



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

SCHOOL OF COMPUTING
SESSION 2024/2025, SEMESTER 2
SECV2113 - HUMAN COMPUTER INTERACTION
SECTION 01

PROJECT
Gathering Requirements - User Analysis

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FORMAT REPORT SUBMISSION:

Submission: User Analysis

1. Title: Gathering Requirements - User Analysis

2. Proposed Tasks

{State the 3 tasks of your proposed system}

3. Persona

{A two-paragraph description of Persona 1 from User Group 1. Include his/her picture.}

{A two-paragraph description of Persona 2 from User Group 2. Include his/her picture.}

{A two-paragraph description of Persona 3 from User Group 3. Include his/her picture.}

4. Scenario

{Name of Task 1 e.g., Buy Coffee}

{A two-paragraph narration of Task Scenario 1 for Persona 1.}

{Name of Task 2}

{A two-paragraph narration of Task Scenario 2 for Persona 2.}

{Name of Task 3}

{A two-paragraph narration of Task Scenario 3 for Persona 3.}

TITLE: Gathering Requirements - User Analysis

Proposed Tasks

Task 1:Automatic Wellness Tracking

Task 2: Mental Health Support

Task 3: Interactive Health Education

PERSONA

Persona 1: Harry – The Overwhelmed Student

Harry is a second-year Computer Science student balancing a hectic schedule of classes, tutoring, and extracurriculars. His time constraints and constant academic pressure make it difficult for him to maintain healthy routines, even though he understands their importance. He often neglects basic health habits like hydration and sleep.

Harry is motivated to manage his stress and avoid burnout by adopting simple health routines. He struggles with staying organized and is discouraged by apps that require too much effort or present information in overwhelming ways. Harry needs a tool that fits seamlessly into his busy day and helps him build sustainable habits without extra mental load.

Persona 2: Jason Lim – The Burned-Out Young Professional

Jason is a 26-year-old software developer working long hours at a fast-paced startup. His intense work schedule causes him to neglect his physical and mental well-being. He often skips meals and lacks the energy or motivation to engage in traditional wellness apps that require frequent interaction or notifications.

Jason is motivated to reduce stress, improve emotional regulation, and avoid the long-term health risks of a sedentary lifestyle. He prefers passive, low-effort tools that can integrate wellness support into his daily workflow without interrupting productivity. He values subtle, practical nudges that help him maintain balance without judgment.

Persona 3: Aisyah – The Confused Health Seeker

Aisyah is a 19-year-old first-year Education student learning to live independently for the first time. She wants to be healthy but feels overwhelmed by conflicting health advice online. She finds most health apps too technical, clinical, or dull. Aisyah prefers learning through visual, interactive content and needs guidance in understanding what being "healthy" actually means.

She is motivated by the desire to build healthy habits like eating better and staying hydrated, but needs tools that feel approachable, friendly, and fun. Aisyah learns best at her own pace, especially through gamified, bite-sized content. She wants to be supported—not lectured—on her wellness journey.

SCENARIO

Persona 1: Harry – The Overwhelmed Student

Task 1: Automatic Wellness Tracking

After several late nights working on coding assignments and tutoring, Harry realizes he has been skipping meals and barely drinking water. He feels sluggish but does not have the time or energy to manually log his habits. He needs a tool that can automatically track his wellness without adding to his cognitive load.

Task 2: Mental Health Support

After a particularly overwhelming week filled with deadlines, club meetings, and social obligations, Harry feels emotionally exhausted and anxious. He turns to PulsePath for quick emotional check-ins and guided mindfulness exercises that do not take up too much of his time.

Task 3: Interactive Health Education

Harry stumbles across a short, gamified quiz in the app titled “What’s Your Ideal Study Routine?” After completing it, he receives practical tips on managing stress and optimizing focus. The visuals and humor keep him engaged without feeling like a lecture.

Persona 2: Jason Lim – The Burned-Out Young Professional

Task 1: Automatic Wellness Tracking

Jason starts using PulsePath’s background tracking features to monitor his sleep and activity without any manual input. At the end of his workday, he receives a summary: “You’ve been sedentary for 6 hours today. How about a quick stretch?” These subtle nudges help him become more mindful of his health without disrupting his productivity.

