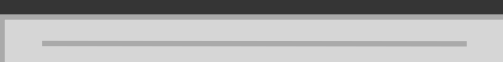
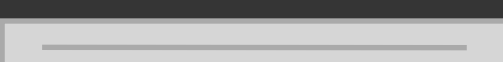
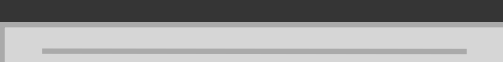
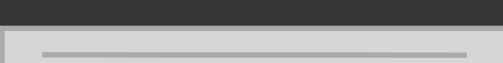
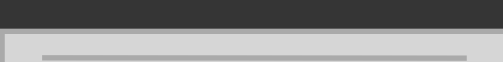


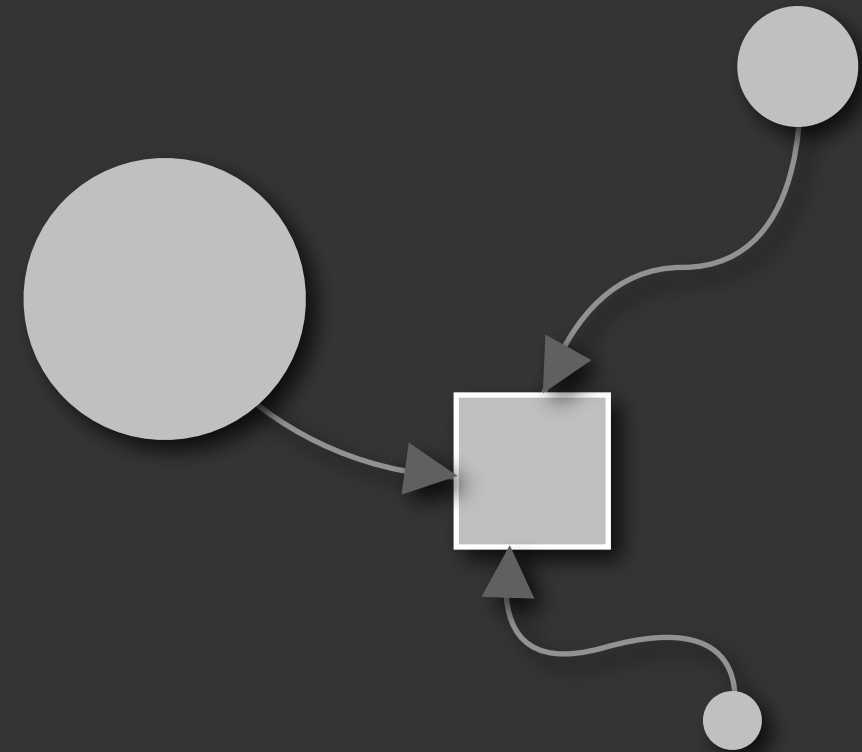
The audio captured from the environment will be collected building up a sequence of events that happen during the user's everyday life.

conscious vs non conscious action

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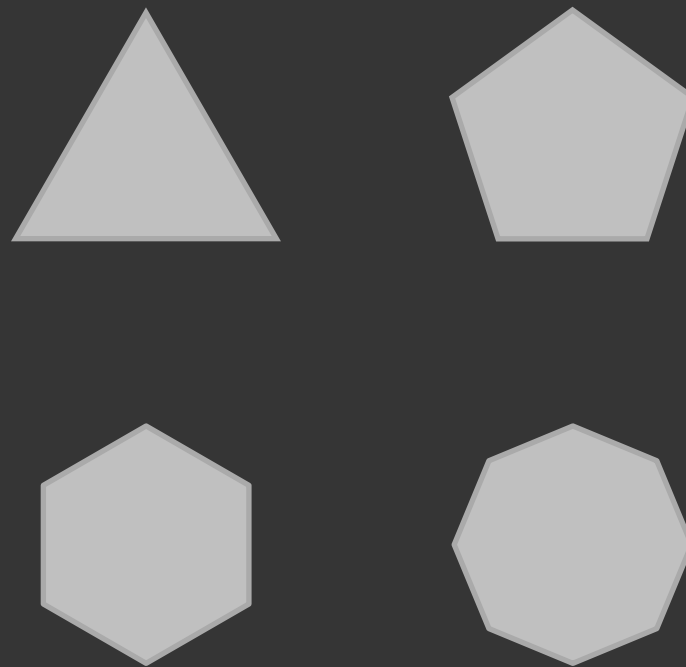
The difference between the traditional textual diary and this sonic diary is that the former is written consciously by the subject who has the power to explicitly decide what to write and when...

