UXQB
International Usability and
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CPUX-F
Curriculum and Glossary

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1 Introduction

This document defines what a student needs to know in order to pass the certification test for Certified Professional for Usability and User Experience - Foundation Level (CPUX-F). The certification test only tests concepts and knowledge that are described in this document.

This document contains a Curriculum and a Glossary.

The Curriculum in section 2 contains the complete list of topics and concepts that can be addressed by the certification questions.

The Glossary in section 3 defines each concpt that is relevant for the CPUX-F certification. The Glossary contains commonly agreed definitions for basic user experience concepts. To the extent possible, definitions are in accordance with ISO Standards.

Section 4 contains a list of major changes to this document compared to the previous version 1.2.

1.1 Overview of CPUX-F Resources

All relevant information about the CPUX-F certification and other types of CPUX certifications is freely available from the website of the International Usability and User Experience Qualification Board, www.uxqb.org.

The information on the UXQB website includes:

- A complete list of recognized CPUX-F training providers and available trainings. Note that training is recommended but not required in order to sign up for CPUX-F certification.
- CPUX-F Curriculum and Glossary (this document) for download
- A complete sample set of CPUX-F certification questions with answers for training purposes

The Curriculum and Glossary are also available in German.

It is strongly recommended that you study the publicly available complete sample set of CPUX-F certification questions carefully before you take the certification test.

2 Curriculum

The curriculum is the complete list of topics and concepts that can be addressed by the certification questions.

The curriculum is structured into model lectures.

The division of topics and concepts into lectures is not mandatory. The exercises are suggestions; they are not mandatory. Training providers may teach the topics in any order they consider feasible and use any exercises they consider feasible.

The Glossary includes synonyms. Certification questions will usually use the concept that is listed first.

All concepts are defined in the Glossary in section 3.

2.1 Basic concepts

Key topics:

- Introduction to course
- Introduction to usability. Definition of usability. The ISO 9241 family of standards
- Basic principles for a human-centred approach in accordance with ISO 9241-210, section 4:
  - The design is based upon an explicit understanding of users, tasks and environments
  - Users are involved throughout design
  - The design is driven and refined by user-centred evaluation
  - The process is iterative
  - The design addresses the whole user experience
  - The design team includes multidisciplinary skills and perspectives.

Concepts:

Introduction to usability

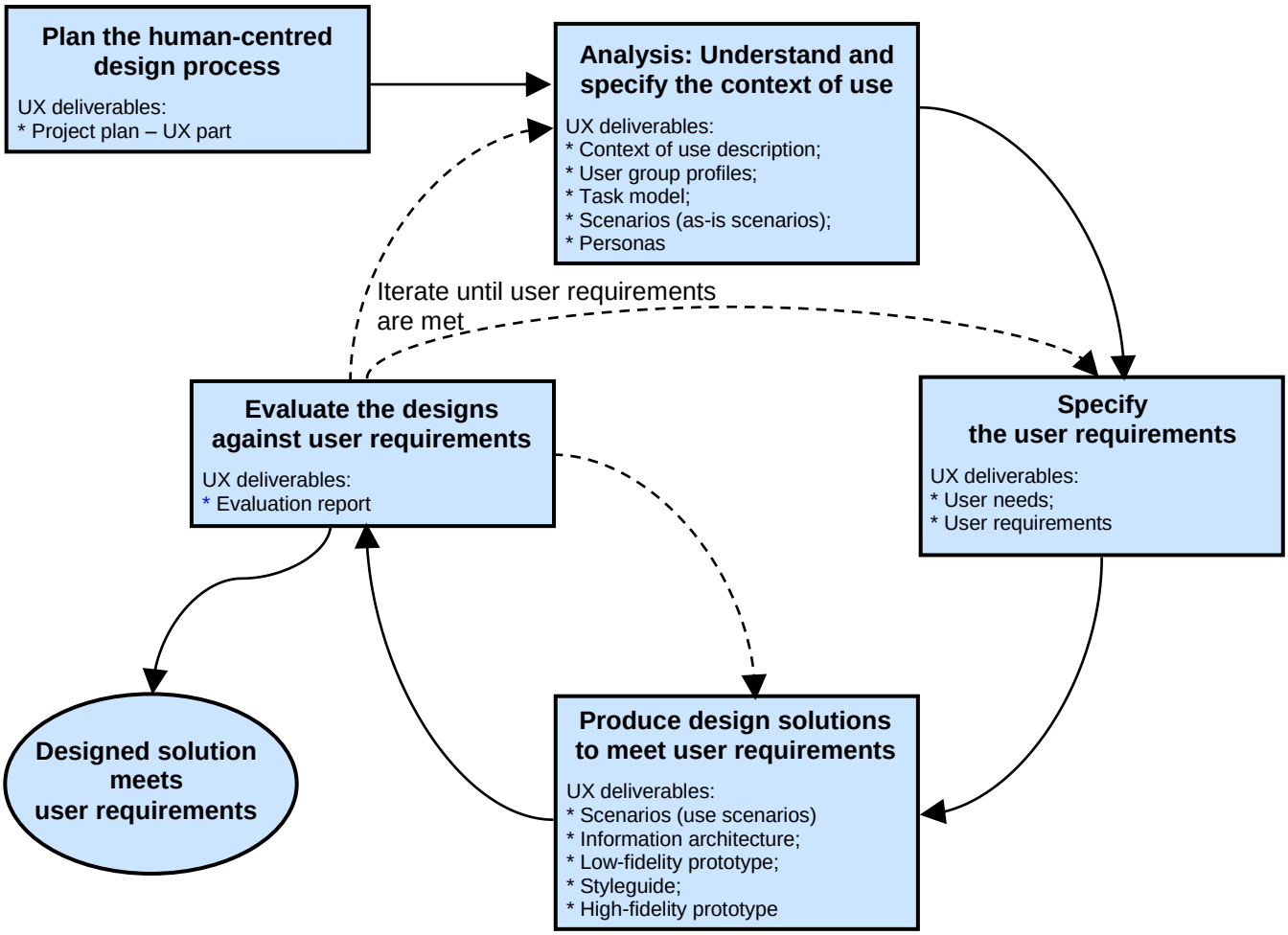
- Interactive system
- User interface
- Dialogue
- Quality
- ISO 9241
- Usability
- Effectiveness
- Efficiency
- Resources
- Satisfaction
- User experience
- Accessibility

Basic principles for a human-centred approach in accordance with ISO 9241-210, section 4:

- Human-centred design (Synonym: User-centred design)
- Iterative

Exercises:

- Simple examples of user interfaces that illustrate basic characteristics of usability
  - Effective and less effective
  - Efficient and less efficient
  - Satisfactory and less satisfactory
  - Accessible and less accessible
- Examples of dos and don'ts in a human-centred approach in accordance with ISO 9241-210, section 4 – that is, what does it mean to follow or violate each of the six basic principles.
- Examples of certification questions so the students have an idea of what they are studying for and how the test will be conducted.



This figure shows the interdependence of human-centred design activities according to the ISO 9241-210 standard. CPUX-F students are expected to be familiar with the activities, the UX deliverables from each activity and the iterative flow between activities. Blue rectangles show the 5 key design activities in an iterative, human-centred design process. "UX deliverables" are key deliverables from the corresponding design activity. All deliverables except Project Plan are defined in the Glossary.

