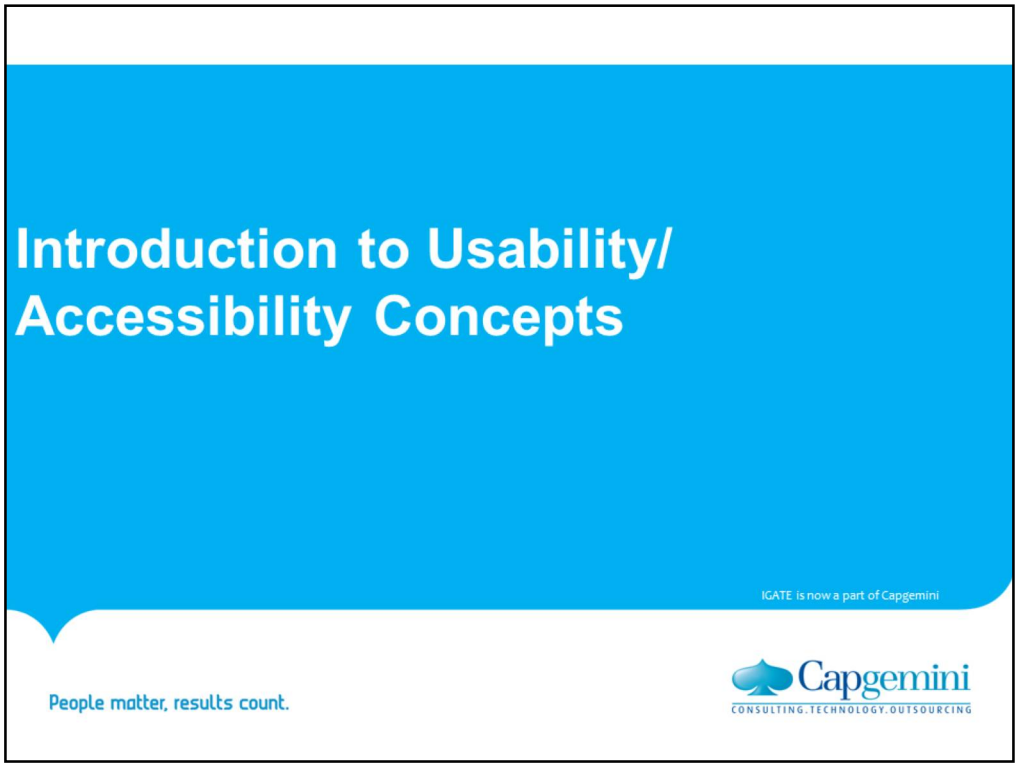
Instructor Notes:



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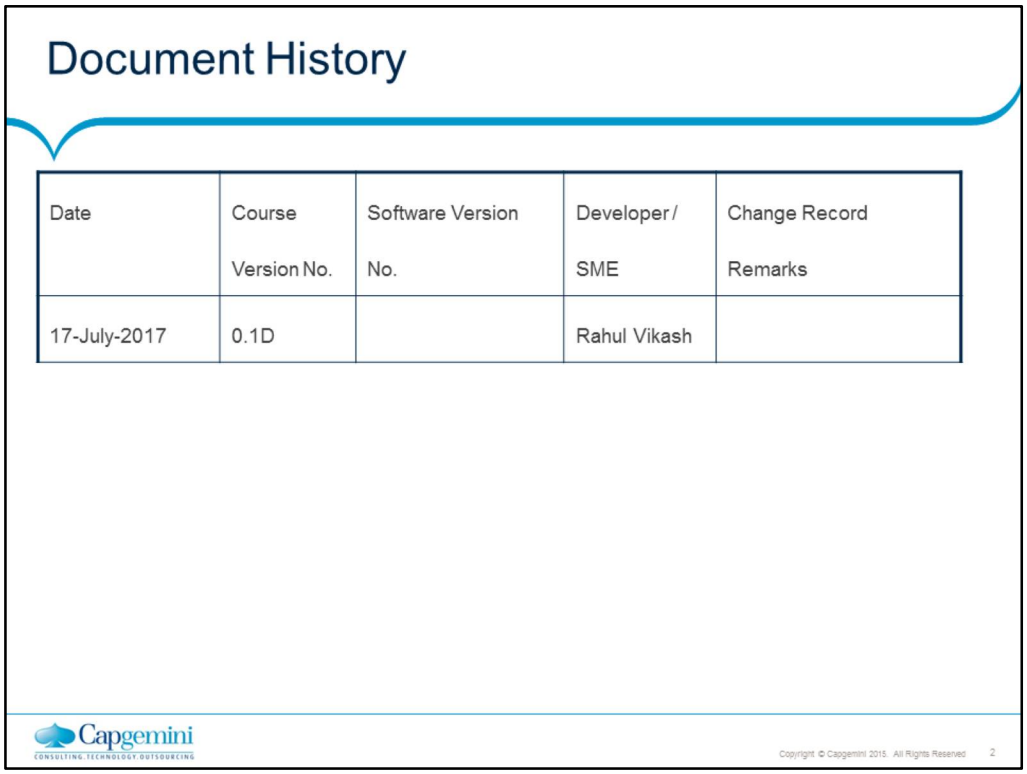
Instructor Notes:



Document History

Date	Course Version No.	Software Version No.	Developer / SME	Change Record Remarks
17-July-2017	0.1D		Rahul Vikash	

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 2

Instructor Notes:

Course Goals and Non Goals

- Course Goals
  - What is Usability
  - Overview of User Centered Design
  - Methodology - User Experience Management
  - What is Usability Testing & the Tools
  - Web Accessibility
  - Checking a website for Accessibility
  - Web Accessibility-508

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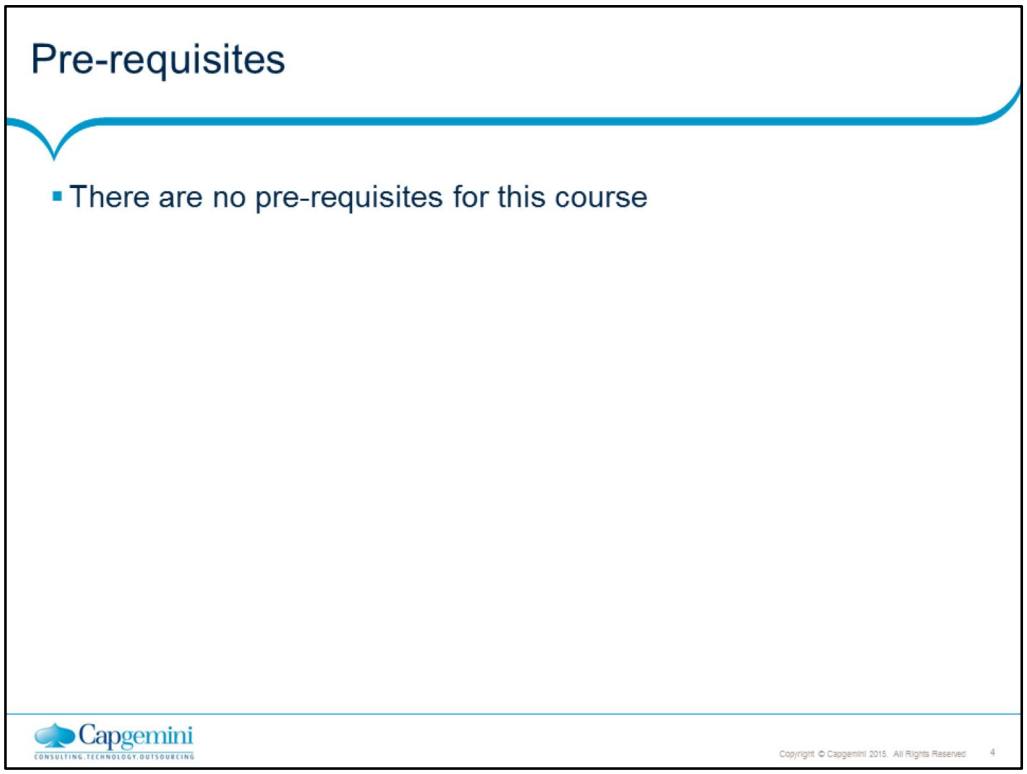
 3

Instructor Notes:



Instructor Notes:

Intended Audience

- New entrants to the organization (Fresher's batches)

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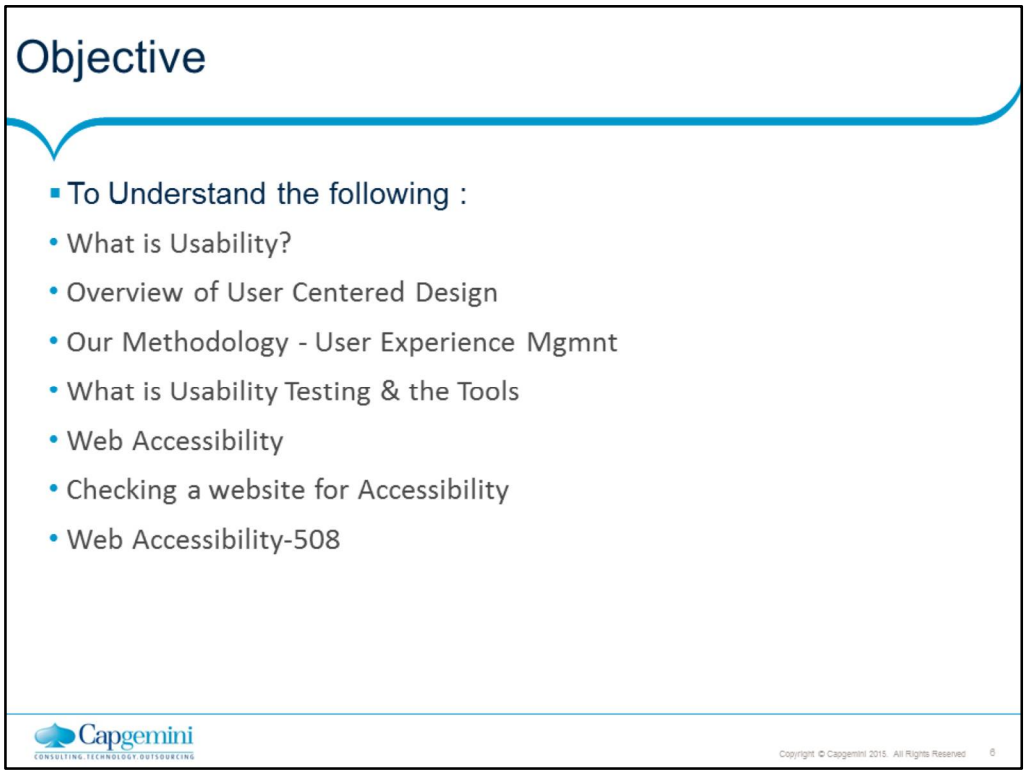
 5

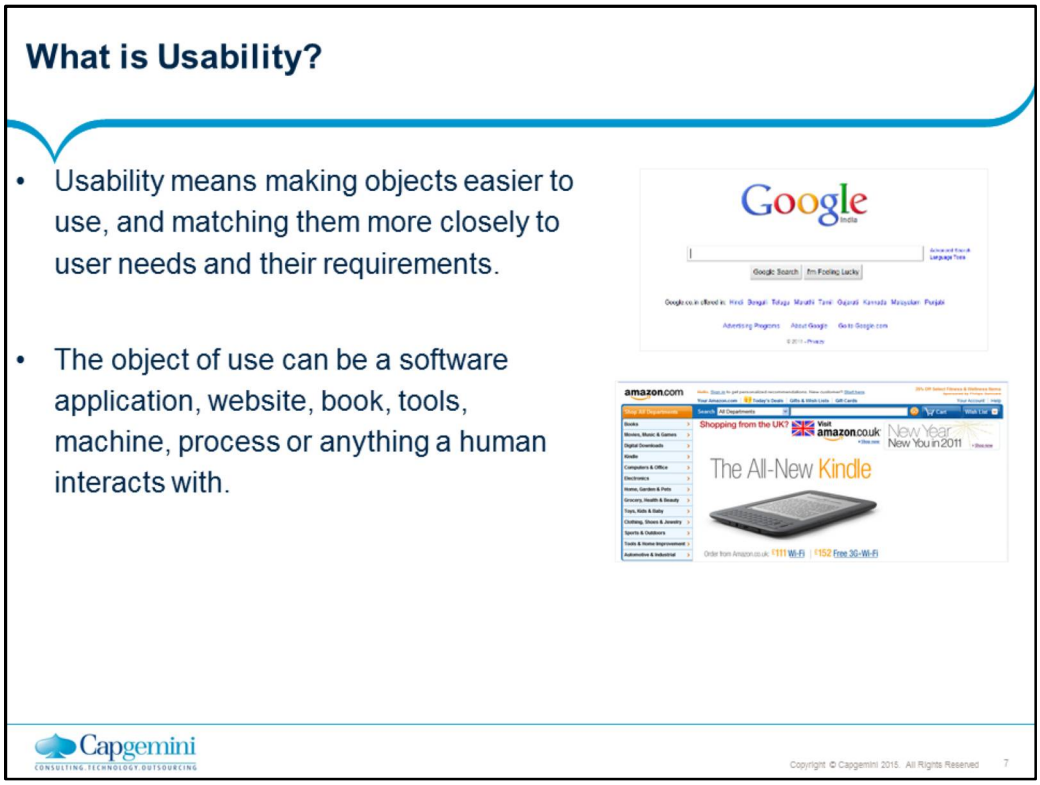
Instructor Notes:

Tell the participants that we are just briefly touching these topics for their general awareness purpose. Some of these topics have a separate training program of their own.



