IIT ROORKEE

NPTEL ONLINE CERTIFICATION COURSE

Introduction to Interaction Design

Lecture 06

Conceptual Design (Part 02)

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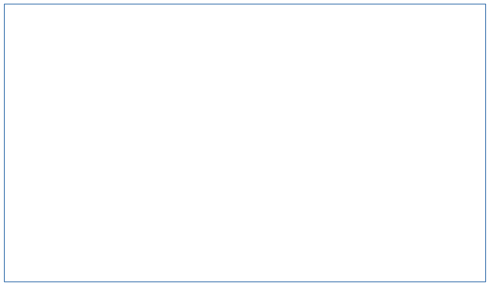
DEPARTMENT OF DESIGN

Conceptual Design: Interaction Types



Interaction Types

The ways a person interacts with a product or application.

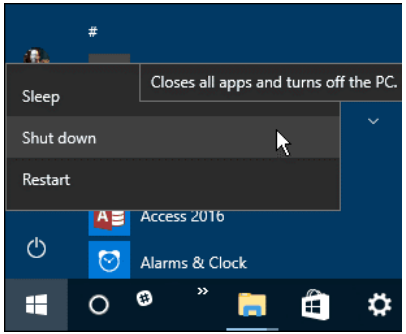
Image by macrovector

Five main types of interactions:

1. Instructing
2. Conversing
3. Manipulating
4. Exploring
5. Responding

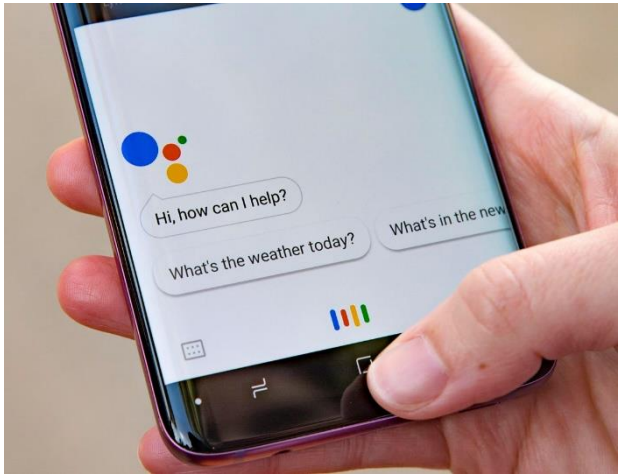
1. Instructing

Where users issue instructions to a system. This can be done in a number of ways, including typing in commands, selecting options from menus in a Windows environment or on a multitouch screen, speaking aloud commands, gesturing, pressing buttons, or using a combination of function keys.



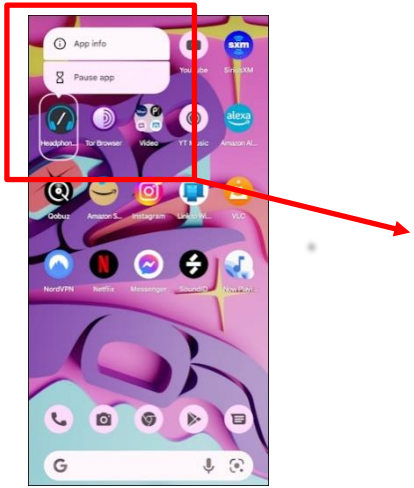
2. Conversing

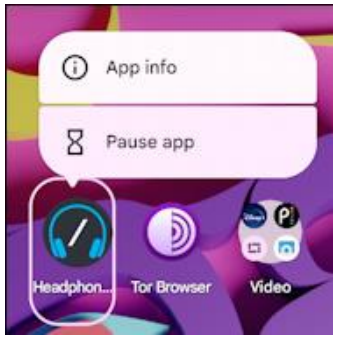
Where users have a dialog with a system. Users can speak via an interface or type in questions to which the system replies via text or speech output.



3. Manipulating

Where users interact with objects in a virtual or physical space by manipulating them (for instance, opening, holding, closing, and placing). Users can hone their familiar knowledge of how to interact with objects.

