Undergraduate Research Symposium May 18, 2018 Mary Gates Hall

Online Proceedings

POSTER SESSION 2

Commons East, Easel 57

1:00 PM to 2:30 PM

The Effects of Vicarious and Personal Nostalgia Marketing on Consumers through "Stranger Things"

Natalie Beth Newvillamor Garces, Senior, Business Administration (Marketing), UW Tacoma
Genevieve Summers, Senior, Business Administration, UW Tacoma
Mentor: Altaf Merchant, Business, UW Tacoma
Mentor: Gregory Rose, Millard School

Consumers are drawn to things with nostalgic elements, like old cars and childhood toys, which unconsciously have an effect on consumption patterns. Our current research is focused on nostalgia, both personal and vicarious, evoked by the television series "Stranger Things". We are using this specific show because of its success in utilizing nostalgia as a powerful marketing tool. We will be conducting an in-depth content analysis on the show for (1) unpaid product placements, (2) nostalgic elements, and (3) the effect it has on consumers and companies. To give some background: Personal nostalgia is a complex feeling produced by a reflection on things (ideas, people, and objects) associated with one's past, and vicarious, or historic, nostalgia is a romanticized longing for a time before one was born. Stranger Things, a Netflix original, is an intersection between a-coming-of-age story, a paranormal horror, and a nostalgic love letter to 1980s cinema. Stranger Things uses products in the show to accurately portray the 1980s small town culture, including Eggo waffles, Dungeons and Dragons, and Chevrolet. Companies such as Eggo have capitalized on the unpaid and unintentional product placement that the retro series features by creating advertisements directly targeting Stranger Things fans. Some of the nostalgic elements in Stranger Things are childhood innocence, eerie supernatural mystery solving, the pre-digital era, and young love. Stranger Things has a positive effect on consumers because so many people can relate to the 1980's, namely Generation X and Millennials, making the show one of Netflix's top earners, demonstrating that nostalgia marketing is an effective technique. Through this content analysis, we aim to advance the knowledge of the powerful impact that nostalgia marketing can have through the popular show Stranger Things.

POSTER SESSION 2

Balcony, Easel 123

1:00 PM to 2:30 PM

Noise Impeaded Communication Echo

Maxx Naoyuki (Maxx) Yamasaki, Junior, Extended Pre-Major
Mentor: Santosh Devasia, Mechanical Engineering
Mentor: Rose Hendrix

This work seeks to address some problems faced by deaf and hard of hearing persons who work in confined or hazardous spaces. The issue they face that I am focusing on is the timely access of alerts and alarm, which are commonly provided solely through sound. Many approaches used in more general work conditions, such as flashing wall lights or another person notifying them, are heavily impeded by a confined work area. Additionally, a hazardous environment requires strict safety features regarding electronics. Any tool used must not have exposed electrical connections that could cause a spark or that it could break in such a way that could provide a source of ignition to flammable gases. Currently available bluetooth headsets and pagers do not meet these safety specifications and would be an additional piece of equipment for workers to carry. We have worked to develop a device that can clip onto existing safety equipment, conform to hazardous environment safety standards, and pair with the user's current cell phone and radio to notify them through vibration and light patterns. We are working with people who would benefit from the device as the design improves to its signals are clear in an industrial environment and that it suits their need. Future developments include allowing the device to relay more complex messages from multiple sources.

SESSION 2S

HOT TOPICS: ROBOTS, AR, CV, AI

Session Moderator: Kurtis Heimerl, Computer Science and Engineering

JHN 175

3:30 PM to 5:15 PM

* Note: Titles in order of presentation.

Principles for Applying Augmented Reality to Manufacturing

Lexi Leo Rohrer, Freshman, Pre Engineering
Mentor: Rose Hendrix
Mentor: Santosh Devasia, Mechanical Engineering

Augmented Reality, the superimposition of digital features into the real world environment, has already made great strides in fields such as entertainment and advertising. However, the use of compound technology that bridges reality and the digital world has yet to be implemented cogently and thoroughly into the manufacturing field. This first part of this research paper explores the range of augmented reality hardware and software interfaces in fields such as medicine, academics, entertainment and advertising through a review of other scientific studies on augmented reality. Next, this research applies these observations to the current preliminary augmented reality trends specifically in the manufacturing field. Taking into account the positive and negative cognitive effects of augmented reality systems on attention, motivation, and ease of use, this paper then further delves into the potential uses of augmented reality in manufacturing. In the next section, this paper uses its examination of augmented reality's ability to cater the manufacturing community's needs to evaluate the advantages of implementing augmented reality technology in conjunction with human ability to improve the manufacturing process. Finally, the last section of this paper synthesizes the ideas presented into a set of principles for augmented reality use in manufacturing, and gives real-world examples of these principles' efficient applications.