

# Wind

## *environmentally responsive sound sculpture*

Damian Stewart, 2008-2011

*video camera, loudspeakers, digital processing system*

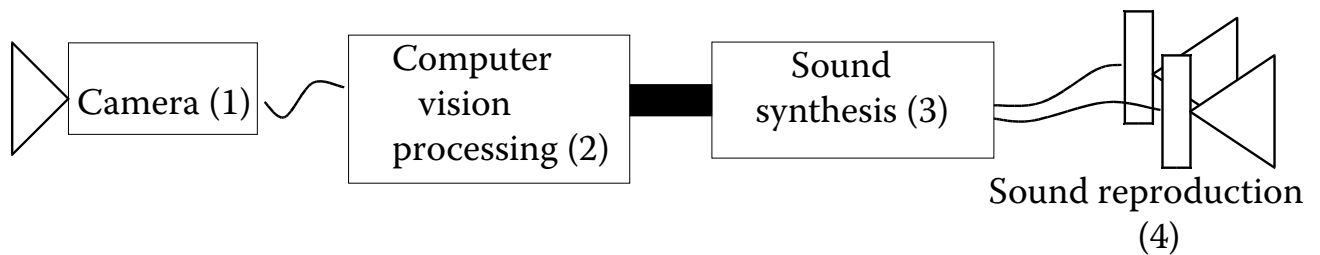
**Wind** is an environmentally responsive sound sculpture that creates sound fields in response to the action of the wind in the viewer's visual environment. Each presentation of **Wind** takes the form of a temporary intervention, constructed around a site-specific visual environment of objects that are moving in the wind, such as a tree or a field of tall grass. A video camera records images of this visual environment. The images are directed through a digital processing system that extracts fields of motion and mathematically transforms these into fields of sound. The fields of sound are in turn reproduced through loudspeakers placed within the original environment.

Heard and seen together, the sound fields and visual environment form a tight cybernetic feedback loop. The sound fields guide and enhance the viewer's visual experience, focusing their visual attention toward particular kinds of visual motion. This strengthened visual experience guides and enhances the viewer's sonic experience, focusing their sonic attention toward particular kinds of sonic motion. This feedback loop creates a strong interconnection between the visual and the sonic within the mind of the viewer, leading to momentary states of complete attention to the different senses, and an overall heightened awareness of the beauty that is present.

## Technical Details

*Wind* consists of 4 components:

- (1) Camera
- (2) Computer vision processing
- (3) Sound synthesis
- (4) Sound reproduction (loudspeakers)



The input from the camera (1) feeds into the computer vision processing system (2), which finds motion and converts it into a format useful for sound synthesis (3). In the existing prototype, the camera (1) is an external digital video camera that sends data to a laptop computer running software which handles (2) and (3). Sound signals produced from (3) are amplified and dispersed using loudspeakers (4).

These components are all housed in a portable enclosure and powered by a 12V rechargeable battery, allowing for exhibition in practically any environment or location.