INTER-FACES

DELAPIERRE JEROME

COMP 498 REALTIME COMPUTATIONAL VIDEO - FINAL PROJECT

An interactive installation based on the social dialogue and the identity transformation with responding video interfaces.

A platform by which body language is used to expresses emotion and changes our perception of virtual social relationships.

What is the project asking or exploring?

With the development of intuitive interfaces, artists, designers and programmers will explore more multi-sensory and innovative forms of interaction for users/participants.

Web cam communication for example has the potential to allow users to share time as a foundation for alternative modes of communication and exchange.

My project will involve the enhancement of social dialogue based on facial expressions with responding video interfaces.
This medium creates an element of interactivity in the approach towards communicative structures between people. I have chosen the face as the most viable and expressive part of the 'emotional' body.
My project involves investigating through experiment -the possibility to share emotional exchange within digital space and mediums without body presence. This is proposed by constructing a platform by which body language is used to expresses emotion and change our perception of virtual social relationships.

For this project, I create a responding video installation based on the face detection with a video camera input.
I use a face detection patch which work on the eye detection as two blacks shapes with a certain distance. This eye capture allows me to have most precise, fluid and close face detection even if the video camera sees only the eyes. This specific module has been developed in C++ language by the Free frame Company. Basically, this modules give me the face position x and y on the screen and also the scale of the face. These values allow me to play with the participant face and superpose another face which follows its movement in real time. I use the height and the width values to modify the opacity between the two layers, the video source and the recording video mixed together. I multiply the scale values to adjust the distance between the spectator and the screen to play with a proximity interaction, like a proximity sensor. At the maximum distance, the participant sees the video capture without modification, exactly like a real mirror. If the participant moves closer, a face appears on his face and follows its movement. If he moves really close, he just sees the other face. So, the brightness balance between the two layers depends of the face scale captured in real time.
The technical interest is to use the video capture to substitute an element of reality, in this case the face, and use the video camera as a proximity sensor.

Milestones / Timetable

October	Research – Concept writing
November	Technical research, patch editing, scenario design
November 29	Prototype presentation (faculty)
December	Patch editing, material research, build installation.
December 14	Final project presentation

Deliverable

December 14	Project Presentation

Resources needed

1 computer - 1 video camera
1 semi-transparent screen

References

-Yan duyvendak – **"***Œil pour œil***"** *(http://www.duyvendak.com/article39.html)*

6 minutes de zapping à travers l'actualité télévisuelle du mois de septembre 2002, 6 minutes de têtes de la télévision projetées à même la tête de Yan Duyvendak, et ce n'est plus big brother qui nous regarde, mais nous sommes big brother regardant, et nous voyons, les yeux dans les yeux, l'ennemi que nous sommes à nous-mêmes.

-Danas Karwas – **"***Media Mirror***"** *( )*

Media Mirror is an interactive installation commissioned by the Felissimo Design House, located on 10 W 56th St at 5th Ave in New York City. The goal of the installation is to promote and announce Felissimo's upcoming initiative to the public. The two part installation consists of an interactive digital shadow which lives in the storefront window and a smart spotlight that follows pedestrians around on the sidewalk.
In the storefront window pedestrians can see a projected digital shadow of their body. If the pedestrian waves, the shadow will wave, if the pedestrian jumps, the shadow will jump. Composed as a silhouette from the most recent headline news images the digital shadow truly embodies live information directly relating to the location, shape, and movement of person. On the sidewalk the spotlight encloses a ring around the pedestrian which will follow their every move making the unsuspecting passerby completely aware of their physical space pulling them into the store. The installation is controlled by custom designed computer vision software.

- FaceResearch *http://www.faceresearch.org/*
FaceResearch.org allows you to participate in short online psychology experiments looking at the traits people find attractive in faces and voices.