How the EDGE® Employs Human-Centered Design

The growing problem with technology is that people have a hard time using it. The systems we use are getting more complex every day. As complexity grows, it begins to overpower our ability to deal with these systems. The Human-Centered Design (HCD) approach provides a framework in which we can “tame complexity” to create a more intuitive experience for the users.

It is difficult to express the user’s intent sufficiently in a written specification. Often the team designing a product has no exposure to the user or his operating environment, and does not understand the “unstated” constraints on the system. The HCD process pulls in the user as a design partner from day one and allows industry to design a system that not only meets requirements, but is intuitive and easy to use.

An EDGE member can benefit from HCD by having the customer/user as part of the team, and by employing ergonomic methods in the design of their product. A HCD approach ensures a more relevant product concept, as the system that emerges will have been developed with the goals of end users at the center of all activities - from discovery to fielding. The EDGE uses the HCD approach to vet, balance and frame technical designs in the context of operational vision and tactical reality.

The HCD process can validate requirements and test assumptions early to identify points of failure in the lab, which means reduced risk. The HCD approach is optimized to capture misconceptions, bad assumptions, misunderstandings, and other inconsistencies early - when they are most straightforward and inexpensive to resolve - saving time and money historically spent executing downstream rework.

How Does It All Work?

HCD practices help build a better product. By creating a stakeholder map, a comprehensive understanding of roles, responsibilities, and relationships comes into view and is a means to facilitate collaboration. With the identification of the stakeholders, the evaluation of existing system use patterns can be examined to better understand the current operational scenarios, which in turn can be used to inform system design, meeting technical and program requirements. Keeping the users in the design process ensures that their needs are being properly interpreted and that the user community feels “ownership” of the design.

Human-Centered Design (HCD) is applied in three basic ways:

- Interdisciplinary Collaboration (across all stakeholders)
- Frequent Prototyping (to quickly identify the good, the bad and the ugly)
- User Engagement (to validate assumptions and confirm operational relevance)

One notable result of good HCD is an appropriate allocation of function between users and technology. People do the things they excel at, while the technology products and systems do the tasks to increase efficiency.

Human Sciences
- HCI (Human Computer Interaction)
- Cognitive Psychology
- Ethnography
- Anthropology

Visual & Interaction Design
- Information Design
- Interaction Design
- Visual Communication Design
- Industrial Design
- Animation & Filmmaking
- Architecture

Engineering
- Software Development
- Electrical & Mechanical Engineering
- Computer Science
- Mathematics

Visualization & Interaction Design
- Information Design
- Interaction Design
- Visual Communication Design
- Industrial Design
- Animation & Filmmaking
- Architecture

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