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.
Questionnaires	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
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?	Observation: Observe the conservationists at work see opportunities for optimization and improvements. Identify challenges Interviews: Identifying challenges, interviews can get personal perspective of the stakeholder
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?	Surveys: understand the engagement and effectiveness of the current system. Observation: Learn about how the current system is used Focus Groups on prototypes to understand usability of the designs
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:

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 45 minutes, but a majority of the time (approx. 30 minutes) was spent on basic course selection 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:

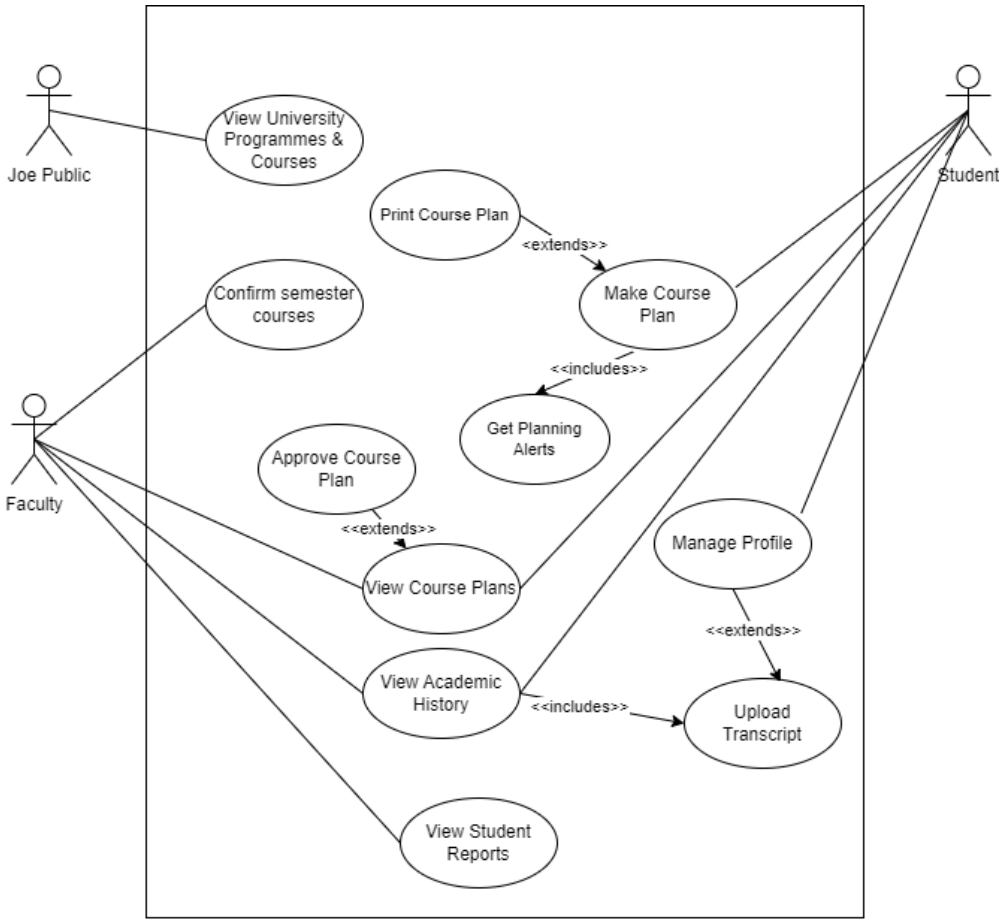
- Preferred Features:
  - 80% of respondents hope for an application that offers clearer representations of program structures.
  - 75% desire an automated prerequisite checker within the app.
  - 70% are interested in a comprehensive list of available electives.
  - 60% feel that a system that highlights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

User Intention	System Responsibility
Course Planning (Create Course Plan)	● Retrieve only compatible courses that are running for the semester ● Show alerts should the student attempt to confirm a bad course plan ● Visualize how the current selection of courses contributes to the progression of the students degree ● Should inform the user on the subject matter of a given course ● system should give metrics for comparing course plans/ autofilling according to a preference ● Long term course planning ● Should prevent creating a new course plan if academic history outdated (missing semester data based on server time) ● retrieve recommended electives (and prerequisites) relevant to the student's interested from profile, ● retrieve electives & core courses based on your selected programmes ● should visualize the different elective requirements (L1 electives, Adv, General)
View University Programmes	● Retrieve and presents the programmes in a easy to browse fashion ei by faculty > dept ● Facilitate the searching of specific programmes via keywords ● Search by qualifications,(A -level Results) ● Provide links to apply to the programme
View Academic History	● Clearly visualize the grades of the latest attempt of a course categorized by semester and year ● Gives the option to expand to see details of a previous attempts of the course (failures) ● Give the option to upload a transcript if history is outdated (system detects that a semester has passed since last upload)
(Faculty) Confirm Semester Courses	● Should show courses relevant to the host department ● Only faculty of a course's hosted dept should confirm if that course is running (DCIT Staff confirmed MATH 1115, ESST 1005) (VERY important detail)
(Faculty) Approve Course Plan	● retrieving the course plans of students that did planning in the current semester ● allows for the approval or rejection of a course plan ● should show projected progress and planning alerts
(Student) Upload Transcript	
View Course Plans	

View Student Reports	

Question 4

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

Use Case: Confirm Semester Courses

Goal: A faculty member would like to confirm the courses running from their dept in the upcoming semester

Tasks/Sub-tasks:

1. Log into the system
    1.1. Enter username
    1.2. Enter password
    1.3. Click on the 'Login' button
2. Navigate to Confirm Semester Courses
    2.1. Select the upcoming academic year and semester
    2.2. View a list of courses typically ran from the staff's dept that semester preselected
    2.3. Unselect/Select any course that would not be/be running that semester
    2.4. Optional: Add remedial course
        2.4.1. Click on Add Remedial course button
        2.4.2. Search for course
        2.4.3. Click on Add button next to course
        2.4.4. Course appears in a remedial section in the confirmed course listings
    2.5. Click on Confirm