PACT Analysis

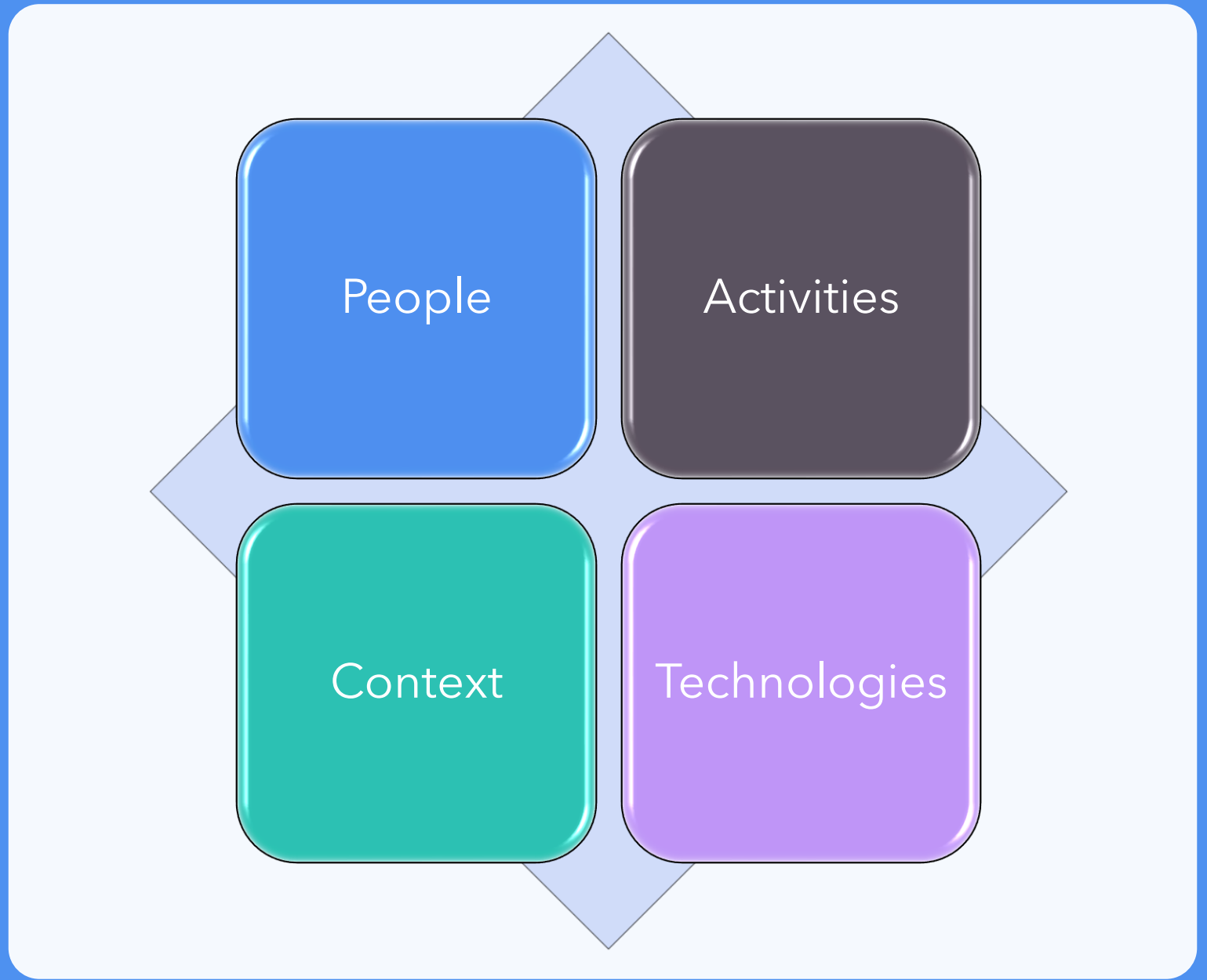
Prepared by Eng. Hana AlRasheed and Eng. Dania Alsaid

PACT

A PACT analysis is a useful framework for thinking about **human centred design.**

Prepared by Eng. Hana AlRasheed and Eng. Dania Alsaid

PACT



People

- Relevant **User Characteristics and Skills**.
- People differ in physical characteristics such as **height and weight**.
- Variability in the **five senses(sight, hearing, touch, smell, and taste)**has a huge effect on how accessible, how usable, and how enjoyable using technology will be for people in different contexts.