Task 2: Mental Health Support

After a 10-hour coding sprint, Jason feels drained. PulsePath checks in with a simple, “How are you today?” He taps “stressed” and is guided through a short breathing exercise. A calming message appears: “Small breaks matter.” It helps him pause, breathe, and reset without needing to schedule anything.

Task 3: Interactive Health Education

Jason skips lunch—again. PulsePath nudges him with a 1-minute lesson titled “What skipping meals does to your focus.” A quick animation and takeaway tip appear. He learns something useful instantly and reconsiders his fast food habits for the day.

Persona 3: Aisyah – The Confused Health Seeker

Task 1: Automatic Wellness Tracking

Between classes, Aisyah checks PulsePath and sees a cheerful reminder: “You’ve had 3 glasses of water today—2 more to go!” Her step count, hydration, and sleep data are tracked automatically. There are no graphs or stats—just friendly encouragement that makes her smile and stay motivated.

Task 2: Mental Health Support

Feeling lonely and overwhelmed after a stressful exam, Aisyah opens the app and selects “Feeling Anxious” from the SOS menu. A short animation helps her slow her breathing. The app gently explains how stress affects her body and reassures her that taking breaks is okay.

Task 3: Interactive Health Education

Curious about sleep, Aisyah clicks on a quiz titled “Are You a Night Owl or Early Bird?” She laughs at the fun results and watches a short, colorful video on better bedtime habits. It feels like a casual learning experience—not a lecture—and she comes away with practical bedtime tips.

TITLE: Gathering Requirements - User Analysis

Introduction

The application being tested in this project is called Headspace, a widely used mental wellness mobile app that offers guided meditations, mindfulness exercises, sleep aids, and focus-enhancing content. Headspace is designed to support users in managing stress, improving sleep, enhancing focus, and cultivating a daily mindfulness practice. The purpose of this assessment is to examine how users engage with the Headspace app's current features and identify any opportunities for improvement, patterns, challenges, and usability issues they may encounter. This is achieved by performing Hierarchical Task Analysis (HTA) on user behavior as they attempt to complete the three essential tasks mentioned in user analysis. These tasks were selected based on their relevance to the core mental wellness activities and are representative of key features often included in similar applications, including Headspace itself.

Derivation of HTA

1. HTA for Task 1 - Automatic Wellness Tracking

a. Type of User 1

{Link/Embedded Video on User 1 doing Task 1}

https://drive.google.com/file/d/1Q8AHLfsMx32lg5z9DIUL99adHTvCdqR6/view?usp=drive_link

{HTA for User 1 doing Task 1 in textual presentation}

- 0. Track daily wellness automatically
 - 1. Open Google Fit app
 - 2. Sign Up/Sign In
 - 3. Allow permissions to collect phone's data
 - 4. View steps and sleep info on Home tab
 - 5. Go to Journal submenu
 - 5.1 View activity records
 - 6. Go to Browse submenu
 - 6.1 Choose a health data (e.g. Vitals)
 - 6.2 Enter data manually
 - 6.3 Connect to other apps
 - 6.4 View data

Plan 0: for new user, do 1-2-3-4-5

Plan 1: for existing user, do 1-4-5

Plan 2: to view record of activities, do 1-4-5-5.1

Plan 3: for more detailed data, do 1-4-6-6.1-6.4

Plan 4: for detailed data that needs manual input, do 1-4-6-6.1-6.2-6.4

Plan 5: for detailed data that needs external connection with other apps, do 1-4-6-6.1-6.3-6.4

