

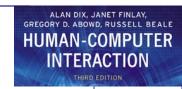


# User Profiles

#### **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

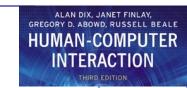




#### WHO ARE THE USERS

- 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

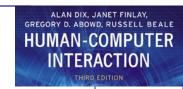




## RELATIONSHIP BETWEEN USER AND DATA

- 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

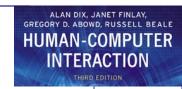




#### WHAT ARE THE TIME CONSTRAINTS

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



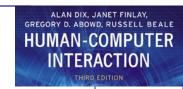


## USERREQUIREMENT

- 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





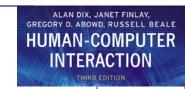
- Workshops or focus groups
  - Group interviews rather than one on one
  - Gain a consensus view and/or highlighting areas of conflicts
  - Facilitator is required to keep conversation on track
  - Has to be carefully structured, participants have to be carefully chosen
    - Advantages, disadvantages





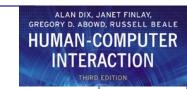
- Naturalistic observation
  - Spend time with stakeholders in their day to day tasks, observing work as it happens
  - Good for understanding the nature and context of the tasks
  - Take notes, ask question (not too many)
- Variation of this 'Ethnography'
  - Observing from the 'inside' as a participant,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





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

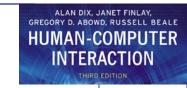




## PROBLEMS WITH DATA GATHERING

- 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

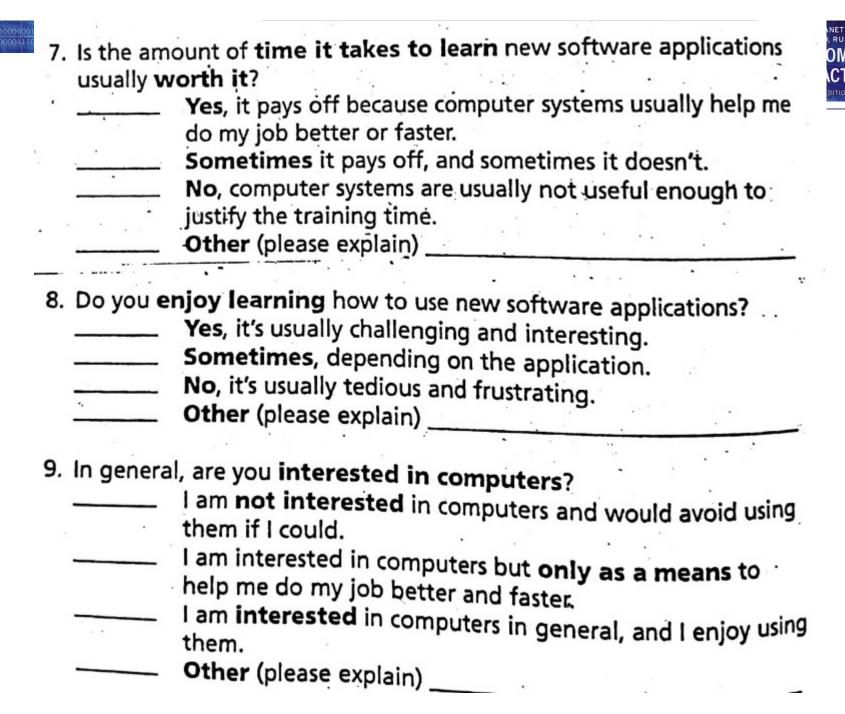
- Keep questions short
- Only ask a question if it contributes to design
- Use closed questions for ease of analysis
- Always pilot questionnaires/interview schedules





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.")

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00) 1000 100) 1000 100) 1100000 11 100000 11 100	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.)
	<ul> <li>5. In general, how do you feel about working with computers?</li> <li>I don't like working with computers.</li> <li>I have no strong like or dislike for working with computers.</li> <li>I like working with computers.</li> <li>Other (please explain)</li> </ul>
	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)







# 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.





- 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.





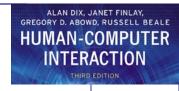
- 7. Revise the Questionnaire
  - Revise to incorporate interview feedback
- 8. Select a user sample
  - Response rate to mailed questionnaires is about 10%
  - This percentage increase if questionnaire is attached with proper cover letter signed by higher authority in an organization
  - Decide to send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

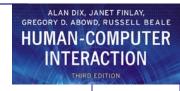
#### 12. Summarize Data

 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.



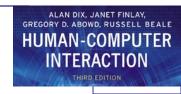


# Level Of Effort

#### Usability/Development Time

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





## Reference

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





# End of the Lecture