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NPTEL ONLINE CERTIFICATION COURSE

Introduction to Interaction Design

Lecture 04

Understanding User

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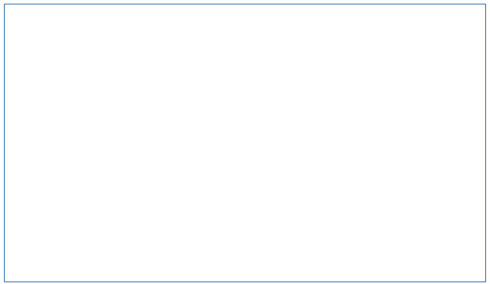
DEPARTMENT OF DESIGN

Understanding Users



Why is it important to Understanding Users?

The main reason for better understanding people in the contexts in which they live, work, and learn is that it can help designers understand how to design interactive products that provide good user experiences or match a user's needs.

Adults like spending time in outdoor activities like hiking or spending time in co-working spaces and cafes

Whereas children like spending time playing with toys and games

Learning more about people and what they do can also reveal incorrect assumptions that designers may have about particular user groups and what they need.

- Two-wheelers primary use-case in Western countries (left) compared to primary use-case in Asian countries (right)

Source: Photo by Danique Tersmette

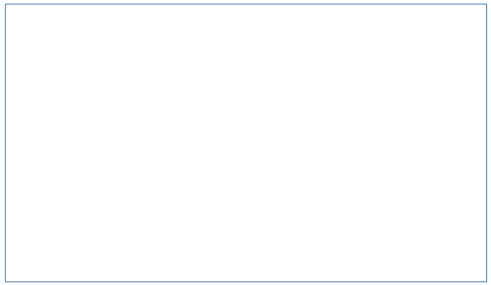
What works for one user group may be totally inappropriate for another.

Recognizing User Goals

Products designed and built to achieve business goals alone will eventually fail, personal goals of users need to be addressed. When the user's personal goals are met by the design, business goals are far more effectively achieved.

Source: Google images

- What are user goals?
- How can we identify them?
- How do we know that they are real goals, rather than tasks they are forced to do by poorly designed tools or business processes?
- Are they the same for all users?
- Do they change over time?



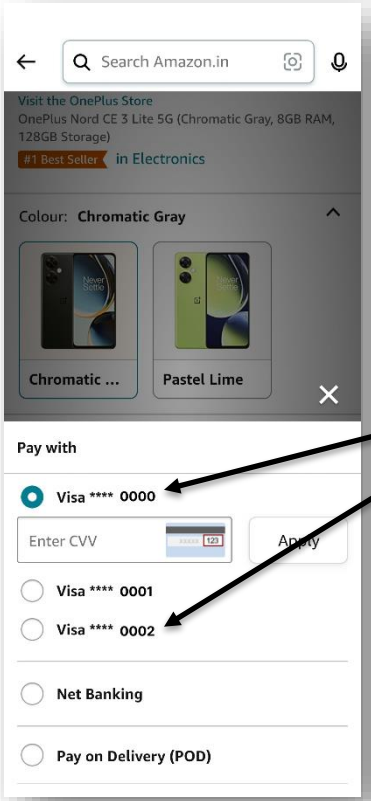
Users’ goals are often quite different from what we might guess them to be.

Source: Google images

In most commercially available software, websites, and digital products today, their user interfaces fail to meet user goals.

They routinely:

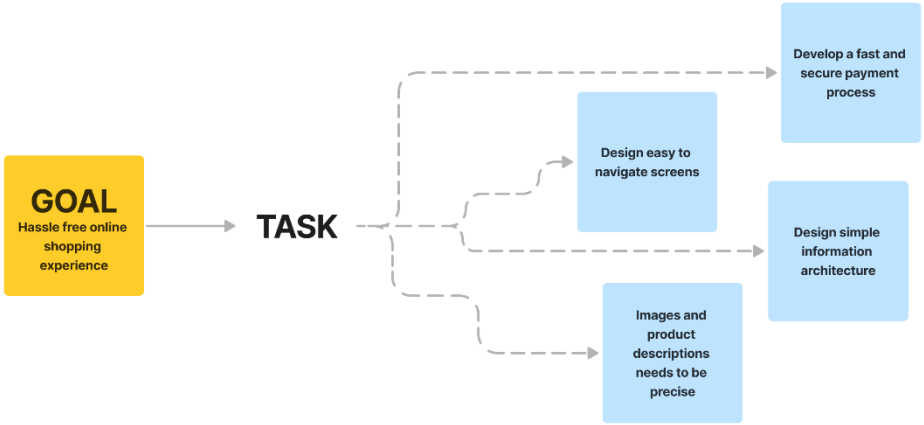
- Make users feel unintelligent
- Cause users to make big mistakes
- Require too much effort to operate effectively
- Don’t provide an engaging or enjoyable experience



For example:
If the user does not remember his card number thoroughly, they may find it confusing to choose a payment option without verifying the number with his card.