b. Type of User 2

{Link/Embedded Video on User 2 doing Task 1}

<https://drive.google.com/file/d/1TobUfXu6zBv0FXCKo3QHpl4mIDyy7i0S/view>

{HTA for User 2 doing Task 1 in textual presentation}

0. Use automatic wellness tracking in Headspace
1. Attempt to find tracking feature
 - 1.1. Scroll up and down on the main menu
 - 1.2. Accidentally click "Free Trial"
 - 1.3. Close the free trial window
2. Access profile and personalized progress
 - 2.1. Click profile
 - 2.2. Scroll down to "Personalized Progress"
 - 2.3. Click "Check-in"
3. Complete check-in survey
 - 3.1. Fill and submit survey
 - 3.2. View stress bar output for May
4. Explore activity data history
 - 4.1. Swipe left/right for other months (empty bars)
 - 4.2. Click "View Full History"
 - 4.3. Return to profile view
5. Attempt to check anxiety levels
 - 5.1. Click "Anxiety" button beside "Stress"
 - 5.2. Return to "Stress" page to double-check
 - 5.3. Click "Anxiety" again
 - 5.4. Complete new anxiety survey
 - 5.5. Confused by stress bar reappearing post-survey
 - 5.6. Repeatedly click "Stress" thinking it's "Anxiety"
 - 5.7. Realize mistake and click "Anxiety" again
 - 5.8. Successfully view anxiety bar
6. Attempt to change profile and settings
 - 6.1. Scroll up to see profile
 - 6.2. Click profile picture (no response)
 - 6.3. Click "Settings"
7. Connect with Apple Health
 - 7.1. Scroll down in settings
 - 7.2. Click "Apple Health"
 - 7.3. Toggle "Mindful Minutes" on
 - 7.4. See health permission dialog
 - 7.5. Choose "Don't Allow"
 - 7.6. Toggle appears OFF again
 - 7.7. Return to profile settings
 - 7.8. Scroll up and back to profile

PLANS

Plan 0: do 1 - 2 - 3 - 4 - 5 - and optionally do 6 and 7

Plan 1: do 1.1 - 1.2 - 1.3

Plan 2: do 2.1 - 2.2 - 2.3

Plan 3: do 3.1 - 3.2

Plan 4: do 4.1 - 4.2 - 4.3

Plan 5: do 5.1 - 5.2 - if mistakenly selected, go to 5.1 - if survey is not filled go to 5.2.1

