

WiP Abstract: Interactive Objects for Relieving Stress in Daily Environments

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I. INTRODUCTION

According to the 2014 Organization for Economic Co-operation and Development statistics, Korea is ranked 3rd on average annual hours worked per worker [1]. With this in mind, a study shows that work is one of the leading causes of stress [2]. Unfortunately, work-related stress does not just disappear when working hours are over. It persists even at home and can take a toll on health and well-being.

With an increased awareness of living a health-conscious lifestyle, many efforts are made to reduce stress levels. However, activities such as exercising require an action to go to a certain location and effort to set aside an allocated time. To effectively contribute towards lowering stress levels, we propose convenient, entertaining, and time-effective ways of relieving stress with objects that are used and seen inside home and workplaces. Relieving stress within daily routines can greatly contribute towards making home and workplace more enjoyable, saving time, and improving physical, emotional and psychological health. Specifically, we present: (1) a magic mirror, (2) an interactive media wall, (3) an interactive plant, and (4) an interactive living room wall. We deploy these in real-world environments to demonstrate how interactive objects can play a important role in home and workplaces.

II. SCENARIO & CONCLUSION

As shown in Figure 1, we divide our scenario into three different parts: morning at home, afternoon at work, and evening back at home. Consider the following scenario.

Scenario 1: In the morning at home, Alice, a DGIST employee, interacts with the magic mirror while getting ready for work. While using the mirror, the mirror provides the time, date, and weather information. With these information, Alice makes sure she is not late for work, be reminded of her schedule for the day, and match her clothing accordingly to the weather. All these information are conveniently shown to Alice while she utilizes the mirror and without the need for her to search for the information on a separate device.

Scenario 2a: In the afternoon at work, Alice passes by a large information panel called the media wall. The media wall provides useful information regarding her department, however, overtime, it got repetitive to Alice. With a push of a button, Alice interacts with the media wall by seeing herself in a background of a peaceful destination. This allowed Alice to relive stress, although it was just for a moment while working.

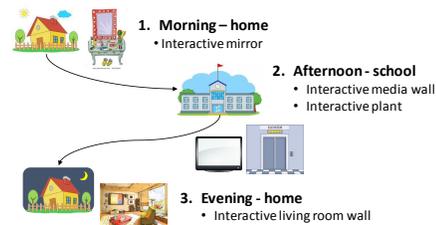


Fig. 1. Scenario outline.

Scenario 2b: Later in the afternoon, Alice went to use an elevator to go to different floor. She presses the button for the elevator to arrive. While waiting, she interacts with an interactive plant by the elevator. She blows on the artificial plant and the plant moves side-to-side. When the elevator door opens, the pinwheel stops working. Compared to how she usually tediously waited for the elevator, the plant entertained and brightened her mood.

Scenario 3: In the evening back at home, Alice wants to change the pictures on her living room wall. The wall is setup with multiple tablets that act as small picture frames. With a touch of a screen, the images from all the tablets changes with a concurrent theme of her preference. The interactive living room wall allowed her to de-stress in a more comfortable environment while resting at home.

In this paper, we provide a scenario that can help visualize how a person can interact with objects in his or her regular routine. Note that there are existing works that relate to each of these interactive objects. Our contribution is using and deploying these objects in real-world settings, and the developing a realistic application scenario that supports stress relief in daily environments. With state-of-the-art algorithms applied into these interfaces, we envision that these objects can be the basis of designing an advance CPS environment.

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