

# the Gustbowl

[www.studiolab.nl/masBoys](http://www.studiolab.nl/masBoys)

## Prototype testing



# the maMasboys

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### *prototype testing*

In the final stages of the design project the concept of the Gustbowl was tested with two pairs of users, both mothers and sons. This gave us the opportunity to construct a prototype of the concept. Although the concept sounded very promising on paper, an actual working model could have significantly other results in usage.

Therefore, two types of prototype tests were set up: one very simple (quick and dirty) one, with only a simple mobile phone hidden in a bowl top simulate the incoming of a gust, and another with two table-sized enclosures (cupboards) including a monitor and moving bowl to simulate the entire scope of the concept.

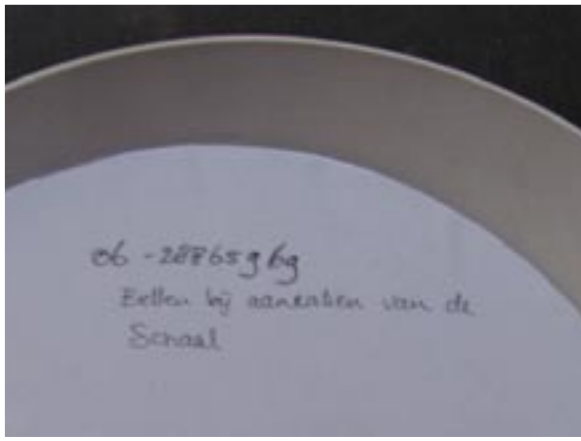
*low-tech prototype testing*



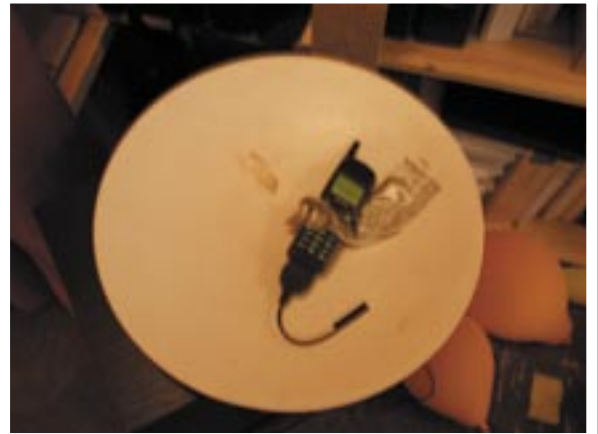
## *Research Strategy*

For one week a low-tech prototype was placed in a “living with” situation. These prototypes consisted of a bowl with a cell phone inside and an envelope with a collection of pictures. Any time the participants came home, or felt like it, they would simulate throwing something into the Gustbowl by calling the phone inside the other prototype. When the prototype in their home started ringing the participant could take a picture from the envelope and place them in the bowl.

These pictures were simulations of the pictures that would be sent by the Gustbowl(s). The participants were allowed to select what was on them without telling each other. This way every new picture taken from the envelope was a surprise. A mother and son were asked to use the prototype for one week.



*when touching the bowl call 06.....*



## *Conclusions*

1. In one-week time there were 5 occasions of a successful transfer of presence-awareness: three times caused by the mother and 2 occasions created by the son.
2. One transfer of presence-awareness led to a phone call. Apparently the awareness evokes more communication.
3. The mother said to be pleasantly surprised by the awareness of her son's presence.
4. A bonding effect was noticed: after finishing the test-period with an interview of both mother and son, the mother was quite reluctant to return the prototype.



*high-tech prototype testing* 2

## *Research strategy*

For one week a Hi-tech Model was placed in a “living with” situation. Two Gustbowls were connected through the Internet. One situated at the house of a mother and one at the house of a son. The display of a computer was used, to simulate the appearance of the picture in the Gustbowl. This computer was mounted in a table-sized enclosure. Next to the computer (and consequently a monitor) a bowl, with pressure sensitive sensors was placed on top of the table-sized enclosure. This Bowl was able to wobble, set in motion through a small electromotor.

