

User Centered Design

- In broad terms
 - Process in which the **needs, wants, and limitations** of end users of a product are given extensive attention at each stage of the design process.
 - ISO principles which says that the design is user centric
 - The design is based upon an explicit understanding of users, tasks and environments.
 - Users are involved throughout design and development.
 - 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.

- UCD answers questions about users and their tasks and goals, then uses the findings to make decisions about development and design.
 - Who are the users of the document?
 - What are the users' tasks and goals?
 - What are the users' experience levels with the document.
 - What functions do the users need from the document?
 - What information might the users need, and in what form do they need it?
 - How do users think the document should work?
 - What are the extreme environments?
 - Is the user multitasking?
 - Does the interface utilize different inputs modes such as touching, spoken, gestures, or orientation?

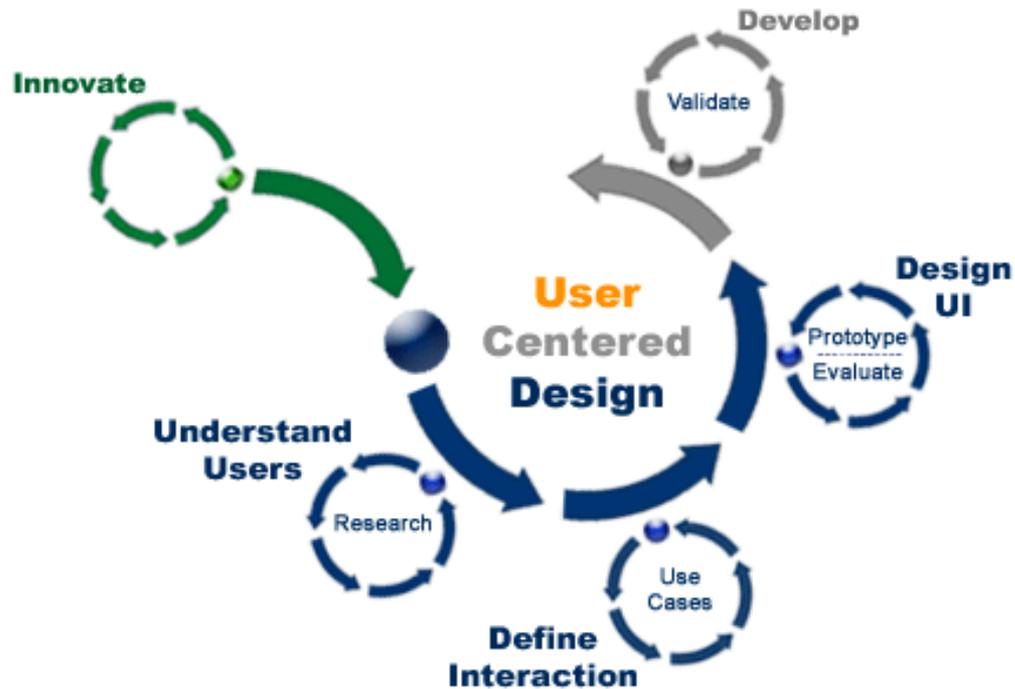
What is User Centered Design

- UCD is a **design methodology** and process that focuses on the:
 - Needs of end users
 - Limitations of end users
 - Preferences of end users
 - Business objectives

Importance of UCD

- Users visit your website to find information or accomplish tasks. If they don't find your website helpful, you risk them leaving. By focusing on the end user you:
 - Satisfy the user with a more efficient and user-friendly experience
 - Increase loyalty and return visits
 - Establish a more relevant and valuable website
 - Create websites that supports rather than frustrates the user

Process of UCD



- Innovate- Planning
 - Create a Plan to Understand Your Project
 - Define Project Scope
 - Identify User Audiences
 - Set Measurable Objectives

- Create Project Plan
 - **Scope** - What are you developing? What is the website going to cover? How many pages will the site contain?
 - **Audiences** - Who are the major groups of users you want the site to serve?
 - **Objectives** - What goals should the website help your agency or organization meet?

- Project Scope

- Are you creating a website for an entire agency or organization?
- Is the site for part of that agency or organization?
- Will it feature a particular topic or is it for a particular audience?

Understand Users

- Don't rely on assumptions about your users behaviour go out and meet them, work with them, and involve them to understand:
 - Their information needs and level of knowledge about the subject matter
 - How they think about, group, and organize the information
 - What they expect to find on your site
 - Their level of experience with the Web and similar types of sites
 - How they work with information, such as how much they want to read
- By working with users, you can also find out about the technology they have available to them
 - Their internet connection
 - What screen resolution they use
 - The physical environment they work in
- You can also gather realistic scenarios and learn what makes a website work or not work for them.