2.2 Understanding and specifying the context of use

Key topics:

- The interdependence of human-centred design activities according to the ISO 9241-210 standard (see the figure in section 2.1)
- Users, tasks, resources, environment - the components of the context of use
- Understanding the context of use
- Specifying the context of use

Concepts:

Components of the context of use

- User
- Primary user
- Secondary user
- Direct user
- Indirect user
- Stakeholder
- Task
- Goal
- Resources
- Environment

Understanding the context of use

- Observation
- Interview
- Contextual interview
- Master-apprentice model
- Leading question
- Neutral question
- Open question
- Closed question
- Interview checklist
- Focus group

Specifying the context of use

- User
- User group
- User group profile
- Persona
- Task
- Task model
- Scenario (as-is scenario)

Exercises:

- Context of use description
  - Students brainstorm users, tasks, resources and environment for a specific interactive system.
  - Students compare their suggestions to context of use information provided by the lecturer for the same system.
- Interview
  - Show a 10 minute video of an interview. Ask students to take notes.
  - Students present and discuss important insight gained from the interview.
  - Students present and discuss interview mistakes, for example leading questions.

2.3 Specifying the user requirements

Key topics:

- User needs versus user requirements
- Stakeholder requirements versus user requirements
- Qualitative versus quantitative user requirements
- Extracting user needs from the context of use
- Deriving user requirements from user needs
- Writing and presenting user requirements

Concepts:

Specifying the user requirements

- User needs
- Requirement
- Stakeholder requirement
- Market requirement
- Organizational requirement
- User requirement
- Qualitative user requirement
- Quantitative user requirement

Exercises:

- The lecturer provides a list of user needs for the interactive system discussed in exercise 2.2.1
- Students derive user requirements from the user needs
- The lecturer comments on students' user requirements

2.4 Producing design solutions 1 – Usability principles and guidelines

Key topics:

- Important design concepts
- Dialogue principles and heuristics
- User interface guidelines, styleguides and design patterns

Concepts:

Important design concepts

- Affordance
- Intuitive
- Mental model

User interface guidance

- Dialogue principle
- Suitability for the task
- Self-descriptiveness
- Controllability
- Conformity with user expectations (Synonym: Consistency)
- Error tolerance
- Suitability for individualisation
- Suitability for learning
- Heuristic
- User interface guideline (Synonym: Guideline)
- Styleguide
- Design pattern

Exercises:

- Simple examples of user interfaces that illustrate the design concepts affordance, intuitive and mental model
- Simple examples of user interfaces that illustrate dialogue principles, heuristics and user interface guidelines. Examples show both correct use and violations of principles and heuristics.
- Examples of proper and improper use of GUI user interface elements
  - The lecturer provides a sample screen dialog that contains violations of basic rules for use of particular user interface elements. Students are asked to find these violations.

2.5 Producing design solutions 2 – Specifying the interaction

Key topics:

- Information architecture
- Key interaction design components
- Modelling the tasks to be supported

Concepts:

Information Architecture

- Information architecture

Key interaction design components

- Navigation structure
- Task object
- User assistance
- User documentation
- Online help
- System-initiated guidance

Modeling the tasks to be supported

- Task model
- Use scenario
- Storyboard
- Wireframe
- Prototype
- Low-fidelity prototype
- High-fidelity prototype

Exercise:

- Students create a low-fidelity-prototype of the interactive system discussed in exercise 2.2.1

2.6 Evaluating the design 1 - Usability testing

Key topics:

- Overview
- Preparing a usability test
- Conducting a usability test
- Documenting and communicating usability test results

Concepts:

Overview

- Usability test
- Usability test (standard, face-to-face)
- Remote usability test
- Unattended usability test
- Roles
- Moderator (Synonym: Facilitator)
- Note-taker
- Observer
- Usability test participant (Synonym: Test participant)

Preparing a usability test

- Usability test plan
- Recruiting
- Recruitment screener

Conducting a usability test

- Usability lab
- Usability test script (Synonym: Test script)
- Usability test session
- Briefing
- Pre-session interview
- Moderation
- Usability test task (Synonym: Test task)
- Post-session interview (Synonym: Debriefing)

Documenting and communicating test results

- Usability test report (Synonym: Test report)
- Usability finding (Synonyms: Finding; Usability test result)
- Usability problem (Synonym: Problem)
- Severity rating
- Positive usability finding

Exercise:

- Lecturer points out an existing website for testing
- Students create a suitable user profile for usability test participants
- Students create 4 usability test tasks
- Lecturer shows 10 minute video of usability test session
- Students discuss observed problems
- Students describe observed problems

2.7 Evaluating the design 2 – Other evaluation methods

Key topics:

- Evaluation of a user interface against principles, heuristics, guidelines, conventions, or user requirements
- Preparing and running a user survey
  - Questionnaires
  - Preparing and running a survey
  - Documenting and communicating survey results
  - Common problems in surveys

Concepts:

Basic types of usability evaluations

- Formative evaluation
- Summative evaluation

Evaluation of a user interface against principles, heuristics, guidelines, conventions, or user requirements

- Usability evaluation (Synonym: Evaluation)
- Usability evaluation – User based (Synonym: Evaluation – User based)
- Usability test (previous lecture)
- Usability evaluation – Inspection based (Synonym: Inspection)
- Heuristic evaluation
- Heuristic

Preparing and running a user survey

- User survey
- Questionnaire

Exercises:

- Review a page from a website.
- Students comment on a questionnaire provided by the lecturer
- Identify which of the following three methods are suitable for user interface evaluation: Usability test, Focus group, and Heuristic evaluation.

2.8 Process Orchestration and Use of Methods

Key topics:

- The Usability professional - Roles and responsibilities
- Interdependence of human-centred design activities
  - Recap: Revisit ISO 9241-210, Figure 1. See section 2.1.
  - Go through all activities.
  - Add deliverables from each step based on the materials presented in lecture 2, 3, 4, and 5.
  - Suitability of methods across human-centred design activities

Concepts:

The Usability professional - Roles and responsibilities

- Usability Professional
- Usability Engineer
- User Requirements Engineer
- Usability Tester
- Information Architect
- Interaction Designer
- User Interface Designer

Exercise:

- Ask students to assign roles to each of the key UX delivables in the process diagram in section 2.2. For each deliverable, students should indicate the role that would most suitably produce the deliverable. The deliverables are
  - Project plan – UX part
  - Context of use description
  - User group profiles
  - Scenarios
  - Personas
  - User needs report
  - User requirements specification
  - Information architecture
  - Low-fidelity prototype
  - Styleguide
  - High-fidelity prototype
  - Evaluation report (usability test report)

  The suggested answer to this exercise appears in the following section.

- Example of certification test: Students have 20 minutes to answer 12 or more sample certification questions. Subsequently, the lecturer goes through the questions one by one. The goal is to familiarize students with the conditions for the certification test, and the style and concepts used in the test.

Responsibility of roles for key deliverables

The matrix shows which role (top row) is responsible for each of the key UX deliverables (left column).

For example, the matrix shows that the user requirements engineer is responsible for the context of use description, the user group profiles, the scenarios and personas, the user needs report, and the user requirements specification. All deliverables except the project plan are defined in the Glossary.