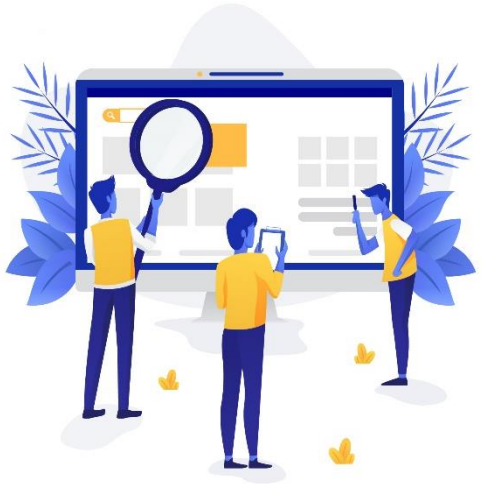




Press and hold to move the app icon or open options

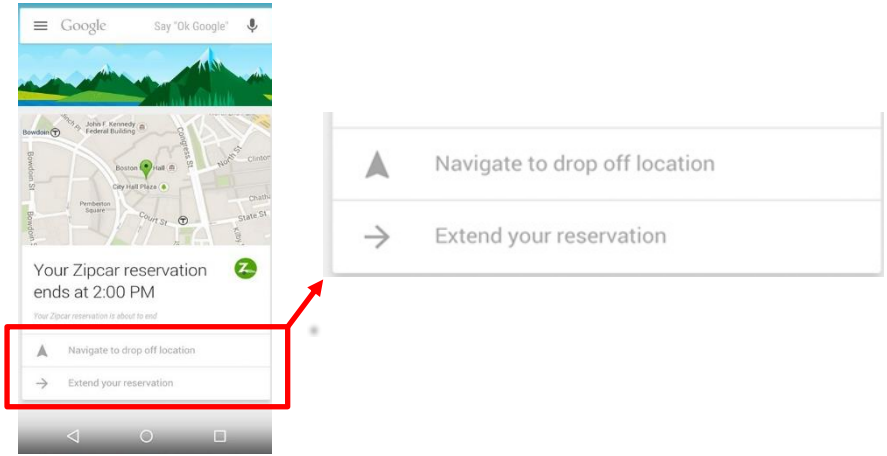
4. Exploring

Where users move through a virtual environment or a physical space. Virtual environments include 3D worlds and augmented and virtual reality systems. They enable users to hone their familiar knowledge by physically moving around. Physical spaces that use sensor-based technologies include smart rooms and ambient environments, also enabling people to capitalize on familiarity.

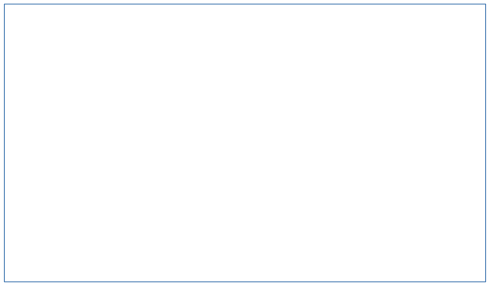


5. Responding

Where the system initiates the interaction and the user chooses whether to respond. For example, proactive mobile location-based technology can alert people to points of interest. They can choose to look at the information popping up on their phone or ignore it.

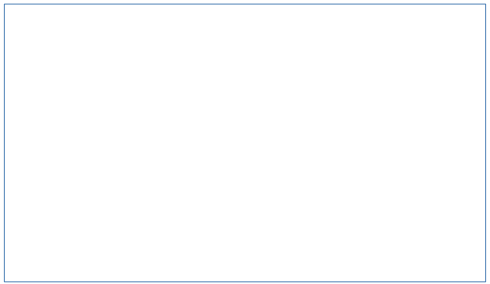


Conceptual Design: Paradigm, Vision, Theories, Models and Framework



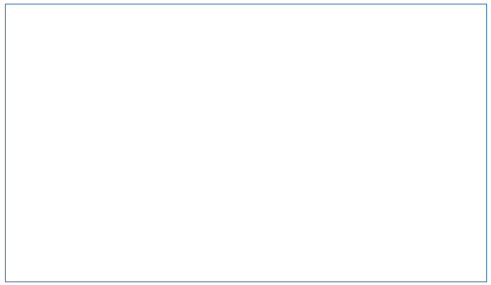
Paradigms

In interaction design, a paradigm refers to a set of assumptions, concepts, values, and practices that shape the way designers approach and solve design problems. It is a framework or model that guides the design process and influences the resulting user experience.



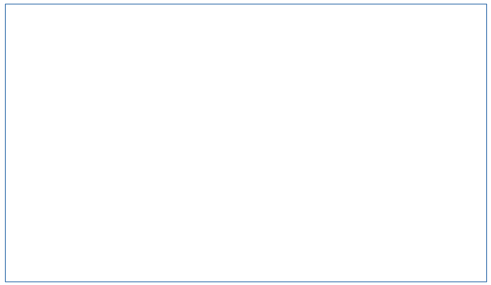
For example, the current paradigm in interaction design is often referred to as user-centred design. This paradigm assumes that the needs and goals of the user are the most important consideration in the design process and that design solutions should be evaluated based on their ability to meet user needs and improve the user experience.