- Techniques to gather information about users
 - Usability Testing
 - Online Surveys
 - Contextual interviews
 - Individual interviews
 - Focus Group

Example of a Persona



The following example is only a small portion of a larger persona developed by the U.S. Department of Agriculture's (USDA) Economic Research Service (ERS).

USDA Senior Manager Gatekeepers Matthew Johnson

Program Staff Director, USDA

Matthew is 51-year-old married father of three children and one grandchild. He has a Ph.D. in Agricultural Economics who spends his work time requesting and reviewing research reports, preparing memos and briefs for agency heads, and supervising staff efforts in food safety and inspection. He is focused, goal-oriented within a strong leadership role. One of his concerns is maintaining quality across all output of programs. He is comfortable using a computer and refers to himself as an intermediate Internet user. He is connected via a T1 connection at work and dial-up at home. He uses email extensively and uses the web about 1.5 hours during his work day. He is most likely heard saying: "Can you get me that staff analysis by Tuesday?"

Persona developed by the U.S. Department of Agriculture's (USDA) Economic Research Service (ERS).

Many companies including **Ford Motor Company, Microsoft, and Staples** develop and use personas and they report many benefits from doing so, including:

- a better understanding of customers
- shorter design cycles
- improved product quality
- Using personas helps the team focus on
 - Users' goals and needs.
 - The team can concentrate on designing a manageable set of personas knowing they represent the needs of many users.
 - Design efforts can be prioritized based on designs.
 - Designs can be constantly evaluated against the personas and disagreements over design decisions can be sorted by referring back to the personas.

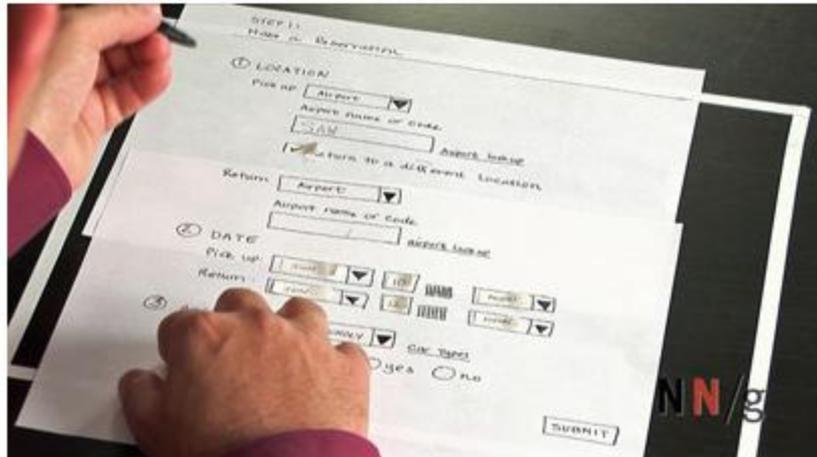
Scenarios

- Scenarios are the questions, tasks, and stories that users come to your site with. Your site should satisfy them. The short story can be about a:
 - Specific user
 - Major user group
 - Previously defined persona with a particular goal
 - Scenarios are critical both for designing websites and for usability testing.

- Usability testing scenarios **should not** include any information about **how** to accomplish a task.
- The usability test will show how the participant accomplishes a task and shows you whether the interface facilitates completing the scenario.
- **Example:**
 - A parent is worried about a ten-year old refusing to drink milk and wants to know if it really makes a difference that the child is getting very little calcium.

- Prototypes
 - A prototype is a draft version of a Web site.
 - Prototypes allow you to explore your ideas before investing time and money into development.
 - A prototype can be anything
 - paper drawings (low-fidelity), click-through of a few images or pages,
 - fully functioning Web site (high-fidelity).
- You can build a prototype at any time but ideally you should create them as early as possible.

Low-fidelity paper prototypes just require paper and pen to simulate an interface:



High-fidelity paper prototypes are made via desktop publishing programs or design software such as Photoshop or Illustrator:



- Develop
 - Develop Your Content Strategy
 - Optimize your content to include the keywords site visitors and search engines look for
 - content fresh and up-to-date,
 - Identify Your Users' Top Tasks
 - Help Readers Scan
 - Use Plain Language

Discussion

- Discuss the advantages of User Centered Design

Advantages of UCD

- Reduce development time
- Increased Sales
- Improved Quality of life- reduces stress
- Support savings- Lesser training required
- Usage Services- reduced task time and increased productivity