UX Deliverable	Usability Engineer	User Require-ments Engineer	Usability Tester	Information Architect	Inter-action Designer	User Interface Designer
Project plan – UX part	✓					
Context of use description		✓				
User group profiles		✓				
Scenarios		✓				
Personas		✓				
User needs report		✓				
User requirements specification		✓				
Information architecture				✓		
Low-fidelity prototype						✓
Styleguide					✓	
High-fidelity prototype						✓
Evaluation report (usability test report)			✓			

3 Glossary

Term / Concept	Definition
Accessibility	The attributes and characteristics of an **interactive system** that allow people with limited vision, hearing, dexterity, cognition or physical mobility to interact **effectively** and **efficiently** with the **interactive system**. Notes: 1. Standards and guidelines for accessibility are available, and standards may be legally enforced in some markets. 2. Accessibility aids, such as screen readers, may be added to an **interactive system** to **allow users** with disabilities to use those systems.
Affordance	An aspect of an object that makes it obvious how the object could be used. Note: 1. Affordances and **self-descriptiveness** are means to make an **interactive system intuitive**. Examples of affordances: 1. A handle on a tea pot or tea cup provides an obvious affordance for holding. 2. A button on a web page provides an affordance for clicking. 3. A company logo in the upper left corner of a web page provides limited affordance for clicking.
As-is scenario	See scenario
Briefing	The first activity in an **Interview** or a **Usability test session** where the participant is informed about the purpose of the **Interview** or **Usability test** and what their role and contribution are.
Closed question	An interview question that requires an answer from a predetermined set of alternatives, for example yes and no. Notes: 1. Avoid several closed questions in sequence. They stop **users** talking because they sound like a police interrogation. 2. Compare to **Open question**. Example of a closed question: 1. "Have you ever rented a car?" Corresponding open question: "Please tell me about the last time you rented a car."
Conformity with user expectations	Correspondence to predictable contextual needs of the user and to commonly accepted conventions. Notes: 1. **Consistency** is an aspect of Conformity with user expectations. 2. Conformity with user expectations is a **dialogue principle**.

Term / Concept	Definition
Consistency	The same information is presented in the same way throughout the **interactive system**, in accordance with the **user**'s expectation. Notes: 1. Consistency is an aspect of **Conformity with user expectations**. 2. **Consistency** is relevant on several levels, for example a. within a screen; b. across screens in the same **interactive system**; c. across **interactive systems** from the same manufacturer; d. across similar **interactive systems** from different manufacturers.
Context of use	**Users, tasks, resources,** and the physical and social **environments** in which an **interactive system** is used Notes: 1. The results from **observations** and **contextual interviews** are described in the **"**context of use description". This description is the basis for identifying **user needs** and tracing them back to their source. 2. A context of use description describes a. **User groups** and **user group profiles**, b. **Tasks**, c. **Environments**, d. **Equipment**, **e. Scenarios** illustrating what happens in the context of use Course note: 1. Helpful acronym: PACT = People, Activities, Contexts, Technologies. Examples of context of use descriptions: 1. Teenagers use mobile phones to send text messages to their friends while sitting on a bus. 2. Secretaries use Microsoft Word to write documents in a firm of solicitors.
Contextual interview	An **interview** that takes place at the location where the **user's** interaction with the **interactive system** usually takes place, for example the **user's** workplace. Note: 1. "Contextual interview" is often referred to as "Contextual inquiry".
Control-lability	The ability of a **user** to initiate and control the direction and pace of the interaction until the point at which the **goal** has been met. Note: 1. Controllability is a **dialogue principle**.
Debriefing	See **Post-session interview**.
Design pattern	A general reusable solution to a commonly occurring problem within a given context in software design that describes a design problem, a solution, and where this solution has been found to work. Course note: 1. Several websites offer free access to a large selection of design patterns, for example www.welie.com
Dialogue	Interaction between a **user** and an **interactive system** that consists of **user** actions (input) and responses from the **interactive system** (output) in order to achieve a **goal**.

Term / Concept	Definition
Dialogue principles	General **goals** for the design of **useful** and **usable dialogues**. Notes: 1. Dialogue principles are not bound to any specific technology or technique. 2. Dialogue principles may be difficult to apply because of their generality. 3. ISO 9241-110 lists the following seven dialogue principles: a. **Suitability for the task;** b. **Self-descriptiveness;** c. **Conformity with user expectations;** d. **Suitability for learning;** e. **Controllability;** f. **Error tolerance;** g. **Suitability for individualization.** 4. Compare dialogue principle to a. **Heuristic** – A rule of thumb that helps to achieve **dialogue principles**. It is more specific and easier to apply than a **dialogue principle**. b. **User interface guideline** – Low-level specific rule for interface design.
Direct user	Person who interacts with an **interactive system**. Note: 1. A direct user is either a **Primary user** or a **Secondary user**. Examples of direct users: 1. A supporter in a call centre using a computer system is a direct user of the computer system, while customers who call the call centre are direct users of the support service, but **indirect users** of the computer system.
Effectiveness	Extent to which correct and complete goals are achieved. Notes: 1. Effectiveness is one of the three measurable attributes for **usability**. The others are **efficiency** and **satisfaction**. 2. Effectiveness is the attribute of **usability** that focuses on being able to accomplish **tasks**.
Efficiency	**Resources** expended to achieve specified **goals**. Notes: 1. **Resources** include time, human effort, financial and material resources. 2. Efficiency is one of the three measurable attributes for **usability**. The others are **effectiveness** and **satisfaction**. 3. Efficiency is the attribute of **usability** that focuses on being able to accomplish a **task** using acceptable amounts of **resources**.
Environment	The physical, social and technical conditions in which a **user** interacts with an **interactive system**. Note: 1. The social conditions include the organizational conditions.

Term / Concept	Definition
Error tolerance	The property of a **dialogue** to achieve the intended result with either no, or minimal, corrective action by the **user** despite evident errors in input. Note: 1. Error tolerance is a **dialogue principle**. Examples of error tolerance: 1. When an error occurs, the **interactive system** should provide a precise and comprehensible explanation. The explanation must also be constructive – that is, it must suggest a solution to the problem. 2. If severe consequences could result from a user action, the **interactive system** should provide explanation and request confirmation before carrying out the action.
Evaluation	See **Usability evaluation.**
Evaluation report	A document reporting the results of a **usability test**, an **inspection** or a **user survey**. Note: 1. The evaluation report for a **usability test** is usually referred to as a **usability test report**.
Facilitator	See **Moderator**
Finding	See **Usability finding**
Formative usability evaluation	A type of **usability evaluation** designed and used to improve an **interactive system**, especially when it is still being designed. Note: 1. Compare to **Summative usability evaluation**.
Focus group	A focused discussion where a **moderator** leads a group of participants through a set of questions on a particular topic. Notes: 1. Do not use focus groups for **usability evaluation**. 2. Focus groups are about opinion. In comparison, **usability tests** are about observing actual user behaviour.
Goal	Intended outcome.
Guideline	See **User interface guideline**.
Heuristic	A generally recognized rule of thumb that helps to achieve **usability**. Notes: 1. Heuristics mainly serve to ensure usability (rather than usefulness). 2. Compare heuristic to a. **Dialogue principle** – a general goal for the design of **dialogues**. May be difficult to apply because of its generality b. **User interface guideline** – Low-level specific rule for interface design. Examples of generally recognized heuristics (by Jakob Nielsen and Rolf Molich): 1. Follow real world conventions. For example, speak the users' language. 2. Follow platform conventions. 3. Minimize the user's memory load by making objects, actions, and options visible. 4. Provide appropriate feedback within reasonable time. 5. Help users recognize, diagnose, and recover from errors.

