

# A Gesture-based Hyperrealistic News Space

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## ABSTRACT

In this paper, we describe an interactive installation that allows participants to use gesture-based movement to manipulate a recombinant information space consisting of news media. By recombinant information space, we mean a composition of media elements (text and image) from various sources with a navigable, visual representation. The participant experiences a hyperrealistic representation of current events. By a hyperrealistic space, we mean an experiential space in which digital representations take on significance which immerses the participant in a mediated reality. We employ the *combinFormation* project to retrieve and present semantically significant media elements. The participant interacts with the system by walking in a physical space that is mapped to the information space and gesturing with colored paddles. The system employs Max/MSP, Jitter, and a custom Max/Java patch to process video input, recognize gestures, and relay messages to the *combinFormation* system. By permitting participants to interact with visual compositions in a kinesthetic manner, the installation physicalizes and socializes the experience of authoring visual compositions with *combinFormation*. The installation draws audiences through the inherently social aspects of gesture and image. Participants can take turns manipulating the information space, allowing for collective authoring. The goal of our project is to encourage many participants to join together in a social setting to create collective meaning through visual composition.

## Categories and Subject Descriptors

J.4 [Arts and Humanities]: Interactive Art

## General Terms

Interactive Media, Semiotics, Interactive Art

## Keywords

Recombinant Media, Information Spaces, Max/MSP, Jitter

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## 1. MOTIVATION

Our goal is to make visual composition a more engaging and intuitive experience by eliminating the need for traditional desktop interaction devices in the composition process. Additionally, we want the compositions to serve a social function by allowing an audience to observe the composition, encouraging participation. Furthermore, participants could be permitted to take turns modifying the composition.

To this end, we have developed an installation that utilizes color tracking to receive input in the form of gesture-based motion, and uses this movement to control a *combinFormation* recombinant information space of news media.

We project the information space onto a surface for public viewing. The participant may experience temporary immersion in the information space as she *walks within it*. The visual surrogates serve as simulacra [1] for events and news. The end result is a visual composition, a simulacrum of the author's intended meaning. We observe layers of semiotic structures in our visual compositions within the *combinFormation* space. In this way human motion and public display can make the *combinFormation* experience more hyperrealistic [1]. News itself can be seen as a hyperrealism that distorts or embellishes actual events. Our installation provides a further hyperrealistic view into this hyperreality. Through this nested hyperrealism participants can experience multiple levels of immersion.

We intend our art to permit participants to express whatever viewpoint they desire on news topics. The installation is designed to provoke collective thought on the subject matter of compositions and to encourage people to vocalize and express their viewpoints in a public forum.

## 2. INSTALLATION FUNCTION

We use Cycling 74's Max/MSP [4], which provides the signal processing facility for gesture-based interactions. The Jitter [3] plug-in provides visual processing of participant movement by means of color tracking. Additionally, a Max patch written in Java enables the video input, as received by Max/Jitter, to be decoded and translated into gesture-based messages. These messages are then communicated to the *combinFormation* system. Max/Jitter captures movement with a ceiling-mounted camera that monitors a bright color on top of the participant's head. A delineated rectangle on the floor gives the participant orientation and allows them to understand the camera/information space boundaries (see fig. 1). There is a direct mapping between the rectangle on the floor and the visual composition projected in front of the

The diagram illustrates the system architecture and data flow. At the top, an **Overhead Camera** captures **Firewire Video** and sends **Visible Light to camera**. A **User** interacts with the system, receiving **Visible Light to user** and sending **Visible Light to projection screen** to a **Projector**. The **Projector** projects onto a **Floor Grid**. The **Overhead Camera** also projects onto the **Floor Grid**. The **Floor Grid** is labeled **combinFormation**. The data flow involves **Max Signals** and **TCP/IP Socket** communication between the **Max Color Tracking Patch** and the **Max Message Construction Patch - written in Java**, which then feeds into the **combinFormation** block. The **VGA Signal** is sent from the **combinFormation** block to the **Projector**.

## Max/MSP/Jitter and Java

## combinFormation

combinFormation uses an agent that learns the participant's interests in information elements through expressions of

We utilize two tools from *combinForm*’s toolset: *grab* and *cut*. The *grab* tool, as the name implies, allows the participant to move media elements within the information space. Media elements can be arranged and stacked in any way with the *grab* tool. The *cut* tool provides the means for eliminating unwanted elements. Both the *cut* and the *grab* operations express interest in their target media elements based on the current level of interest.

Participants were able to personalize the meanings they expressed, while preserving previous themes if desired. The compositions emotionally influenced the audience members, who in turn communicated their own interests in particular media elements.

[illegible]

## REFERENCES

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- [3] Jitter. <http://www.cycling74.com/products/jitter.html>.
- [4] Max/MSP.  
<http://www.cycling74.com/products/maxmsp.html>.