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

Objective

1. Innovate an existing interactive system and computer technology.
2. 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.) Identify 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

Regular physical activity is essential for sustaining physical fitness, enhancing mental well-being, and mitigating the risk of chronic illnesses such as obesity, cardiovascular disease, and diabetes. Despite widespread awareness of these advantages, many individuals face challenges with maintaining workout consistency because of poor self-discipline, motivation, and systematic planning. This inconsistency is frequently heightened by modern lifestyle expectations, such as academic obligations, occupational stress, and limited free time.

FitNote is offered as a solution-oriented fitness mobile application aimed at assisting users in developing workout discipline through defined routines, progress tracking, and tailored assistance. FitNote seeks to facilitate the planning and monitoring of workouts, so assisting users in cultivating a consistent fitness regimen aligned with their objectives and lifestyle. This study examines the fundamental difficulties influencing fitness consistency and how a sophisticated, user-centric application might connect motivation with enduring behavioral change.

Statement of the problem

1. **Many individuals struggle to maintain a consistent fitness routine due to lack of discipline and poor time management.** It results in inconsistent exercise patterns and adversely affects their physical and mental well-being. This issue continues due to the absence of an efficient system that assists users in organizing their exercise routines amongst their hectic schedules.

2. **Users often face difficulties in planning and organizing workouts effectively without proper guidance or tools**. Users experience a lack of motivation and adherence to their fitness objectives as a consequence of being overwhelmed or uncertain in the absence of clear workout plans that are customized to their specific requirements.

3. **Users often face difficulties in planning and organizing workouts effectively without proper guidance or tools**, which restricts their capacity to develop long-term engagement and commitment. The absence of personalization results in a significant number of users losing interest and gradually ceasing to utilize the application.

Assumption of the study

The following features will be implemented by the proposed prototype to address the mentioned issues:

Workout Planner: Enables users to schedule and customize daily exercise routines in accordance with their objectives and time constraints.

Progress Tracker: Offers visual summaries of completed exercises, such as sets, reps, and weights, to assist users in tracking their progress.

Reminder Notifications: Sends reminder notifications to motivate users to maintain their fitness regimens.

Exercise Library: Provides users with instructions and guides to assist them in following proper form and planning effectively. The exercises are categorized.

Goal Setting: Allows users to establish fitness objectives and monitor their progress toward achieving them over time.

Offline Access: Guarantees that users can record and evaluate exercises without the necessity of an internet connection.

The idea that FitNote may improve fitness monitoring, promote workout discipline, and encourage long-term commitment to a healthy lifestyle is validated by these features.

Significance of the study

- **Beginner Fitness Enthusiasts:** They benefit the most from this study as it provides structured workout plans, instructional content, and progress tracking to help them build discipline and confidence when starting a fitness routine.
- **Intermediate Users:** Regular exercisers will gain from enhanced workout planning and tracking features, which help them measure progress, stay motivated, and break through plateaus with more personalized routines.
- **Busy Professionals:** With limited time for physical activity, this system allows them to plan short, efficient workouts that fit into tight schedules, helping them stay consistent without disrupting their daily responsibilities.
- **Home Workout Users:** Those who lack access to a gym will benefit from the app's bodyweight and minimal-equipment routines, enabling them to stay active and healthy from the comfort of their own homes.
- **Trainers/Coaches:** Professionals in the fitness industry can use the system to recommend or assign routines to clients, track progress remotely, and deliver structured guidance through a convenient and accessible platform.

Chapter II. Research Design

The group implemented the User-Centered System Design (UCSD) model to guarantee that the FitNote system is designed to cater to the actual preferences, requirements, and behaviors of its intended users. This model facilitated the team's ability to maintain a consistent focus on user experience and usability throughout the entire process.

A. Task Analysis

- Launch the FitNote application.
- Log in or create an account.
- Navigate to the home dashboard.
- Select the "Workout Planner" section.
- Choose or customize a workout routine.
- Start and follow the selected routine.
- Log completed exercises with sets, reps, and weight.
- Review daily/weekly progress in the tracker.
- Set fitness goals and receive progress notifications.
- Access the exercise library for guidance.

B. Requirements Gathering

- **Interview**
  We interviewed 8 individuals (3 beginner users, 3 regular gym-goers, 2 home-based fitness enthusiasts). Most expressed challenges with consistency and motivation. All

participants shared interest in an app that could guide their workouts and track progress. Many appreciated the idea of reminders and goal tracking as motivation tools.

- **Survey/Questionnaire**
  We distributed an online survey to 30 respondents through Google Forms. 70% said they use free videos or written plans without tracking progress. 80% were interested in a mobile app that offers structured routines and reminders. 60% said they often forget or skip workouts due to lack of planning.
- **Observation**
  Team members observed and recorded fitness habits from peers using social media posts and gym routines. Notably, users tended to abandon overly complex or unclear programs. Simpler, more structured plans were followed more consistently.