Instructor Notes:

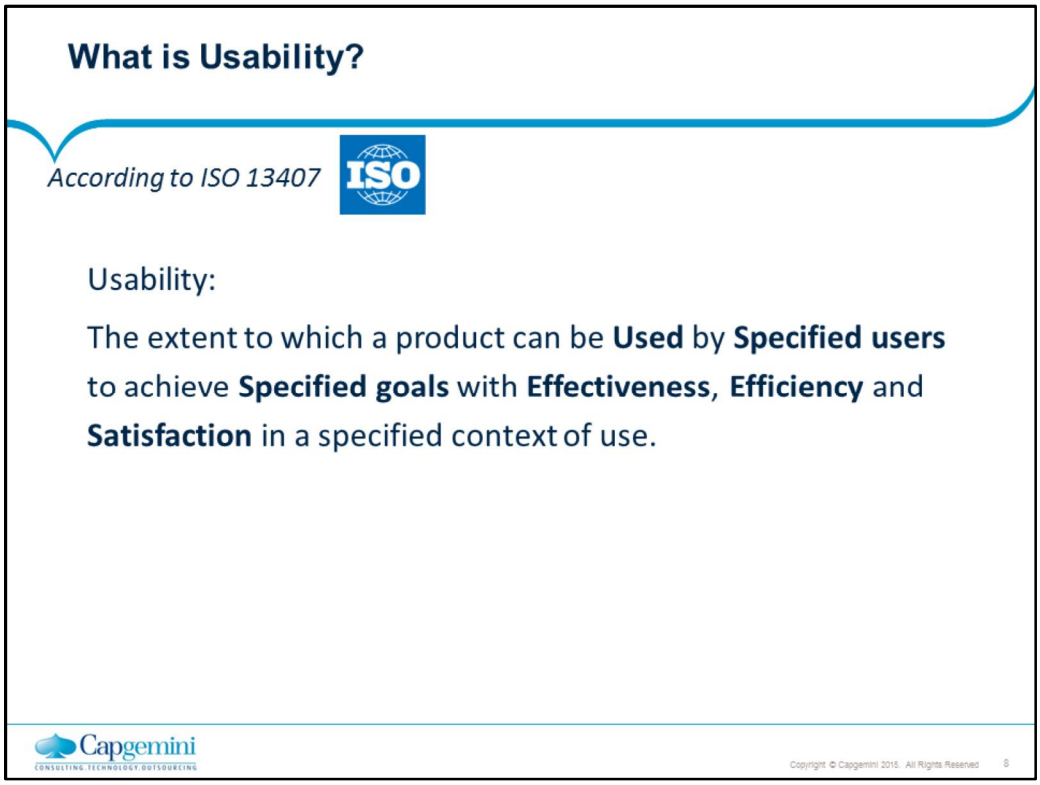
Additional notes for instructor



What is Usability?
Usability means making human handled objects easier to use, and matching them more closely to user needs and their requirements. The object of use can be a software application, website, book, tools, machine, process, or anything a human interacts with.

Instructor Notes:

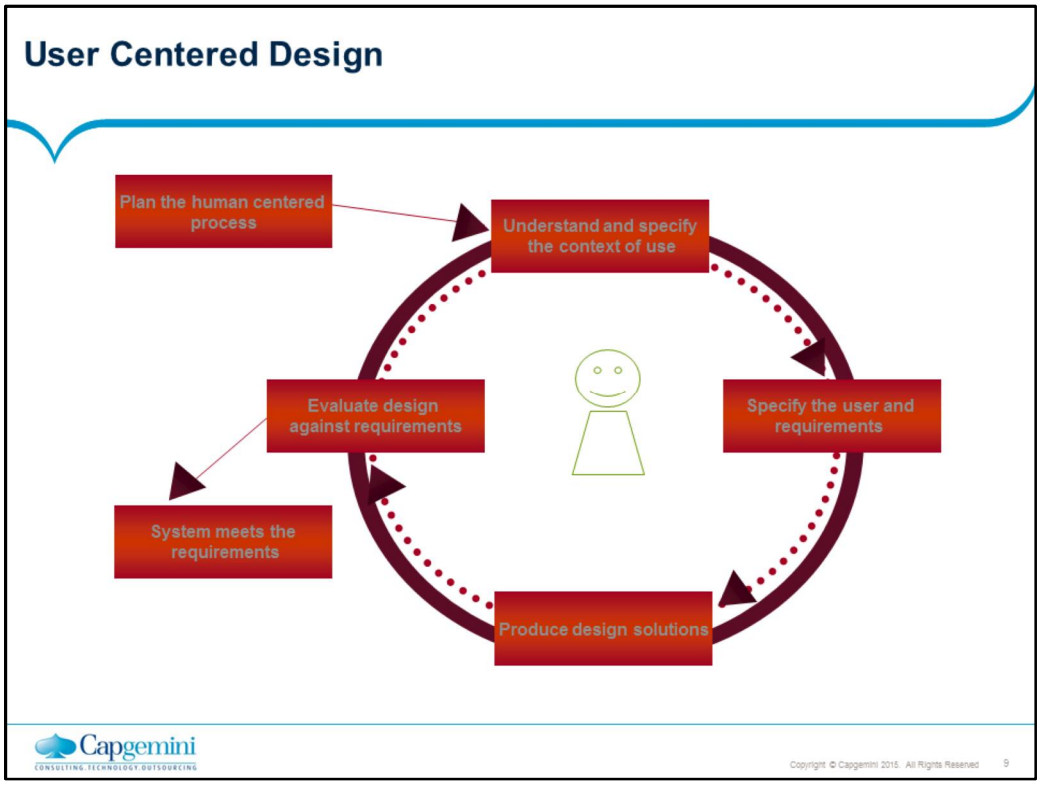
Additional notes for instructor



Usability is about:
Effectiveness - can users complete tasks, achieve goals with the product, i.e. do what they want to do?
Efficiency - how much effort do users require to do this? (Often measured in time)
Satisfaction – what do users think about the products ease of use?
….which are affected by:
The users - who is using the product? e.g. are they highly trained and experienced users, or novices?
Their goals - what are the users trying to do with the product - does it support what they want to do with it?
The usage situation (or 'context of use') - where and how is the product being used?
Usability should not be confused with 'functionality', however, as this is purely concerned with the functions and features of the product and has no bearing on whether users are able to use them or not. Increased functionality does not mean improved usability!

Instructor Notes:

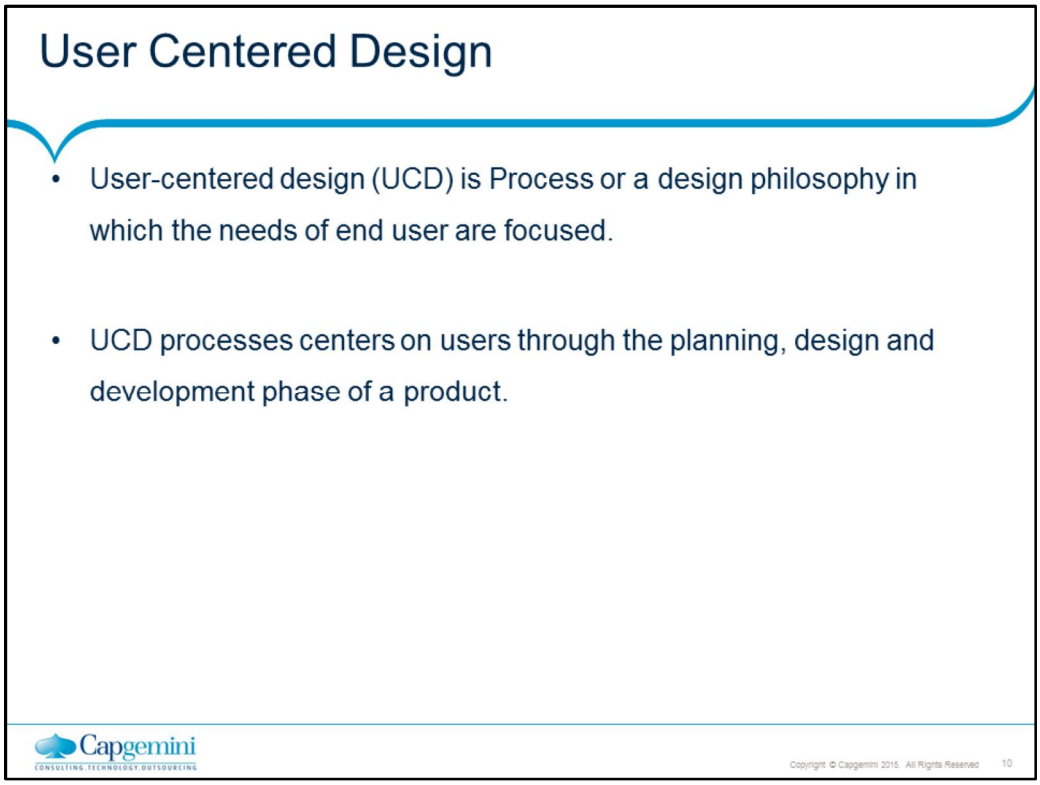
Additional notes for instructor



Here in this diagram different phases of User Centered Design is demonstrated. The process includes user requirement analysis, then designing the product and creating a prototype and eventually evaluating the system.

Instructor Notes:

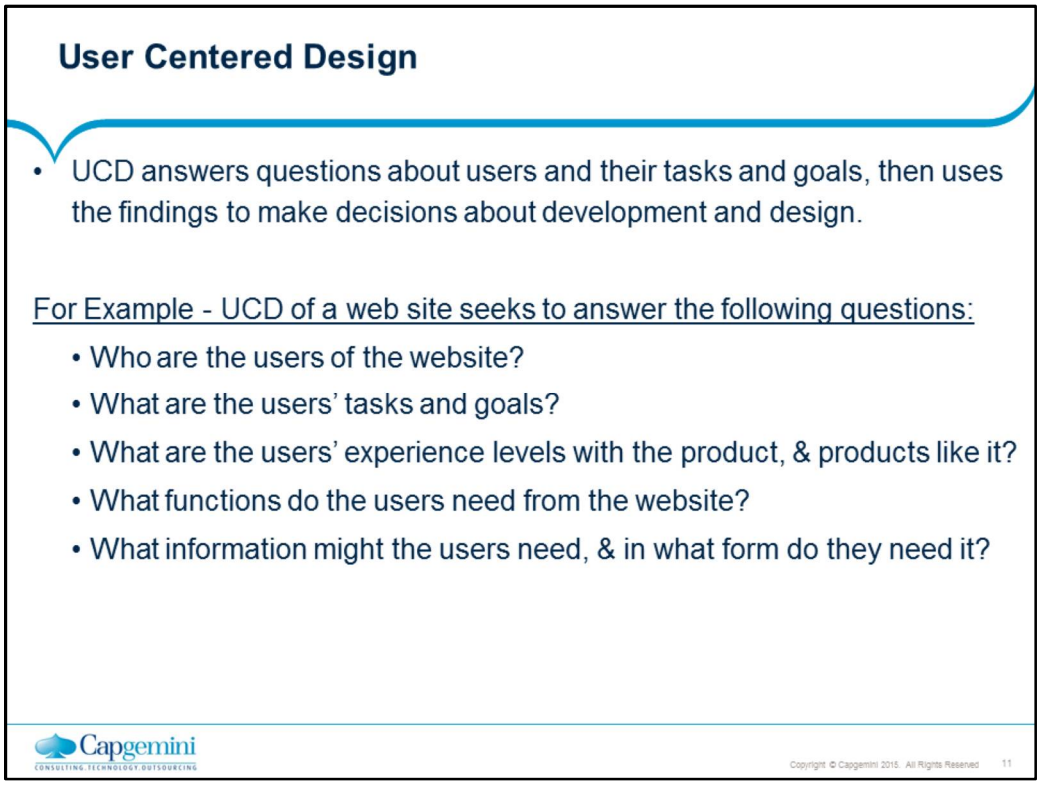
Additional notes for instructor



Here in this diagram different phases of User Centered Design is demonstrated. The process includes user requirement analysis, then designing the product and creating a prototype and eventually evaluating the system.

