

User Interface Design and Development II

(Persona, User Goals, Task Analysis and Scenarios)

Nan Tu PhD

Spring, 2006
Tsinghua University
Department of Industrial Engineering

User-centered Design

- Standard Approach:
 - Needs assessment
 - Task analysis
 - Initial design
- More modern approach:
 - Needs assessment
 - Persona creation (Copper)
 - Goal creation
 - Scenario and task creation
 - Initial design

Personas

- A persona is a user **profile** that can help the designers make design decisions
- These profiles are gained through user testing and research
- Personas are representative of real user
- The personas are used to guide the creation of task scenarios

How to Obtain Personas

- Obtain the typical users list (can be as many as hundreds) from marketing department, outside consultancy company etc.
- Summarize the candidates and find the typical users.
- Interview the candidates one on one
- Send out survey and ask the candidates to fill in them
- Follow the candidates for the whole day and observe their activities

What is in a Persona Write Up

- **Realistic** - personalize by including their own picture and name
- **Demographic** - consider age, gender, profession, marital status
- **Personal** - account for family, hobbies, likes, dislikes, background, expectations
- **Technological** - consider computer experience, connection speed, computer type
- **Details** - relevant to the site/project, how they view your site or potential sites as well as those of competitors
- **Purpose** - reasons to visit your site such as goals and preferences

Who are Typical Users

- Most of the time, personas have two user groups, primary users and secondary users
 - i.e. 水木清华p
 - primary users are current school students
 - Secondary users are alumni
 - People from outside school
 - i.e. A traveling website
 - primary user is
 - Secondary user is
- For larger user base, there may be many more different types of personas
 - Question: How many personas does Microsoft Internet Explorer have?

Persona Examples



Computer Savvy

Web Savvy

Online Shopping Savvy

**

Background

Sara is a 25 year old, single woman living in the University District of Seattle Washington. She of average height and build, fairly athletic and has brown hair and green eyes. She is unmarried but has a boyfriend of 2 1/2 years and they are starting to think about tying the knot. She lives with her roommate, Katie, and has 2 cats, Bob and Rufus. She is working in the marketing department of a high volume airplane parts manufacturer in Everett, 20 some miles north of Seattle. Her hobbies include dancing, mountain biking and snowboarding. She loves going to the movies. She also loves to shop.

Web usage

Her Internet usage is limited mainly to work related functions and E-mail. She has a hotmail account for her personal correspondence and uses it almost every day at lunch and sometimes on weekends or eves. He has shopped online but only a few times, she often finds the process confusing. Because of how she needs to use the Web at work she has a pretty good grasp of how most things work, she considers herself fairly savvy as she uses a mailing list program and spends a bit of time on marketing type sites. She doesn't enjoy spending a whole lot of time on the computer, so she prefers to get on and off quickly, and likes those sites that help her do that. Sara likes it simple and straightforward.

Online shopping

As far as shopping sites goes, she likes Amazon, and Nordstroms, but doesn't have a whole lot of experience with others. She uses these mainly for gifts and would prefer to hit the mall or downtown before resorting to shopping online. Often times she may look for some information about a particular product online and then go pick it up (or not) at the store. Most of her shopping experiences have been limited to research and information gathering. When she has made a purchase she finds that sometime the process is a bit overwhelming.

More on Personas

- How do you get personas?
 - Look for patterns
 - Look for clusters of attitudes and behaviors
- How many personas do you need?
- Is persona snap-shots of a typical user (average user)?
- Think of a movie and who is the main character and how do you remember him or her?

Tips on Writing Personas

- Keep the persona to one page
- Add personal details but not go overboard
- Include goals for each persona
- Review persona to ensure they have remained realistic
- If the personas seem close in behaviors and goals, see if you can merge them into one persona
- Ask others to review persona

Using Personas

- Identify the features, functionality and content to develop
- Determine whether one user interface will meet the goals of all users, or whether there needs to be two or more user interfaces developed
- Communicate to senior executives the vision for the new website and how it will meet the needs of the staff or customer base
- Make design decision about how a piece of functionality will work or about the creative design of the web solution
- Guide the content development so that content supports the goals of the users and answers their common questions
- Focus additional user analysis activities, such as task analysis
- Guide an expert usability review of the existing website
- develop scenarios for usability testing
- Contribute to the marketing efforts for the intranet or website

From Persona to Goals

- Each persona should have three or four important goals.
- Goals and tasks are different
 - Tasks are merely things that we do to accomplish goals
- Life Goals
 - i.e: To retire at the age of 45 has nothing to do with mobile phone design, but has everything to do with financial planning tool
- Experience Goals describes how the persona wants to feel when using a product.
 - i.e.: A persona using an online banking site might want to feel confident that his transactions are secure

Different Types of Goals

- Personal Goals
- Corporate Goals
- Practical Goals
- False Goals

Designing for Goals

- Goals are what one wants to do
- Goals seldom change
- Tasks are steps to get to the goals
 - Tasks change with the technology
 - Sometimes tasks are the opposite of goals
 - To get agreement, the lawyer argues
 - To achieve peace, the country sends in troops
- Focusing on technology results in designing for tasks rather than goals.

