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Requirements

1. Problem Statement and Scope

- **Primary Users:** Individuals (ages 18+) seeking to reduce stress and improve their mental well being through structured, nature based mindfulness.
- **Context**: Users will interact with the app in various settings, including using location-based features outside, at home for guided sessions, and on-the-go for brief "pause and notice" cues.
- **System Boundaries**: The system is a mobile application (iOS and Android). It will integrate device GPS and audio playback. It will not offer clinical mental health diagnosis or therapy, nor will it establish a highly gamified social network with direct messaging.
- **Measurable Success Criteria:**
- **Usability:** 90% of test users can successfully complete a guided session and log their mood without assistance
- **Engagement:** 75% of users who complete an onboarding session return to use the app at least once per week over a one-month period.
  - **Non-Goal**: The app is neither a substitute for professional therapy nor a complete social networking platform. The social component is restricted to the voluntary, constructive sharing of places and experiences; it does not include free-form conversation.

2. Consolidated Requirements

ID	Requirements	Type	Rationale
REQ-001	Provide a unique, daily mindfulness prompt or "soft science fact" on the screen.	Functional	Core to the "Today's Practice" concept from design guidelines, driving daily engagement
	AC: Given a user opens the app, when they view the home screen, then they see a new prompt that was not displayed yesterday		
REQ-002	Offer a library of audio-guided mindfulness sessions categorised by theme (e.g., "Sensory Awakening", "Mindful Walking").	Functional	Central feature from the "Guided Session" navigation tab.
	AC: Given a user is on the "Guided Sessions" screen, when they select a category, they see a list of available audio sessions within that category. When they tap a session, it begins playing		
REQ-003	Use the device's GPS to suggest nearby nature locations (e.g., parks, trails) for mindful walks	Functional	Directly implements the "Nature Nearby" feature, connecting digital practice to real-world action
	AC: Given a user has granted location permissions, when they navigate to the "Nature Nearby" tab then they see at least one location suggestion based on their current coordinates		

REQ-004	Provide a visual, non-gamified progress that uses a natural symbol (e.g., a growing plant, expanding sunlight) to represent user engagement.	Functional	Fulfills the "My Journey" and progress tracking design, and providing feedback without stressful gamification.
	AC: Given a user completes a session when they view their progress in "My Journey" then the visual symbol (e.g., leaf) is visibly larger or more detailed than before the session.		
REQ-005	Include a mood-tracking feature where users can log their emotional state before and/or after a practice	Functional	Provides data for the user's self-reflection and is part of the "my Journey" and well-being check-ins
REQ-006	Display a fine, positive micro-interaction (e.g., leaf expanding, a bird flying across the screen) upon the completion of a guided session	Functional	Creates a gentle rewarding moment of delight, as specified in the design guidelines
REQ-007	Allow users to optionally share their favorite practice locations or nature photos within a community feed	Functional	Implements the limited, positive social component from the "Community / Reflection".
REQ-008	Have a UI with a calm, minimalistic aesthetic using a muted, earthy color palette (e.g., sage green, soft sky blue, sand).	Non-Functional (UI)	Core to the brand identity and user experience as defined by the stakeholder.
REQ-009	Use round, humanist sans-serif fonts (e.g., Lato, Nunito) with	Non-Functional (UI)	Ensures readability and conveys the intended "calm" and "human"

	large line spacing for all text.		feel.
REQ-010	Load the home screen and begin audio playback in less than 2 seconds on the standard mid-range mobile device	Non-Functional(Performance)	Critical for a smooth, frustration-free user experience that does not break mindfulness
REQ-011	Follow the WCAG 2.1 AA requirements for accessibility (e.g., sufficient color contrast, scalable text, screen reader compatibility).	Non-Functional (Constraint)	Legal and ethical requirement that the software be accessible to individuals with disabilities.
REQ-012	Transmit and maintain all user information (location, mood logs, and usage data) in encrypted form, and explicitly define privacy rules in a policy.	Non-Functional (Constraint)	Legal (GDPR/CCPA) and ethical requirements to protect sensitive user information.
REQ-013	Function for core features (e.g., accessing pre-downloaded guided sessions, journaling) without an active internet connection.	Non-Functional (Constraint)	Allows users to practice in nature areas where connectivity is poor, a key context of use.

