S124 HIT381 HUMAN COMPUTER INTERACTION AND DESIGN

Possible Q&A for Final Interview

1. What key functionality does your prototype offer?
   * Our prototype offers a streamlined and intuitive interface that simplifies home automation for all user types, focusing on accessibility and ease of use.
2. Can you describe a user scenario that influenced the design of your prototype?
   * Yes, we observed elderly users struggling with complex interfaces. Our design simplifies navigation and includes voice commands to enhance accessibility.
3. What were the major changes made in the second design iteration of your prototype?
   * We improved voice command responsiveness, enhanced the visual contrast for better readability, and integrated a more intuitive control hierarchy.
4. How did user feedback from initial tests influence your design adjustments?
   * User feedback highlighted the need for simpler navigation and better error recovery, which we addressed by redesigning the menu layout and including more intuitive error messages.
5. What methodologies did you apply to gather user feedback?
   * We used a combination of surveys, observational studies, and semi-structured interviews to gather comprehensive user feedback.
6. How does the GOMS model apply to your prototype evaluation?
   * We used the GOMS model to predict and evaluate user interactions, focusing on streamlining goals, operators, methods, and selection rules to reduce task completion times.
7. What role did ethnography play in your design process?
   * Ethnography helped us understand the natural user environment and their daily interactions with smart home devices, which informed our design to be more user-centered.
8. Can you explain a specific design principle you applied from Norman's theories?
   * We focused on Norman’s principle of 'visibility of system status' by ensuring our system always keeps the user informed about what is happening through clear feedback.
9. What was the outcome of your contextual inquiry?
   * The contextual inquiry revealed that users prefer automation that adapts to their daily routines, leading us to implement adaptive lighting and temperature controls based on time and user presence.
10. How did you implement the participatory design approach?
    * We involved users directly in the design process through workshops where they could try out prototypes and provide immediate feedback, which we then used to refine our designs.
11. What insights did you gain from the prototype testing sessions?
    * We learned that users valued features that reduced their effort, like automated scene settings and voice-controlled operations, which guided our focus on enhancing these aspects.
12. How did you ensure your design was inclusive for all user types?
    * We incorporated accessibility features like text size adjustments and high-contrast modes to cater to users with visual impairments and ensured our navigation was simple enough for tech-novices.
13. What statistical methods did you consider for analyzing user test data?
    * We looked at user error rates, task completion times, and the frequency of help requests to quantify the usability improvements in our iterative designs.
14. What challenges did you face during the user testing phase?
    * Recruiting a diverse user group was challenging, but essential to ensure our design worked across different user needs and preferences.
15. How did the design team collaborate to address the identified user needs?
    * Each team member brought unique insights from their observations, which we integrated into a holistic design strategy that addressed the broad spectrum of user needs.
16. What part of the feedback mechanism was most effective in gathering relevant information?
    * Surveys were particularly effective as they allowed us to gather quantitative data on user satisfaction and feature usability, which we could easily analyze for trends.
17. How did you address the feedback on the prototype’s security features?
    * We enhanced biometric security measures and implemented encrypted communication between the app and home devices to address security concerns raised in feedback.
18. What were the key lessons learned from implementing Norman’s heuristics in your design?
    * Applying these heuristics taught us the importance of user control, error prevention, and consistency, leading to a more intuitive and reliable user interface.
19. How did the user roles defined in the project influence the design outcomes?
    * By defining specific user roles, we were able to tailor the interface elements and interactions to match the expectations and skills of different types of users, enhancing the overall usability.
20. What future improvements are planned for the prototype based on the current evaluation?
    * Based on current evaluations, future improvements will focus on enhancing the customizability of the interface and expanding the automation features to anticipate user needs even more effectively.

### Task Division of Project Implementation

Project Deliverables:

1. April to May: The project spanned several phases, each focusing on refining different aspects of the Smart Ghar app:
   * Home Page and Control Devices: Redesigned for enhanced user interaction and aesthetic appeal.
   * Voice Input, Settings, and Scenes: Improved for intuitive use, with advanced voice recognition and customizable settings to facilitate accessibility.

Team Contributions:

* Suman Rimal: Focused on the initial prototypes and integration of user feedback into the design.
* Kowshik Tias: Led the development of voice input features and mobile UX trends.
* Bishwatma Dawadi: Worked on accessibility features and settings adjustments.
* Ginij Karki: Enhanced device management features and incorporated energy-saving options.

Analysis and Development:

* Contextual Automation: Introduced to provide personalized automation based on user behavior and preferences, making Smart Ghar distinct from conventional systems like Google Home.
* Accessibility and Security: Major updates included better navigational flows and security features like biometric authentication to enhance usability for all users, including those with disabilities.

Figma Prototyping:

* The design team used Figma to develop and iterate on the prototypes, incorporating feedback from usability testing to refine the app continuously. The focus was on ensuring that the app was accessible, secure, and easy to navigate.

User-Centric Design:

* Throughout the development process, the team maintained a strong focus on user-centric design, ensuring that every feature added or improved was based on actual user needs and feedback.