From Persona to Goals

- Each persona should have three or four important goals.
- Goals and tasks are different
 - Tasks are merely things that we do to accomplish goals
- Life Goals
 - Ie retire at the age of 45 has nothing to do with mobile phone design, but has everything to do with financial planning tool
- Experience Goals describes how the persona wants to feel when using a product.
 - Ie A persona using an online banking site might want to feel confident that his transactions are secure

Designing for Goals

- Goals are what one wants to do
- Goals seldom change
- Tasks are steps to get to the goals
 - Tasks change with the technology
 - Sometimes tasks are the opposite of goals
 - To get agreement, the lawyer argues
 - To achieve peace, the country sends in troops
- Focusing on technology results in designing for tasks rather than goals.

Task Analysis

- What tasks the users will do?
- Information needs: what does the user need to know or view to do this task?
 - Includes what needs to be on the screen.
 - Both: What does the system need to show?
What does the user need to know?
- Look for problems in the current mechanisms for achieving the tasks that are susceptible to automation.
- Look at concrete examples of users doing current tasks
- Important to include exceptions and error conditions

From Task Analysis to Scenarios

- Scenarios are specific examples of how a user might use the system.
- One scenario for each major class of users doing each kind of important task
- Will want to make those tasks efficient and easy
- Will significantly affect the design
- Try to include lots of exceptional cases
- Shows how the interface will be used
- Uses:
 - Refine the interface
 - Demonstrate to management, marketing, customers what your concept is
 - Can replace much textual specification

Results of Task Analysis

- Scenarios to be used during design
- List of the things users want to accomplish (goals)
- Information they will need to accomplish those goals
- Steps to be performed and interdependencies
- All the various outcomes and reports
- Criteria to determine quality of results
- Communication needs of users with other people

Experiment - Task Design

- Criteria
 - Includes most of important steps
 - Represents **typical tasks** real user do
 - Reflects usability requirements concerned
 - Simplified

Task Analysis

- Task analysis analyses what a user is required to do in terms of actions and/or cognitive processes to achieve a task.
- Method
 - Task decomposition,
 - Task flow diagrams.

Task Decomposition

1. Identify the task to be analyzed.
2. Break this down into between 4 and 8 subtasks.
3. Draw the subtasks as a layered diagram ensuring that it is complete.
4. Decide upon the level of detail into which to decompose.
5. Continue the decomposition process, ensuring that the decompositions and numbering are consistent.
6. Present the analysis to someone else who has not been involved in the decomposition but who knows the tasks well enough to check for consistency.

Task Decomposition Class Example

1. Perform a task analysis on an email program

Task List for an e-mail Program

- Write a message。
- Send a message
- Receive a message
- Read a message that you received
- Reply to a message
- Save a message to look at it later
- Forward a message to someone else
- Send a formatted file with the message
- Send the same message to several people
- Keep an address book

Task Flow Diagrams

- Task flow analysis will document the details of specific tasks. It can include details of interactions between the user and the current system, or other individuals, and any problems related to them.

Scenario Examples

编号	描述	设计出发点
1	您在接下来的一周（2.27—3.5）要进行一次商务旅行，目的是去上海的徐汇区参加一个会议。会议需要三天时间（3.1—3.3），您可以灵活安排这周的其他时间。您想要通过网络安排一下自己的行程（包括但不限于预定机票、酒店），因为您3.6号要向公司的高层汇报会议的情况，所以您最晚5号要回来。	商务旅行顾客群是 ctrip 用户群体的重要组成部分之一，本场景描述的就是一次典型的商务旅行，它涉及到商务旅行中在旅行网站上的典型活动（信息收集、比较和决策）。
2	您近期有时间休假，您想带全家出去度假，度假时间为6天左右。（时间您可以自己确定）您可以根据自己的经验搜索信息、选择到什么地方度假、花费多少等。	和商务旅行一样，度假也考虑了机票和酒店两方面因素，不过与之不同的是度假是私人的活动。这个场景是上一个场景的补充。
3	您现在住在北京，想利用周末的时间（一天或两天）和自己的伴侣在北京附近游玩放松一番，您可以根据自己的经验和喜好自由选择景点或酒店。最后把您选好的路线反馈给我们。	短途旅行也可能是用户群体经常需要完成的任务，本场景是为了研究短途旅行用户的行为习惯和需求而设计。
4	您有个朋友在外地，他3.1号到3.4号要来北京办事，想让您帮忙订一个酒店。希望酒店能有比较好的服务和良好的环境，最好能够有方便的交通，价格不要太贵。其他的就由您根据自己的经验决定。	酒店是旅行网站比较重要的业务之一，同时它的完成复杂程度也比较大。设计本场景是为了研究影响用户选择酒店的因素和它们的重要级。