The respondents were asked to use the prototype for one week, with no specific task or assignments given to them.

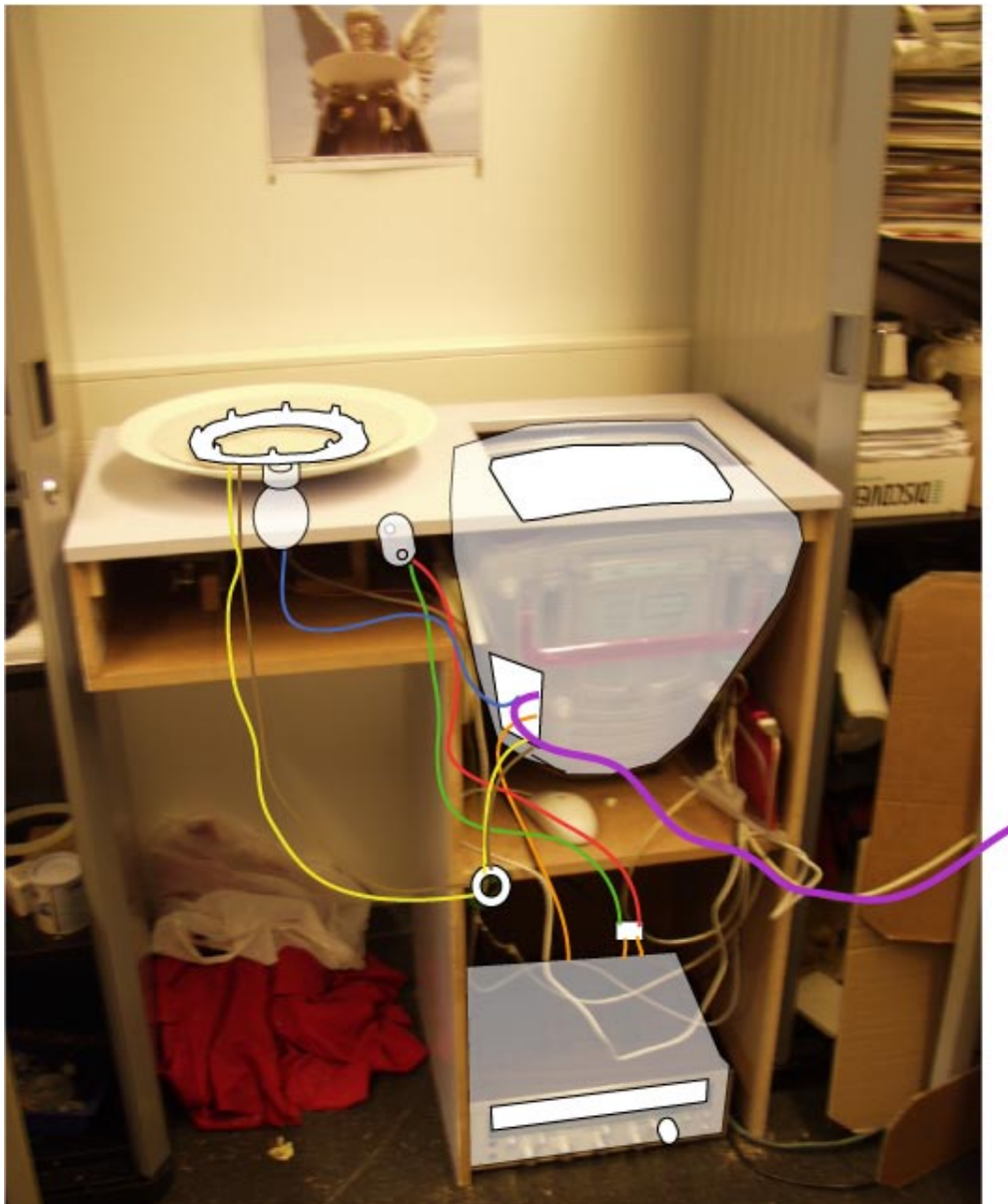
Number of respondents: 2 (a mother and her son), using the prototype for one week.