3. Prioritization Method and Results

- Method: We used the **MoSCoW** technique to prioritize the requirements based on the value of the stakeholders and project viability as determined by the design documentation.
  - M - MUST have for launch
  - S - SHOULD have if possible, high priority
  - C - COULD have if it does not affect anything else
  - W - WON'T have this time (but might in the future)

ID	Requirement	Priority	Notes and Dependencies
REQ-001	Daily Prompt	M	Core to the value proposal.
REQ-002	Guided Sessions Library	M	Main feature of the app.
REQ-008	Calm UI Aesthetic	M	Fundamental to brand identity.
REQ-010	Performance (,2s load)	M	Critical for user retention.
REQ-011	Accessibility (WCAG	M	Legal and ethical constraints.
REQ-012	Data Privacy and Encryption	M	Legal and ethical constraints.
REQ-003	GPS Location Suggestions	S	High value, but depends on GPS API.
REQ-004	Visual Progress Tracker	S	Important for engagement, but complex UI.
REQ-005	Mood Tracking	S	Important for self-reflection
REQ-006	Session Completion Micro-Interaction	C	Directly implements design for "subtle reward".
REQ-007	Community Sharing	C	Social features are secondary to core mindfulness.
REQ-009	Specific Typography	C	Crucial but a backup

				font is fine.
REQ-013	Offline Functionality	S		Critical for nature use (stakeholder).Data synchronization requires study.

4. Ethics, Risks and Constraints Traceability

Item	Type	Linked Requirements	Notes
Data Privacy	Ethical/legal constraint	REQ-003,REQ-005,REQ-012	Anonymize location data whenever possible, seek specific authorization for data gathering, and publish a clear privacy policy.
Accessibility	Ethical/Legal Constraint	REQ-008,REQ-009. REQ -011	During development, use automatic accessibility checkers and run tests with disabled users.
Location Safety	Risk	REQ-003	The app must include a warning not to use the app while driving and to be aware of surroundings while walking.
Misinformation	Risk	REQ-001	All "soft-science facts" must be sourced from credible, peer-reviewed scientific literature.
Software Licensing (IP)	Legal Constraint	REQ-009	Ensure that the selected font (e.g., Lato) is properly licensed for the mobile app use.

5. Merge Methodology and Change Reference

Merge Method

To create the consolidated requirements list, our team used the following collaborative process:

1. **Compilation and Initial Review:** Each team member independently created their top ten requirements. All listings were combined into one common document for review.
2. **Deduplication**: We identified requirements that appeared across multiple lists. Three requirements were explicitly mentioned by all three team members: **guided audio sessions, offline functionality, and nature-based visuals**. These were the basis for our most important requirements.
3. **Conflicted Resolution**: When the priorities are conflicted, we held a team discussion. Decisions were based on the project's primary goal and stakeholder value was clarified from the provided documents.
4. **Mapping and Standardization:** We created a mapping table to make sure every team member's contribution was presented in the final set. Each requirement was rewritten to conform to the "The system shall..." convention, making them simple and testable.
5. **Final review and ID Assignment:** The team performed the final review and new sequential IDs were assigned.

Change Preference

- **Initial Brainstorming Document:** Link
- **GitHub Link:** Link
- **As for links to authorship evidence, we are unclear about what this requirement is asking for.**