Goals versus tasks and activities

Goals are not the same as tasks or activities. A goal is an expectation of an end condition, whereas both activities and tasks are intermediate steps (at different levels of the organization) that help someone to reach a goal or set of goals.

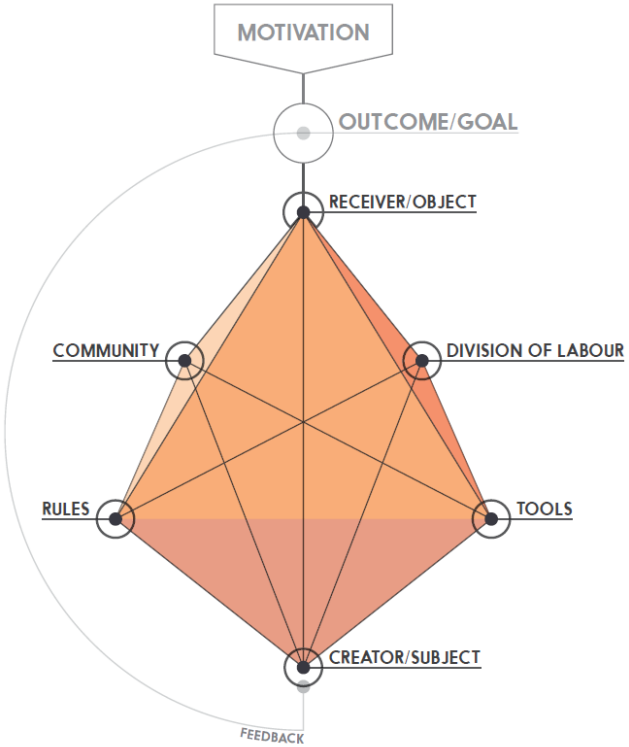


ACTIVITY CENTERED DESIGN

The Activity Centered Design model is an X-Ray into the social and technical workings of an activity. It considers the broader system beyond a single user.

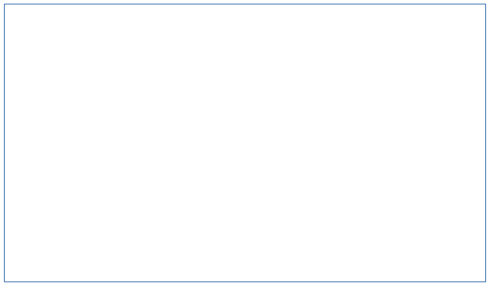
The model is an interconnected lattice with a node for each element. Considering the specifics of these nodes over time is key to developing insight. Read more at dermotholmes.com.

ACTIVITY	**WHAT?** Listen to music while driving.
MOTIVATION	**WHY?** Bordem, mood, social norms.
OUTCOME or GOAL	**DESIRED STATE** Appropriate music is playing.
OBJECT or RECEIVER	**WHAT IS OBSERVED?** The Car.
SUBJECT or CREATOR	**WHO IS DOING THE ACTIVITY?** Driver, Passengers
COMMUNITY	**WHO ELSE?** Radio station, other drivers
DIVISION OF LABOUR	**WHO DOES WHAT?** Passengers may also operate radio.
RULES & RITUALS	**REQUIREMENTS, SOCIAL NORMS** Go to favourite channel first. Polite to ask passengers for input. Minimal distraction to operate.
TOOLS & ARTIFACTS	**THINGS** Interface (shared with GPS) Interface may be bluetooth tablet



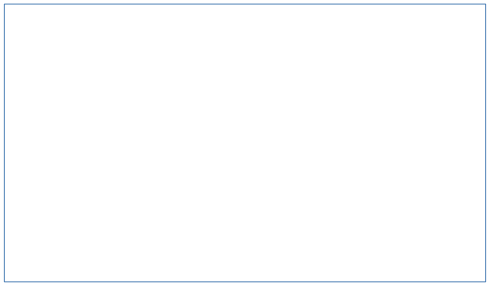
Source: http://www.dermotholmes.com/

Usability and User Experience Goals



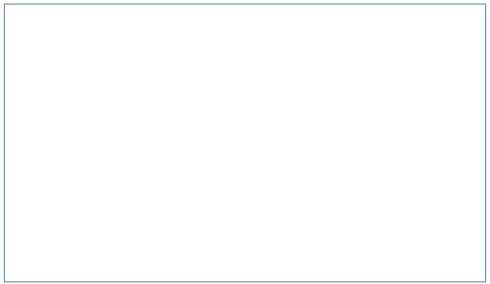
- Are we designing an efficient system that will allow them to be highly productive in their work?
- Are we designing a learning tool that will be challenging and motivating?