Other examples are, Big Data, the Internet of Things



Vision

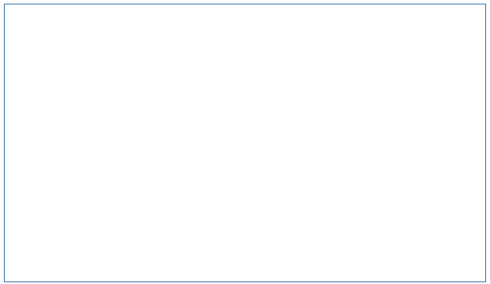
Visions of the future, provide a powerful driving force that can lead to a paradigm shift in terms of what research and development is carried out in companies and universities. It involves exploring potential advancements in digital technologies, human-computer interaction, and user experience design that can shape the way we interact with digital products and services.



BMW’s Vision Next 100, envisions the future of passenger mobility with concept design, interaction of the user with interior of vehicles, materials, performance, etc.

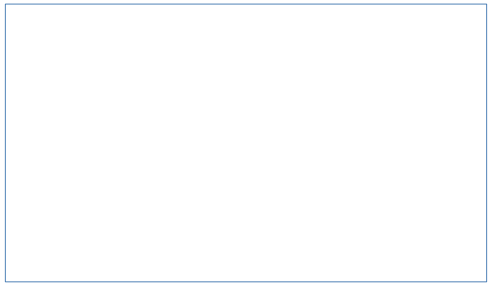
Theories

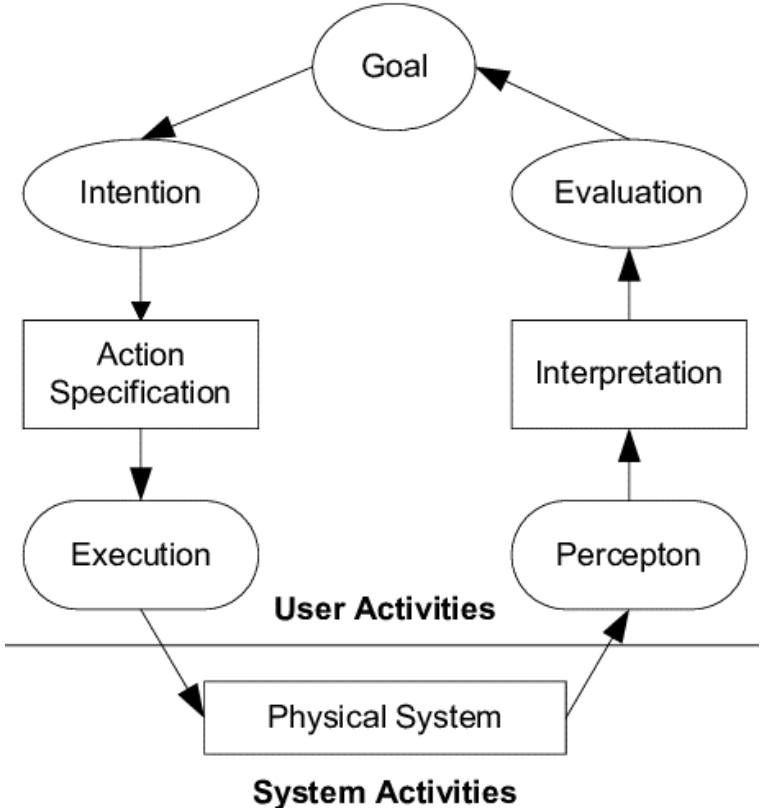
Theories play a critical role in designing better Human-Computer Interaction (HCI) by providing designers with a deeper understanding of the psychological, social, and cultural factors that influence user behaviour and experience. By applying theories from various fields such as psychology, sociology, and cognitive science, designers can create interfaces that are more intuitive, effective, and satisfying for users.



Models

It depicts how the core features and processes underlying a phenomenon are structured and related to one another.

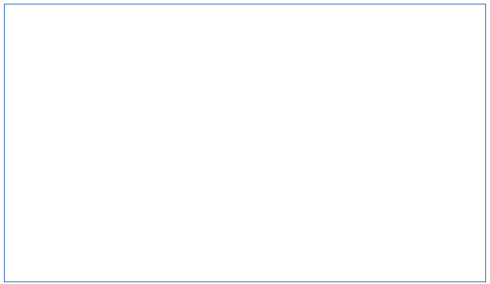




The Seven-stage of Action model by Don Norman (1988)

Framework

In contrast to a model, a framework offers advice to designers as to what to design or look for. This can come in a variety of forms, including steps, questions, concepts, challenges, principles, tactics, and dimensions.