Appendix: Individual Top 10-Requirements

Team Member: Anshu Avinash

1. Requirement: The system shall provide a unique, daily mindfulness prompt or "soft science fact" on the home screen.
   - Type: Functional
   - Rationale: Drives daily engagement and provides immediate value, encouraging regular app usage and habit formation.
   - Priority: H
   - **Mapping to Team ID:** REQ-A01
2. Requirement: The system shall track user progress with non-gamified visual element (e.g., growing plant).
   - Type: Functional
   - Rationale: Provides positive feedback and a sense of accomplishment without the stress of traditional gamification aligning with the calm aesthetic.
   - Priority: H
   - **Mapping to Team ID:** REQ-A02
3. Requirement: The system shall display a subtle micro-interaction (e.g., leaf expanding) upon the session completion.
   - Type: Functional
   - Rationale: Creates a moment of delight and positive reinforcement, making the user feel good about completing the a practice.
   - Priority: M
   - **Mapping to Team ID:** REQ-A03
4. Requirement: The system shall allow the users to select a preferred natural environment (Forest, Ocean, Desert) to personalize the app's theme and backgrounds
   - Type: Functional
   - Rationale: Increases personal connection adn engagement by allowing the user to customize their favorite remedial setting.
   - Priority: M
   - **Mapping to Team ID:** REQ-A04
5. **Requirement:** The system shall offer session based on specific user goals (e.g., "Reduce Anxiety", "Improve Focus").
   - Type: Functional
   - Rationale: Helps users to find the most relevant content for their immediate needs make the app more practical and valuable.
   - Priority: H
   - **Mapping to Team ID:** REQ-A05
6. **Requirement:** The system shall have launch time of under 3 seconds on standard mid-range mobile devices.
   - Type: Functional
   - Rationale: A slow, laggy app would deny the mindful experience; performance is crucial for user retention and satisfaction.
   - Priority: H
   - **Mapping to Team ID:** REQ-A06

7. **Requirement:** The system shall allow users to set daily reminder for their practice at a customizable time
    - Type: Functional
    - Rationale: Supports habit formation, which is critical for users to experience the long-term benefits of mindfulness practice.
    - Priority: M
    - **Mapping to Team ID:** REQ-A07
8. **Requirement:** The system shall include "Community Gratitude Wall" where users can anonymously share one-sentence reflections
    - Type: Functional
    - Rationale: Promote a sense of shared experience and positive community without the pressure of the social network.
    - Priority: L
    - **Mapping to Team ID:** REQ-A08
9. **Requirement:** The system shall not push notification between 9PM and 8AM local user time by default
    - Type: Constraint
    - Rationale: Respects the user quiet time and digital wellbeing, aligning with the app's core principle of promoting calm.
    - Priority: M
    - **Mapping to Team ID:** REQ-A09
10. **Requirement:** The system shall collect minimal user data and present a clear, concise privacy policy that explains the data usage before account creation.
    - Type: Non-Functional
    - Rationale: Builds essential user trust by being transparent about privacy, especially important for an app handling the personal wellbeing data.
    - Priority: M
    - **Mapping to Team ID:** REQ-A10

Team Member: Mitchell Bourdukofsky
1. **Requirement**: The system shall provide users with a core library of guided audio/video sessions focused on natural environments.
    - Type: Functional
    - Rationale: This provides an immediate value proposition of the app and is necessary for user engagement
    - Priority: H
    - **Mapping to Team ID:** REQ-M01
2. **Requirement**: The system shall allow users to download audio sessions for offline use when internet connection is unavailable.
    - Type: Functional
    - Rationale: Users may practice mindfulness in areas with poor connectivity, making offline capability a great option for usability
    - Priority: H

- **Mapping to Team ID:** REQ-M02
3. **Requirement**: The system shall use a consistent, visually calming color palette and nature-themed images.
    - Type: Non-Functional
    - Rationale: The app's design must support a sense of calm and ease of use to align with the core purpose of mindfulness
    - Priority: H
    - **Mapping to Team ID:** REQ-M03
4. **Requirement**: The system shall include a personal journaling feature that allows users to write notes immediately following the completion of a session.
    - Type: Functional
    - Rationale: Tracking reflections and emotions builds on mindfulness practice and encourages repeat usage.
    - Priority: L
    - **Mapping to Team ID:** REQ-M04
5. **Requirement**: The system shall incorporate a user-configurable Focus Timer that allows users to set and run timed mindfulness sessions between 5 and 60 minutes
    - Type: Functional
    - Rationale: This feature supports structured, solo practice, which is good for many user routines and can be done offline.
    - Priority: H
    - **Mapping to Team ID:** REQ-M05
6. **Requirement**: The system shall not require a user account or login to access core functionalities of the app
    - Type: Functional/Constraint
    - Rationale: Removing the sign-up barrier maximises initial adoption for first-time users.
    - Priority: M
    - **Mapping to Team ID:** REQ-M06
7. **Requirement**: The system shall be tested to ensure compliance with WCAG 2.1 Level AA standards for contrast, font size, and screen reader capability.
    - Type: Non-Functional
    - Rationale: Making the app accessible ensures a wider audience can benefit from using the app.
    - Priority: H
    - **Mapping to Team ID:** REQ-M07
8. **Requirement**: The system shall include a "Nature Nearby" feature that uses the user's relative location to display a map view of nearby parks, trails, and green spaces.
    - Type: Functional
    - Rationale: Directly supports the app's theme by helping users physically connect with nature, increasing outdoor engagement.
    - Priority: H
    - **Mapping to Team ID:** REQ-M08
9. **Requirement**: The system shall provide a "Nature Sounds Only" mode that plays ambient nature soundscapes without guided narration.