Term / Concept	Definition
Heuristic evaluation	A **usability evaluation** method in which one or more evaluators, preferably experts, compare an **interactive system** to a list of **heuristics** and identify where the **interactive system** does not follow those **heuristics**. Notes: 1. The list of **heuristics** must be manageable. Usually about 10 **heuristics** are used. 2. Experts can be usability experts or subject matter experts ("single experts"), or both ("double experts").
High-fidelity prototype	A software **prototype** of the **user interface** to the **interactive system** that is being designed. A high-fidelity prototype resembles the finished **interactive system** and may or may not be interactive. Note: 1. Compare to **low-fidelity prototype**. 2. High fidelity prototypes can be constructed either using a prototyping application or using office software (such as PowerPoint).
Human-centred design	An approach to design that aims to make **interactive systems** more usable by focusing on the use of the **interactive system** and applying human factors, ergonomics and usability knowledge and techniques. Notes: 1. The concept "human-centred design" is used instead of "user-centred design" to emphasise the need to consider additional **stakeholders** who may not be **users**. 2. Feedback from **users** through **usability evaluation** is a critical source of information in human-centred design.
Indirect user	Person who directly uses the output of the **interactive system**, but does not interact directly with the system. Example of an indirect user: 1. A bank customer who receives a paper or electronic statement, or visits a branch is an indirect user of the output produced by the bank computer system.
Information architect	A person who creates and organizes the structure of information to enable each **user group** to efficiently locate required information when using **interactive systems**. Note: 1. Information architect is a process **role** in **human-centred design**.
Information architecture	The naming and structuring of the information that must be accessible to the **user**, including **task objects**, system objects (such as printers) and additional information that users need.
Inspection	See **Usability evaluation – Inspection based**
Interaction designer	A person who defines and designs the interaction between humans and system based on **user requirements** and the **context of use**. Note: 1. **Scenarios** and **personas** are also important bases for the work of the interaction designer 2. Interaction designer is a process **role** in **human-centred design**.

Term / Concept	Definition
Interactive system	A combination of hardware, software and/or services that receives input from, and communicates output to, **users.** Note: 1. This includes, where appropriate, packaging, branding, user documentation, on-line help, support and training.
Interview	A data-gathering technique that studies a few carefully selected individuals in depth to arrive at a fuller understanding of the work practice across all **users**. Through inquiry and interpretation, it reveals commonalities across an **interactive system's user** base. Notes: 1. In an interview, the interviewer (the **user requirements engineer**) typically conducts a **briefing** and then asks questions to a **user** about current procedures and the planned **interactive system**. The interviewer uses an **interview checklist** to ensure that all relevant questions are asked. 2. The **master-apprentice model** should be applied when conducting interviews 3. Interview questions should be a. **Open** rather than **closed**, b. **Neutral** rather than **leading**. 4. Compare to **contextual interview**, **pre-session interview** and **post-session interview**.
Interview checklist	A written list of suitable questions and cues used by an interviewer during an **interview** to make sure that all relevant topics are addressed.
Intuitive	Use of the **interactive system** is easy to understand, regardless of the **user's** experience, knowledge, language skills, or current concentration level. Note: 1. **Affordances** and **self-descriptiveness** are means to make an **interactive system** intuitive.
ISO 9241	A family of standards covering human-centred design. Note: 1. ISO 9241 includes standards related to a. Software ergonomics, b. The human-centred design process, c. Displays and display related hardware, d. Physical input devices, e. Workplace ergonomics, f. Environment ergonomics, g. Control centres, h. Tactile and haptic interactions.
Iterative	Repetitive. An iterative process repeats steps in the **human-centred design** process until a **usability evaluation** of the **user interface** shows that the **user requirements** have been adequately met.

Term / Concept	Definition
Leading question	A question in an **interview** that signals a preference for certain possibilities, or attempts to direct the reply in a certain direction. Note: 1. Compare to **neutral question**. Example of a leading question: 1. "Would you like to have pretty colours on the home page of the new car rental website?" Corresponding neutral question: "What should the home page of the new car rental website look like?" Note that the neutral question doesn't even mention colour.
Low-fidelity prototype	A low-cost, simple illustration of a design or concept used to gather user feedback at the very early stages of design Notes: 1. A low-fidelity prototype is often created using paper, pens, sticky notes and so on. Screen mockups are often made by using a **wireframe** prototyping tool. 2. A low-fidelity prototype may be operated by a human being instead of a computer. 3. A low-fidelity prototype should be capable of being updated in moments. 4. Compare to **prototype** and **high-fidelity prototype**.
Market requirement	A **requirement** for an **interactive system** based on marketing policy aimed at maximizing business opportunities, purchase and use. Notes: 1. Market requirements are often referred to as customer requirements. Example of market requirement: 1. "The website must be at least as usable as that of the two top competitors"
Master-apprentice model	A principle for a successful **interview**: The interviewer treats the **user** as the Master while the interviewer is the Apprentice. The interviewer asks because they sincerely want to learn – not to demonstrate their knowledge
Mental model	The perception people have of themselves, others, the environment, and the things with which they interact. Notes: 1. Alternative, popular definition: A person's thought process about how something works in the real world. 2. People form mental models through experience, training, and instruction. The mental model of an **interactive system** is formed largely by interpreting its perceived actions and its visible structure. Expectations resulting from the use of other or similar systems are also of importance. 3. If a user's mental model of an **interactive system** is incomplete or contradictory, then the user cannot easily use the **interactive system**.
Moderation	The activity carried out by a **moderator** in a **usability test** or **focus group**.
Moderator	A neutral person who conducts a **usability test session** or a **focus group** session. Notes: 1. Moderator is a role in a **usability test session** or **focus group** session. 2. The moderator's tasks during a **usability test session** are described under **usability test session**. 3. Facilitator is a frequently used synonym for moderator.

Term / Concept	Definition
Navigation structure	The logical organization of the units of displayed information that comprise the **user interface**. Notes: 1. In practice, the "units of displayed information" are often screens, pages or windows. 2. The navigation structure comprises: a. The logical structure, for example hierarchy, the order and grouping of elements of the user interface and navigation items. b. The navigation elements that are used to navigate the structure, for example menus and breadcrumbs. 3. The navigation structure is part of the **information architecture**. The **information architect** is responsible, and creates it together with the **interaction designer**.
Neutral question	A question in an **interview** that has no built-in assumptions, and no frame that excludes anything or directs the reply in a certain direction. Note: 1. Compare to **leading question**. Examples of neutral (and **open**) **interview** questions: 1. What happened? 2. What do you mean by that? 3. What possibilities do you have now? 4. What should the home page of the new car rental website look like?
Note-taker	A usability specialist who makes notes of **usability findings** during a **usability test session, focus group** or **interview**. Notes: 1. Note-taker is a **role** in a **usability test session, focus group** or **interview**. 2. The use of a note-taker allows the **moderator** to fully concentrate on the **usability test participant**.
Observation	A technique for gathering contextual information relating to **user needs** in which an **observer** watches **users** who carry out **tasks** that are related to the **interactive system**. Notes: 1. The **observer** behaves unobtrusively except that he/she may ask an occasional clarifying question. 2. If no **interactive system** is available, observe the existing manual procedures. 3. Observation should take place in a context that is as natural as possible, for example at the user's workplace.
Observer	A person who watches **users** who discuss or carry out **tasks** that are related to the **interactive system**. Notes: 1. Observer is a **role** in a usability activity, such as an **observation, usability test session** or **focus group**. 2. Observers do not interfere with the usability activity. Observers may be actively involved in the analysis of the results.