How to Analyse People?

Cognitive characteristics

Homogenous vs heterogeneous user groups

Physical characteristics

Special needs

Experience & expectations - novice v's expert

Culture

Language

Cognitive Characteristics

- Level and duration of attention
- Perception
- memory
- Learning abilities
- Cognitive capabilities
- Fears
- Personality characteristics

Prepared by Eng. Hana AlRasheed and Eng. Dania Alsaid

Physical Characteristics

- Age differences
- Gender differences
- Physical abilities

Age Differences

Animation	Scrolling	Purpose of usage	Advertisements
• Animation and sound effects were positive design elements for children.	• Children rarely scroll pages, mainly interact with information that was visible above the fold.	• Adults typically use the Web in business settings and for goal-oriented tasks, children often use the Web for entertainment, though older kids also use it for schoolwork and community.	• Children click website thinking ads are just one more site element They cannot yet distinguish between content and advertising. To kids, ads are just one more content source. If a banner contains a popular character or something that looks like a cool game, they'll click it.

Gender

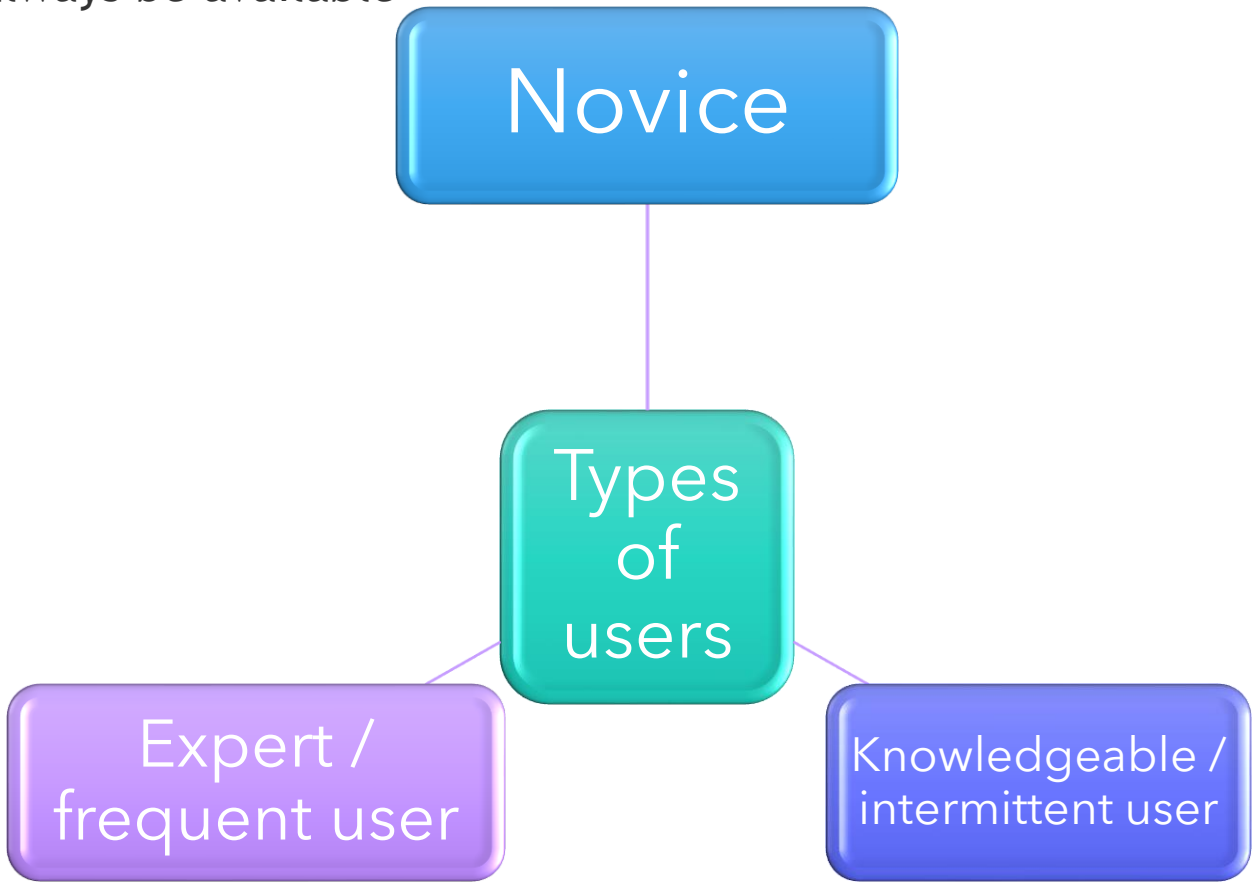
Boys are significantly more annoyed by verbose (wordy) pages than girls (40% of the boys complain, compared to 8% of the girls), possibly because at the ages tested, boys are not as accomplished at reading as girls.