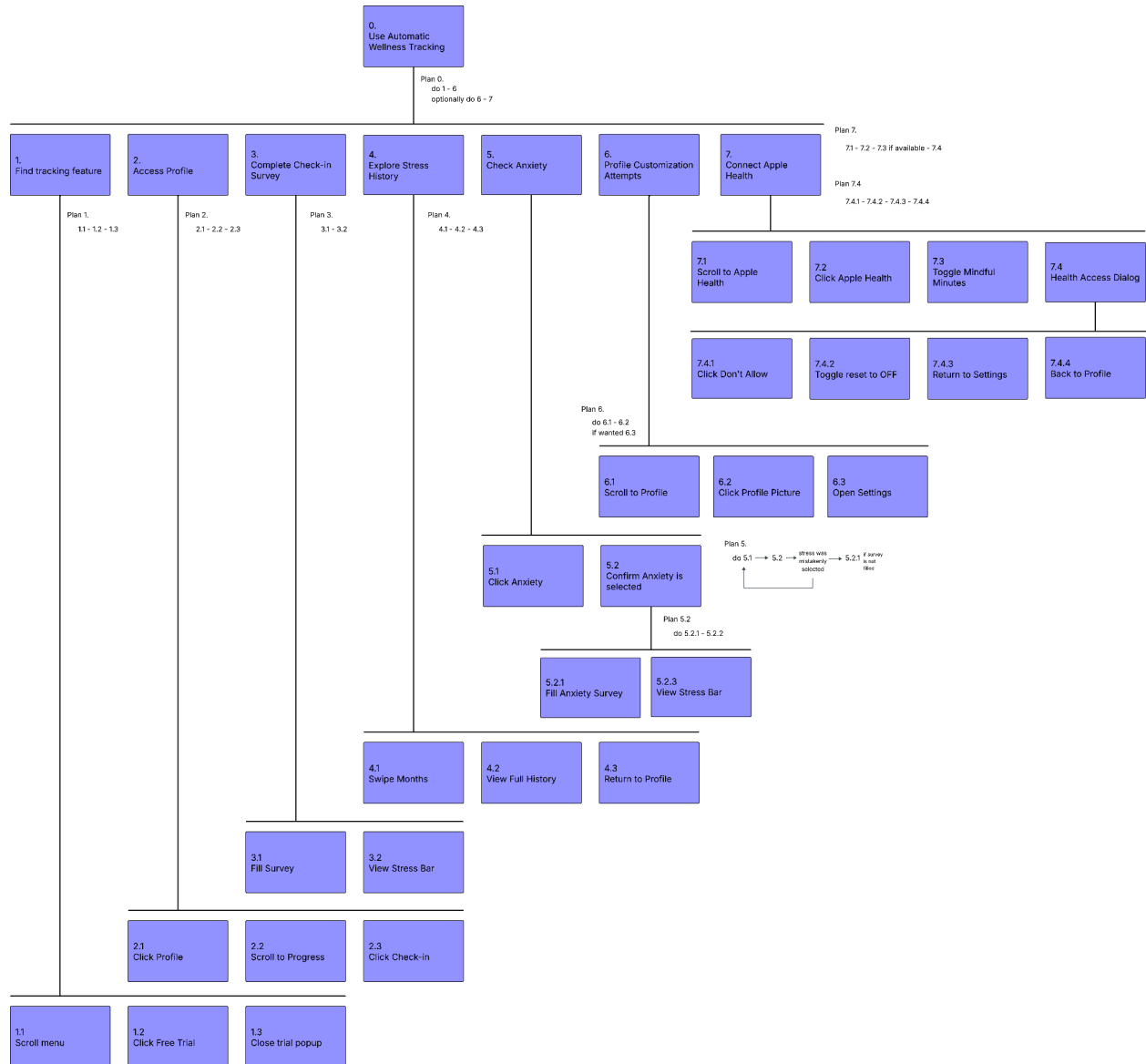
Plan 5.2: do 5.2.1 - 5.2.2

Plan 6: do 6.1 - 6.2 - if wanted 4.3

Plan 7: do 7.1 - 7.2 - 7.3 if available - 7.4

Plan 7.4: do 7.4.1 - 7.4.2 - 7.4.3 - 7.4.4

{HTA for User 2 doing Task 1 in diagram presentation} :



c. Type of User 3

{Link/Embedded Video on User 3 doing Task 1}

https://drive.google.com/file/d/1CGVZMemqf8RBXKepBp7X3lwMRbS1QanL/view?usp=drive_link

{HTA for User 3 doing Task 1 in textual presentation}

0. Enable automatic wellness tracking in the Headspace app
 1. Open the Headspace app
 2. Sign Up / Sign In
 - 2.1. Tap on "Sign In" or create a new account
 - 2.2. Enter email and password or use social media login
 3. Access wellness tracking features
 - 3.1. Tap on the profile icon
 - 3.2. Scroll through settings to find wellness tracking options
 4. Enable automatic tracking
 - 4.1. Locate the toggle for automatic tracking
 - 4.2. Tap the toggle to enable tracking
 5. Connect with external apps (e.g., Google Fit, Apple Health)
 - 5.1. Tap on "Connect with Google Fit" or "Apple Health"
 - 5.2. Review and accept permission request
 6. Review tracked data
 - 6.1. Navigate to the dashboard or tracking section
 - 6.2. View hydration, sleep, and activity data

Plan 0: First-time user

Do steps: 1 → 2 → 3 → 4 → 5 → 6

Plan 1: Existing user accessing tracking

Do steps: 1 → 3 → 4 → 5 → 6

Plan 2: Viewing tracked data only

Do steps: 1 → 6

Plan 3: Connecting with external health apps

Do steps: 1 → 3 → 5

Plan 4: Enabling detailed tracking

Do steps: 1 → 3 → 4 → 5 → 6

2. Findings from the HTAs for Task 1

The HTA findings for Task 1 revealed key usability differences between Google Fit and Headspace when it comes to automatic wellness tracking. Three main criteria such as ease of navigation, clarity of feature discovery, efficiency of data access and feedback output are observed from these HTAs across different users. User 1 (Google Fit) demonstrated a streamlined and structured path with minimal confusion. Tasks like viewing steps, manually entering data, and syncing apps were logically organized and predictable, resulting in a clear output, for instance, activity records and health data. In contrast, User 2 (Headspace) encountered major challenges with discoverability and feedback, such as misclicking on a free trial prompt, struggling to differentiate between stress and anxiety features, and confusion caused by inconsistent UI feedback, such as toggles not working, unclear navigation flows; leading to delayed or unclear output. User 3 (Headspace) had a slightly smoother journey but still had to manually dig through menus to enable tracking and connect with external apps, suggesting low visibility and depth-buried features. These findings point toward the need for more intuitive navigation, better feedback clarity, consistent interface responses, and clearly labeled wellness features in Headspace to match the usability standard set by Google Fit.

