COMP 3603 Tutorial 3

User Research Methods

Method Name	Lifecycle Stage	Users Needed	Main Advantage	Main Disadvantage
Heuristic evaluation	Early design, "inner cycle" of iterative design	None	Finds individual usability problems. Can address expert user issues.	Does not involve real users, so does not find "surprises" relating to their needs.
Performance measures	Competitive analysis, final testing	At least 10	Hard numbers. Results easy to compare.	Does not find individual usability problems.
Thinking aloud	Iterative design, formative evaluation	3–5	Pinpoints user misconceptions. Cheap test.	Unnatural for users. Hard for expert users to verbalize.
Observation	Task analysis, follow-up studies	3 or more	Ecological validity; reveals users' real tasks. Suggests functions and features.	Appointments hard to set up. No experimenter control.
Question-naires	Task analysis, follow-up studies	At least 30	Finds subjective user preferences. Easy to repeat.	Pilot work needed (to prevent misunderstandings).
Interviews	Task analysis	5	Flexible, in-depth attitude and experience probing.	Time consuming. Hard to analyze and compare.
Focus groups	Task analysis, user involvement	6–9 per group	Spontaneous reactions and group dynamics.	Hard to analyze. Low validity
Logging actual use	Final testing, follow-up studies	At least 20	Finds highly used (or unused) features. Can run continuously.	Analysis programs needed for huge mass of data. Violation of users' privacy.
User feedback	Follow-up studies	Hundreds	Tracks changes in user requirements and views.	Special organization needed to handle replies.

Question 1

Suggest data collection methods for each of the following applications and research questions.

Application	Research Questions	Data Collection Methods	Justification
Turtle Conservation Activities App	- What are the primary needs of turtle conservationists in the field? - How can the application best facilitate data entry, analysis, and conservation activities?	Focus group: Activists, members who participate in conservation activities Observation, allow you to see how work is currently done, identify opportunities for improvement and any challenges faced.	Get targeted feedback from the key stakeholders Can better understand context and operating environment of the system, can help avoid obvious design flaws
Digital University Notice Board	- What types of information do students, faculty, and staff prioritize on a digital notice board? - How can the notice board be designed to ensure it is easy to use and information is easily accessible?	Survey, parties that do notice board flyers/ads Survey students for insights on current modes of communication/broadcasts, m&c, myelearning etc Focus group testing on prototypes, A/B testing	Able to understand the needs of advertisers Understand the sentiment of students as the target audience for advertising. Get user feedback on design decisions implemented on a prototype

Alumni Crowdsourced Donation Platform	- What motivates alumni to donate to their alma mater? - How can the platform be designed to ensure trustworthiness, transparency, and ease of donation?	Surveys, Focus groups to understand motivation of target audience. Performance evaluation: Usability testing, A/B testing of prototypes Logging actual use of prototypes	

Suppose the following findings were made on data collection for the MyAdvisor application:
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1. Interviews:

- Current Planning Strategies:
  - 65% of students rely solely on faculty academic advising.
  - 25% refer to the faculty booklet for course planning and information.
  - 10% utilize the department website for course details and requirements.
- Challenges Faced:
  - Faculty course advising is perceived as redundant and labor-intensive by both students and faculty.
  - Students sometimes find the program structure in the faculty booklet and department website ambiguous and challenging to interpret.
  - Concerns arose about the potential risk of taking incorrect courses or extending their degree completion due to not understanding or prioritizing prerequisite courses.
  - A lack of clarity and awareness regarding elective options was expressed by many students.

2. Observations of Academic Advising Sessions:

- Findings:
  - On average, sessions lasted for about 30 minutes, but a majority of the time (approx. 15 minutes) was spent on explaining concepts like electives, special/general degrees and understanding prerequisites.
  - Faculty frequently referred to printed materials or department websites to clarify course details.
  - Students often appeared unsure or overwhelmed by the sheer volume of choices and requirements.
  - Faculty expressed frustration at having to repeatedly cover the same ground with different students, indicating a need for a more efficient advising system.

3. Surveys:

- Preferred Features:
  - 80% of respondents hope for an application that offers clearer representations of program structures.
  - 75% desire an automated prerequisite checker within the app.
  - 70% are interested in a comprehensive list of available electives.
  - 60% feel that a system that highlights potential course mistakes or suboptimal choices is essential.

Overall Insights:

The majority of students rely on traditional methods of faculty advising, faculty booklets, and department websites for course planning, though these methods present challenges. Observations from academic advising sessions highlight the inefficiencies and redundancies in the current system. A dedicated application can streamline this process, providing students with clearer and more efficient guidance while reducing the repetitive workload for faculty.

Question 2

Given the sample finding provided, create a use case diagram for the system.

Question 3

Identify the essential use cases of the system

Question 4

Provide a task analysis of the main use case of the system