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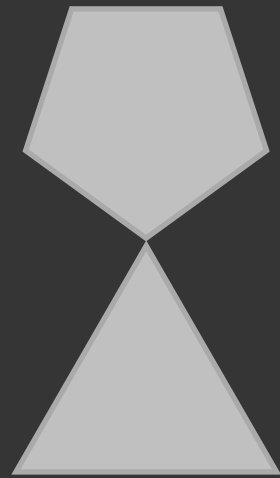


...whereas the sonic diary produced by the soundFishing interface will be composed unconsciously by the subject who has just the power to set the basic logical rules that will control the capturing of sound events. He will not be able to personally regulate the recording process.

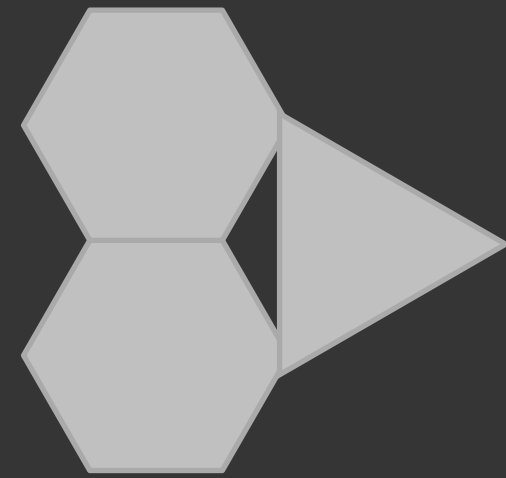
generative sampling - automation



The soundFishing tool will be intimately procedural and algorithmic as the user will define a set of logical rules that will control the recording process. After that the interface will work without any direct control.



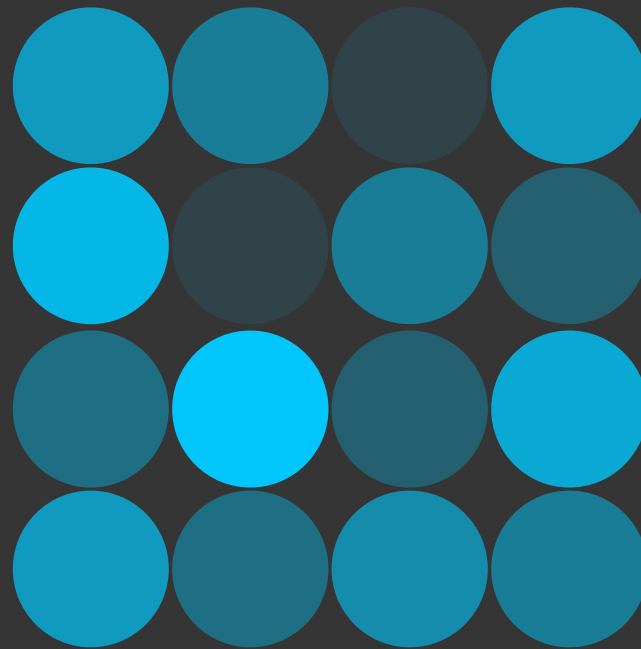
rule set 1 - output type 1



rule set n - output type n

The interface will act as an autonomous audio filtering agent who continuously listens to the environment for sonic events which match the established rule set in order to trigger the sound recording.

multiplicity



"Multiplicity here is a way to get a perceptual grasp on something quite abstract - that space of possibility. We get a visual 'feel' for that space, but also a sense of its vastness, a sense of what lies beyond the visualisation."