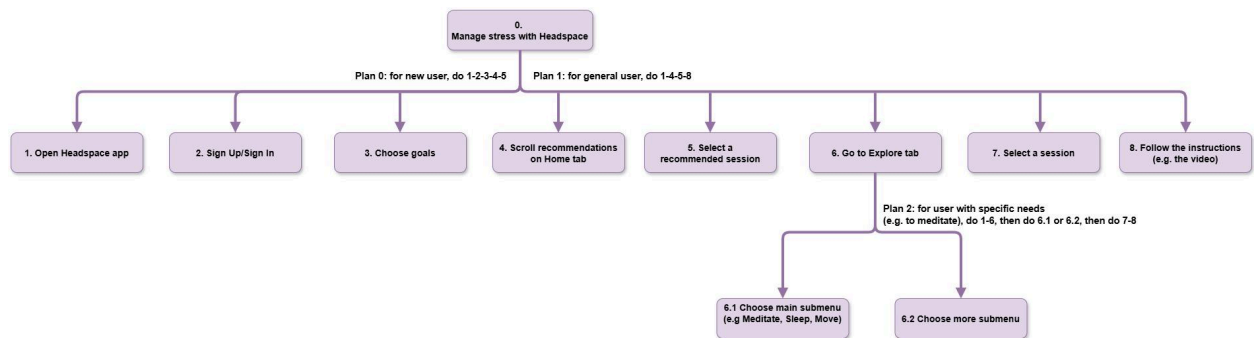
3. HTA for Task 2 - Mental Health Support

a. Type of User 1

{Link/Embedded Video on User 1 doing Task 2}

https://drive.google.com/file/d/14kIQvC_ZclWpgVqrbtUtBm8PN69jXctV/view?usp=drive_link

{HTA for User 1 doing Task 2 in diagram presentation}



b. Type of User 2

{Link/Embedded Video on User 2 doing Task 2}

https://drive.google.com/file/d/1WutxT8QSvTA3NID_U0t4tei0qQeUA31g/view

{HTA for User 2 doing Task 1 in textual presentation}

0. Seek mental health support using the Headspace app
 1. Launch and navigate to meditation features
 - 1.1 Open Headspace app
 - 1.2 View Home page
 - 1.3 Click “Meditate” button
 2. Explore SOS and meditation support options
 - 2.1 Scroll through meditate page
 - 2.2 Click “SOS” feature
 - 2.2.1 Click “Feeling Overwhelmed” option
 - 2.2.2 View locked feature information
 - 2.3 Explore available meditation “teachers”
 - 2.3.1 Select different teachers
 - 2.3.2 Realize role of teachers is unclear
 - 2.4 Return to main menu
 3. Re-investigate and explore app further
 - 3.1 Revisit “Meditate” section
 - 3.1.1 Click on various sub-features
 - 3.1.2 Investigate “Professional” labels
 - 3.2 Go back to Home page
 - 3.3 Click “Mindfulness at Work”
 - 3.4 Find and click “Ask a Therapist – Cure Burnout”
 4. Compare SOS teachers vs advisors
 - 4.1 Return to SOS section
 - 4.2 Attempt to access teacher content
 - 4.3 Click “Start Free Trial”
 - 4.4 Cancel trial process
 5. Exit application
 - 5.1 Decide support was not found
 - 5.2 Close app

Plans:

Plan 0: do 1 - 2 - 3 - 4 - 5

Plan 1: do 1.1 - 1.2 - 1.3

Plan 2: do 2.1 to explore available features

if support unclear, do 2.2 - 2.3

then return to 2.4

Plan 2.2: do 2.2.1 - 2.2.2

Plan 2.3: do 2.3.1 - 2.3.2

Plan 3: do 3.1 - 3.2 - 3.3 - 3.4

Plan 3.1: do 3.1.1 - 3.1.2

Plan 4: do 4.1 - 4.2 - 4.3 - 4.4

Plan 5: do 5.1 - 5.2

c. Type of User 3

{Link/Embedded Video on User 3 doing Task 2}

https://drive.google.com/file/d/1q-Q_pdGti6ovjkzHsSERYaA8yTeBLxPB/view?usp=drive_link