Instructor Notes:

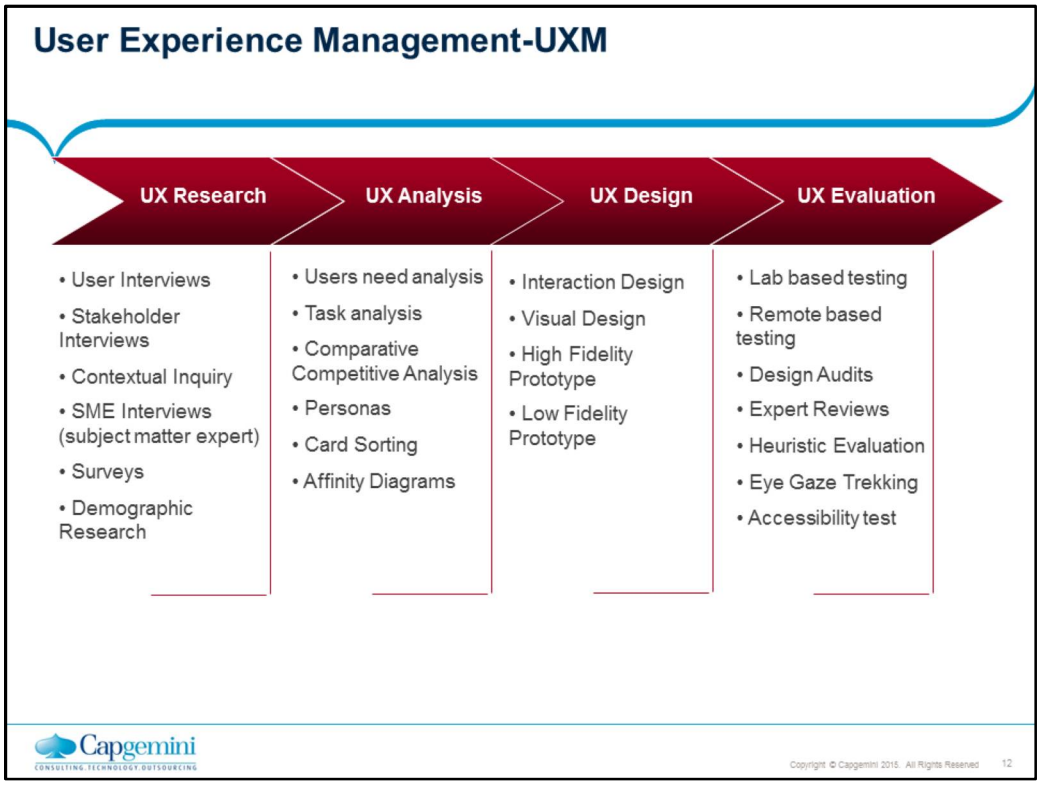
Additional notes for instructor



UCD answers questions about users and their tasks and goals, then uses the findings to make decisions about development and design.
For Example - UCD of a web site seeks to answer the following questions:
Who are the users of the product?
What are the users' tasks and goals?
What are the users' experience levels with the product, and products like it?
What functions do the users need from the product?
What information might the users need, and in what form do they need it?

Instructor Notes:

Additional notes for instructor



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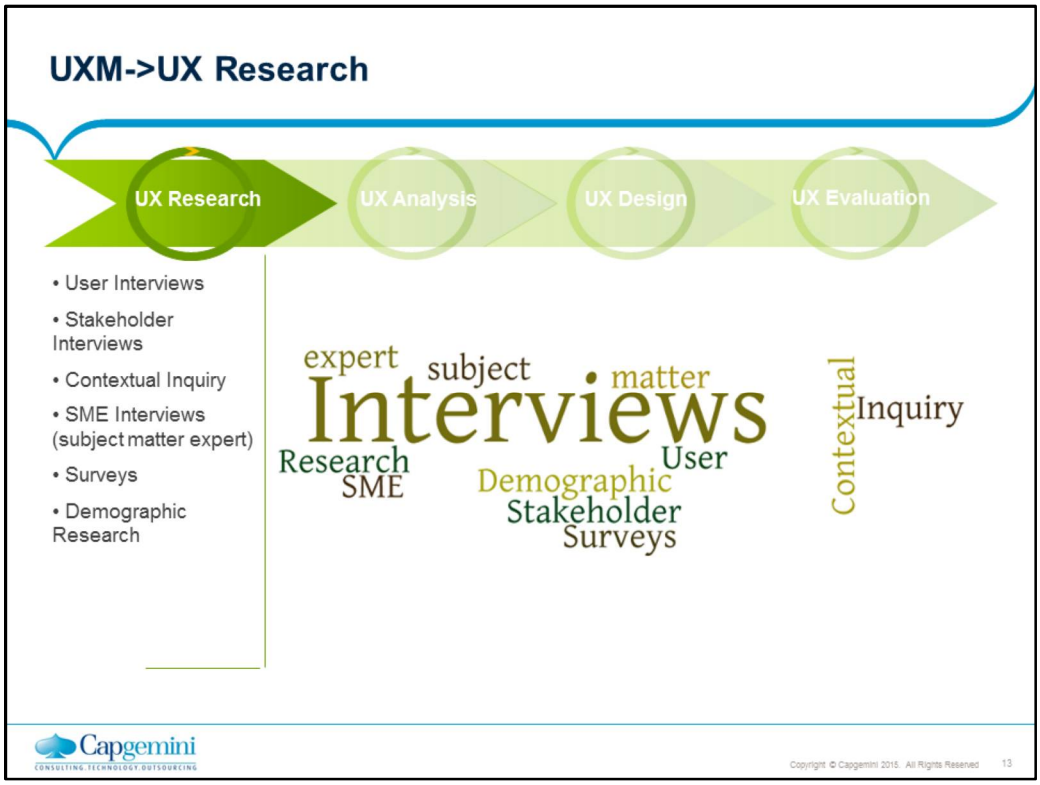
Instructor Notes:

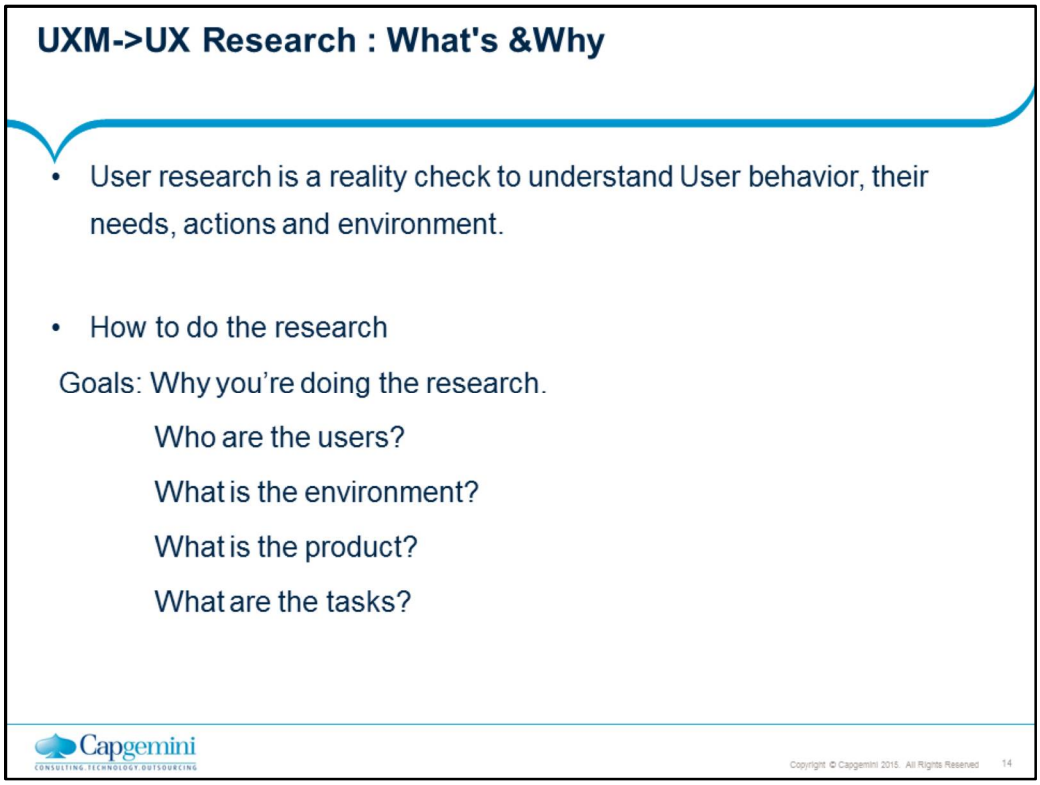
Additional notes for instructor



User research is conducted to understand user requirements by study user behavior on context of use. And it involve various methods and techniques that has be covered in this section.

Instructor Notes:

Additional notes for instructor



Objective:
User research is a reality check to understand User behavior, their needs, actions and environment.
In order to conduct any kind of user research for a project, it important to consider:

Goals: Why you're doing the research.

- Who are the users?
- What is the environment?
- What is the product?
- What are the tasks?

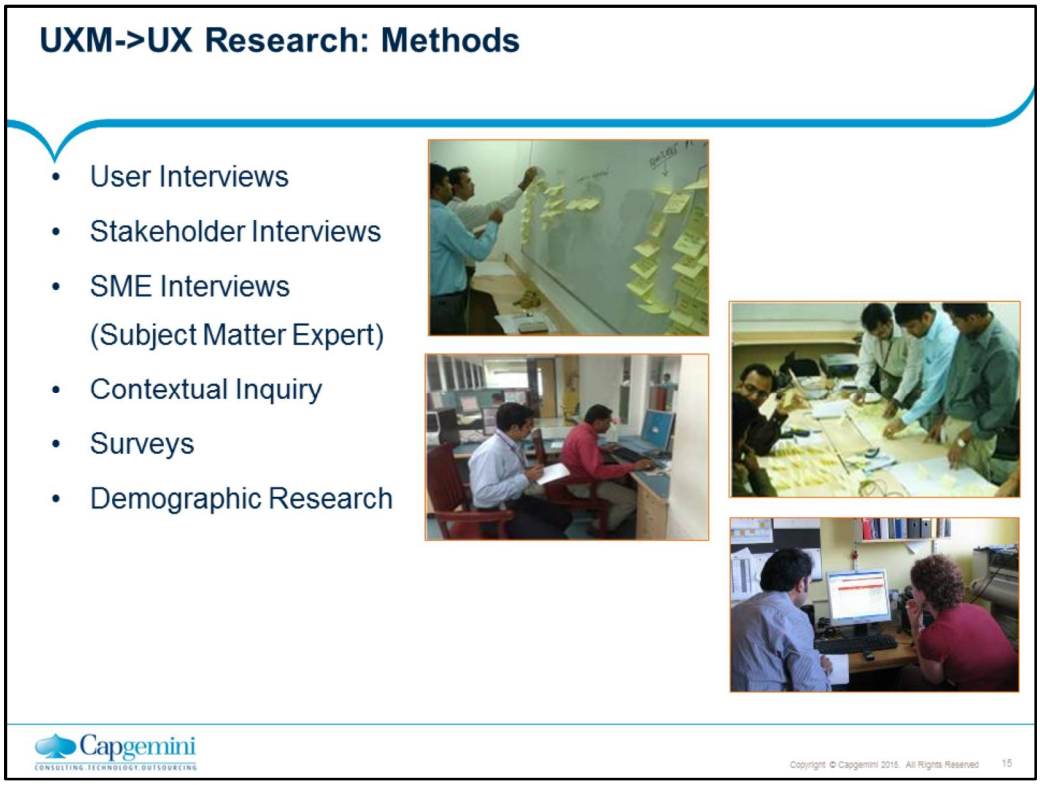
Process:
It will involve studying users, product and their context of use by using various techniques.

Benefits
It will help designers to create designs which can fulfill users need, and satisfying.