In contrast, girls complain much more than boys when sites lack good instructions (76% of the girls compared to 33% of the boys).

Also, boys spend more time alone with computers, and girls spend more time using computers with a parent.

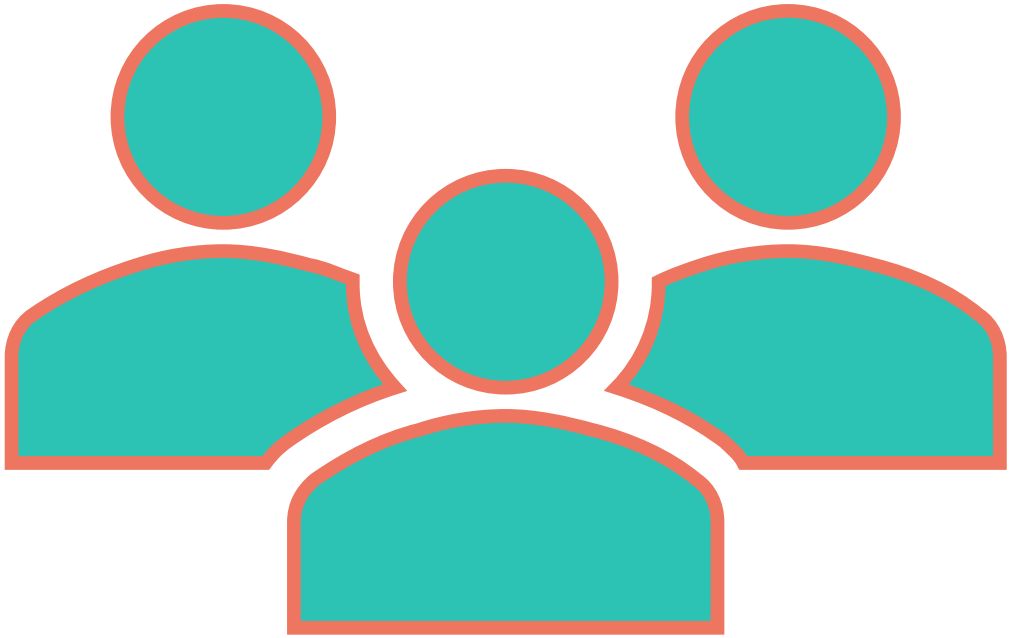
Experience and Expectations

Guidelines for novice users
Help should always be available
tutor/book



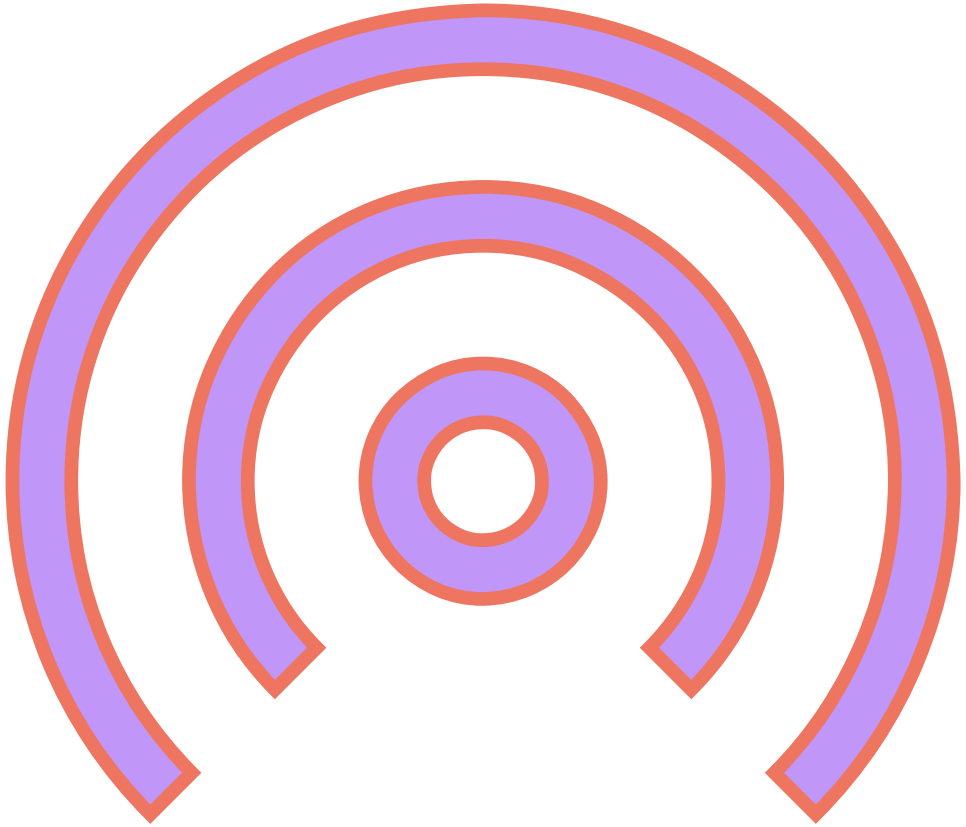
These users have fast response time and will require brief feedback

These users need consistent structures, good help facilities, good documentation.



Experts use a system regularly and learn all sorts of details, whereas a beginner will need to be guided through an interaction.

Social differences



- People make use of systems, products, and services **for very different reasons.**
- They have different **goals** in using systems.
- They have different **motivations** for using systems.
- Some people will be very interested in a particular system, others will just want to get a simple task completed.
- These motivations change at different times.

The advantages of classification mean that generalisations can be made about users and their needs.

This doesn't necessarily mean that the best system has been designed for every individual.

It means that the system has been designed to fit the generalisations for each user group.

Language

- What Language to be used based on the users' language.

Culture

- For example, in Microsoft Excel there are two buttons, one labeled with a cross and the other a tick. In the US a tick is used for acceptance and the cross rejection, but in Ireland a tick or a cross can be used to show acceptance.

Special Needs

1. Visual impairments (Blindness, Color Blindness)
2. Hearing impairments (Deafness)
3. Mobility impairments (Wheelchair user)
4. Medical conditions (e.g. epilepsy or asthma)
5. Cognitive or learning issues