## *Construction of the High Tech prototype*

In two table-sized enclosures the bowls were connected to a motor, a camera and a simple sensor (mouse-click), all controlled by a computer connected to the Internet. The display of the computer was used to show the pictures made on the other prototype. The audio output of the computer was converted to a direct-current signal, which made the electromotor spin and the bowl wobble. The images were not projected in the same bowl and the sensor and motor were not able to transfer the intensity of the motion. Still, the prototype was able to create a Gust of Presence with motion and pictures that could be used by two people over a distance.

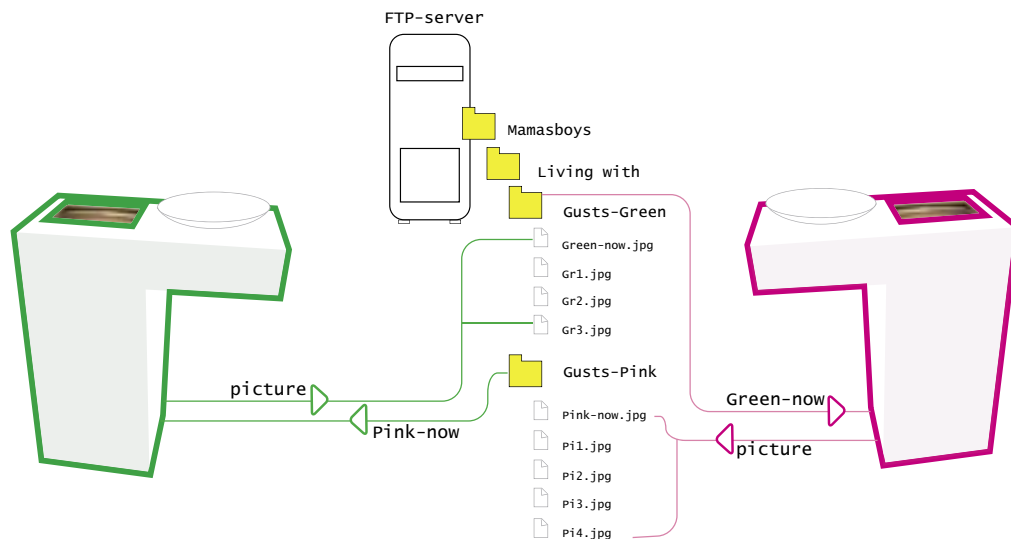


## Information flow through FTP

The information between the two table-sized enclosures consist of the pictures taken through the web cam, from the inside of the bowl. This information is sent through the Internet to a FTP server. When a picture is made in the green table-sized enclosure, data is sent to the FTP server, consisting of two images: Green-Now.jpg and GrX.jpg. X stands for an increasing number, and Green-Now is refreshed every time a picture is sent to the FTP server. The pink table-sized enclosure checks the FTP server every 5 seconds to see whether a new GrX.jpg has been saved. If this is the case, the Green-Now.jpg will be transferred to the pink table-sized enclosure, and displayed there on the monitor. This process of data transferal works in two directions.

The transfer of the Green-Now.jpg to the pink table-sized enclosure has the following result:

- The Gustbowl will be set in motion through a sound sample attached to the Green-Now.jpg (this audio sample triggers an electro motor attached to bowl).
- An animation containing the Green-Now.jpg will be displayed on the monitor.