Term / Concept	Definition
Online help	Assistance delivered through computer software that can be topic-oriented, procedural or reference information. Notes: 1. Most online help is designed to give assistance in the use of an **interactive system**, but can also be used to present information on a broad range of subjects. 2. Online help is a form of **user assistance**.
Open question	A question in an **interview** that does not give any indication of the expected format or content of the answer. Notes: 1. Open questions are desirable in **interviews** because they invite **users** to start talking and provide extensive answers to questions. 2. Compare to **Closed question**. Examples: 1. For examples of open (and **neutral**) **interview** questions see **Neutral question**:
Organizational requirement	An organizational rule that **users** have to follow when conducting their **tasks**. Note: 1. Organizational requirements are requirements on the **users** that lead to **requirements** on the **interactive system**. Examples: 1. A salesperson must have a written approval from the director for offers that exceed 100.000 Euros. 2. An exact description of how a **user** must handle an order.
Persona	A description of a **user** and what he or she intends to do when using an **interactive system**. Note: 1. Personas are not real; rather they are imaginary but realistic examples of the real **users** they represent based on empirically determined data, for example from **observation**s or **interviews**. 2. Personas typically have a name, age, some background, **goals** and aspirations. A persona description should include information about the persona's knowledge about and interest in the subject matter of the **interactive system**. Persona descriptions often but not always have a photo.
Positive usability finding	See **Usability finding**
Post-session interview	An activity in a **usability test session** where the **usability test participant** answers questions about his/her experience and general impression of the **usability** of the **interactive system**. Notes: 1. The post-session interview takes place after the **usability test participant** has carried out as many **usability test tasks** as time allows. 2. Also referred to as a debriefing.

Term / Concept	Definition
Pre-session interview	An activity in a **usability test session** where the **usability test participant** answers questions about his/her background and previous experience with the **interactive system** or related **interactive systems**. Note: 1. The pre-session interview takes place after the **briefing** but before the **usability test participant** starts carrying out **usability test tasks**.
Primary user	A person who interacts with an **interactive system** to achieve **goals** supported by the system.
Problem	See **Usability problem**
Prototype	A representation of all or part of an **interactive system** that, although limited in some way, can be used for analysis, design and evaluation. Note: 1. This glossary further distinguishes between **high-fidelity prototype** and **low-fidelity prototype**.
Qualitative user requirement	A statement of what **users** must be able to locate, recognize, understand, select or input as part of conducting a **task** with the **interactive system.** Notes: 1. Qualitative user requirements are the basis for efficient use of the **interactive system**. In contrast, **quantitative user requirements** can enforce measures on the **efficiency** of the **interactive system** – that is, whether users can solve particular **tasks** with the **interactive system**, e.g. in an acceptable time or with a specified maximum number of use errors. 2. Qualitative user requirements are not features. They provide the basis for features. 3. Compare to **quantitative user requirement** Examples: 1. Reasonable qualitative user requirements: a. "The user must be able to compare the differences between cars that are available for a specific price range at the car rental website." b. "The user must be able to select a car with automatic transmission at the car rental website." c. "The user must be able to see the opening hours of a specific car rental location." 2. Incorrect qualitative user requirements: a. "The user interface must be usable and support all user tasks" (too general) b. "The user interface must have a big, red "Rent this car" button" (too detailed)
Quality	The degree to which the **interactive system** fulfils **requirements**. Note: 1. Examples of quality characteristics other than usability are correctness, reliability and security.

Term / Concept	Definition
Quantitative user requirement	Required level of **usability** to meet identified **user needs** expressed in terms of measures of **effectiveness**, **efficiency** and **satisfaction** in a specified **context of use**. Notes: 1. Quantitative user requirements are acceptance criteria for the **effectiveness**, **efficiency and satisfaction** of the **interactive system**, for example whether users can solve particular **tasks** with the system in an acceptable time or with a specified maximum number of use errors. 2. Compare to **qualitative user requirement**. In particular, compare the examples. Example: 1. "80% of users who have used the car rental website at least twice must be able to rent within 5 minutes an economy size car at Frankfurt Airport (Germany) for two days starting tomorrow at 09.00." 2. Compare the above example to the examples in **qualitative user requirement**.
Questionnaire	A set of questions that is used collect data from **users**, often in a **user survey**. Notes: 1. Two important uses of questionnaires in usability are: a. To understand the **context of use**. Questions are about the **users**' experience with the current **interactive system** and their expectations for the new **interactive system**. Questions are answered in text form. b. To **evaluate** the **user experience** before, during and after the use of an **interactive system**. 2. Questionnaires must be usable. They must adhere to **dialogue principles**, for example a. Each question must contribute significantly to the purpose of the questionnaire; b. Questions must be easy to understand; c. The questionnaire must keep users informed of their progress; d. The questionnaire must be usability tested. 3. This definition applies to both digital and paper questionnaires. Examples of questions to understand **context of use:** 1. "When did you last use the car rental website? What was your business?" 2. "What do you expect from a car rental website?" Examples of questions to **evaluate satisfaction**: 1. "On a scale from 1 to 5, where 1 means "strongly disagree", 3 means "neutral", and 5 means "strongly agree", please rate the following statements: a. The new car rental website looks cool. b. The new car rental website is easy to use. c. The new car rental website lets me rent cars quickly.

Term / Concept	Definition
Recruiting	A process for selecting candidates that have the required qualifications to participate in a human-centred activity such as a **focus group, contextual interview**, or **usability test**. Note: 1. A **recruitment screener** is often used to determine whether candidates have the required qualifications to participate in the human-centred activity. 2. Relevant qualifications include: Background, knowledge of the subject matter, attitudes and interests.
Recruitment screener	A series of questions for prospective participants to identify whether they represent the intended **users** and therefore qualify to participate in a human-centred activity, for example a **usability test** or a **focus group**. Notes: 1. A recruitment screener is used during recruiting to determine whether candidates have the required qualifications to participate in the activity. 2. Relevant qualifications include: Background, knowledge of the subject matter, attitudes and interests.
Remote usability test	A usability test where the **usability test participant** and the **moderator** are in different physical locations. Notes: 1. The **moderator** observes the **usability test participant** using an internet connection. 2. The **moderator** communicates with the **usability test participant** over the telephone or via an internet connection. 3. Compare to **usability test** and **unattended usability test**.
Requirement	A condition or capability that must be met or possessed by an **interactive system** to satisfy an agreement, standard, specification or other formally imposed documents Notes: 1. A requirement should have a determinable condition that makes it possible to validate it. 2. This glossary defines the following types of requirements: a. **Stakeholder requirement**; b. **Market requirement**; c. **Organizational requirement**; d. **User requirement**. 3. This glossary further distinguishes between **Qualitative user requirement**, and **Quantitative user requirement**.
Resources	All means required to use an **interactive system**. Note: 1. Typical examples of resources are time, financial cost, physical and mental effort, hardware, software and materials.

Term / Concept	Definition
Role	A duty or function that a person carries out within an organization. Notes: 1. A role describes a set of connected behaviors, rights, obligations, and norms in a job situation. 2. Roles are occupied by individuals, who are called actors. 3. Depending on the complexity of a project, several people might share one role or multiple roles might be assigned to one person. 4. Work roles are "hats" that people wear when they take on the corresponding job responsibilities and perform the associated activities. Example: 1. In a **usability test session**, one person can simultaneously occupy the roles **moderator** and **note-taker**. In another **usability test session**, in contrast, one person may act as **moderator** and two other people may both act as **note-takers**.
Satisfaction	Freedom from discomfort, and positive attitudes towards the use of the product Notes: 1. The proposed new ISO definition may be a bit easier to understand: Attitudes related to the use of an **interactive system**, and the emotional and physical outcomes arising from use. 2. Satisfaction is one of the three measurable attributes for **usability**. The others are **effectiveness** and **efficiency**. 3. Satisfaction is measured using a **questionnaire**.