0. Use the Headspace app to track mental health (stress and anxiety levels)

1. Open the Headspace app

2. Access profile and personalized progress

2.1. Tap on the profile icon

2.2. Scroll down to "Personalized Progress"

3. Initiate check-in process

3.1. Tap on the "Check-in" button

4. Complete the check-in questionnaire

4.1. Answer questions about current stress and anxiety

4.2. Submit responses

5. View mental health score and feedback

5.1. Review the displayed score (e.g., "Moderate Anxiety")

5.2. Read the brief explanation provided

6. Explore activity history

6.1. Tap on "View Full History"

6.2. Swipe left/right to view past check-ins

7. Return to main profile or dashboard

7.1. Tap back arrow or navigate to home screen

8. Set up regular check-ins (if available)

8.1. Toggle option for weekly/monthly reminders

8.2. Confirm schedule

9. Exit the app or continue exploring

9.1. Close the app or navigate to other sections

Plan 0: First-time user

Do steps: 1 → 2 → 3 → 4 → 5 → 6 → 7 → 8 → 9

Plan 1: Returning user checking mental health status

Do steps: 1 → 2 → 3 → 4 → 5 → 7 → 9

Plan 2: Viewing past check-in records only

Do steps: 1 → 2 → 6 → 9

Plan 3: Setting up regular check-ins

Do steps: 1 → 2 → 3 → 8 → 7

Plan 4: Quick check-in without viewing history

Do steps: 1 → 2 → 3 → 4 → 5 → 7

4. Findings from the HTAs for Task 2

The HTAs show the different behaviors of users when using Headspace, highlighting different usage patterns based on the user's intention with the app. User 1 follows a structured path to go through the app, while user 2 takes a more exploratory approach by exploring each section to find what they are looking for. For user 3, they use Headspace to track and manage stress levels.

There are some common issues faced across these users, such as subscription-based contents and unclear labelling of features and roles, leading to confusion and repetition of navigation when trying to seek help from an already distressed user. This suggests that, even though Headspace is a feature-rich app, it still lacks discoverability and contextual guidance.

To improve the user experience, the app should consider making some features, especially the essential ones like SOS and help content, more accessible. Additionally, improving the clarity of functions and sections, and adding more navigation guidance, like tooltips, will also increase the overall user experience.

5. HTA for Task 3 - AInteractive Health Education

a. Type of User 1

{Link/Embedded Video on User 1 doing Task 3}

https://drive.google.com/file/d/1tI8P3Mtqcr5xSSrFC-LIBtkVic47k4tL/view?usp=drive_link