Deliverables:
Word documents or excel sheets.
Audio/Video Recording from Interviews

Instructor Notes:

Additional notes for instructor



These are various UX Research practices conducted in Patni UX CoE,
• User Interviews
• Stakeholder Interviews
• SME Interviews (Subject Matter Expert)
•Contextual Inquiry
•Surveys
•Demographic Research

Instructor Notes:

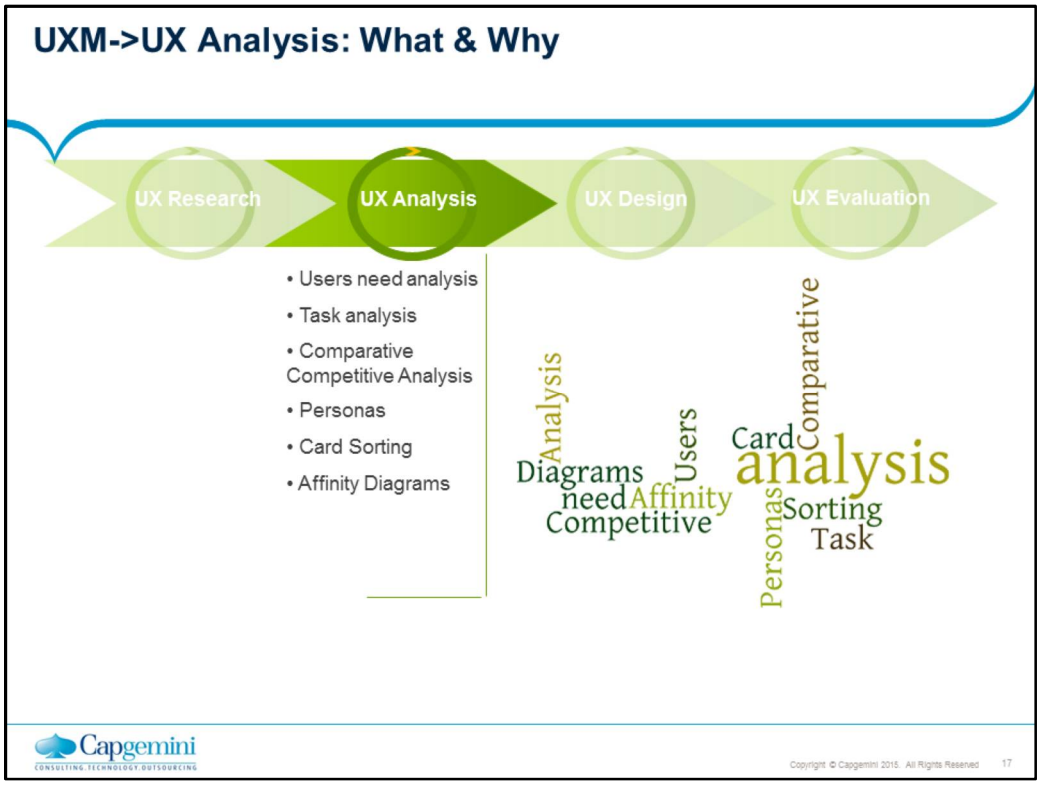
Additional notes for instructor

Eye Gaze Tracking System: To study users eye movement on the application.
Morae: To record the user study session both screen interaction as well as Audio and Video.

•Devices
•Web Cam
•Audio Recorder
•Recorder Pen
•Digital Camera

Instructor Notes:

Additional notes for instructor

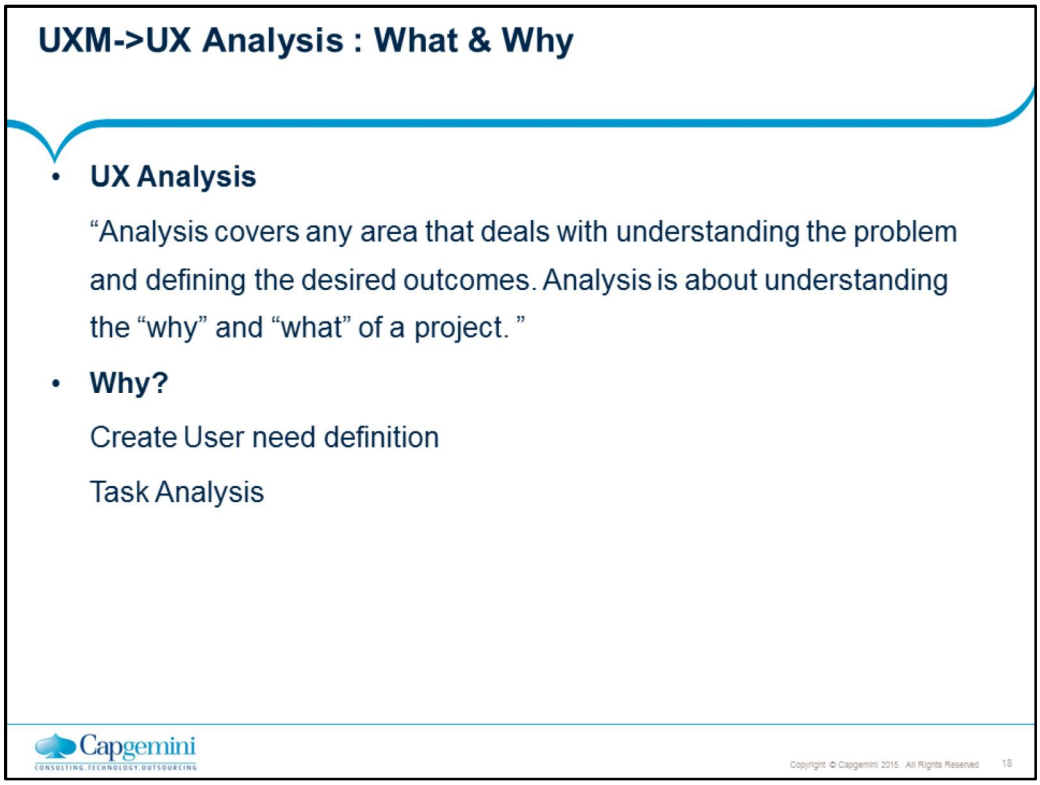


UX Analysis is the next step after research has completed. Analysis covers any area that deals with understanding the problem and defining the desired outcomes. Analysis is about understanding the “why” and “what” of a project.

It is a crucial part of any design process. Without it, it’s impossible to know if the right problem is being solved and if it is being solved in the right way. It can also bring clarity to the detailed and often complex requirements that solutions must meet.

Instructor Notes:

Additional notes for instructor



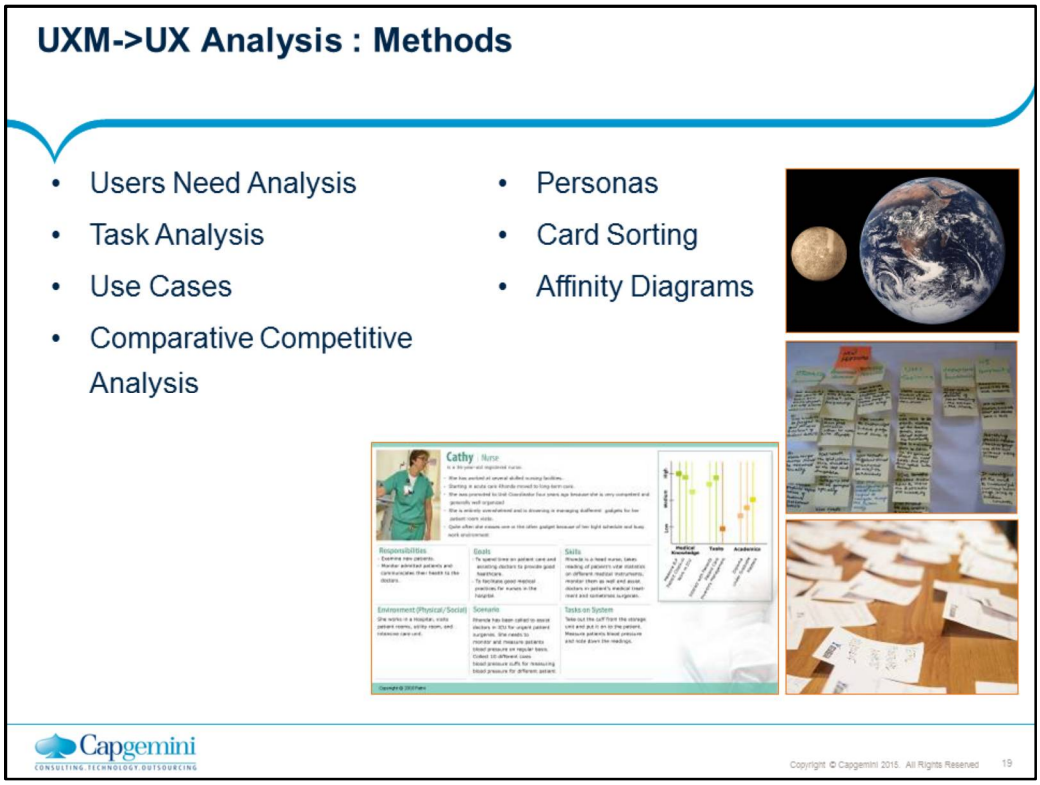
Objective:
To understand the problem and define the desired outcomes. Analysis is about understanding the "why" and "what" of a project. "

Process
Analysis of the findings from various research methods discussed in previous sections

Deliverables
Report with analysis about user needs and task analysis

Instructor Notes:

Additional notes for instructor



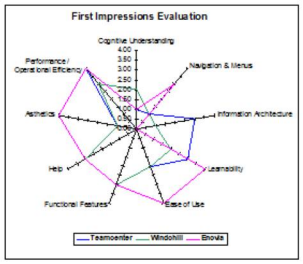
These are various methods for UX Analysis

- Users Need Analysis - This involves understanding the target audience, their typical tasks, and their specific constraints, usually through a combination of observational techniques, including interviews, surveys, artifact analysis, and consulting with domain experts. The results provide user interface objectives, system requirements, and feature requirements.
- Task Analysis - Task analysis is a method that informs design by identifying and prioritizing the tasks that users will perform with a product, website, or service.
- Use Cases
- Comparative Competitive Analysis - Competitor analysis identifies the strengths and weaknesses of competing products or services before starting work on prototypes
- Personas - It is a description of a **specific person** who is a target user of a system being designed, providing demographic information, needs, preferences, biographical information, and a photo or illustration. Typically, multiple personas are developed in the early stages of design.
- Card Sorting - It is a technique for uncovering the hierarchical structure in a set of concepts by having users group items written on a set of cards, often used, for instance, to work out the organization of a website. For a website, users would be given cards with the names of the web pages on the site and asked to group the cards into related categories. After doing so, the users may be asked to break groups again into subgroups for large sites. After gathering the groupings from several users, designers can typically spot clear organizations across many users.
- Affinity Diagrams - a simple technique for organizing concepts: designers write down ideas on a set of cards and then organize the cards by grouping them and by placing closely related concepts close to each other (e.g. by shuffling the cards on a table or pinning them to a wall); especially useful for uncovering the structure and relationships in a poorly understood domain. Affinity diagrams are often a good next step after a brainstorming sessions

Instructor Notes:

Additional notes for instructor

UXM->UX Analysis : Tools



Parameter	Teamcenter	Windchill	Enovia
Cognitive Understanding	1.00	2.00	1.00
Navigation & Menus	1.00	1.00	3.00
Information Architecture	3.00	1.00	NA
Learnability	3.00	2.00	4.00
Ease of Use	2.00	2.00	4.00
Functional Features	3.00	3.00	3.00
Help	3.00	3.00	3.00
Aesthetics	1.00	1.00	4.00
Performance / Operational Efficiency	4.00	3.00	4.00
Average Rating	**46.00%**	**40.00%**	**65.00%**