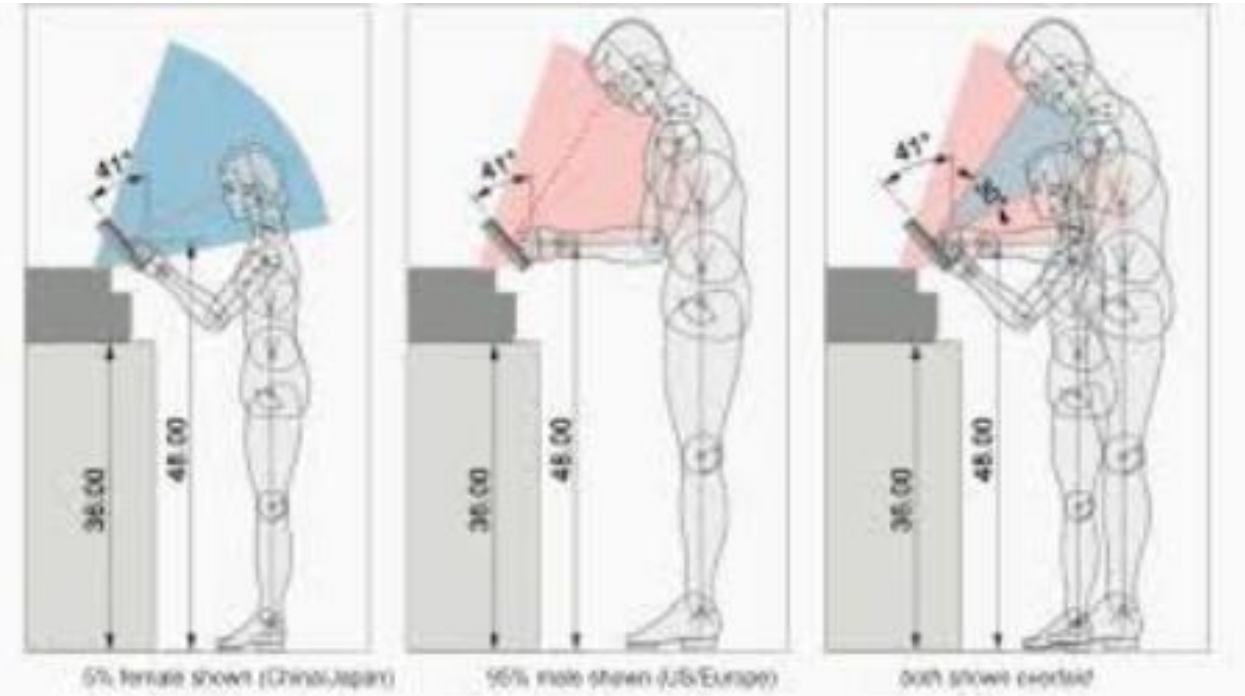
Prepared by Eng. Hana AlRasheed and Eng. Dania Alsaid

Impairments

Color blindness (usually the inability to distinguish correctly between red and green colors) affects about 8 percent of Western males

short-sightedness and long-sightedness affect many, and many people are hearing-impaired.

In Europe there are 2.8 million wheelchair users, so designers must consider where technologies are placed. and many people have dexterity impairments involving the use of their fingers. All of us have relatively large fingers compared to the small size we can use for buttons.



Height differences

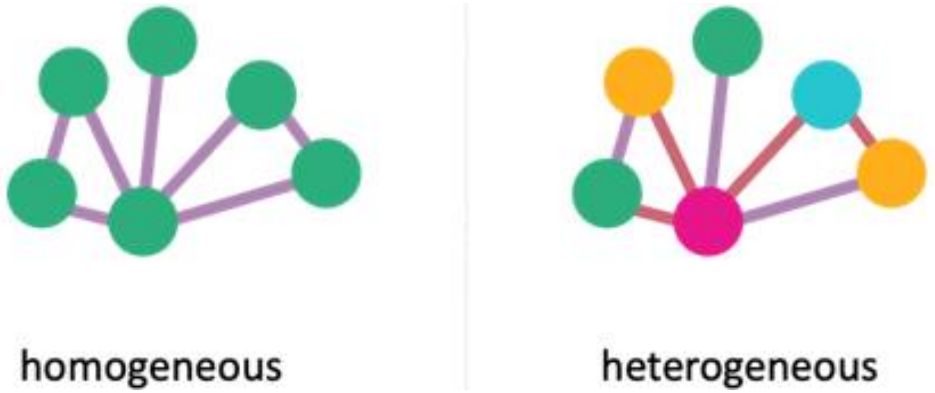
Prepared by Eng. Hana AlRasheed and Eng. Dania Alsaid

- People also have different needs and abilities when it comes to attention and memory, and these can change depending on factors such as stress and tiredness.