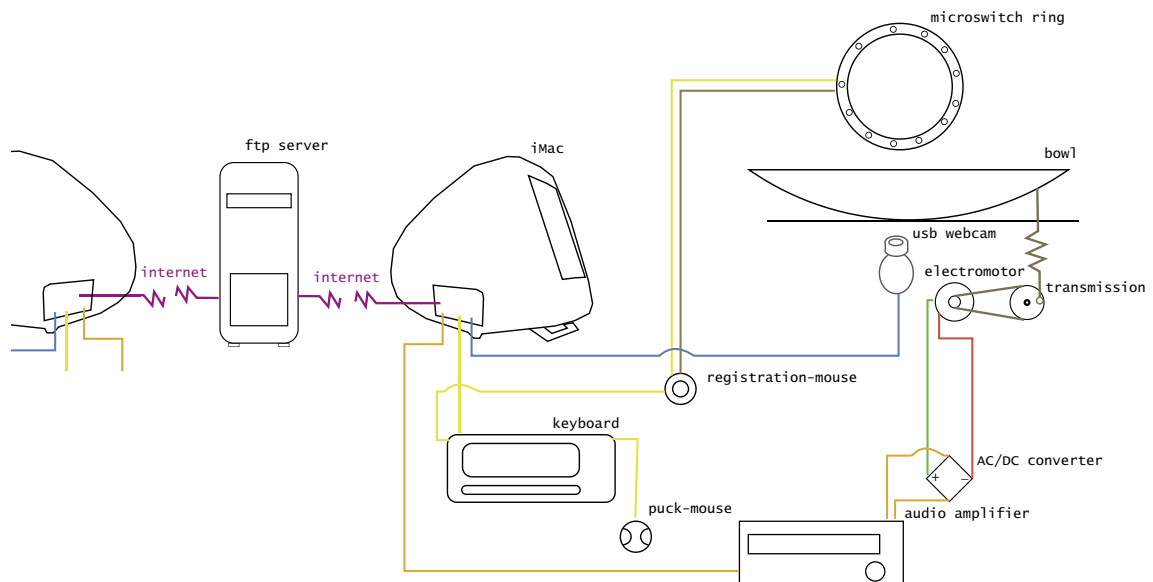


## *The Technical workings of the table sized enclosure*

The central part of the table-sized enclosure is an I-Mac computer. The program Macromedia Director will display an animation on this computer. Attached to the picture is an audio sample, triggering the electro motor to set the Gustbowl in motion.

A web cam, connected to the I-Mac as well, will be used to make the pictures. A ring with 8 micro-switches, placed inside of the bowl, will be used to activate the entire mechanism, reacting on weight being dropped in the bowl.