{HTA for User 1 doing Task 3 in textual presentation}

0. Learn simple health tips from Health Tips app

1. Open Health Tips app

2. Browse topics on Home tab

3. Use Search tab to search a particular topic

4. Choose Library tab to see saved tips

5. Choose a topic (e.g. Heart Care)

6. Select a subtopic (e.g. Warning Signs)

7. Read the tips

7.1 Mark as read

7.2 Add to favourite

7.3 Share the tip

Plan 0: all user can directly do 1-2-5-6-7

Plan 1: to search for a specific topic, do 1-3-5-6-7

Plan 2: to read saved tip, do 1-4-5-6-7

Plan 3: to mark tip as read, do any of plan 1 or 2, then do 7.1

Plan 4: to add tip to favourite, do any of plan 1 or 2, then do 7.2

Plan 5: to share tip, do any of plan 1 or 2, then do 7.3

b. Type of User 2

{Link/Embedded Video on User 2 doing Task 3}

https://drive.google.com/file/d/1hrYTjrhEg_0wkj8C3eJl5yql2P-U1fQA/view?t=12

{HTA for User 2 doing Task 3 in textual presentation}

0. Use automatic wellness tracking in the Headspace app

1. Open the Headspace app

2. Sign Up/Sign In

3. Select the topics of what you want to go with

3.1 start with your first exercise

4. Enable automatic wellness tracking

4.1 Scroll to find your start with Headspace option

4.2 Click play to start

4.3 Read the pop-up or confirmation message

5. Review what is being tracked

5.1 Check categories like mood, sleep, activity

5.2 Tap any category for more details (optional)

6. Return to the main dashboard

6.1 Press the back arrow or Home button

Plan 0: First-time user enabling wellness tracking from start do

1→2→3→4→5→6

Plan1: Returning user enabling wellness tracking, do

1→ 2→ 4→ 4.1→ 4.2→ 4.3 →5→6

Plan2: User checking what's being tracked only , do

1→2→5→6

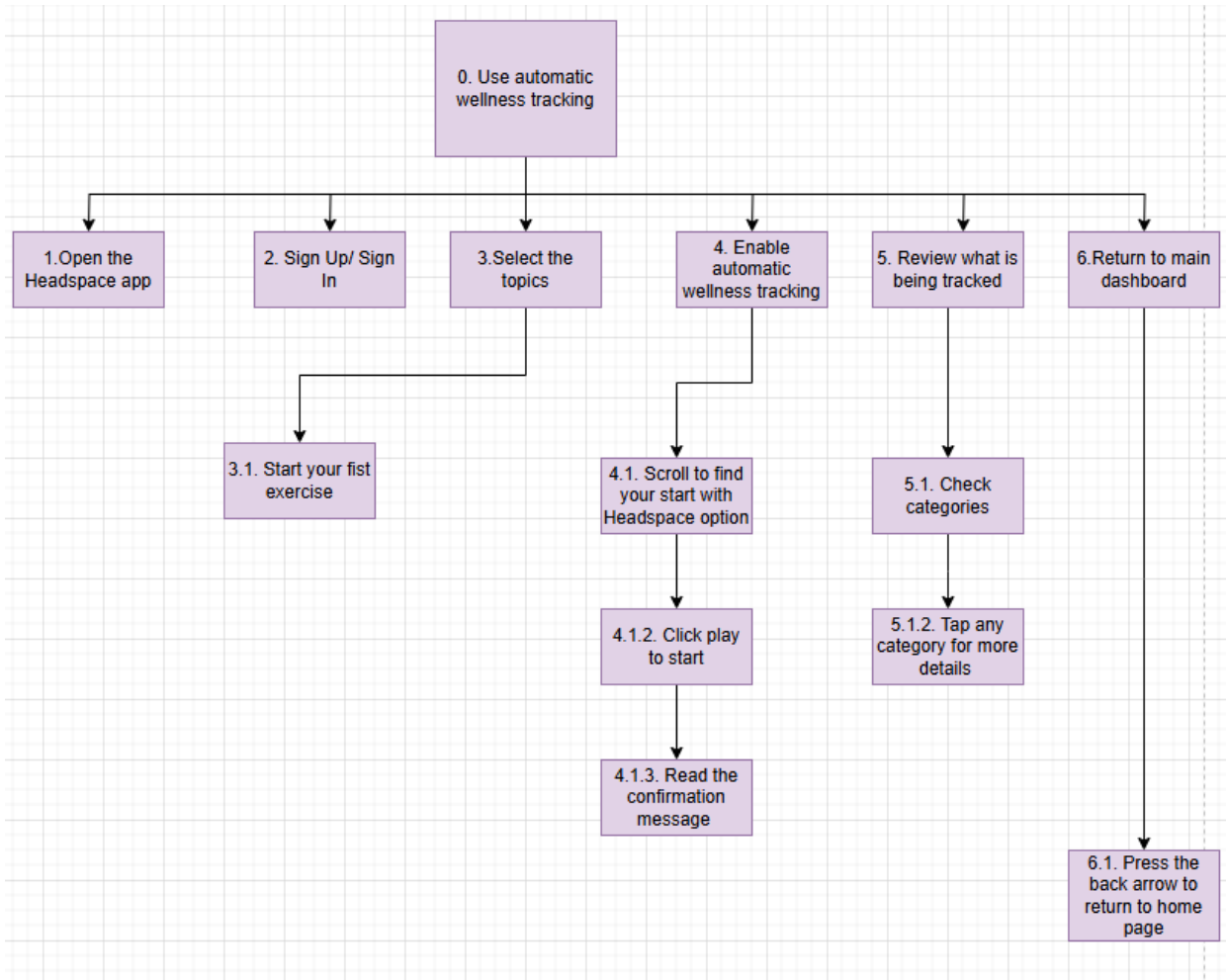
Plan3: to review tracking without details, do