Classifying them in terms of usability and user experience goals.



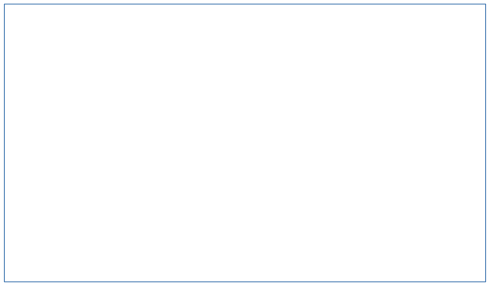
Usability refers to ensuring that interactive products are easy to learn, effective to use, and enjoyable from the user's perspective.

- Effective to use (effectiveness)
- Efficient to use (efficiency)
- Safe to use (safety)
- Having good utility (utility)
- Easy to learn (learnability)
- Easy to remember how to use (memorability)



Q. Is the system easy to learn?

Q. How long will it take a user to figure out how to use the most basic functions?

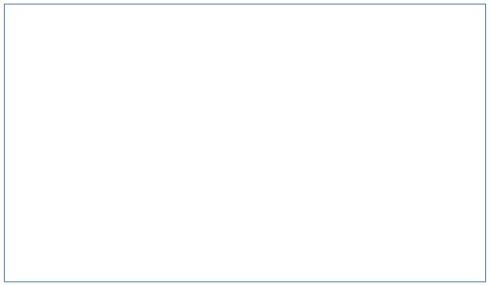


Effectiveness

Refers to how good a product is at doing what it is supposed to do.

Efficiency

Refers to the way a product supports users in carrying out their tasks

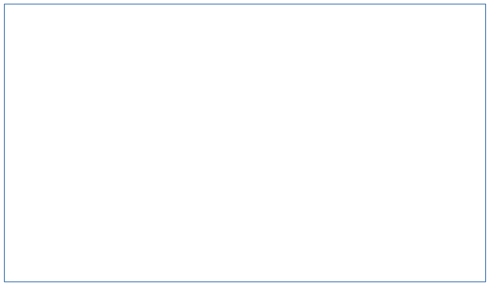


Safety

Involves protecting the user from dangerous conditions and undesirable situations.

Utility

Refers to the extent to which the product provides the right kind of functionality so that users can do what they need or want to do.

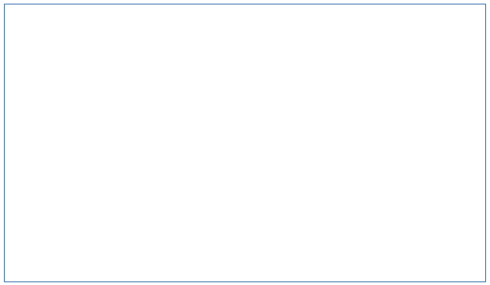


Learnability

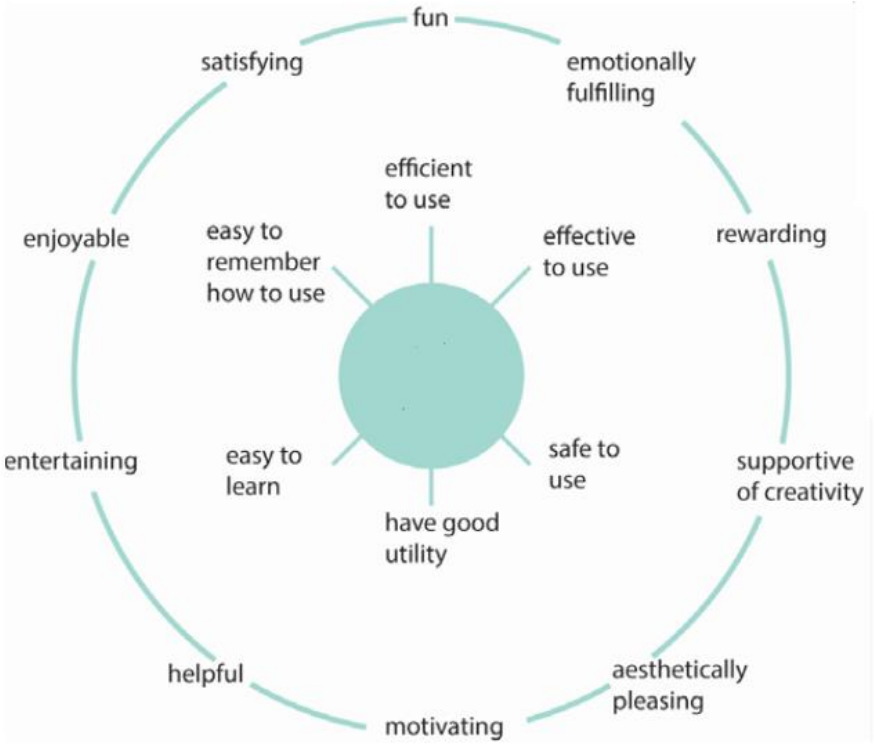
Refers to how easy a system is to learn to use

Memorability

Refers to how easy a product is to remember how to use, once learned.

