

Abstract

Architecture has always been designed to accommodate different uses and changing lifestyles in accordance to an ever-changing context. In this day and age, advanced technology has become an important tool for creating new alternatives in the usage of spaces. By giving architecture the means to actively communicate and relay information to users. Architecture can interact, adapt and change its spaces to meet user's needs, both functionally and emotionally.

This thesis aims to categorize, define and set an initial design framework for interactive architecture through content analysis methodology. Using architectural and interaction theories the researcher analyzes cases of interactive architectures, the physical properties of their interactive systems and the effects their interaction have on spatial usage. Using results of the analysis the researcher was able to define interactive architecture as "a type of architecture that, as a part or a whole, has the abilities to actively communicate and respond to human stimuli through architectural elements using computers and other electronic devices to analyze inputs and generate outputs". Therefore, by analyzing methods and levels of interaction and the effects they have on corresponding spaces, interactive architecture can be categorized into three main groups which; interaction through aesthetic media; interaction through communication and interaction through adaptive dynamic enclosure. The research also suggests a guideline for selecting an appropriate form of interaction for different spaces, physical properties and human behaviors.

In conclusion, the design framework for interactive architecture proposed in this research can be used by architects and other interested parties as a guideline or tool to aid in the design of an interactive architecture to improve the functional and emotional spatial performance through the use of aesthetic interaction, communication and dynamic enclosure designs.