Term / Concept	Definition
Scenario	A narrative text description of the procedure a specific **user** follows to complete one or more **tasks**. Notes: 1. The specific **user** in the scenario is often a **persona**. 2. There are two main types of scenarios a. As-is scenarios describe how **tasks** are currently accomplished. As-is scenarios describe the current **context of use** and serve as a basis for identifying **user needs** and deriving **user requirements**. See example 1 below. b. Use scenarios describe how **tasks** are accomplished with the anticipated **interactive system**. Use scenarios are used to create initial **low-fidelity prototypes**. See example 2 below. 3. Scenarios are created by the **user requirements engineer** based on results from **observation** and **contextual interviews**. 4. **Personas** and scenarios evolve together as thinking about **users** involves thinking about what they want to do, and thinking about activities involves thinking about who will be undertaking them. 5. Scenarios are reviewed by **users** to detect misunderstandings that may have occurred during **contextual inquiry** 6. A scenario should avoid placing unneccessary constraints on the design by referencing specific objects, such as buttons, in the **user interface**. 7. Scenarios are used to create **task models** and early **prototypes** that support the **tasks** in the scenario. Examples of scenarios: 1. **“**John Miller is a business traveler who often takes flights in the course of a week. He prefers to take his car to the airport. But every now and then he misses a flight and then regrets not to have taken a taxi or the tram to the airport. He simply underestimates the car queues in front of the car park and the walking time to the gate.” This example corresponds to note 2a, the current situation. 2. “Before going to the airport, John Miller checks the situation at the car park at the airport with his new application. If sufficient parking spaces are available, he reserves a place to park with his new application and then relaxedly drives to the airport with his car. He knows that since the application has been launched there is a separate entry for cars with reservations,” This example corresponds to note 2b, the anticipated situation. 3. The following text, which supplements the above example 2, is too specific and violates note 6: "John Miller looks at the 'Overview of available park spaces' screen and selects a parking space by clicking the 'Select' button. He then clicks the 'Reserve'-button and reserves the parking space."
Secondary user	A person who interacts with an **interactive system** to support the use of the system or maintain the system. Examples of secondary users: 1. Security manager, administrator, trainer and maintenance.

Term / Concept	Definition
Self-descriptive-ness	The property of a **dialogue** to, at any time, make it obvious to the **users** which dialogue they are in, where they are within the **dialogue**, which actions can be taken, and how they can be performed. Note: 1. **Affordances** and self-descriptiveness are means to make an **interactive system intuitive**. 2. Self-descriptiveness is a **dialogue principle**.
Severity rating	A measure given to a **usability problem** from a **usability test** to indicate the impact and criticality on the **user experience** and the consequences. Notes: 1. The **usability tester** rates **usability problems** from the **usability test participants**' point of view. Sometimes, the ratings are done in cooperation between the **usability tester** and a domain expert 2. Typical severity ratings are: Minor, severe, critical, and life-threatening.
Stakeholder	Individual or organization having a right, share, claim or interest in an **interactive system** or in its possession of characteristics that meet their needs and expectations. Notes: 1. All **users** are stakeholders. 2. See also the various types of **requirements**. 3. The following examples illustrate the breadth of this concept. Examples of stakeholders: 1. **Users**, supporters, trainers, documentation writers, developers, managers of developers, and marketing people.
Stakeholder requirement	What the **interactive system** should be capable of from the point of view of the **stakeholders**.
Storyboard	A sequence of visual frames illustrating the interplay between a **user** and an envisioned **interactive system**. Note: 1. A storyboard is often a comic book style representation of a **scenario**. 2. Storyboards are unsuitable as **prototypes** because they tell stories and do not afford interaction.
Styleguide	A collection of **user interface guidelines** used to ensure **consistency** in the appearance and behaviour of the **user interface** of the **interactive system**s produced by an organization Note: 1. Styleguides are sometimes called UX Guides. Examples of styleguides: 1. Windows User Experience Interaction Guidelines for Windows Desktop apps (“UX Guide”) 2. IOS Human Interface Guidelines
Suitability for individuali-zation	The property of a dialogue that allows **users** to modify interaction and presentation of information to suit their individual capabilities and needs. Note: 1. Suitability for individualization is a **dialogue principle**.

Term / Concept	Definition
Suitability for learning	A dialogue is suitable for learning when it supports and guides the **user** in learning to use the **interactive system**. Notes: 1. Recommendations for observing the **dialogue principle**: a. The **dialogue** should provide sufficient feedback about the intermediary and final results of an activity so that the **user** learns from successfully accomplished activities. b. If appropriate to the tasks and learning goals, the **interactive system** should allow the **user** to explore ("try out") dialogue steps without negative consequences. 2. Suitability for learning is a **dialogue principle**. Example of suitability for learning: 1. When **users** reserve a room using a hotel room reservation system, the **users** receive step-by-step feedback to refine their queries and details about the successful reservation of the room.
Suitability for the task	The property of an **interactive system** to support the **user** in the completion of the **task**, i.e. to base the functionality and the dialogue on the **task** characteristics (rather than the technology chosen to perform the **task**). Notes: 1. Recommendations for observing the **dialogue principle**: a. The **dialogue** should present the **user** with information related to the successful completion of the **task**. b. The **dialogue** should avoid presenting the **user** with information not needed for the successful completion of relevant **tasks**. c. The format of input and output should be appropriate to the **task**. If typical input values are required for a **task**, these values should be available to the **user** automatically as defaults. d. The steps required by the **dialogue** should be appropriate to the completion of the **task**, i.e. necessary steps should be included and unnecessary steps should be avoided. 2. Suitability for the task is a **dialogue principle**.
Summative usability evaluation	A type of **usability evaluation** designed and used to gather conclusions about the merit or worth of an **interactive system**, especially when a substantial part of it has completed design. Notes: 1. A summative usability evaluation may be used to evaluate a design against **user requirements** in order to determine whether the design is acceptable from the **users'** point of view. 2. Compare to **Formative usability evaluation**.

Term / Concept	Definition
System-initiated guidance	Explicit information about an event or a condition from an **interactive system** to a **user**. Note: 1. System-initiated guidance includes a. Messages (informative, warning, error) b. Status information, for example "7 new messages" c. Instructions, for example "Separate e-mail addresses by space, comma, semicolon or line break" 2. Messages must be constructive, precise, comprehensible and visible. 3. System-initiated guidance is a form of **user assistance**.
Task	Activities required to achieve a **goal** Notes: 1. Most tasks can be subdivided into subtasks –that is, activities. 2. Most subtasks lead to choices or inputs of the user when using the interactive system. 3. Some subtasks can be subdivided into smaller subtasks. Examples of tasks: 1. Renting a car is a task. 2. Cancelling a reservation is a task. 3. Registering on a car rental website is a subtask. It is not a **user goal** but an annoyance from the user's point of view. Users would never feel that they had achieved a **goal** after registering. 4. "Logging in" is a subtask. It is not a **user goal** but an annoyance from the user's point of view. 5. Entering the user name and pressing the Tab key is one of several subtasks required to complete the subtask "logging in".
Task model	A description of the **subtasks** that have to be carried out in order to reach the **user's goals**. Note: 1. A task model describes the logic of the **task** itself, while a **scenario** describes the completion of one or more tasks by a **persona**.
Task object	The key units of information, or data, with which **users** interact in order to carry out their **tasks**. Examples of task objects: 1. For a customer management system: - A letter to a customer; - A list of the customer's unpaid bills; - An order from the customer. 2. For a train ticket vending machine: - A ticket: - A receipt for the purchase of a ticket; - A travel plan.
Test participant	See **Usability test participant**
Test report	See **Usability test report**.
Test script	See **Usability test script**.
Test task	See **Usability test task**.

