Online Activity No. 8 and 9: Applying the User-Centred System Design Process

Objective

- Innovate an existing interactive system and computer technology.
- Perform and apply UCSD.

Materials

- Personal computer
- Any software for (Computer aided designs)or programming language

Background

Atakan(2006), UCSD is used in the design process. Reasons are evaluated why traditional-technology-focused design processes why it may result in unusable systems-and the consequences of those unusable or useless systems. This leads directly to a consideration of the different methodologies that go to make up a user-centered system design process.

Procedure

a.) dentify a scope or agenda
b.) Format for the document is given below as guide for the designers in the making the output both the document and design.

Chapter I. Introduction

Background of the Study

Many students still rely on scattered digital tools or manual tracking to manage academic tasks, which often results in disorganization, missed deadlines, and academic stress. The proposed academic productivity system, PACE (Personal Academic Companion & Evaluator), aims to streamline task tracking, review, and pacing. Using a user-centered design approach, the system is developed to improve study habits, reduce stress, and promote consistency.

Statement of the Problem

- Students lack a centralized platform that accommodates task tracking, self-assessment, and personalized pacing.
- Fragmented tools make it difficult to build consistent study habits.
- Many apps are either too complex or not adapted to academic needs.
- Students experience study fatigue and mental overload due to poor pacing tools.
- Current academic tools don’t support reflective self-check-ins or reminders adapted to user behavior.

Assumption of the Study

The proposed PACE system will:
- Provide intuitive progress tracking with a weekly pacing timeline.
- Allow quiz generation based on user notes.
- Generate summarizations of notes to improve review.
- Include ambient study modes for focus.
- Offer real-time, adaptive pacing feedback.

Significance of the Study

1. Students:
- Reduce stress and increase productivity.
- Gain better control over study habits.

2. Educators:
- Encourage healthy academic behavior.
- Monitor general engagement patterns.

3. Institutions:
- Reduce student dropouts due to academic burnout.
- Improve digital academic support tools.

4. Developers:
- Apply real-world UX principles in an educational context.
- Develop scalable, accessible academic tools.

Chapter II. Research Design

User-Centered System Design Process

A. Task Analysis

Main Task: Academic Productivity System (PACE)
├── [1. ADD TASKS]
│ ├── 1.1 Enter task name
│ ├── 1.2 Assign deadline
│ ├── 1.3 Categorize task
│ └── 1.4 Tag progress status
├── [2. REVIEW SUMMARIES]
│ ├── 2.1 Upload notes
│ ├── 2.2 Generate summaries
│ └── 2.3 Highlight key points
├── [3. TAKE CUSTOM QUIZZES]
│ ├── 3.1 Select topic
│ ├── 3.2 Generate questions
│ └── 3.3 Review score

└── [4. SET FOCUS MODES]
  ├── 4.1 Select ambient background
  ├── 4.2 Set timer
  └── 4.3 Start focus session

B**. Requirements Gathering**

Methods Used:
1. Interview: Conducted with 10 students from different disciplines.
2. Survey: Distributed to 50 students regarding digital study habits.
3. Observation: Monitored student workflows and distractions during study sessions.

Requirements:
- User: Easy navigation, minimal clutter, customizable notifications.
- Functional: Task tracker, ambient modes, quiz generator, summary tools.
- Data: Task metadata, study history, user preferences.
- Environment: Mobile-first, low-spec compatible, offline support.
- Usability: Majority of users should perform core tasks within 3 steps.

C. Storyboarding and Prototyping

Prototype Screens:
- Task input screen
- Timeline dashboard
- Focus mode timer
- Quiz generator UI
- Summary review panel

User Manual Excerpt:
'To start a new study session:
1. Tap 'Focus Mode' on the dashboard.
2. Choose background sound (Lo-fi, Rain, Café).
3. Set duration and tap Start.'

D.**Evaluation of prototype**

Heuristic Evaluation Results:

Area of Evaluation	5	4	3	2	1
Visibility of System Status	**X**				
- The system design provides appropriate feedback like message prompts in response to user actions. The message prompts are clear, visible and understandable.	X				
Match between the system and the real world - Used words, phrases and concepts according to users' language rather than system oriented words and computer jargons.	X				
User control and freedom - The system design provides ways of allowing users to easily "get in" and "get out" if they find themselves in unfamiliar parts of the system.		X			
Consistency and Standards	X				
- The colors, text, labels, buttons and other elements in the design are uniform from start to finish.	X				
- Text and icons are not too small or too big. - Menus and other features of the system are arranged and positioned in a consistent way. (For ex. If your website has navigation buttons on the top under the page title on one page, the users will automatically look there for the same features on other pages.	X				
Error Prevention		X			

- The system design provides an automatic detection of errors and preventing them to occur in the first place. - Idiot proofing mechanisms are applied		X			
F. Help users recognize, diagnose and recover from errors - Error messages and the terms used are recognizable, familiar and understandable for the users.		X			
G. Recognition rather than recall - Objects, icons, actions and options are visible for the user. - Objects are labeled well with text and icons that can immediately be spotted by the user and matched with what they want to do.	X				
H. Flexibility and efficiency of use - The system design provides easy to navigate menus. - the system does not make wasteful time of system resources.			X		
Aesthetic and minimalist design -Graphics and animations used are not difficult to look at and does not clutter (mess) up the screen. - Information provided is relevant and needed for the system design.	X				
Help and Documentation -the system design provides information that can be easily searched and provides help in a set of concrete steps that can easily be followed.			X		

Chapter III. Conclusion and Recommendation

Conclusion

The PACE system offers an integrated solution to academic disorganization, providing tools for pacing, focus, and self-assessment. Following the UCSD methodology ensured the product focused on real user challenges and habits. Future iterations will focus on extending offline support and improving ambient learning experiences.

Recommendation

- Conduct broader user testing with diverse academic levels.
- Improve in-app help and tooltips.
- Add dark mode for evening study sessions.
- Implement a widget for quick task logging from the home screen