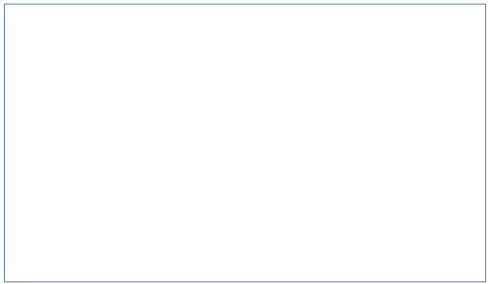


User Experience Goals



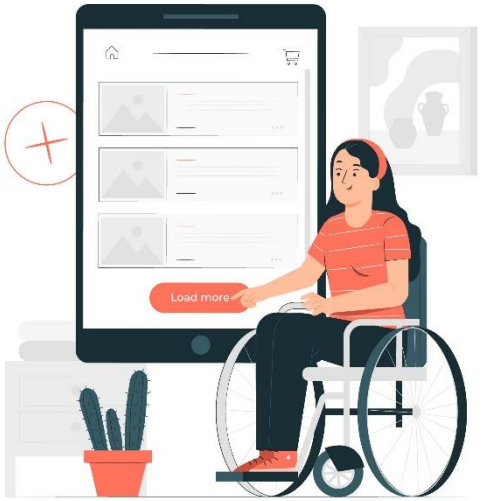
Source: Preece et al.

Accessibility and Inclusive design



Accessibility

The idea of accessibility refers to the ability of a product or service to be used by anyone, regardless of how they interact with it. Although accessibility aims to assist individuals with impairments, designers should strive to cater to all potential users in various usage scenarios. This approach can lead to substantial advantages, such as improved designs that benefit all users.



Source: Designed by stories

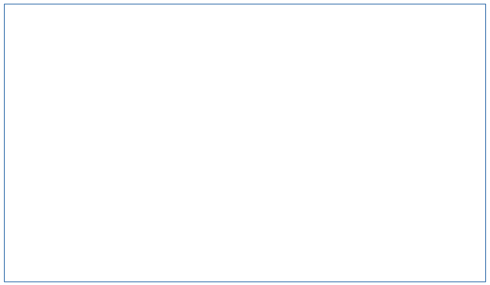
Accessibility can be achieved in two ways:

1. through the inclusive design of technology
2. through the design of assistive technology.

Types of impairments usually addressed through features and technology for accessibility:

1. Sensory
2. Physical
3. Cognitive

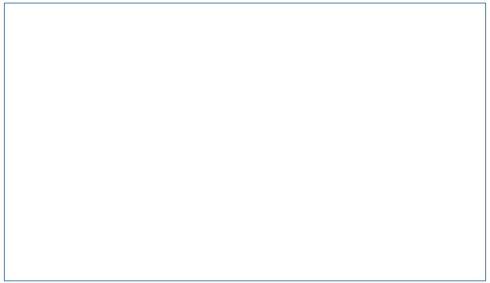
Different capabilities. Eg: walking cane, wheelchair



Impairment can also be categorized as follows:

1. Permanent
2. Temporary
3. Situational

E.g. for colour blindness app design



Difference between accessibility and usability

Accessibility is about making sure that everyone, regardless of their abilities, can use a product or service.

While usability is about making sure that the product or service is easy to use for everyone, including those with or without disabilities

Inclusivity

Inclusive design is an overarching approach where designers strive to make their products and services accommodate the widest possible number of people. An example is ensuring that smartphones are being designed for all and made available to everyone—regardless of their disability, education, age, or income.

Source: Image by pch.vector

Difference between accessibility and inclusivity

Accessibility:

- Refers to the design of products, services, environments, and information in a way that makes them usable by people with disabilities
- Involves removing barriers and providing accommodations that allow people with disabilities to access and use the same things as everyone else
- Examples of accessibility features include ramps, elevators, and accessible restrooms in buildings

Difference between accessibility and inclusivity

Inclusivity:

- Refers to creating an environment or culture that is welcoming and supportive of everyone, regardless of their differences
- It is about ensuring that everyone feels valued and respected and that their needs and perspectives are taken into account
- Goes beyond accessibility to include people from all backgrounds and identities
- Examples of inclusive practices include providing opportunities for diverse groups to collaborate and contribute to decision-making in a workplace, school, or community setting.

Thank You