User Profiles

Chapter 02

Usability Engineering Life Cycle by Deborah J. Mayhew

What is user profile?

- The process of establishing knowledge about the users
  - Find out who users are
    - Children, Elders, Professional, Scientist, Male, Female, Tech Experts, IT Illiterate
- What is the goal in using the product?
  - Withdraw cash, pay bills, find out movie time, online chat, gaming, research etc.
- What are the tasks involved?
  - (Observe existing work practices)
  - E.g. To apply for leave
    - Check schedule, Get Leave application form from admin, fill in the form, get it approved from Manager, inform colleagues and go on leave

Why user profiling

- System will fail if it
  - Does not do what the user needs
  - Is inappropriate to the users
- The System must match the user's tasks and must meet the requirements
- Why do user profiling, why not define "good" interfaces and just based your design on them?
  - infinite variety of tasks and users guidelines can be too vague to be generative

WHO ARE THE USERS

- Identify attributes of users
  - Physical characteristics:
    - height; physical abilities or disabilities
  - Background:
    - education; social; religious
  - Skills:
    - task experience
  - Preferences:
    - efficiency

WHERE IS THE TASK PERFORMED

- Office, laboratory, POS? (while standing, while sitting, in a crowded place, effects of environment)
- Are users under stress? (in an operation theatre)
- Is confidentiality required? (information displayed)
- Do Users consume drinks while doing tasks?
- What kind of lighting do they work under?
- Surrounding noise

RELATIONSHIP BETWEEN USER AND DATA

- Personal data
  - always accessed at same machine?
- Common data
  - used concurrently?
  - Passed sequentially between users?
  - Access to data restricted?

HOW OFTEN ARE TASKS PERFORMED

- Frequent users remember more details
- Infrequent users may need more help even for simple operations
- Which function is performed
  - most frequently?
  - by which users?
- optimize system for these tasks will improve perception of good performance

WHAT ARE THE TIME CONSTRAINTS

- What functions will users be in a hurry for?
  - Positioning of functions
- Which can wait?
  - Is there a timing relationship between tasks?
  - Time out

USER REQUIREMENT

- Captures the characteristics of the intended user group
  - Novice & Casual (clear step by step intro)
  - Expert & Frequent (flexible interactions, wide range of power/control, short cut keys)
- Analyse the results of user profiling and identify the impact to your interface design

Know your users – always!

DATA GATHERING

- What:
  - How do we go about determining requirements and concluding the results
  - An important part of the requirement activity and also evaluation activity
- Why:
  Purpose is to collect sufficient, relevant and appropriate data to produce a set of reliable requirements/conclusions.

DATA GATHERING TECHNIQUES

- Questionnaires
  - A series of questions designed to elicit specific information
  - Can give quantitative and qualitative data
    Administered at distance, no one to explain & help in answering
    Advantages, disadvantages
- Interviews
  - Involves asking someone a set of questions (often f2f)
  - Good for exploring issues, encourage people to respond
    Advantages, disadvantages

Continue…

- Workshops or focus groups
  - Group interviews rather than one on one
  - Gain a consensus view and/or highlighting areas of conflicts
  - Facilitator is required to keep conversation on track
  - Has to be carefully structured, participants have to be carefully chosen
    Advantages, disadvantages

Continue…

- Naturalistic observation
  - Spend time with stakeholders in their day to day tasks, observing work as it happens
  - Good for understanding the nature and context of the tasks
  - Take notes, ask question (not too many)
- Variation of this - ‘Ethnography’
  - Observing from the ‘inside’ as a participant, full involvement
    Advantages, disadvantages

Continue…

- Studying documentation
  - Good for getting background information on procedures and rules (manuals, job logs)

PROBLEMS WITH DATA GATHERING

- Identifying and involving stakeholders
  - Availability of key people
- Communication between parties
  - Within development team (more technical)
  - With customer/user (less technical)
- Between users (different parts of an organisation use different terminology e.g. End of Module Report for APIIT vs Module Report for SU)

QUESTIONNAIRE DESIGN

- Keep questions short
- Only ask a question if it contributes to design
- Use closed questions for ease of analysis
- Always pilot questionnaires/interview schedules

1. Check the **job title** that best describes your current job:
   - _____ **Clerical**
   - _____ **Internal Claim Rep**
   - _____ **External Claim Rep**
   - _____ **Supervisor**
   - _____ **Manager**
   - _____ **Other** (please describe) _____

2. In which **geographic area** is your main office located?
   - _____ **Northeast**
   - _____ **Southeast**
   - _____ **Midwest**
   - _____ **Southwest**
   - _____ **Northwest**
   - _____ **California**

3. Please estimate **how many** people in your job title are working in your geographic area: _____
   (If you have no idea, write "N/A.")