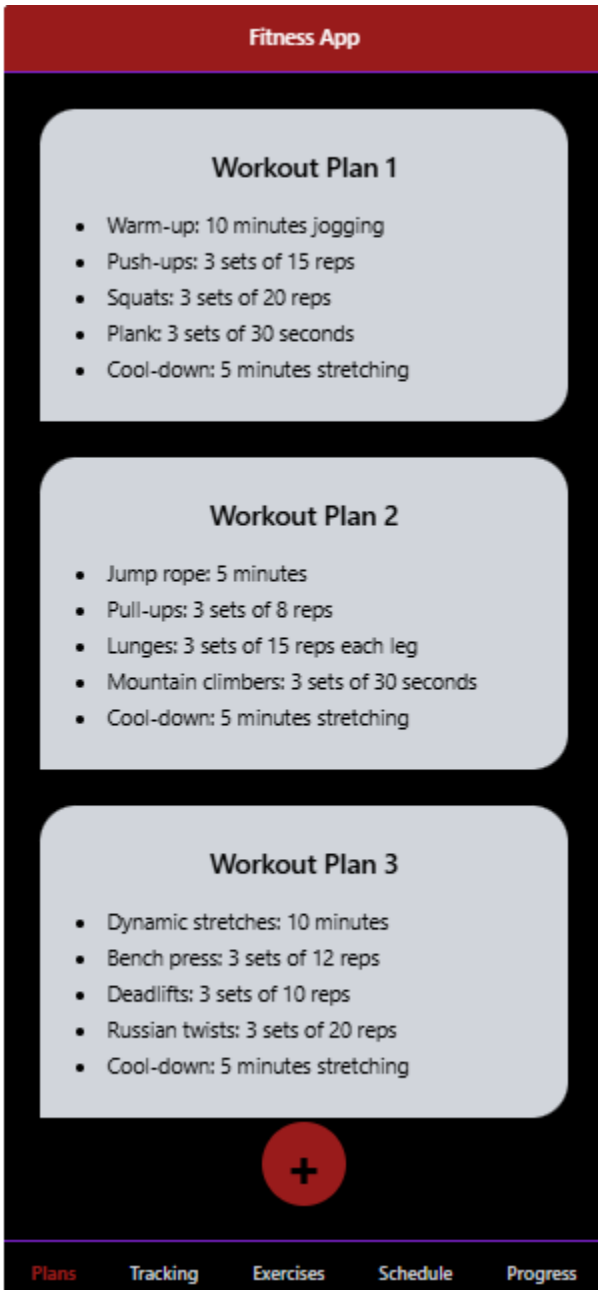
Requirements

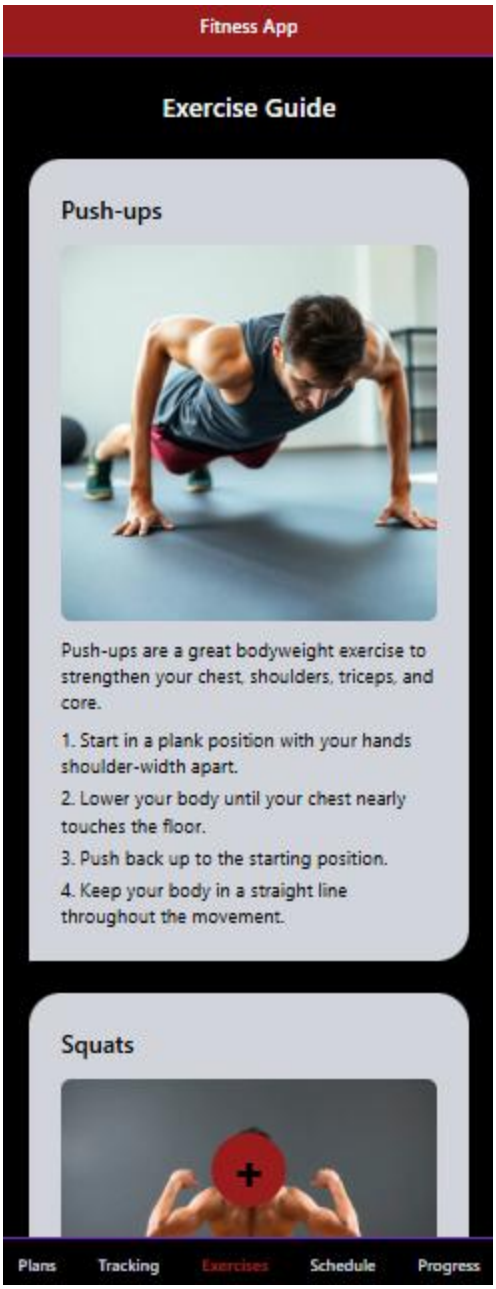
- **User Requirements**
  - Must be able to plan and customize workouts.
  - Should include a way to log and review completed exercises.
  - Must be mobile-friendly and easy to navigate.
  - Should send reminders for scheduled workouts.
- **Functional Requirements**
  - User registration/login.
  - Workout planner with add/edit/delete features.
  - Workout log with progress tracking (sets, reps, weight).
  - Notification system for reminders.
  - Goal-setting and review features.
- **Data Requirements**
  - Store user credentials securely.
  - Save workout plans and logs.
  - Save progress history and goals.
  - Include exercise library content (titles, instructions, categories).
- **Environmental Requirements**
  - Mobile-responsive interface.
  - Compatible with Android and iOS.
  - Works with or without internet access (offline logging).
- **Usability Requirements**
  - Simple navigation and minimal screens for each task.
  - Readable text, clear icons, and accessible design.
  - Fast, responsive interface with minimal loading time.
- **Designer's Requirements**
  - Interface must be clean, modern, and visually motivating.
  - Layout should emphasize user goals and progress.
  - Input forms must be clutter-free and intuitive.