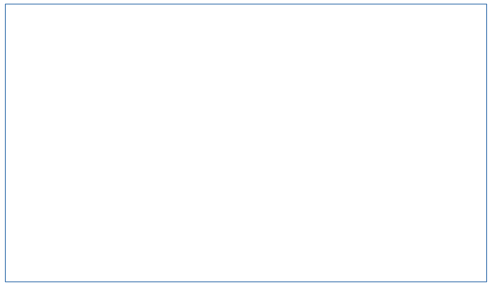


The framework comprises three interacting components: the designer, the user, and the system. Behind each of these are the following:

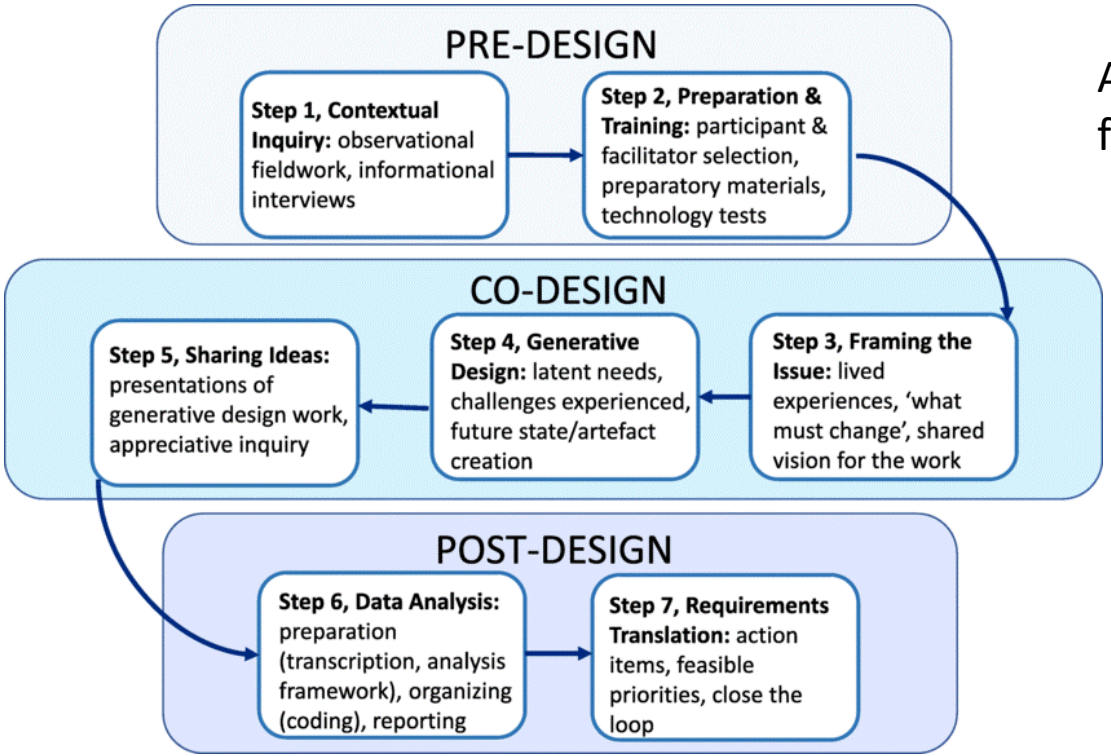
Designer's Model The model the designer has of how the system should work

System Image How the system actually works, which is portrayed to the user through the interface, manuals, help facilities, and so on

User's Model How the user understands how the system works

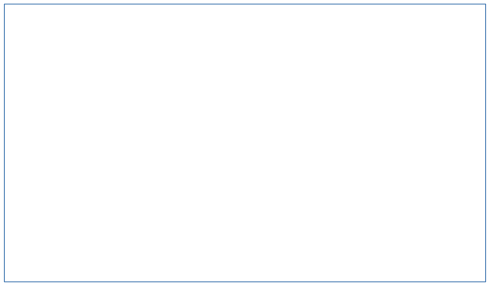


A Generative Co-Design Framework for Healthcare Innovation



Source: https://www.researchgate.net/figure/A-Generative-Co-Design-Framework-for-Healthcare-Innovation_fig1_349707153

Paradigms, visions, theories, models, and frameworks are not mutually exclusive, but rather they overlap in their way of conceptualizing the problem and design space, varying in their level of rigor, abstraction, and purpose.



Thank You