Term / Concept	Definition
Unattended usability test	A **usability test** where **usability test participants** solve **usability test tasks** without being observed. Note: 1. **Usability test participants**' actions are usually video recorded for later analysis. 2. Unattended usability tests are often conducted on the **test participant's** computer in his/her home. Video recording is accomplished through recording software installed on the computer by a vendor of unattended usability testing services. 3. Compare to **Usability test** and **Remote usability test**.
Usability	Extent to which an **interactive system** can be used by specified **users** to achieve specified **goals** with **effectiveness**, **efficiency** and **satisfaction** in a specified **context of use**. Note: 1. The phrases "specified users", "specified goals" and "specified context of use" are of particular importance in the definition.
Usability engineer	A person who manages a **human-centred design** process. Notes: 1. The usability engineer (UE) is well versed in the **human-centred design** process, available human-centred engineering methods and tools, and guidelines for usable **user interfaces**. This knowledge enables the UE to manage a. Human-centred design activities; b. The integration of **human-centred design** into the organization's design process for **interactive systems**; c. The definition of measurable human-centred **goals** for a project; d. The training of participating project team members. 2. The UE determines suitable approaches, tools and **styleguides** for the **human-centred design** in general and for specific projects. The UE assists management in deciding whether work packages should be carried out by qualified employees in the organization or by competent subcontractors. 3. Usability engineer is a process **role** in **human-centred design**.
Usability evaluation	A process through which information about the **usability** of an **interactive system** is gathered in order to improve the **interactive system** (known as **formative usability evaluation**) or to assess the merit or worth of an **interactive system** (known as **summative usability evaluation**). Notes: 1. Usability evaluation is a common term for a. **Usability evaluation - Inspection based** b. **Usability evaluation – User based** 2. The synonym "Evaluation" is also often used.

Term / Concept	Definition
Usability evaluation – Inspection based	Usability evaluation based on the judgment of one or more evaluators who examine or use an **interactive system** to identify potential usability problems and deviations from established criteria. Notes: 1. Inspection-based usability evaluation is often performed by usability experts or subject matter experts who base their judgement on prior experience of **usability problems** encountered by **users** and their own knowledge of ergonomic **user interface guidelines** and **styleguides**. 2. **Heuristic evaluation** is a technique for inspection based usability evaluation.
Usability evaluation – User based	Usability evaluation that involves representative **users** performing specific **tasks** with the **interactive system** to enable identification of **usability problems**, or measurements of **efficiency**, **effectiveness**, user **satisfaction**, or other measures of **user experience**. Note: 1. See **Usability test**.
Usability finding	A result from a **usability evaluation**. Note: 1. A usability finding can describe a. A **usability problem**. b. Something that **users** liked – that is, a positive usability finding.
Usability lab	Two or more rooms that are specially equipped for **usability testing** or **focus groups**. Note: 1. A usability lab often consists of a. a test room where the **usability test participant** sits, b. an observation room where **stakeholders** can watch **usability test participants** as they solve **usability test tasks**. Often, the two rooms are separated by a one way mirror which enables **observers** to watch the **usability test participant** but not vice versa.
Usability problem	A difficulty in using the **user interface** design that affects the ability of the **user** to achieve their **goals effectively**, or **efficiently**, or with **satisfaction**. Note: 1. Usability problems can lead to confusion, error, delay, or outright failure to complete some **task** on the part of the **user**.
Usability professional	A professional who has one or more of the following process **roles**: 1. **Usability engineer**, 2. **User requirements engineer**, 3. **Usability tester**, 4. **Information architect,** 5. **Interaction designer,** 6. **User interface designer.**

Term / Concept	Definition
Usability test	A **usability evaluation** that involves representative **users** performing specific **tasks** with the **interactive system** to enable identification of **usability problems** or the measurement of **effectiveness**, **efficiency**, and user **satisfaction**. Notes: 1. A usability test is managed by a **usability tester**. 2. A usability test usually has three phases: a. Planning, including writing the **usability test plan**, writing the **usability test script**, and **recruiting** suitable **usability test participants**, b. Conducting **usability test sessions** as described in note 3, c. Communicating **usability findings**, including writing the **usability test report**. 3. A usability test consists of a number of **usability test sessions**. In each session, a **usability test participant** attempts to carry out representative **usability test tasks** using the **interactive system** or a **prototype** of the **interactive system**. Usually, **usability test sessions** are moderated by a **moderator** and observed by a number of **observers**, who are often **stakeholders**. A **note-taker** records important **usability findings**. 4. The concept "usability test" usually refers to a test where the **usability test participant** and the **moderator** are in the same physical location. Other forms of usability tests are **Remote usability test** and **Unattended usability test**. 5. Testing may result in qualitative or quantitative data. 6. Testing may occur at any time during human-centred design, from early analysis through **interactive system** delivery and beyond. Testing may be based on paper sketches or display mock-ups, as well as on **interactive systems** under design and completed **interactive systems**. 7. **Roles** in a usability test are: a. **Moderator;** b. **Note-taker;** c. **Observer;** d. **Usability test participant**.
Usability test participant	A representative **user** who solves typical **tasks** in a **usability test**.
Usability test plan	A brief description of the purpose and extent of a **usability test**. Notes: 1. The usability test plan is intended for management to decide whether the **usability test** should be run or not. It is deliberately brief and focuses on the resources required for the **usability test**. 2. The usability test plan includes a. Number of planned **usability test participants**; b. Approximate length of each **usability test session**; c. Name of **moderator**; d. Time plan; e. A cost estimate for the **usability test** including person hours. 3. Further details about the **usability test** such as **usability test tasks**, test method and required software and hardware are provided in the **usability test script**.

Term / Concept	Definition
Usability test report	A document that describes the results of a **usability test**. Notes: 1. A usability test report typically contains a. An executive summary; b. 5-50 **usability findings** (including positive usability findings); c. The **usability test script** used for the **usability test**; d. Often, the usability test report also contains screenshots or pictures that supplement the description of important **usability findings**. 2. Also referred to as test report.
Usability test result	See **Usability finding**
Usability test script	A checklist used by a **moderator** in a **usability test** to keep track of **briefing** and **pre-session interview** questions, **usability test tasks**, and **post-session interview** questions.
Usability test session	A part of a **usability test** where one **usability test participant** carries out representative **usability test tasks** using the **interactive system** or a **prototype** of the **interactive system**. Notes: 1. In a usability test session, the **moderator** typically a. Greets the **usability test participant**; b. Conducts the **usability briefing** and **pre-session interview**, c. Hands out **usability test tasks** to the **usability test participant** d. Observes the **usability test participant** during **usability test task** solution, e. Conducts the **post-session interview**. 2. Compare to **Usability test**.
Usability test task	A description of a **task** that a **moderator** asks a **usability test participant** to carry out during a **usability test**.
Usability tester	A person who evaluates **user interfaces** in various stages of realization. Notes: 1. In cooperation with other **stakeholders**, the usability tester a. Plans **usability evaluations**, b. Conducts **usability evaluations**, c. Communicates **usability findings** to **stakeholders**. 2. During **usability test sessions** the usability tester has the **role** of **moderator** or **note-taker**. 3. Usability tester is a process **role** in **human-centred design**.
Use scenario	See scenario