1→ 2→ 5→ 5.1→ 6→ 6.1

Plan4: Quick start of tracking feature only , do

1→ 2 →4 →4.1 →4.2 →4.3 →6 →6.1

{HTA for User 2 doing Task 3 in diagram presentation}



c. Type of User 3

{Link/Embedded Video on User 3 doing Task 3}

https://drive.google.com/file/d/13OVK9LHU4kzQHZaTtlm1on0SbLrCtB2/view?usp=drive_link

0. Use the Headspace app to explore interactive health education
 1. Open the Headspace app
 2. Navigate to the "Explore" section
 - 2.1 Tap on the "Explore" tab in the bottom navigation bar
 3. Search for mental health resources
 - 3.1 Tap on the search bar at the top of the screen
 - 3.2 Type keywords related to mental health (e.g., "anxiety," "stress")
 4. Browse featured content
 - 4.1 Scroll through the "Featured" section
 - 4.2 Look for categories like "Mental Health Matters" or "Ask a Therapist"
 5. Access an unlocked video or resource
 - 5.1 Tap on a free or unlocked video/resource
 - 5.2 Play the video or read the content
 6. Evaluate the usefulness of the content
 - 6.1 Assess whether the content addresses her needs
 - 6.2 Decide if it's helpful or too general
 7. Return to the main menu or continue exploring
 - 7.1 Tap the back arrow or navigate to another section
 8. Repeat steps 3–7 until satisfied or frustrated
 - 8.1 Continue searching for more relevant content
 9. Exit the app or save progress
 - 9.1 Close the app or bookmark useful resources

Plan 0: First-time user exploring mental health resources

Do steps: 1 → 2 → 3 → 4 → 5 → 6 → 7 → 8 → 9

Plan 1: Returning user looking for specific mental health advice

Do steps: 1 → 3 → 5 → 6 → 7 → 8

Plan 2: Browsing featured content only

Do steps: 1 → 2 → 4 → 5 → 6 → 7

Plan 3: Searching for free/unlocked videos

Do steps: 1 → 3 → 5 → 6 → 7 → 8

Plan 4: Quickly evaluating available resources

Do steps: 1 → 2 → 4 → 5 → 6 → 7

6. Findings from the HTAs for Task 3

The HTA for Task3 revealed moderate usability with several areas for improvement. Navigation to the Explore section was intuitive, but users faced challenges in discovering specific mental health content. The search function required precise keywords, lacking suggestions, which make it harder to find relevant topics.

Identifying unlocked vs. premium content was also unclear, often requiring users to tap into each item to check accessibility. This led to repeated trial-and-error and increased user frustration. Additionally, some content was perceived as too general, prompting users to loop through search and browse steps multiple times before finding helpful resources.

There was limited feedback, with no bookmarking based on user behavior. These findings suggest a need for clearer content labeling, improved search tools, and better feedback or guidance features to support smoother and more engaging exploration.

There was also a lack of personalization and feedback mechanisms. Users could not bookmark useful resources or track their progress through the educational material. Without personalized suggestions or visible history, it was difficult for users to resume their journey or build a consistent learning path.

Design Requirements

Based on the findings, the following is our proposed design requirements, aim to enhance the user experience:

1. Improve Discoverability
 - Redesign so the essential features (e.g. SOS and meditate) are visible and easy to access without making user have to digged down to the app
 - Implement a search and filter function for quick access to specific features
2. Enhance Navigation Clarity
 - Introduce guided walkthrough for first time users to go through the sections
 - Add tooltips across the app so users can get more information regarding the current section they are in
 - Provide more meaningful labels and explanation for the roles and sections
3. Increase Access to Essential Features
 - Allow critical features to be accessible for users without requiring a subscription
 - Clearly differentiate between free and paid content
 - Offer brief previews of premium features to set user expectations
4. Transparent Paywalls
 - Avoid sudden promotion of subscription in the middle of user interaction
 - Include a “skip for now” button without having to disrupt user progress