Memory

- Most people cannot remember long numbers or complicated instructions.
- All people are better at recognizing things than they are at remembering things.
- Some people can quickly grasp how something works, whereas for others it can take much longer.
- People have had different experiences and so will have different conceptual models of things

Homogenous Vs. Heterogenous

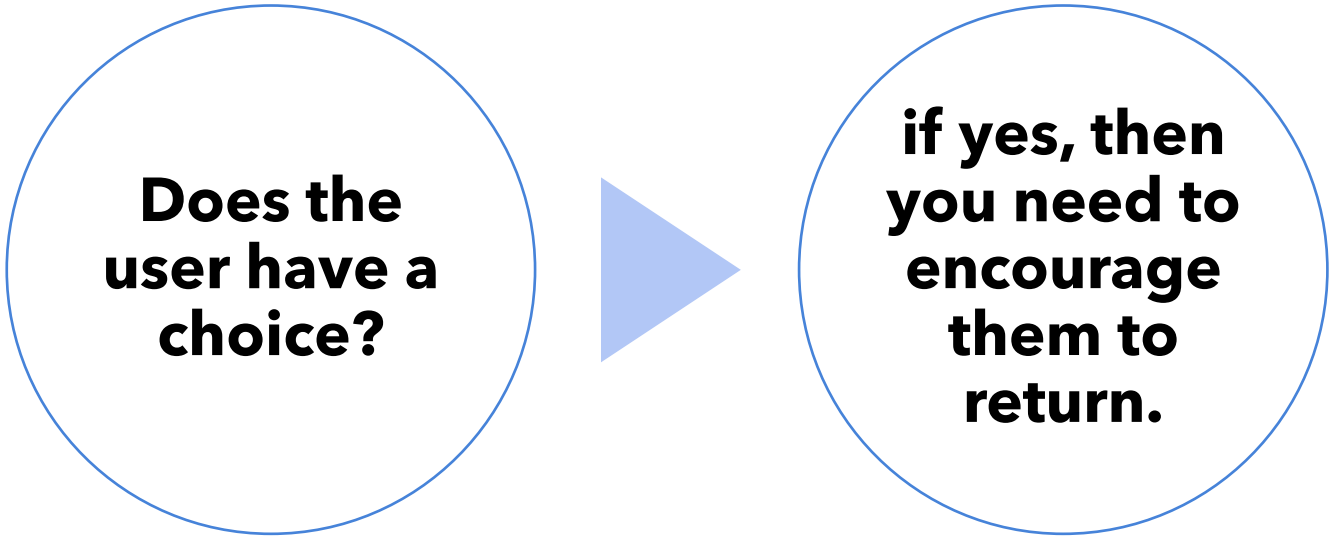


Homogenous : Users of a company's intranet.

Heterogeneous : Website site users are many different types of people.

Prepared by Eng. Hana AlRasheed and Eng. Dania Alsaid

Discretionary Vs Committed Users



Prepared by Eng. Hana AlRasheed and Eng. Dania Alsaid

Infrequent vs frequent users

if users are normally infrequent

then interface must be particularly 'helpful' as users will forget how to complete complicated tasks.

Prepared by Eng. Hana AlRasheed and Eng. Dania Alsaid

Activities

Goals

Tasks

Actions

How to analyze Activities?