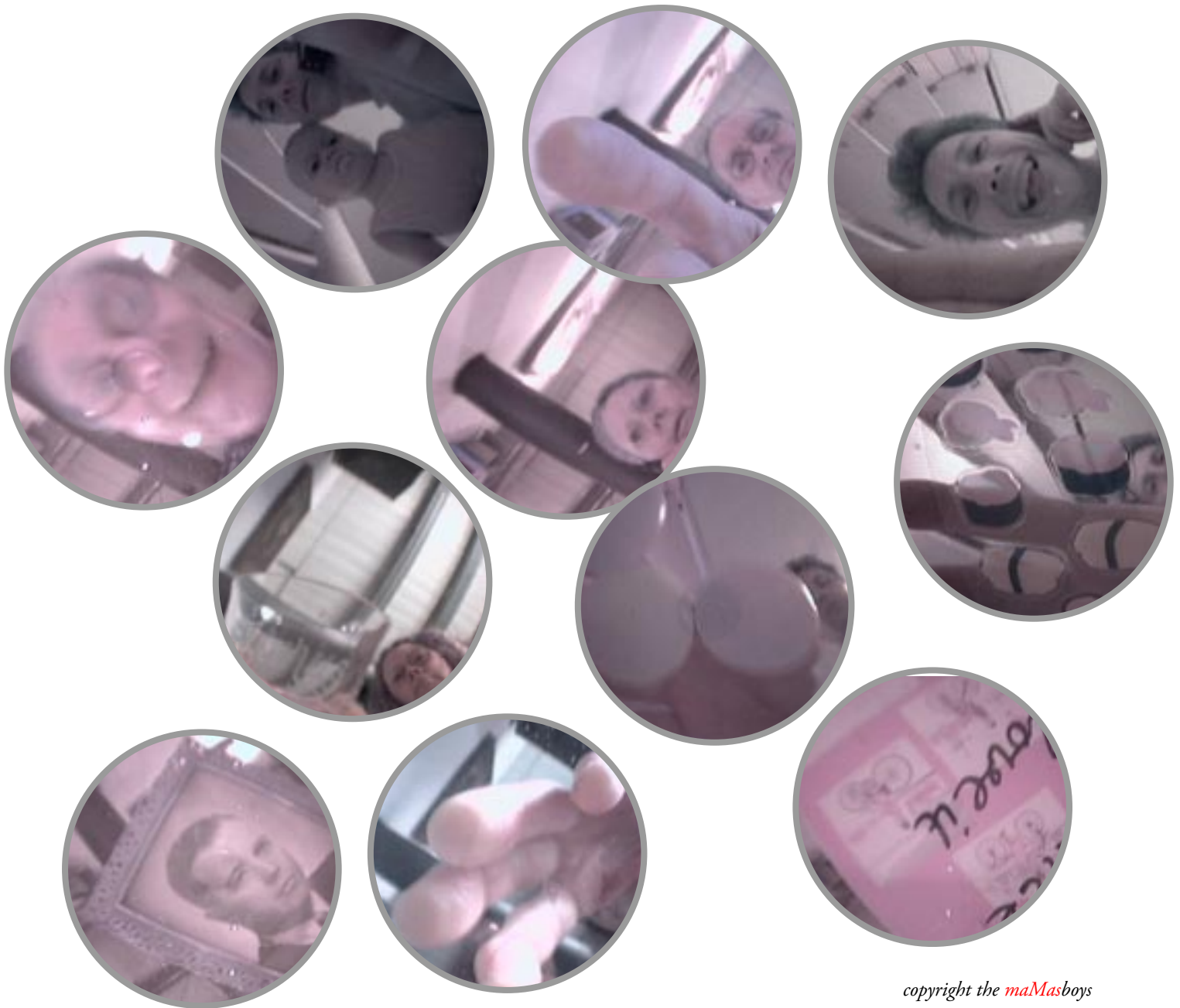
When a picture, the Green-Now.jpg, is transferred from the FTP server to the pink table-sized enclosure, a audio sample of 1 Kilohertz (sinus) will be sent along. This audio-sample will be amplified by a simple audio amplifier, connected to the I-Mac's audio output mini-jack. The amplifier will trigger the electro motor through a AC/DC converter, and the electro motor will set the bowl in motion. The electro motor is connected to the bowl with a small spring, turning the rotation into a translation.



## *Alterations during testing*

During the testing some minor problems occurred which led to the alterations of the test situation. Because of the disappointing computational power of the iMac's used in the cupboards, the animation, which with the picture should have appeared, has been removed. The picture was displayed immediately, instead of with the same movement as the wobbling of the bowl.

After a couple days the time for the remaining of the picture on the display was extended to a time period of 30 hours. This was decided because of the situation with the test subjects. It turned out that in the first days the mother wasn't home very much and missed all the gusts sent to her.



## *Conclusions*

1. Not knowing whether your own pictures that are sent to the other are seen is not perceived as negative. Both son and mother started to bombard each other with pictures, and even found it rather nice that they didn't get feedback whether the picture was seen or not.
2. Both mother and son said to have experienced strong emotional responses on receiving gusts, which is the pictures and movement of the Bowl.
3. Not able to see your own picture was a miss. The Mother had no idea what the scope and detail (resolution) of the lens and camera-sensor was, so she couldn't determine what was recorded.
4. Half an hour for the picture to remain on the display has been too short, as what is explained in 'alterations to the testing'.
5. Mother and son displayed a behavior of collecting items to place on the bowl during the day at work or at some social event. These items were put in the bowl at homecoming.
6. Some nice sound effects were missed. Especially the mother said she missed the wobbling one time, while sitting in front of it.
7. The mother used the Gustbowl very consciously and deliberates. She took old items from her son's youth and showed them to him.