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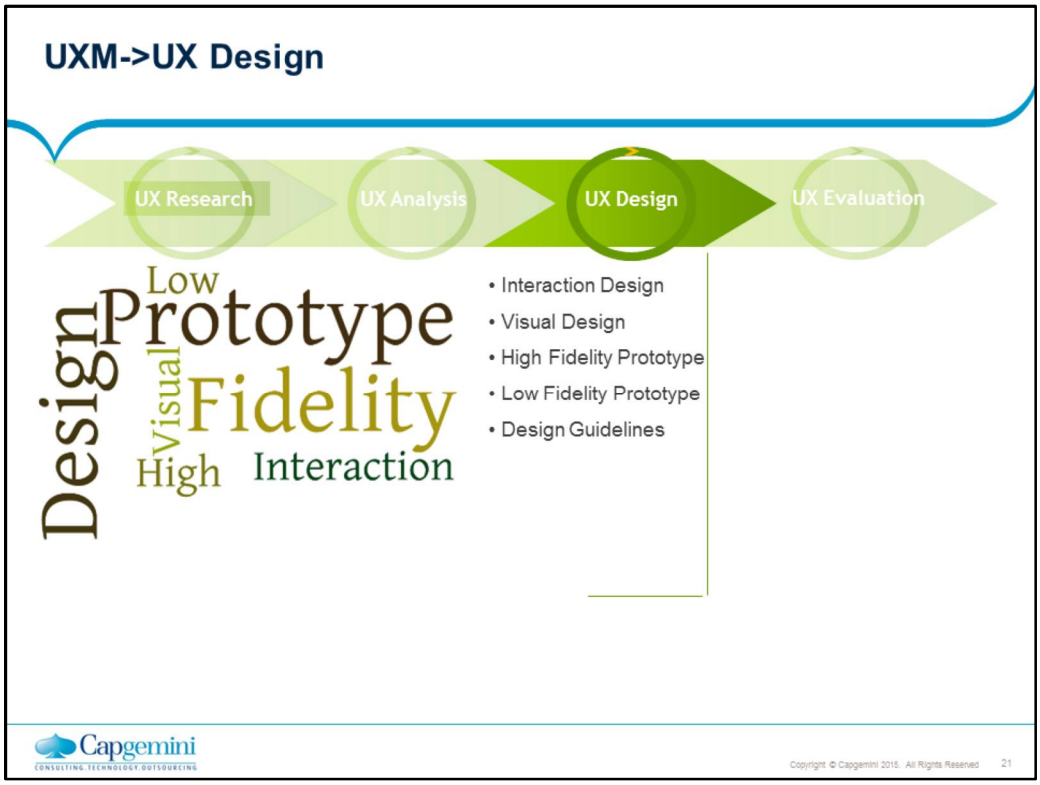
 20

These are the various tools for UX analysis such as Sticky notes, Photoshop and Microsoft office.

Instructor Notes:

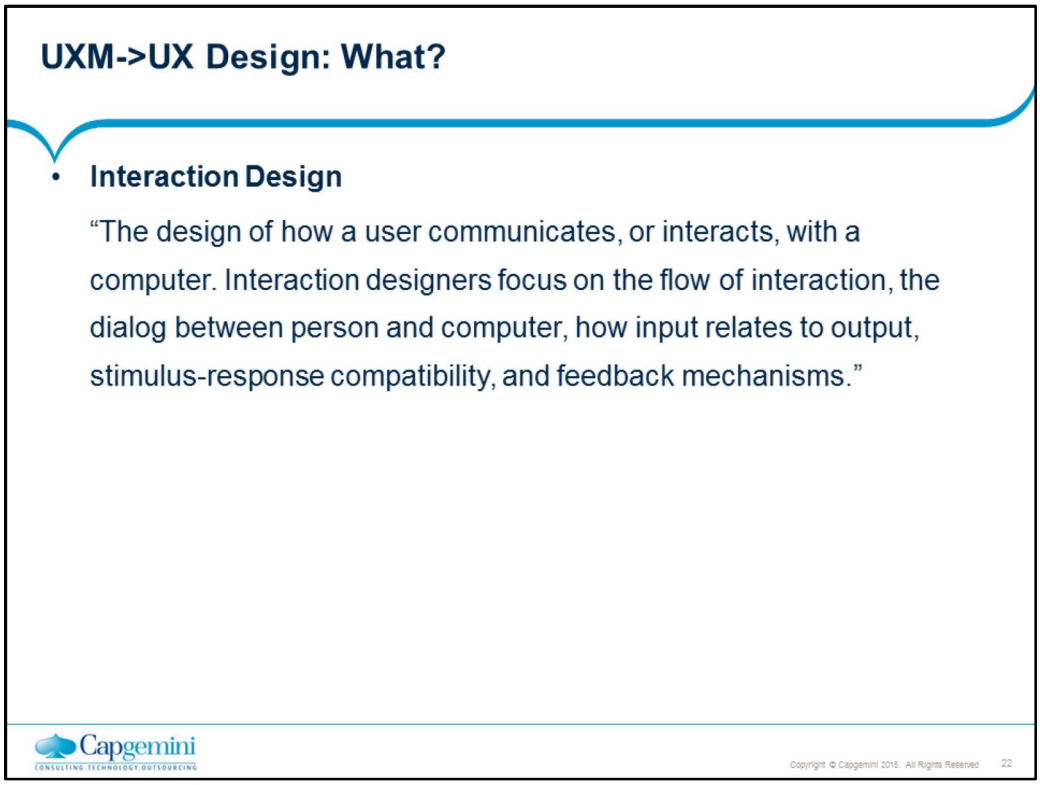
Additional notes for instructor



Interaction design
The design of how a user communicates, or interacts, with a computer. Interaction designers focus on the flow of interaction, the dialog between person and computer, how input relates to output, stimulus-response compatibility, and feedback mechanisms.

Instructor Notes:

Additional notes for instructor



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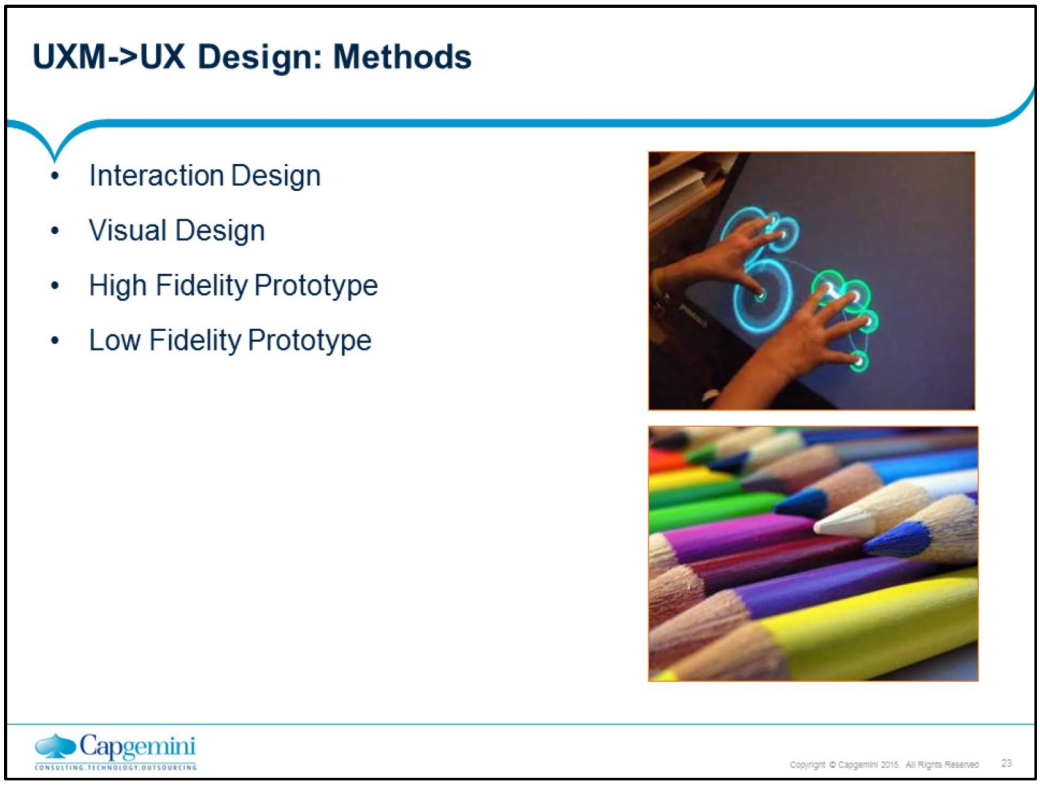
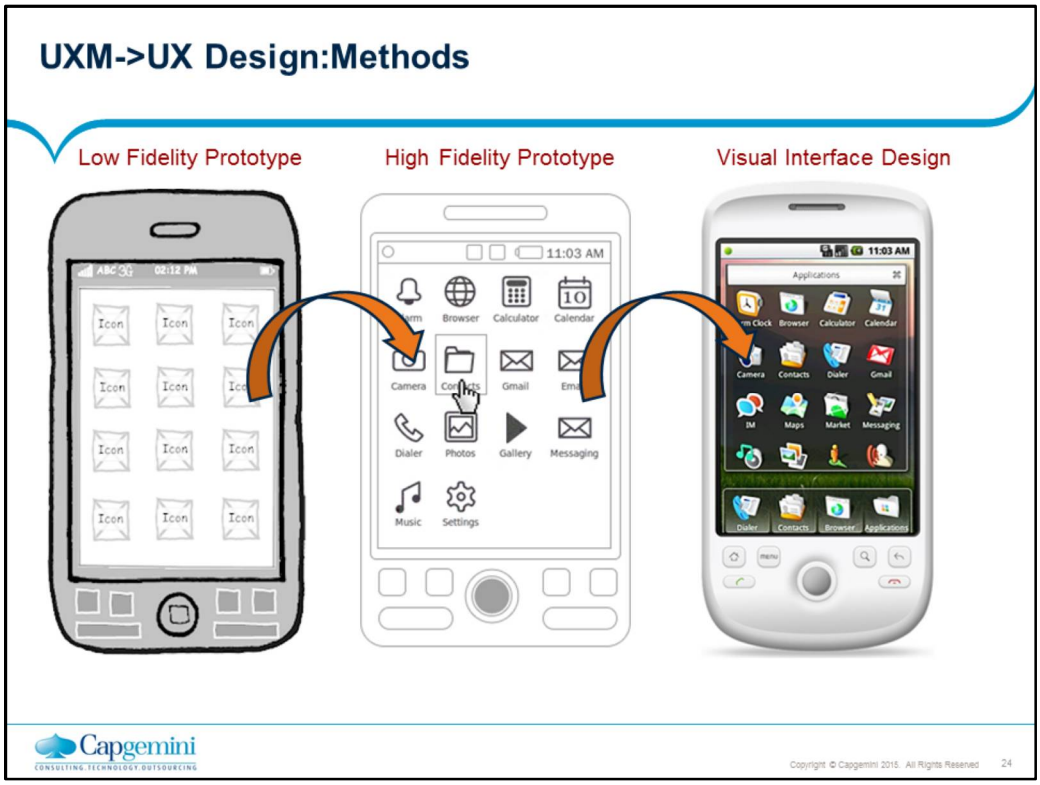


These are the various methods for Interaction design
•Interaction Design
•Visual Design
•High Fidelity Prototype
•Low Fidelity Prototype

Instructor Notes:

Additional notes for instructor

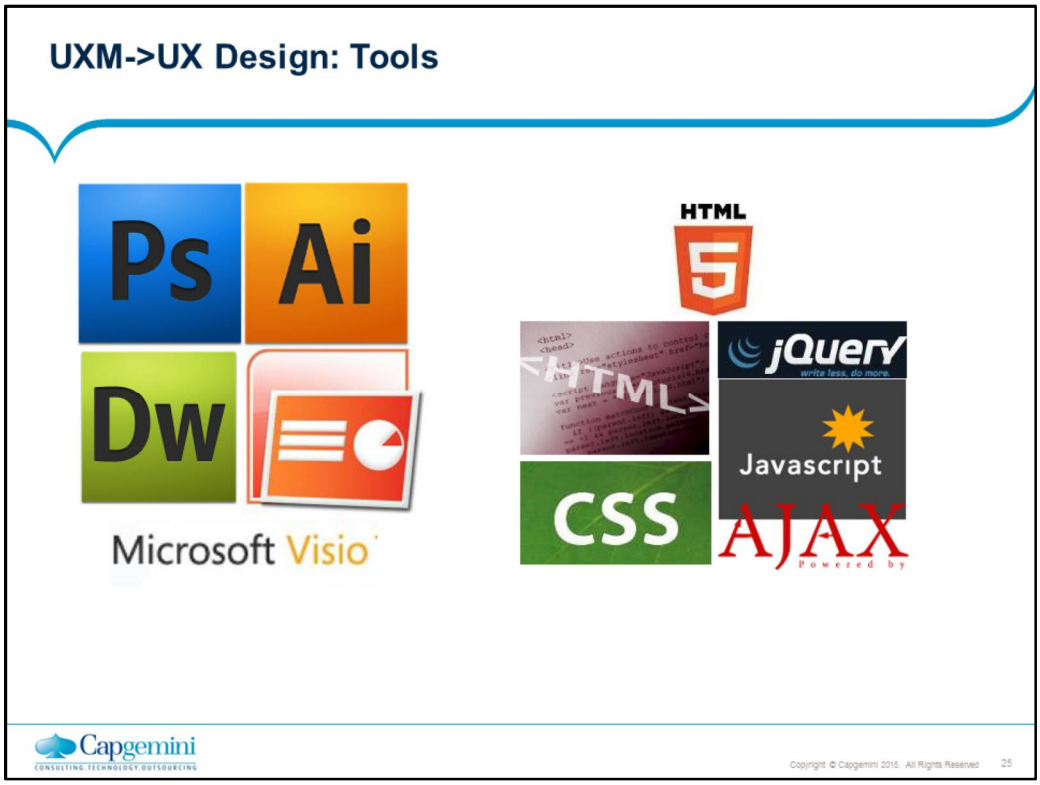


Prototyping is an essential element of an iterative design approach, where designs are created, evaluated, and refined until the desired performance or usability is achieved.