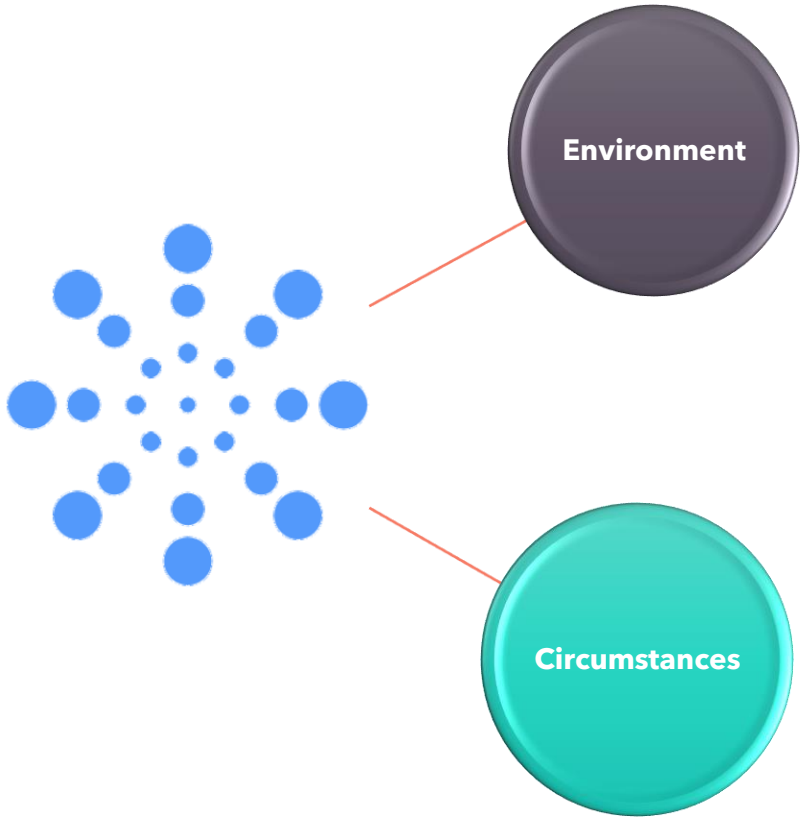
Regular or unusual, weekly? Yearly?	frequent tasks should be easy to do; infrequent tasks should be easy to learn or remember
Well-defined or vague	
Continuous or interrupted	user may need to 'find their place' again
Individual vs co-operative work	
Multi-tasking vs serial tasks	
Passive vs active	
Data input requirements	
Length of time on tasks	peaks and troughs of working, need for fast response
Coping with errors	presentation of error messages, how to deal with them, how the system accommodates them, significance of errors, safety critical errors

- If a website takes two minutes to deliver a response when the server is busy, that may be frustrating for a normal query, but it could be critical if the information is needed for some emergency.

As a general rule people expect a response time of about 100 milliseconds for hand-eye coordination activities and one second for a cause-effect relationship such as clicking a button and something happening.

- Some activities are ‘safety-critical, in which case any mistake could result in an injury or a serious accident. Others are less so. Where safety is involved designers must pay attention to ensuring that mistakes do not have a serious effect.

Context



How to analyze context?

Physical environments	Social environments	Organizational context	Circumstances under which activities happen	Amount and type of support for activities
• noisy, cold, wet, dirty, stressful, uses dangerous materials, sunny.	• channels of communication, structure, centralization vs decentralization, home, mobile, training materials	• relationships with customers, other staff, effect on work practices and job content, role, deskilling, job loss, shift in power.	• (time, place, pressure of work/time)	• tuition, manuals, demonstrations, new knowledge, new skills

Withdraw cash from an ATM

An analysis of context would include things such as:

- the location of the device
- the effect of sunshine on the readability of the display
- Security considerations.
- Social considerations would include the time spent on a transaction or the need to queue.
- The organizational context for this activity would take into consideration the impact on the bank's ways of working and its relationships with its customers.

Technology

- Technology and tools that is used

How to analyze Technology?

- Input - Getting data in; getting commands.
- Output - Characteristics of different displays (e.g. video vs. photographs; speech vs. screen)
- Communications - Between people, between devices, speed, etc. - What is connected to what?
- Size of screen
- GUI or not?
- Sound?
- Networked or stand-alone.
- Always on or dial in?
- Real-time systems;
- Safety critical systems
- Walk-up-and-use systems is a system that needs to be so self-explanatory that first-time or one-time users can use the system effectively without any prior introduction/training. (e.g., kiosks, ATMs, ticket machines)

Why PACT ?

- A PACT analysis is useful for both analysis and design activities; understanding the current situation, seeing where possible improvements can be made, or envisioning future situations.

Task List

- Brainstorm the variety of P, A, C, and Ts that are possible
- Explore design implications
- Look for trade-offs between combinations of PACT
- Think about how these might affect design
- Conditions Required
- Some information about a (similar) system is required
- Marketing personnel may be involved also