“Multiplicity refers to the specific space of potential in any single system, by actualising a subset of points within it”.

Mitchell Whitelaw
More is More: Multiplicity and Generative Art

expanded cinema



The soundFishing interface is an extension of the human ear and memory, allowing a more powerful perception of the sonic environment and a more durable memorization of sound in the form of digital samples.

These samples can feed another generative system which can assemble them algorithmically producing other sonic experiences.

precedents

The Dictaphone

“Dictaphone was an American company, a producer of dictation machines — sound recording devices most commonly used to record speech for later playback or to be typed into print.”



Microsoft SenseCam

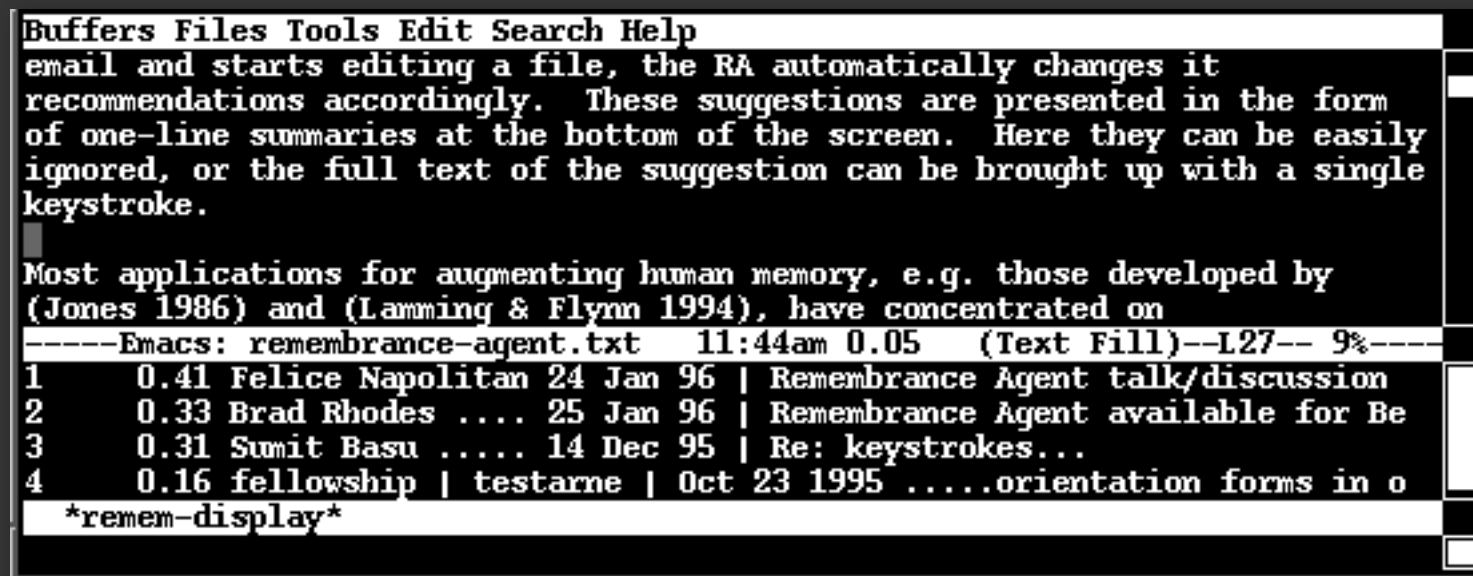
a wearable digital camera that is designed to take photographs passively, without user intervention, while it is being worn.



Microsoft - SenseCam

Remembrance Agent

A continuously running automated information retrieval system.