Term / Concept	Definition
User	Person who interacts with an **interactive system**, or who uses the output of the system. Notes: 1. "User" is subdivided into a. **Direct user**: Interacts with the **interactive system**. b. **Indirect user**: Uses the output of the **interactive system**. c. **Primary user**: Interacts with the **interactive system** to achieve **goals** supported by the **interactive system**. d. **Secondary user**: Interacts with the **interactive system** to provide support, etc. 2. **Stakeholders** may or may not be users. **Stakeholders** are not considered to be users if they are affected by an **interactive system** but neither interact with the **interactive system** nor use the output of the **interactive system**. Examples of **stakeholders** who are not users: 1. Managers of users. 2. People affected by noise produced by the person using the **interactive system**. 3. Marketers affected by the impact of the output on the brand of the **interactive system**.
User assistance	Information to help a user to interact with an **interactive system**. Notes: 1. User assistance can include describing the user interface, but also focuses on how to help the **user** to best apply the capabilities of the **interactive system** to their needs. 2. User assistance incorporates all forms of help available to a user, for example a. **User documentation**, b. **Online help**; **c. System-initiated guidance**.
User-centred design	See **Human-centred design**.
User document-ation	Written or other information for **users** about an **interactive system**, how it works, and how to use it. Note: 1. User documentation is a form of **user assistance**.

Term / Concept	Definition
User experience	A person's perceptions and responses resulting from the use or anticipated use of an **interactive system**. Notes: 1. User experience includes **usability**. **Usability** criteria can be used to assess aspects of user experience. 2. User experience includes all the users' emotions, beliefs, preferences, perceptions and accomplishments that occur before, during and after use of the **interactive system**. 3. User experience is a consequence of brand image, presentation, functionality, system performance, interactive behaviour and assistive capabilities of the **interactive system**, and the **context of use**. Examples that illustrate the difference between **usability** and user experience: When ordering flowers for delivery from a flower store's website: 1. **Usability problems** encountered during checkout affect both the user experience and usability. 2. The quality of the physical flowers delivered affect only the user experience. It does not affect **usability**. 3. The experience of visiting the physical store affects the user experience of subsequent visits to the website. It does not affect **usability**. Course note: 1. Students must know the difference between **usability** and **user experience**.
User group	A collection of **users** with the same or similar personal characteristics and context of use related to the **interactive system**.
User group profile	A generalized description of a **user group**.
User interface	All components of an **interactive system** (software or hardware) that provide information and controls for the user to accomplish specific tasks with the **interactive system**.
User interface designer	A person who creates interactive **prototypes** and implements the **dialogue** and **user experience** based on the design created by the **interaction designer** and the **scenarios** created by the **user requirements engineer**. The user interface designer also creates interactive **prototypes**. Note: 1. User interface designer is a process **role** in **human-centred design**.

Term / Concept	Definition
User interface guideline	Low-level, specific rule or recommendation for user interface design that leaves little room for interpretation so designers implement it similarly. Notes: 1. Collections of user interface guidelines are called **styleguides**. 2. **Design patterns** must comply with relevant user interface guidelines. 3. Compare user interface guideline to a. **Dialogue principle** – a general goal for the design of dialogues. May be difficult to apply because of its generality. a. **Heuristic** – A rule of thumb that helps to achieve **dialogue principles**. It is more specific and easier to apply than a **dialogue principle**. Examples of user interface guidelines: 1. For all controls, such as buttons, select the safest, most secure value by default to prevent loss of data or system access. If safety and security aren't factors, select the most likely or convenient value. 2. The company logo must appear in the upper left corner of each page. Its position must be exactly the same as on the home page. Clicking the logo must cause the home page to be displayed. 3. The height of a button must be 23 pixels.
User need	A prerequisite identified as necessary for a **user**, or a **user group**, to achieve a **goal**, implied or stated within a specific **context of use**. Notes: 1. A user need is independent of any proposed solution for that need. In other words: A user need must not reference for example "the system" or "the website". 2. User needs are identified based on various approaches including **interviews** with users, **observations**, **user surveys**, **usability evaluations**, expert analysis, etc. 3. User needs often represent gaps (or discrepancies) between what should be and what is. 4. User needs are transformed into **user requirements** considering the **context of use**, user priorities, tradeoffs with other system requirements and constraints Examples of user needs: 1. A presenter (**user**) needs to know how much time is left (prerequisite) in order to complete the presentation in time (**goal**) during a presentation with a fixed time limit (**context of use**). 2. An account manager (**user**) needs to know the number of invoices received and their amounts (prerequisite), in order to complete the daily accounting log (**goal**) as part of monitoring the cash flow (**context of use**).
User requirement	**Requirement** for use that provides the basis for design and **evaluation** of an **interactive system** to meet identified **user needs**. Notes: 1. User requirements are derived from user needs. 2. A user requirement can be a **qualitative user requirement** or a **quantitative user requirement**.

Term / Concept	Definition
User requirements engineer	A person who identifies and describes the actual or intended **context of use** of **users**, and derives the **user requirements** and related **organizational requirements**, which need to be realized for a specific project. Notes: 1. The user requirements engineer identifies the **context of use** based on methods such as **interviews** with users, **observations**, **user surveys**, **usability evaluations**, expert analysis, etc. 2. The user requirements engineer generates **personas** and **scenarios** that ensure the **effectiveness, efficiency** and **satisfaction** when performing **tasks** with the **interactive system**. 3. User requirements engineer is a process **role** in **human-centred design**.
User survey	An **evaluation** where **users** are asked to report subjective data into a **questionnaire** based on their experience in using an **interactive system**. Notes: 1. User surveys can be used to evaluate **users' satisfaction** with an **interactive system** and to gather **context of use** information. 2. When done correctly, surveys can produce a higher degree of certainty in evaluation results than any qualitative research method.
Wireframe	A form of **low-fidelity prototype** consisting of schematic diagrams typically comprised of lines, rectangular boxes and text that represent the intended interaction design and navigational flow. Note: 1. Wireframes typically do not address visual design and precise layout. 2. A wireframe is a mockup of one screen. A suitable collection of wireframes forms a **low-fidelity prototype**.

4 Important changes to this document

Date, Version	Change
09-04-2014, v2.10	Removed the following concepts: - Design principle (not widely used) - Design rule (not widely used) - Dialogue rule (not widely used) - Error management (replaced by System-initiated guidance) - Expert review (not widely used, unsuitable for CPUX-F) - Geschäftsanforderung (translation of Business requirement in German glossary, not widely used) - Handlungsleitung (synonym for affordance in German glossary only, not widely used) - Heuristic inspection (use only Heuristic evaluation) - Model (too general), - Review (not widely used, unsuitable for CPUX-F) - Scenario as a way of expressing usability test tasks (too advanced for CPUX-F) - Search (too general), - User interface standard (not widely used, replaced by Styleguide) Added the following concepts: - Usability briefing (first activity in interview and usability test session). Later changed back to "briefing" - Direct user, Indirect user, Primary user. - System message (replaces Error management) - Interview Changed - User and Secondary user definitions revised considerably - Pre-test interview to Pre-session interview; - Post-test interview to Post-session interview - Test script to Usability test script - Test participant to Usability test participant - Test task to Usability test task - Designmuster to Design Pattern (in German only) - Design principle, heuristic and user interface guideline defined more precisely and related to each other - Scenario definition revised considerably.