- ● Type: Functional
- ● Rationale: This offers flexibility and caters to users who prefer self-guided practice or are unable to physically connect with nature, given their circumstances.
- ● Priority: L
- ● **Mapping to Team ID:** REQ-M09

10. **Requirement**: The system shall provide a simple, intuitive interface for daily mood tracking. Display a 7-day trend chart of the user's recorded moods.
    - ● Type: Functional
    - ● Rationale: Tracking and visualizing mood patterns helps users correlate their emotional state with their use of the app and promotes self-awareness.
    - ● Priority: H
    - ● **Mapping to Team ID:** REQ-M10

Team member: Ryan Kelly

1. **Requirement:** The system shall have nature aesthetics/background pictures
   - ● Type: Non-Functional
   - ● Rationale: The core idea of the app is mindfulness in nature, so the overall design should remind the user of the beauty of nature
   - ● Priority: Medium
   - ● **Mapping to Team ID:** REQ-R01

2. **Requirement:** The system shall give users the ability to favorite specific sessions, then access them in a specific section of the app.
   - ● Type: Functional
   - ● Rationale: If the user enjoys a particular session a lot, we should make it easy for them to find that session again later if they want to revisit it
   - ● Priority: High
   - ● **Mapping to Team ID:** REQ-R02

3. **Requirement:** The system will allow users to download one or more chosen sessions for offline use
   - ● Type: Functional
   - ● Rationale: The user might not have service if they are in nature, and it is important for the user to be able to use the app in some capacity while the user is out in nature.
   - ● Priority: Medium
   - ● **Mapping to Team ID:** REQ-R03

4. **Requirement:** The user can choose what specific nature aesthetic the app has
   - ● Type: Non-Functional
   - ● Rationale: The user should be able to choose the app aesthetic (forest, ocean, mountain, etc.) that makes them the most at ease.
   - ● Priority: Low
   - ● **Mapping to Team ID:** REQ-R04

5. **Requirement:** The system shall have nature aesthetics/background pictures
   - ● Type: Non-Functional

- Rationale: The core idea of the app is mindfulness in nature, so the overall design should remind the user of the beauty of nature
- Priority: Low
- **Mapping to Team ID:** REQ-R05

6. **Requirement:** The system will allow the users to choose a set of images (or just one image) that the loading screens/background images cycle through
   - Type: Non-Functional
   - Rationale: Allows the user specific choice over how the app looks to help them relax further.
   - Priority: Low
   - **Mapping to Team ID:** REQ-R06

7. **Requirement:** The user will be able to customize notifications for the app to remind them to relax and be mindful when they have time.
   - Type: Functional
   - Rationale: Regular use of the app will improve relaxation and reduce stress, so a reminder when the user has time for a session would be very helpful.
   - Priority: Medium
   - **Mapping to Team ID:** REQ-R07

8. **Requirement:** There will be a section of the app telling the users facts about relaxation in nature and its benefits.
   - Type: Non-Functional
   - Rationale: This will explain to the user the benefits of using the app and being mindful in nature.
   - Priority: low
   - **Mapping to Team ID:** REQ-R08

9. **Requirement:** Upon opening the app, in the loading screen a pleasant chime will sound.
   - Type: Non-Functional
   - Rationale: A pleasant, calming sound would help the user relax and would make opening/using the app more enjoyable.
   - Priority: Low
   - **Mapping to Team ID:** REQ-R09

10. **Requirement:** The app will have organized sections of sessions to allow the user to find the specific type of session they wish to listen to.
    - Type: Non-Functional
    - Rationale: It is important that the user can find what they are looking for quickly in the app, otherwise it would be frustrating scrolling through long lists of different sessions to find a specific type.
    - Priority: High
    - **Mapping to Team ID:** REQ-R10