Prototypes can range from extremely simple sketches (**low-fidelity prototypes**) to full systems that contain nearly all the functionality of the final system (**high-fidelity prototypes**).

Instructor Notes:

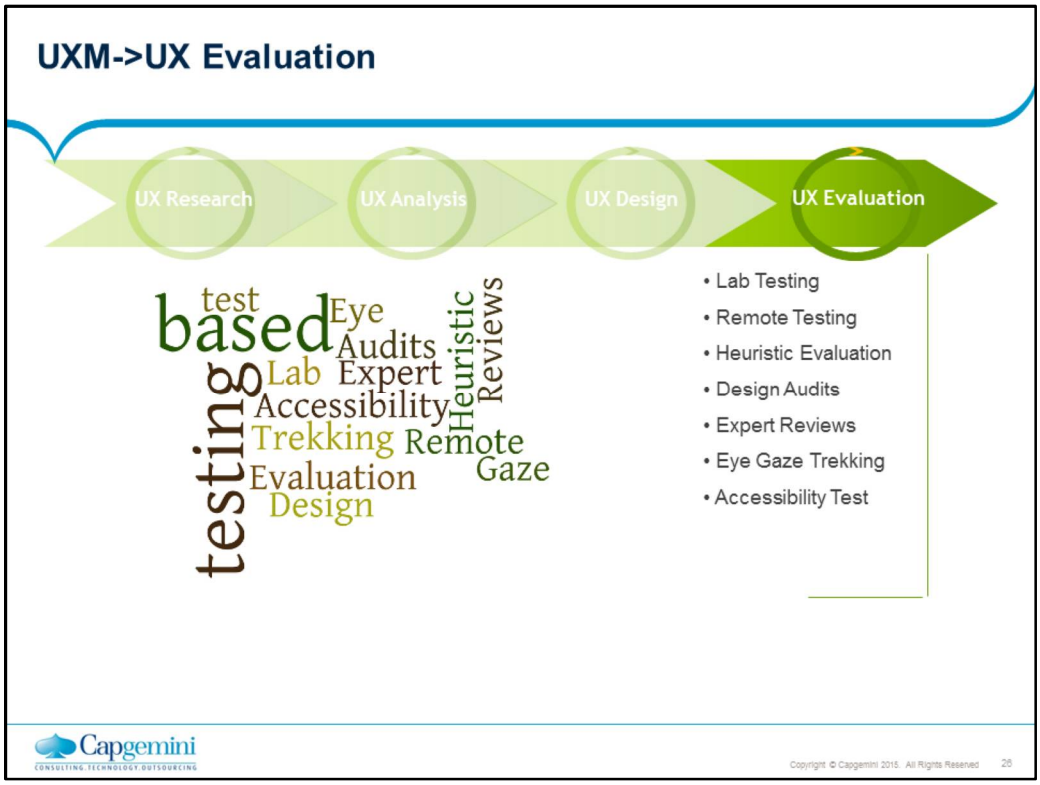
Additional notes for instructor



These are the list of various UX design tools such as Photoshop, Dreamweaver, Illustrator, Visio, flash, HTML and CSS.

Instructor Notes:

Additional notes for instructor



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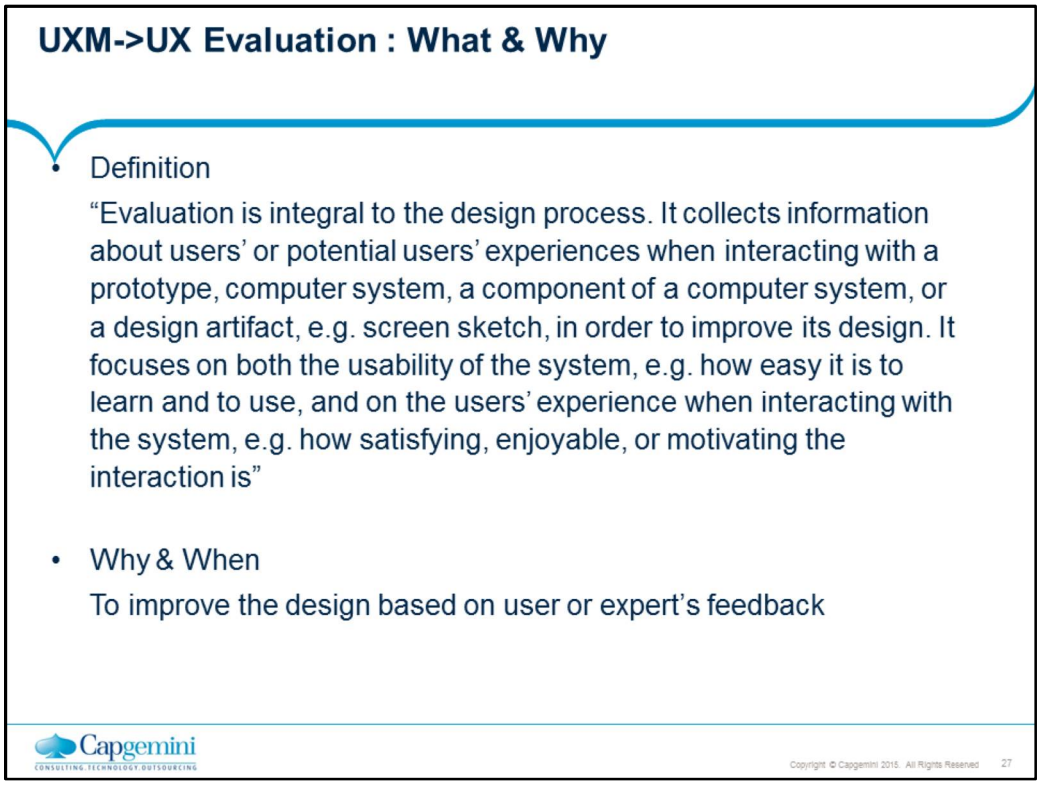
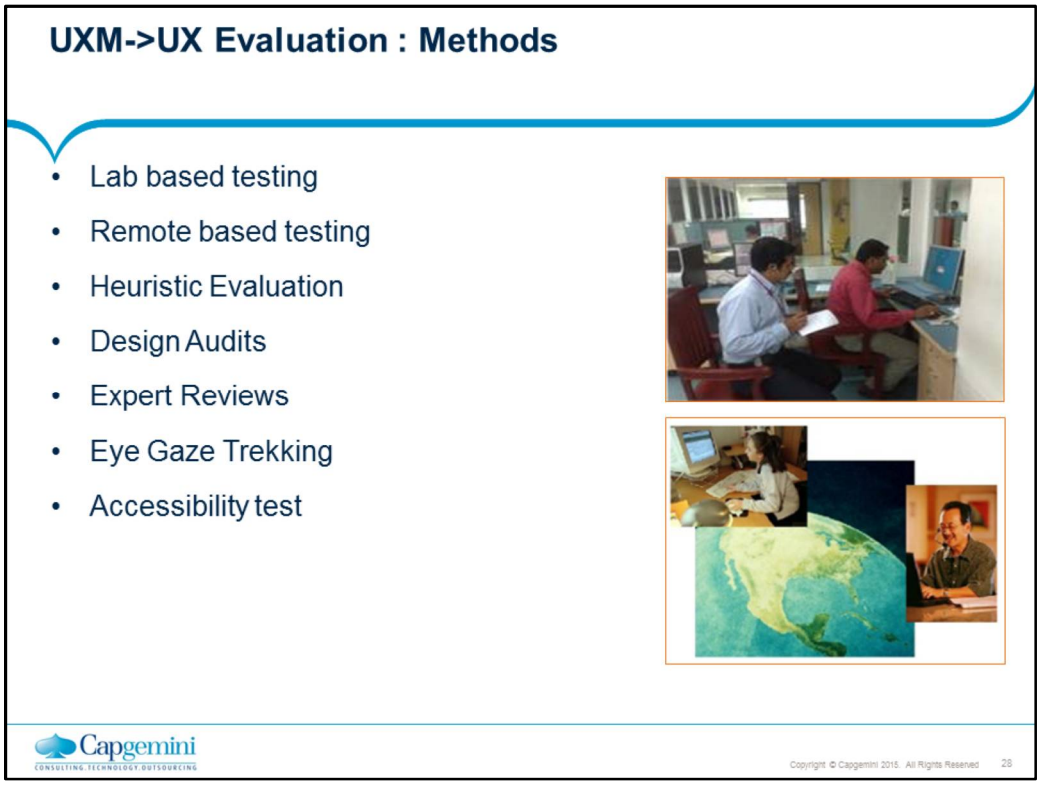
Additional notes for instructor



UX Evaluation
Evaluation is integral to the design process. It collects information about users' or potential users' experiences when interacting with a prototype, computer system, a component of a computer system, or a design artifact, e.g. screen sketch, in order to improve its design. It focuses on both the usability of the system, e.g. how easy it is to learn and to use, and on the users' experience when interacting with the system, e.g. how satisfying, enjoyable, or motivating the interaction is.

Instructor Notes:

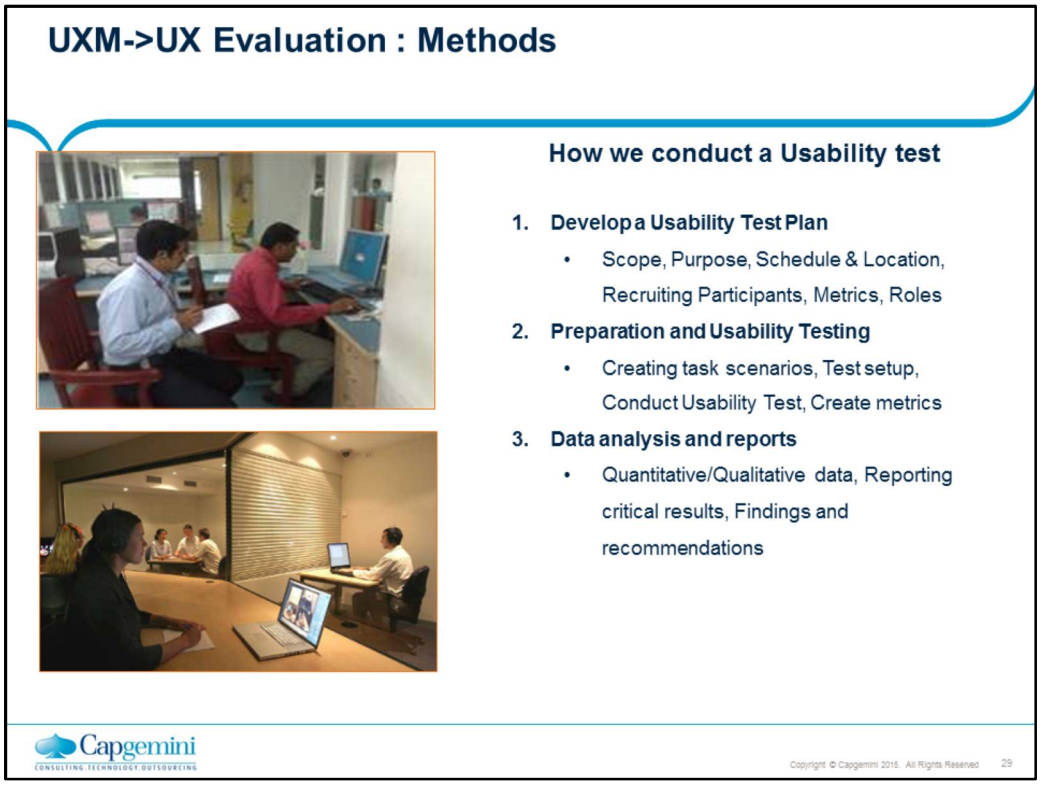
Additional notes for instructor



These are the various methods for Evaluation.
•Lab based testing
•Remote based testing
•Heuristic Evaluation
•Design Audits
•Expert Reviews
•Eye Gaze Trekking
•Accessibility test

