Constructed Narratives: Using Play to Breakdown Social Barriers

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Abstract: Constructed Narratives is both a human computer interaction research project and interactive art exploration that demonstrates methods by which rigorous research and aesthetic and critical theories are combined to develop novel, innovative interfaces that promote constructive discourse between people. Constructed Narratives project is a component of the Interlinks research initiative which is exploring methods to design networked context aware interfaces to augment public spaces (e.g. hands-on museums, entertainment arenas, and locations for public transportation.) The primary goal for this network of context aware components is to facilitate discourse, enhance understanding and contextualization of information and shared awareness among its users. Thus providing a catalyst for encouraging communication and exchange of knowledge between individuals.

Keywords: Social Navigation, Social Interfaces, Tangible User Interfaces. Computer Supported Collaborative Play (CSCP), Software Agents, Embedded Technologies, Design Thinking

1 Project Description

The *Constructed Narratives* project provides a platform for developing an application for physical social interfaces, which connect to a dynamically populated database of information about the placement of the physical objects by the users and the user's unique profile. As the users manipulate the physical objects they will receive rich video and audio feedback, which add a layer of clarification and illustration reflecting their manipulation of the objects in the context of collaboration with other users and their unique personal profiles.

Constructed Narratives is a game. The system framework for this project could be transformed into applications and tools for collaborative design and project based learning technologies.

2 Research Goals

Create interactive context aware applications that integrate advanced information technologies into public spaces to augment and enhance informal learning, arts and entertainment opportunities.
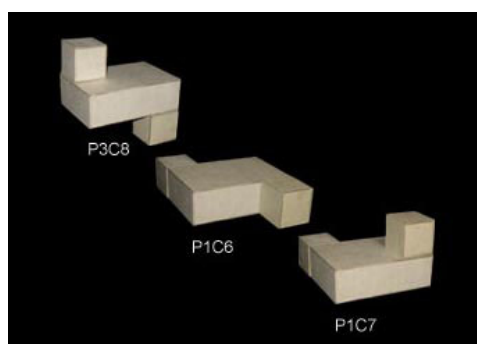
Figure 1: The initial three block shapes for the Constructed Narratives project.

3 Scenario of Use

3.1 Airport Waiting Lounge

Placed on top of a wooden table inside the frequent flyers lounge in the Auckland International Airport is a set of geometrically shaped building blocks. They resemble old-fashioned wood blocks with attachments that enable them to be connected. They are light enough to be easily held in one hand.

A grandmother and her grandchild are playing with the blocks on the table. Both the grandmother and grandchild are wearing a special identification bracelet with an embedded RFID tag. This enables the underlying computer system to uniquely identify them as they attach or touch blocks in their networked construction. As each block is connected to the emerging construction a digital representation of the ensemble of blocks is projected on a screen next to the table.

Waiting travelers are watching the building activity, as it unfolds in the physical and virtual realm.

Next to the table is a computer kiosk and stool. A traveler dressed in business attire is sitting and answering the builder's profile questionnaire so that he too can feed his curiosity and join in the fun. He tried to play with the blocks without the identification bracelet but realized that the system was not responding to his construction activities the same way that it was with the grandmother and child. Upon completing the questionnaire he is given a bracelet that will enable the system to recognize him. Now he is a fully active member of this ad hoc social network - a group of people who are co-building a structure that they can see immediate personalized feedback based on their choices in design and how their personalized profiles interact with each other. Profile interactions are brokered though an intelligent software agent system.

4 Project Development

The *Constructed Narratives* project focuses on the integration of advance computational methodologies, embedded computing, and practices in the Interactive Arts and Design. It is the synergies that can exist between these disciplines that give the *Constructed Narratives* project a unique perspective and advantage in the design of applications for collaborative problem solving and making tangible the knowledge-networks that exist in shared public spaces through play.

5 Acknowledgements
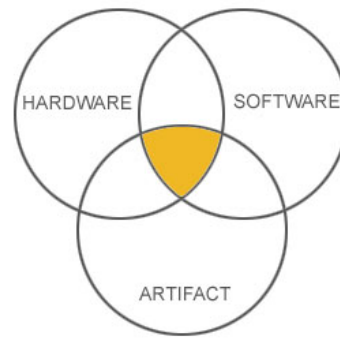
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Figure 2: Intersection of the project's three design areas

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