C. **Storyboarding and Prototyping**

A beginner fitness enthusiast struggles with maintaining a consistent workout routine due to lack of structure and discipline. They discover **FitNote**, a mobile fitness planner app that allows users to schedule and customize workouts based on their fitness goals and available time. As they begin using the app, they find it easy to log exercises, track progress, and receive helpful reminders that

keep them motivated. Over time, the user builds a consistent routine, improves their physical health, and gains confidence, demonstrating how FitNote supports users in developing lasting fitness habits through structured guidance and personalized planning.





Summary

The Fitness App's Exercise Guide section functions as a comprehensive visual and instructional resource for users who wish to exercise safely and correctly. It boasts a user-friendly interface that is both clear and intuitive, with individual exercise cards that include step-by-step instructions and a demonstration image. For instance, the push-up guide offers explicit instructions regarding hand positioning, body alignment, and movement flow, which assist users in developing strength in critical regions such as the chest, shoulders, triceps, and core..

Designed for accessibility and simplicity, each card is suitable for both novice fitness enthusiasts who may be unfamiliar with proper exercise techniques and more experienced users who require a fast refresher on form. The visual component enhances comprehension, thereby decreasing the likelihood of injury as a result of improper movement. Furthermore, the cards are arranged vertically to facilitate browsing and enable users to concentrate on a single exercise at a time.

Evaluation Criteria (Based on the 10 heuristics of design evaluation)

Area of Evaluation	**5**	**4**	**3**	**2**	**1**
A. Visibility of System Status - The system design provides appropriate feedback like message prompts in response to user actions.		x			
- The message prompts are clear, visible and understandable.		x			
B. 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				
C. 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			
D. Consistency and Standards - 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.		x			
- 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			
D. **Error Prevention** - The system design provides an automatic detection of errors and preventing them to occur in the first place.			x		
- 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.					
I. 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			
J. 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

FitNote addresses common issues encountered by individuals attempting to maintain a consistent fitness regimen by integrating basic features such as workout planning, progress tracking, reminders, and an exercise library. In a mobile environment that is user-friendly, the application enables users to generate structured exercise plans, monitor their progress, and receive motivational signals. These features directly address the identified issues, including deficiency of discipline, inadequate time management, and absence of personalized workout guidance.

With genuine users in view, FitNote was developed. Through surveys, interviews, and observations, the team prioritized flexibility, accessibility, and simplicity. User behavior and feedback were the foundations for the development of features such as visual progress summaries and quick exercise logging, which guarantee that the application caters to users of all fitness levels, from novices to busy professionals.

Valuable insights into Human-Computer Interaction (HCI) have been provided to the group through this initiative, particularly in the design of interfaces that prioritize usability, motivation, and user experience. The researchers were able to comprehend the significant impact that digital systems can have in addressing real-world behavioral challenges, such as inconsistent workouts and health neglect, as a result of the development of FitNote.

Recommendations:

- Future versions of **FitNote** should include visual dashboards (e.g., charts and graphs) to help users better understand their fitness progress over time.
- Add social or community-based features to encourage user motivation through peer support or workout challenges.
- Include a meal/nutrition tracking feature to complement physical activity logs and promote holistic health.
- Allow voice input or quick-tap workout logging for faster, hands-free entry.

- Implement offline mode support so users can access and update workout plans without internet connection.
- Conduct usability testing with older adults or users with physical limitations to improve accessibility and broaden the app's reach.
- Enable users to define custom workout goals and labels (e.g., "fat burn," "core focus," "home session") to personalize routines further.