A screenshot of an Emacs window titled "remembrance-agent.txt". The window shows a list of reminders in a table-like format. The first part of the window contains a menu bar with "Buffers Files Tools Edit Search Help". Below the menu bar, there is a paragraph of text explaining the system's functionality. The main part of the window displays a list of reminders, each with a number, a time, a name, a date, and a description. The list is as follows:

1	0.41	Felice Napolitan	24 Jan 96		Remembrance Agent talk/discussion
2	0.33	Brad Rhodes	25 Jan 96		Remembrance Agent available for Be
3	0.31	Sumit Basu	14 Dec 95		Re: keystrokes...
4	0.16	fellowship testarne	Oct 23 1995	orientation forms in o

The window also shows a status bar at the bottom with the text "*remem-display*".

Bradley J. Rhodes, Thad Starner - Remembrance Agent

Sonic City

“Sonic City (2002-04) is a new form of interactive music instrument using the city as an interface. It enables users to create a real-time personal soundscape of electronic music by walking through and interacting with urban environments.”

methodology

Three prototyping stages are set in order to successfully build and test the interface:

Software - Processing

Hardware - ISD5116 chipcorder

Hardware - iPod hack



Less complex
Less portable

Complex
Portable

More complex
More portable

implementation

Software - Processing

Hardware - ISD5116 chipcorder

Hardware - iPod hack

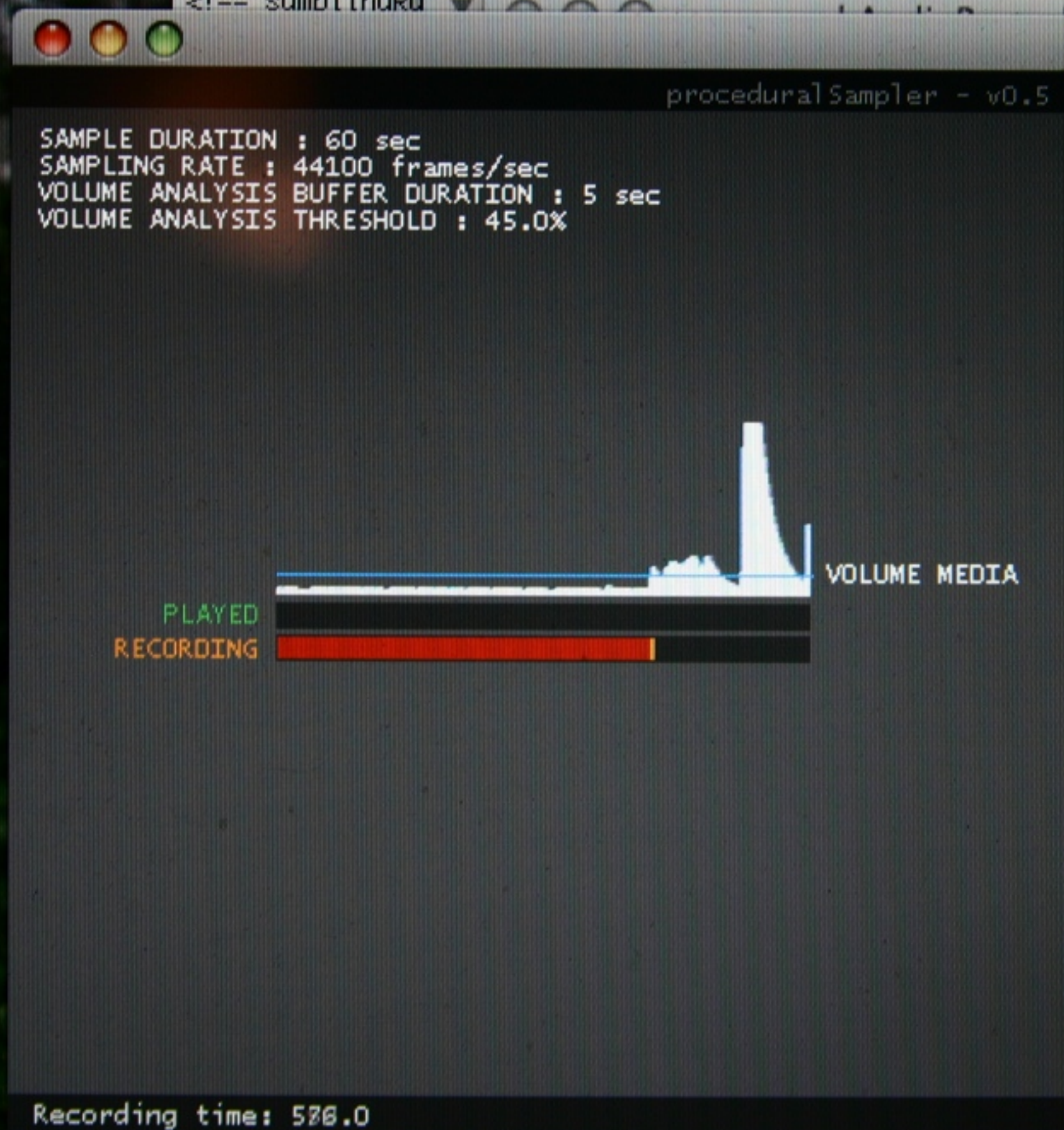


Less complex - Less portable

Complex - Portable

More complex More portable

The first prototype iteration is a Processing sketch running on a Macbook pro. The laptop is carried in a bag with an external microphone attached to it. The rule set was to capture all the loud sounds.



Processing
Sketch

A silver Apple laptop is closed and lying on a wooden surface. A white cable is connected to the back of the laptop. To the left of the laptop, there is a small white circular device labeled 'iMic'. A pink cable is plugged into the 'OUT' port of the iMic. A black cable is plugged into the 'IN' port of the iMic. A black computer mouse is also connected to the iMic. The text 'Laptop' is overlaid on the laptop lid.