4. Describe the current **level of automation of your job title** in your office by checking one choice below:

_____ **None** (No users in my job title have or use a computer workstation.)

_____ **Low** (All users in my job title who use the computer share a workstation with other users.)

_____ **Medium** (Some users in my job title who use the computer share a workstation with other users, but some have their own workstations.)

_____ **High** (All users in my job title have their own workstations.)

5. In general, **how do you feel** about working with computers?

_____ I **don't like** working with computers.

_____ I have **no strong like or dislike** for working with computers.

_____ I **like** working with computers.

_____ **Other** (please explain) _____

6. How have computers **affected your job?**

_____ Computers have made my job **easier.**

_____ Computers have **not affected** my job in any particular way.

_____ Computers have made my job **more difficult.**

_____ **Other** (please explain) _____

7. Is the amount of **time it takes to learn** new software applications usually **worth it**?

_____ **Yes**, it pays off because computer systems usually help me do my job better or faster.

_____ **Sometimes** it pays off, and sometimes it doesn't.

_____ **No**, computer systems are usually not useful enough to justify the training time.

_____ **Other** (please explain) _____

8. Do you **enjoy learning** how to use new software applications?

_____ **Yes**, it's usually challenging and interesting.

_____ **Sometimes**, depending on the application.

_____ **No**, it's usually tedious and frustrating.

_____ **Other** (please explain) _____

9. In general, are you **interested in computers**?

_____ I am **not interested** in computers and would avoid using them if I could.

_____ I am interested in computers but **only as a means** to help me do my job better and faster.

_____ I am **interested** in computers in general, and I enjoy using them.

_____ **Other** (please explain) _____

Sample Technique: A step by Step procedure to get user profile

- There are two main ways to get user profile
  - Questionnaires distributed to actual users
  - Interview with the people knowledgeable about the whole population of users
- 1. Determine user Categories
  - Determine who the intended users for a product are
  - Often they fall into already defined categories i.e Doctors, nurse, technicians, IT Experts etc.
  - What kind of development organization you work in
    - Internal Dev. Organization have a definition of users, usually by job category.
  - For Vendor company, identifying users is a bit trickier.

Continue…

- 2. Determine Relevant user Characteristics
  - Start wit the Questionnaire and hold meeting with appropriate project team members, UI designers and Usability Engineer
  - Gather input on user characteristics that should be polled in user profile
- 3. Develop Draft Questionnaire
  - Revise and Expand questionnaire to tailor it to specific organization or project needs
  - Write an introduction explaining the purpose and benefits of questionnaire

- 4. Get Management feedback on the draft
  - You will need management's input and approval on your draft questionnaire
- 5. Revise the Questionnaire
  - To incorporate management feedback

- 6. Conduct a pilot questionnaire with interviews
  - Conduct a mockup interviews with other members of organization or respondent users
  - Go through each question and check for clarity of wording, completeness, mutual exclusivity of MCQs.

- 7. Revise the Questionnaire
  - Revise to incorporate interview feedback
- 8. Select a user sample
  - Response rate to mailed questionnaires is about 10%
  - This percentage increase if questionnaire is attached with proper cover letter signed by higher authority in an organization
  - Decide to send to equal numbers of each known, significant user category.

- 9. Distribute the Questionnaires
  - Use interoffice mail, regular mail or email to distribute questionnaires
  - Give clear return deadline
- 10. Design data entry/analysis
  - Plan to collate and summarize any free-form comments
  - And plan to use spreadsheet, statistics packages or simple pen and paper to aggregate information

- 11. Enter Data
  - As questionnaires are received, enter data as planned
- 12. Summarize Data
  - When all questionnaires are returned by deadline, analyze data as planned
- 13. Interpret Data
  - Write a short (several pages) summary providing a synopsis of the key characteristics of each user category and draw specific implications for user interface design
  - Do not make assumptions

- 14. Present Results
  - Distribute the narrative conclusion and design implications, with data summary form as an appendix, to all interested parties.

Level Of Effort

Usability/Development Time

Step	Hrs
Needs finding	24
Draft questionnaire	12
Management feedback	2
Revise questionnaire	6
Pilot questionnaire	8
Revise questionnaire	6
Select user sample	4
Distribute questionnaire	6
Data analysis	24
Data interpretation/presentation	24
Document User Profiles	24
Total	140

Reference

- The Usability Engineering Lifecycle by Deborah J.Mayhew, Chapter 02

End of the Lecture