Instructor Notes:

Additional notes for instructor



This describes a step by step process to conduct a Usability test,

Develop a Usability Test Plan

Scope, Purpose, Schedule & Location, Recruiting Participants, Metrics, Roles

Preparation and Usability Testing

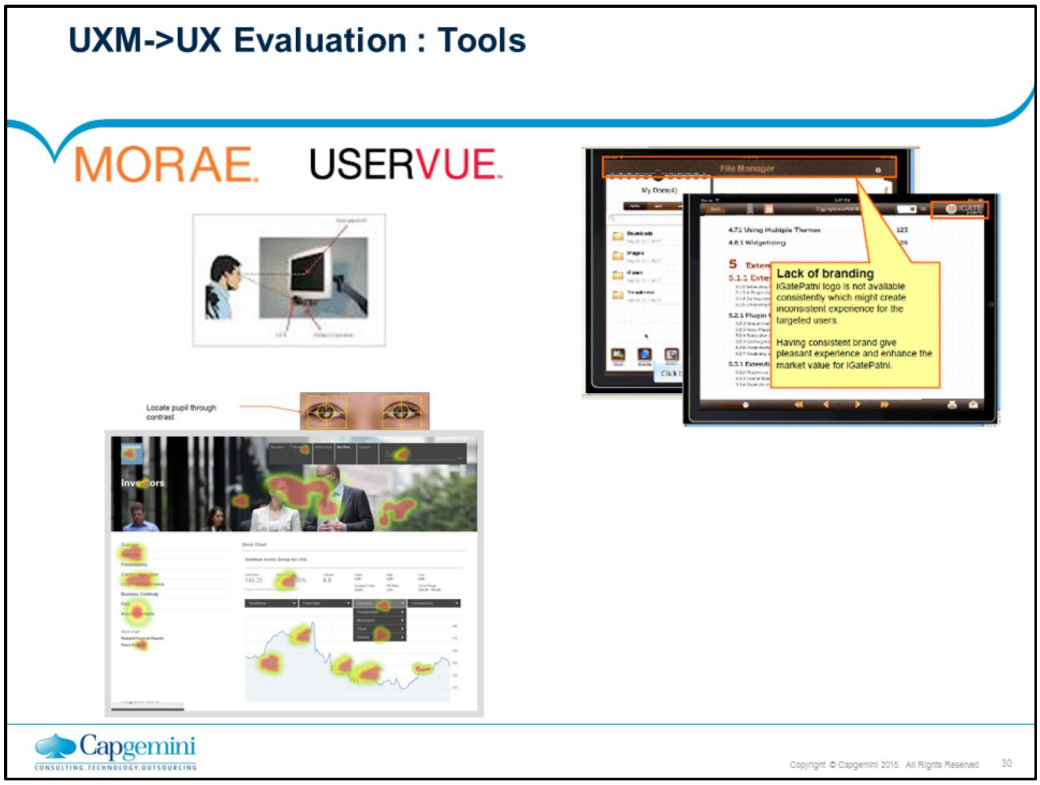
Creating task scenarios, Test setup, Conduct Usability Test, Create metrics

Data analysis and reports

Quantitative/Qualitative data, Reporting critical results, Findings and recommendations

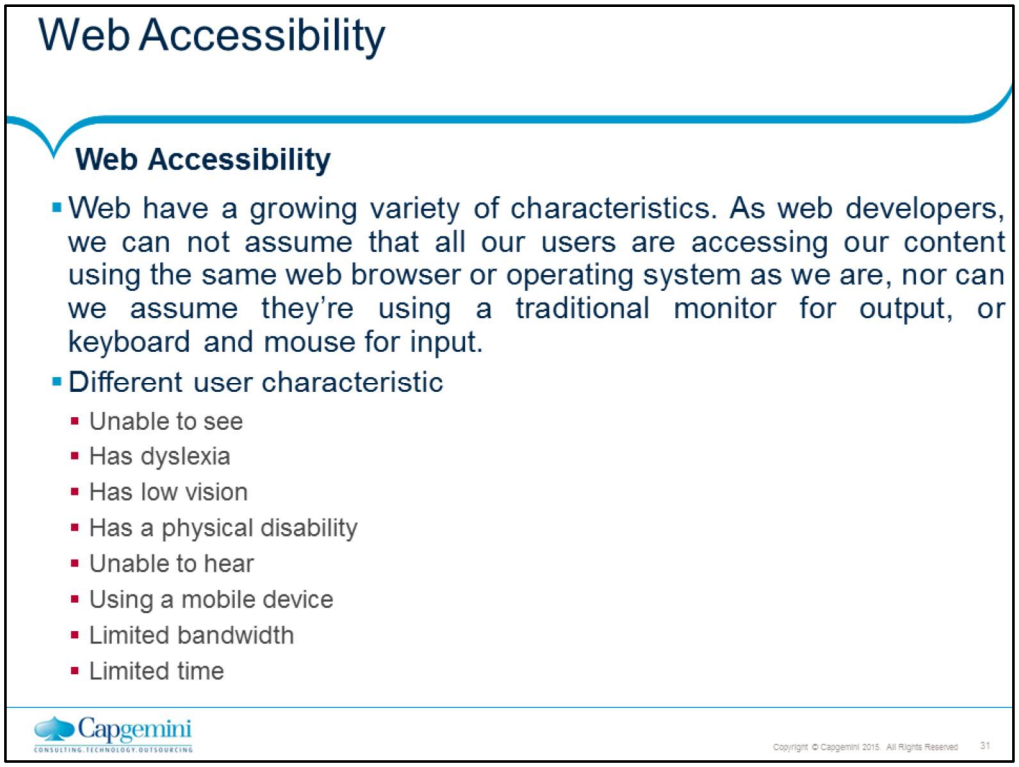
Instructor Notes:

Additional notes for instructor



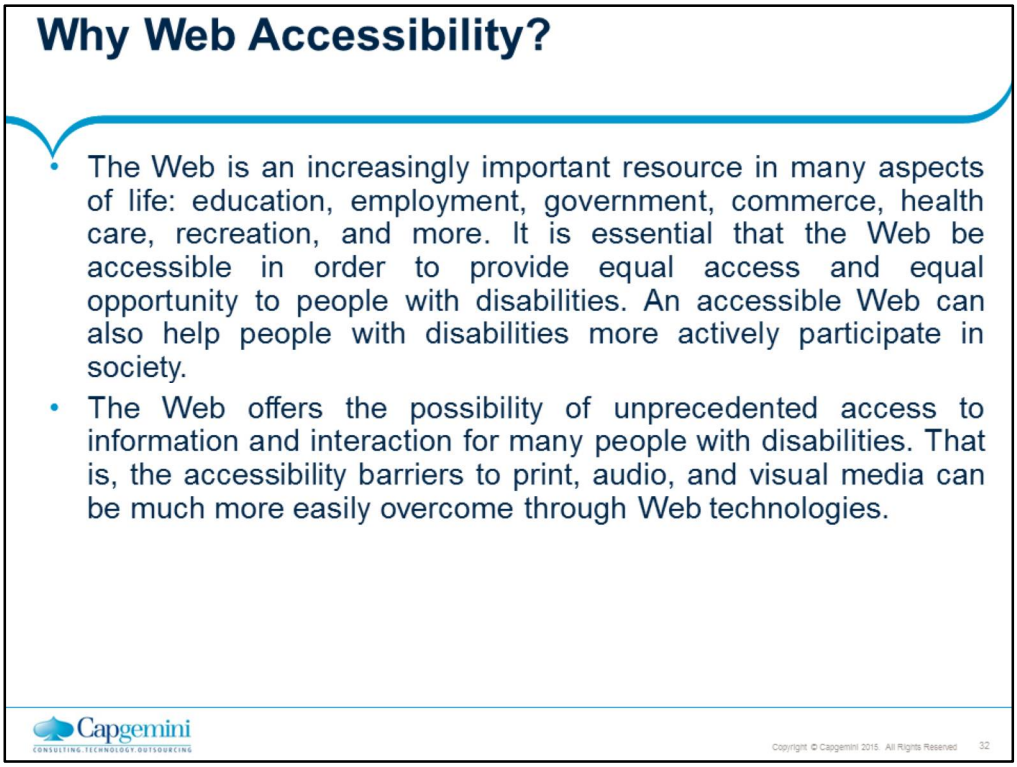
This is the list of various UX Evaluation tools used in UX team like Morae, UserVUE for Usability studies and Microsoft office to generate reports.

Instructor Notes:



Unable to see. Individuals who are blind use either audible output (products called *screen readers* that read web content using synthesized speech) or tactile output (a refreshable Braille device).
Has dyslexia. Individuals with learning disabilities such as dyslexia may also use audible output, along with software that highlights words or phrases as they're read aloud using synthesized speech.
Has low vision. Individuals with low vision may use screen magnification software that allows them to zoom into all or a portion of the visual screen. Many others with less-than-perfect eyesight may enlarge the font on websites using standard browser functions, such as Ctrl + in Windows browsers or Command + in Mac browsers.
Has a physical disability. Individuals with physical disabilities that effect their use of hands may be unable to use a mouse, and instead may rely exclusively on keyboard or use assistive technologies such as speech recognition, head pointers, mouth sticks, or eye-gaze tracking systems.
Unable to hear. Individuals who are deaf or hard of hearing are unable to access audio content, so video needs to be captioned and audio needs be transcribed.
Using a mobile device. Individuals who are accessing the web using a compact mobile device such as a phone face accessibility barriers, just like individuals with disabilities do. They're using a small screen and may need to zoom in or increase the font size, and they are likely to be using a touch interface rather than a mouse. Also, Apple's iPhone and iPad do not support Adobe Flash.
Limited bandwidth. Individuals may be on slow Internet connections if they're located in a rural area or lack the financial resources to access high-speed Internet. These users benefit from pages that load quickly (use graphics sparingly) and transcripts for video.
Limited time. Very busy individuals may have too little time to watch an entire video or audio recording, but can quickly access its content if a transcript is available.

Instructor Notes:



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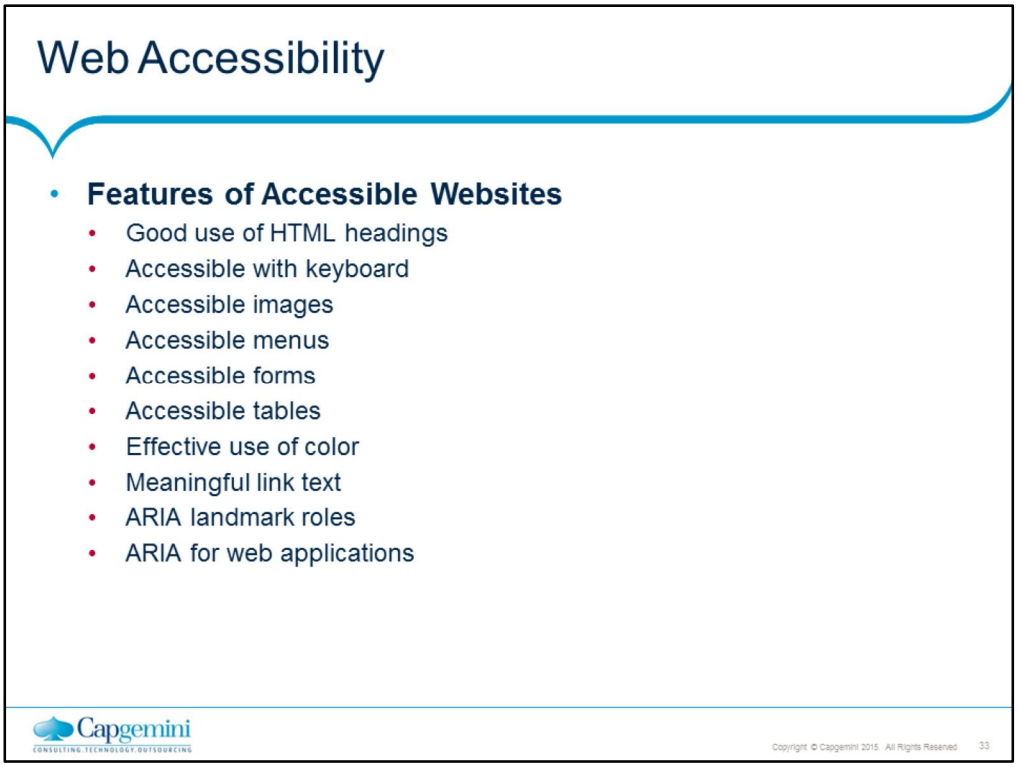