Laptop

External
Microphone



Bag



Microphone
in position

Software - Processing

Hardware - ISD5116

Hardware - iPod hack

Less complex - Less portable

Complex - Portable

More complex More portable

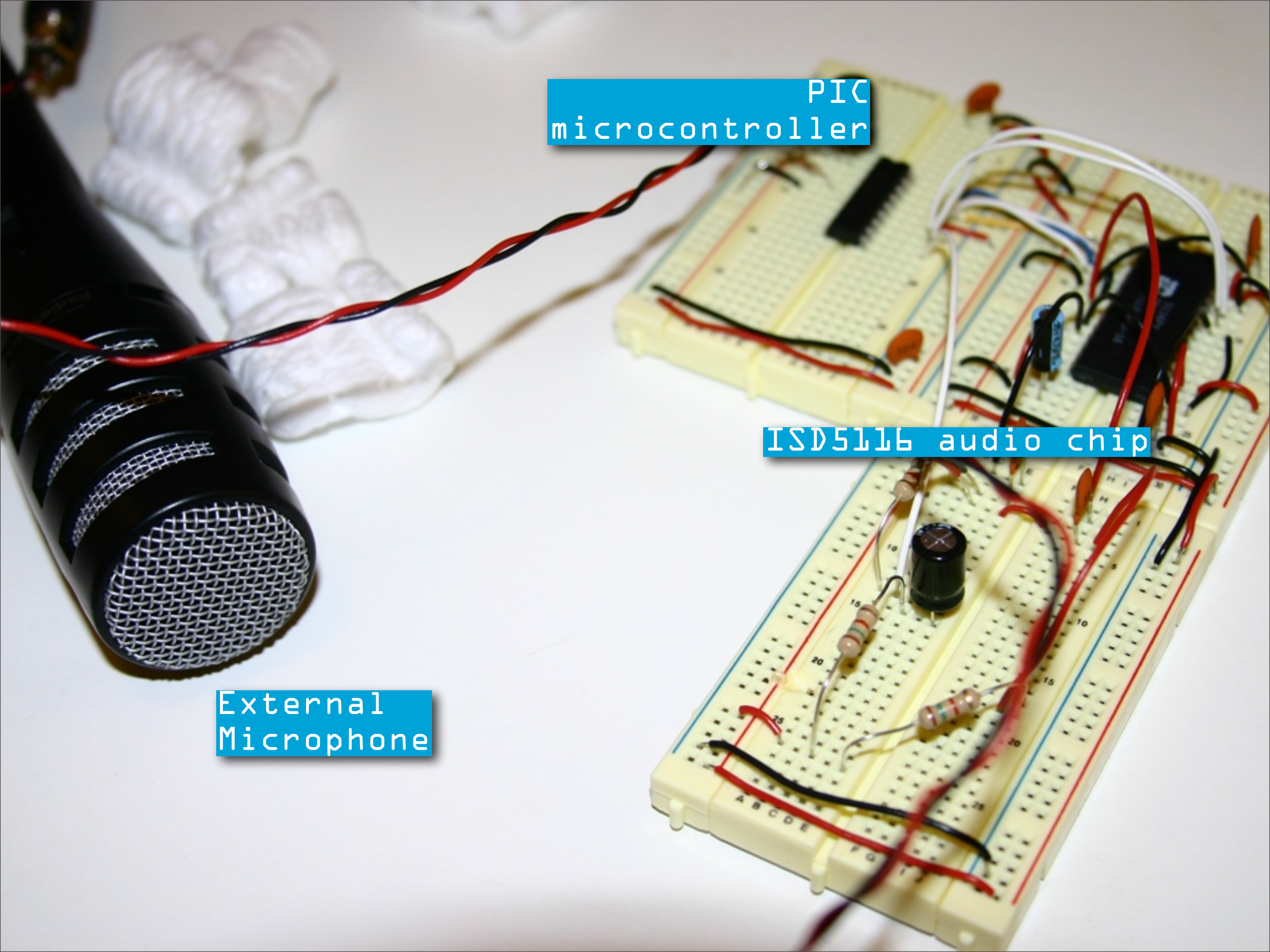


The second prototype iteration is an electronic device made of a circuit with an embedded ISD5116 dedicated audio record and playback chip, a PIC microcontroller and an external microphone.

