Exploring Design Theories for Affective Product and Interface Experiences in the Early Design Development Stage

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Need and Industrial Relevance

Research Thrust Area:

2 New Design Paradigms and Processes

- There is a need for Products that Respond to Target Audience Needs

- Improves User Satisfaction through Better Perceived Quality and Better Usability
Project Goals

- Develop Methodology to Identify and Measure User Perceptions of Products
  Create a design and testing method that can be used in early design development.

- Verify Effectiveness of New and Existing Products Through a Reliable Testing Method
  Create a method for evaluating the appropriateness of products for specific applications.
Objectives

- **Identify Unique Design Needs for Specific Target Audiences**
  Determine critical factors in the design and evaluation of a specific product that lead to greater user satisfaction and improved usability.

- **Create a System for Designing and Evaluating Products**
  Create a rubric of design specifications that can be used to reliably evaluate the perceived value and effectiveness of products and interfaces.
Approach and Methods

- The Connectivity Model as a Product Affect Design and Testing Framework
Connectivity Model is based on activity theory and Kansei Engineering techniques to measure user satisfaction
Approach and Methods

- **Mixed Methodology to Measure Emotional and Physiological Responses**
  Collects target audience data through interviews, observations, eye tracking and video data.
Outcome/Deliverables

- **A Unique Design and Evaluation Process Tailored to a Specific Product**
  Target Audience Assessment Sheets, Survey Tools and Observation Strategies will be developed.

- **A Testable Prototype**
  A prototype or series of prototypes ready for assessment will be developed.
Impact

- **Improved Target Audience Perceptions of Quality and Usability**
  By designing to the physical, social, behavioral and emotional needs of a specific

- **Target Audience** a product will have better usability and overall user satisfaction.
Project Duration & Proposed Budget

- **One year**
  The initial three phases of the project will take place over one year. Additional product refinement and testing could be done in year two if requested.

- **$25,000 Direct Costs for One Year**