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Rafigh: An Edible Living Media Installation

Foad Hamidi

Lassonde School of Engineering,
Department of Computer Science
and Engineering,
York University
Toronto, ON M3J-1P3 Canada
fhamidi@cse.yorku.ca

Melanie Baljko

Lassonde School of Engineering,
Department of Computer Science
and Engineering,
York University
Toronto, ON M3J-1P3 Canada
mb@cse.yorku.ca

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Abstract

In the face of increasing urbanization and lack of contact with nature, it is important to design systems that facilitate a re-connection or at least dialogue around our interaction with living beings. *Rafigh*, an empathetic living media interface, is designed to motivate children and adults to care for a living mushroom colony by engaging in collaborative and learning activities.

Author Keywords

Living Media Interfaces; Embedded Computing

ACM Classification Keywords

H.5.2. User Interfaces

Rafigh: A Living Media Installation

Empathy and caring are mechanisms that can be woven into interaction with digital and living media. In recent years, new tangible and embedded designs have explored our relationship with nature [2] and the potential of living media as data displays [1]. *Rafigh* (which translates to “companion” in Farsi) is an embedded tangible interface that uses a living mushroom colony as part of its display, where its growth rate corresponds with the amount of interaction, in turn reflecting attention, the interface receives.

Figure 1 shows *Rafigh*. The interface consists of a box designed to house a mushroom colony (with its growing side exposed), an irrigation system controlled by a wireless microcontroller and housing for an iPad. Each audience member can complete a set of tasks on the iPad, the completion of which contributes to an index that reflects the amount of interaction and affects the volume of water administered to the mushrooms. The volume of the water administered to the mushroom depends directly on how many people complete the activities. The mushroom will grow during the course of the installation and visitors can check back to see how much the mushrooms have grown and can, at the end of the conference, taste the fully-grown mushrooms, if so desired. Through this mechanism, members of the audience collaborate with each other and contribute to the growth and well being of the mushrooms.

During interaction the iPad can be removed from the interface or can stay mounted depending on the user's choice. The irrigation mechanism consists of a wireless Arduino microcontroller that activates a small water pump that irrigates the mushroom colony for durations calculated based on the value of the index. We have chosen to use mushrooms as the living interface because of their relatively rapid growth rate that is suitable for engaging audience in an installation setup for short periods of time (i.e., from 2 to 10 days).

Rafigh is originally designed as a motivating interface for primary school-aged children with speech disorders to encourage increased use of speech. As an installation for an adult (and children) audience *Rafigh* is presented as a living media interactive sculpture that the audience helps grow over the course of the installation.



Figure 1. *Rafigh* interface: the iPad is mounted on the left and the mushroom colony peers out of an opening on the right.

References

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