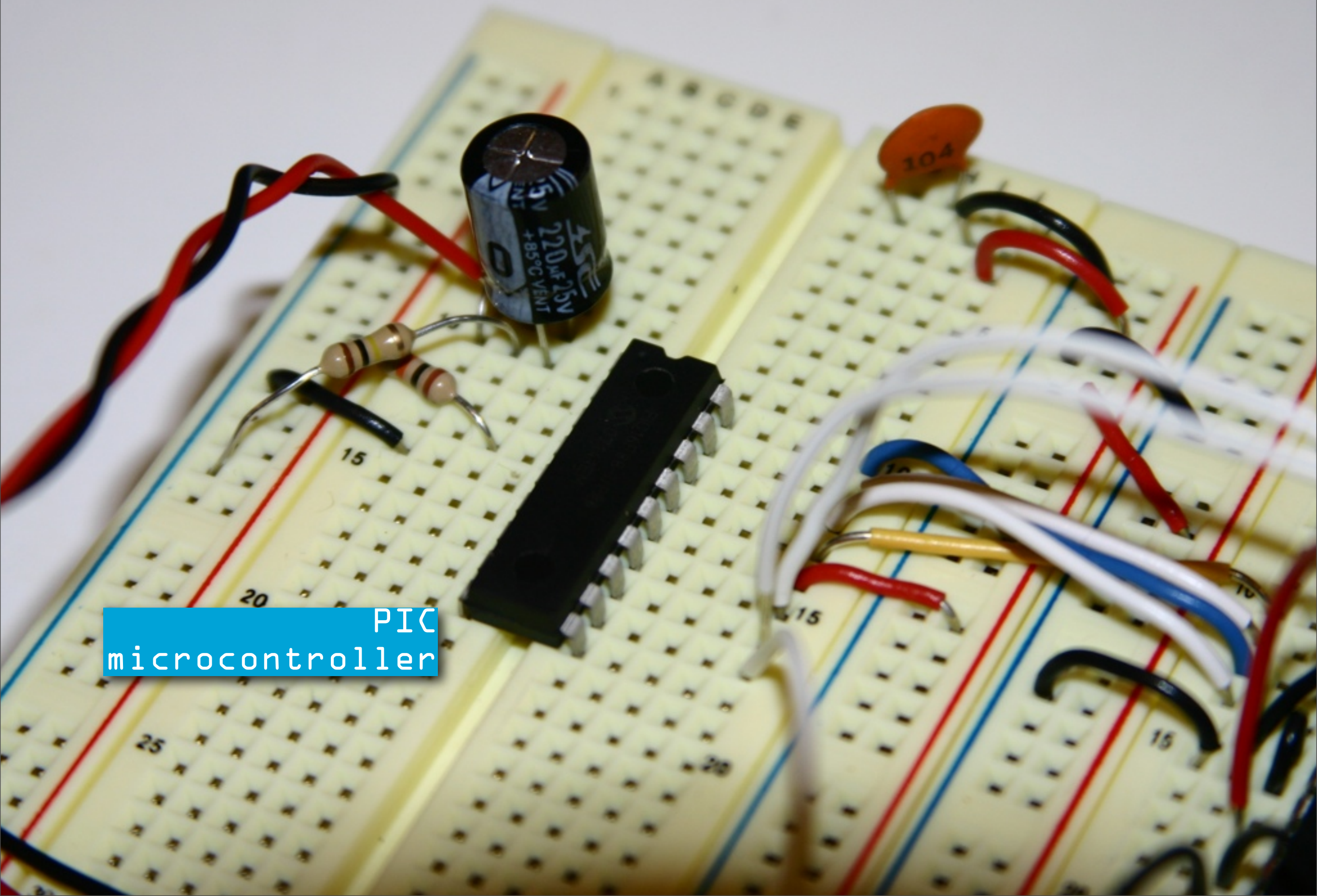
PIC
microcontroller

ISD5116 audio chip

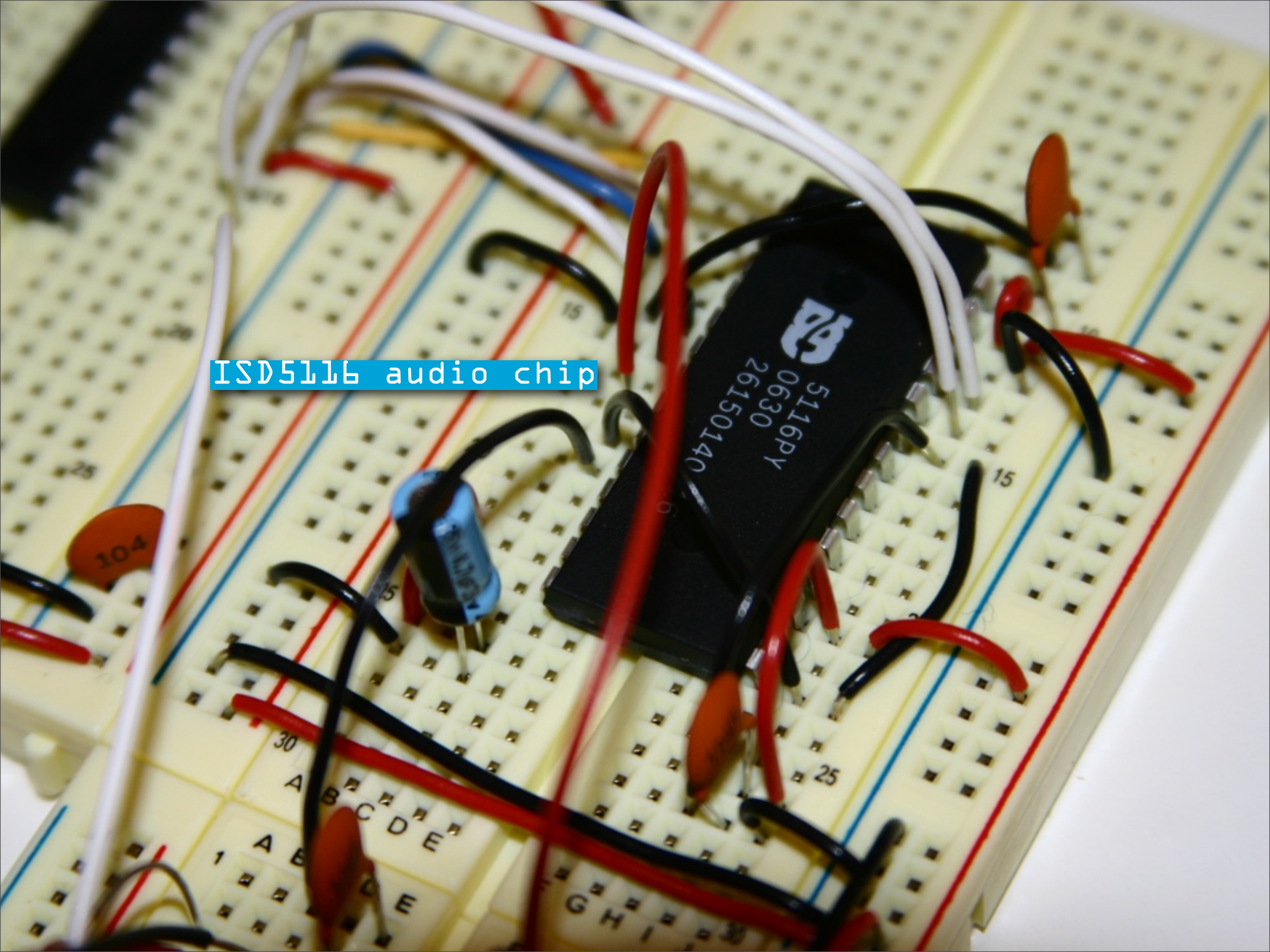
External
Microphone



PIC
microcontroller



ISD5116 audio chip



Software - Processing

Hardware - ISD5116

Hardware - iPod hack



Less complex - Less portable

Complex - Portable

More complex More
portable

The third prototype iteration is an hacked iPod controlled through the dock connector by an external PIC microcontroller.



+



evaluation

Due to time constrain just the results of the first prototype stage are available.

Although the recording quality is not excellent and the form factor of the device is cumbersome, the basic rule system worked very well, recording just the sound events that matched the rule set by the user.

conclusion

In order to transform this project into a working tool ready to be distributed to the public, many efforts must be put in shrinking the device to make it wearable, so that the user perceives what he is carrying around not as something detached and cumbersome but as something intimate and easy to wear.



The rule system has to be refined so that many different audio parameters can control the recording process, not just the amplitude but also the frequencies, in order to get a wider variety spectrum in the final output.

Finally a system to access, manage and arrange the audio fragments is desirable, so that the user can create new audio experiences from the samples captured from its life.

The sonic snapshots can be valuable also for other people as creative assets. Musicians and audio producers are always hungry of interesting sounds and the output of the soundFishing interface can be shared with them.

Thank you!

(let's check if we have caught something)