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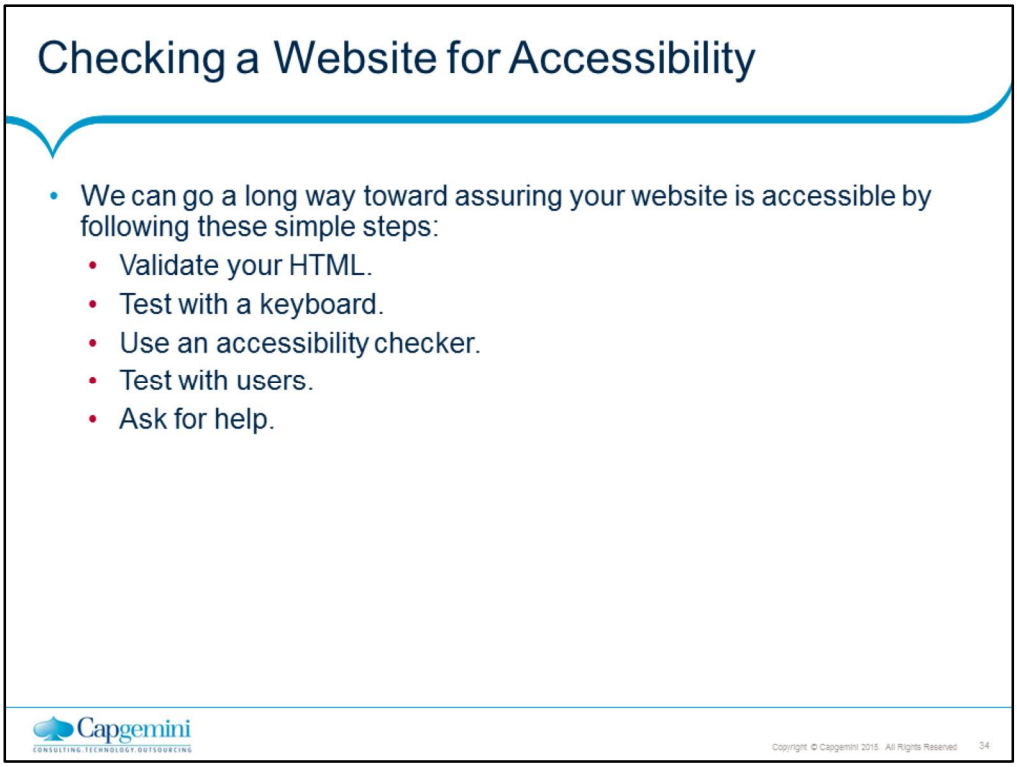


Validate your HTML. If HTML is used incorrectly, assistive technology can have problems interpreting the page content, which can result in access problems for users. Use an HTML validator to check your code.

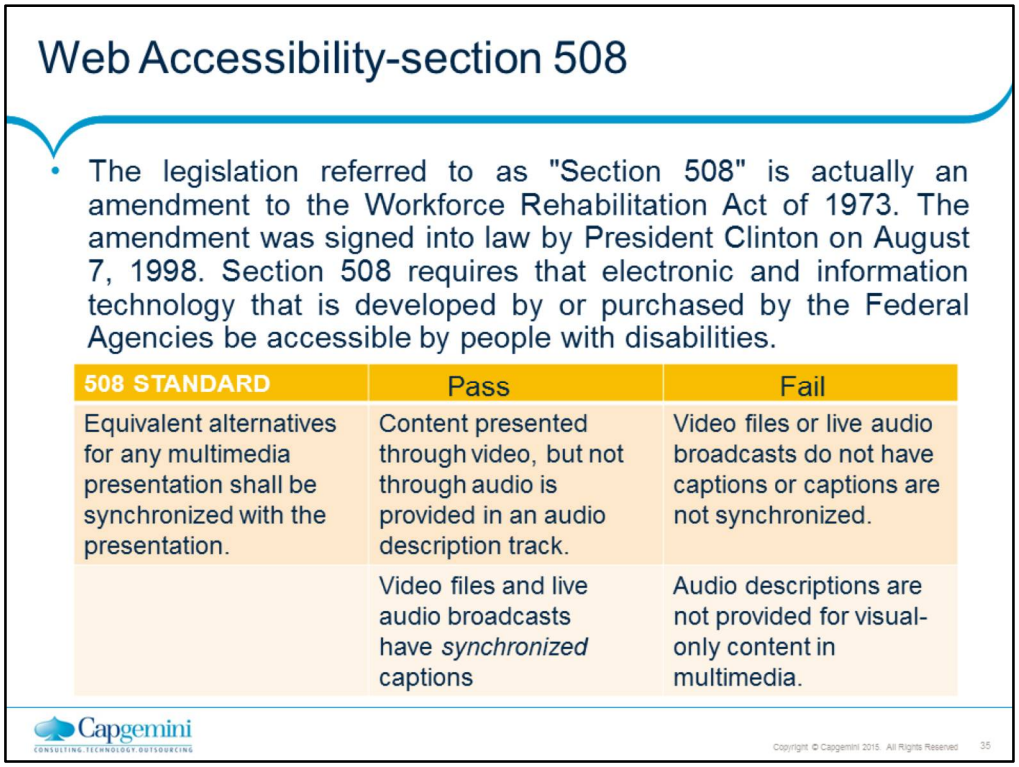
Test with a keyboard. Set your mouse aside and use the tab key to navigate through your web pages. You should be able to access all interactive features (e.g., menus, links, form fields, buttons, controls) and operate them by pressing Enter, space, arrow keys or other intuitive keystrokes. If you are unable to access some of your site's features, your site is likely to have accessibility problems.

Use an accessibility checker. There are several free online tools that will check your web pages for accessibility. See our Tools and Resources page for an annotated list. Also, the UW has an enterprise license for Siteimprove, a powerful tool that scans your site at regular intervals for broken links, spelling errors, and accessibility problems. More information on Siteimprove will be added to this site soon.

Test with users. The UW's Laboratory for Usability Testing and Evaluation (LUTE) provides a controlled setting for conducting usability tests, and is available by reservation to the UW community. You could also test your site less formally by simply recruiting and observe users as they interact with your site. To test for accessibility, recruit users who have a variety of skill levels and characteristics, such as those listed below under the heading *What Is Accessibility?*

Ask for help. The UW community is actively working toward the goal of full accessibility for all visitors to its websites. Since we're all working together toward this goal, there are many in the community who are happy to help.

Instructor Notes:



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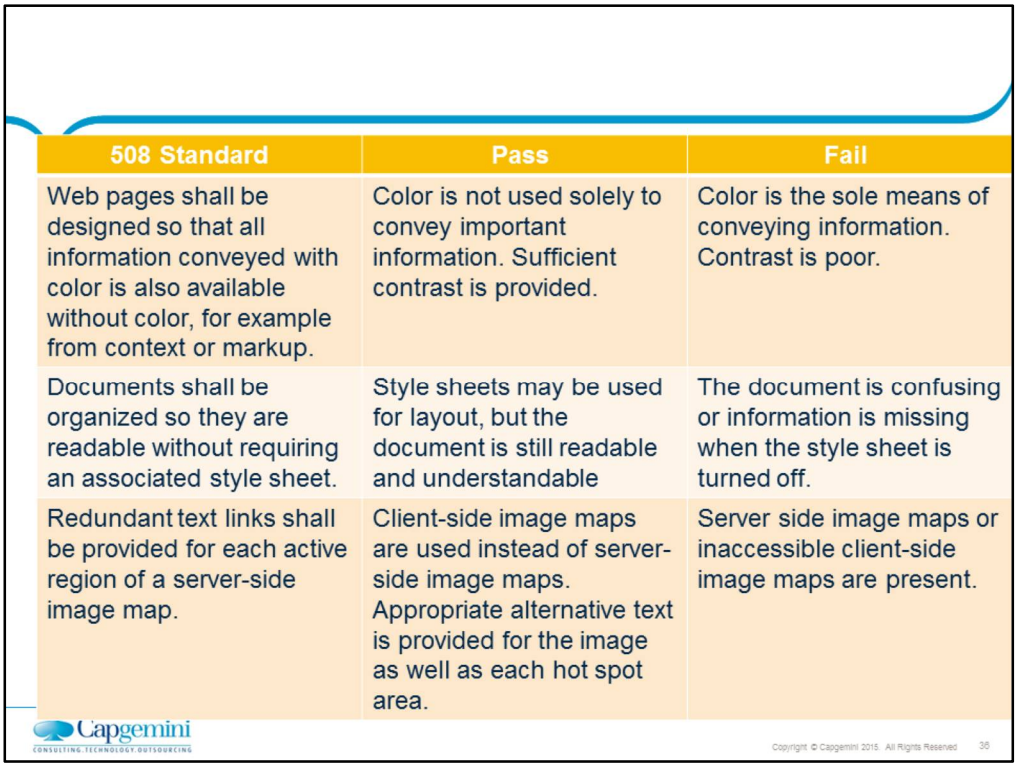
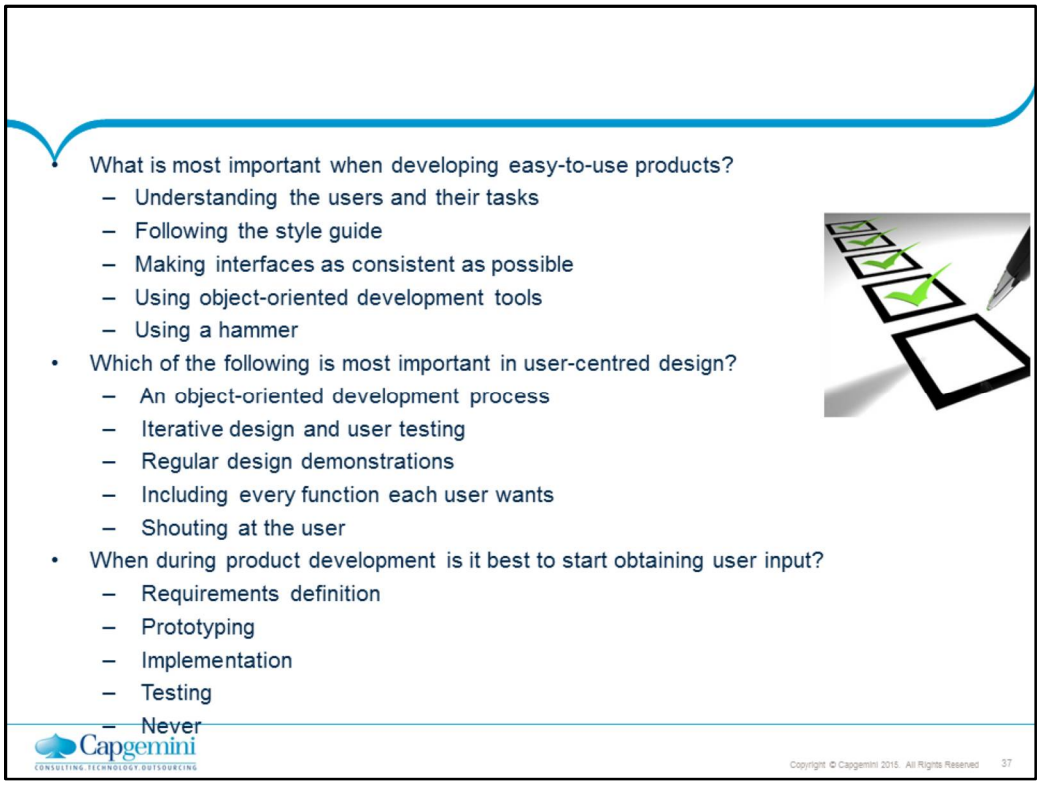


508 Standard	Pass	Fail
Web pages shall be designed so that all information conveyed with color is also available without color, for example from context or markup.	Color is not used solely to convey important information. Sufficient contrast is provided.	Color is the sole means of conveying information. Contrast is poor.
Documents shall be organized so they are readable without requiring an associated style sheet.	Style sheets may be used for layout, but the document is still readable and understandable	The document is confusing or information is missing when the style sheet is turned off.
Redundant text links shall be provided for each active region of a server-side image map.	Client-side image maps are used instead of server-side image maps. Appropriate alternative text is provided for the image as well as each hot spot area.	Server side image maps or inaccessible client-side image maps are present.

Refer http://webaim.org/standards/508/checklist for more about 508

Instructor Notes:

Answers for the Review Questions:



Add the notes here.