

CSC440 Human Computer Interaction
1st Semester 1447



Project Final Report

Project Title	Bloomind Application
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Group Number		6	
Group Members			
#	Name	ID	Percentage of tasks achieved
1	Shmookh Alomliafai	444201101	30%
2	Nouf Alawwad	444201021	25%
3	Lama Almoghamis	443201011	25%
4	Tasnim Hadj-Kali	443204617	20%

Problem Statement

Many people struggle to find calm and personal ways to express their emotions or preserve their happy memories. Existing social media platforms emphasize sharing rather than reflection, which can create pressure instead of comfort. For individuals who experience stress, such as family-related challenges or emotional fatigue, there is a growing need for private digital spaces that promote self-expression and positivity.

Several applications have been developed for this purpose in different ways. For example, Day One [1] is a high-quality journaling app that lets users add photos, videos, drawings, and rich media alongside text to document daily life. Happyfeed [2] also allows users to record short memories and photos each day, focusing on gratitude and positivity. In addition, Finch [3] Garden and MindGarden [4] use visually appealing plant metaphors to track personal well-being and growth based on mindfulness activities.

However, unlike these applications, Bloomind Garden focuses exclusively on saving and visually representing personal memories in a beautiful, symbolic way, not on journaling habits or mindfulness tracking. It transforms each recorded moment into a unique digital plant, allowing users to literally see their happiness grow over time in a private and soothing environment. This approach fills a gap between traditional journaling apps and self-care tools by offering an artistic, emotionally safe way to celebrate positive experiences.

System Analysis

2.1 Target Users

The target users of Bloomind Garden are individuals who value emotional well-being and self-expression through digital means. They are likely to be people who seek comfort, relaxation, and a sense of peace after long or stressful days. These users may not necessarily suffer from mental health issues but appreciate having a quiet space where they can privately reflect on what makes them happy. They are familiar with mobile applications and prefer intuitive interfaces that combine functionality with emotional aesthetics.

Within the system, these users take on several **roles**:

- **Memory Creator:** Records positive moments using text, photos, or voice notes.
- **Garden Viewer:** Observes and reflects on their growing digital garden that represents emotional progress.
- **Privacy Manager:** Controls access to their memories by switching between private and shared modes.
- **Community Explorer (optional):** Views public gardens or draws inspiration from others' designs.

2.2 Functional Requirements

- Allow users to add, edit, and delete memories (text, image, or voice) , this supports the Memory Creator role by enabling users to record and manage their positive moments easily and expressively.
- Generate a visual element (flower or tree) for each memory added ,this supports the Garden Viewer role by helping users visualize their memories beautifully and reflect on emotional growth.
- Enable users to browse and zoom in the digital garden view , this supports the Garden Viewer role by allowing users to explore their digital garden and revisit meaningful memories.

- Provide options to enable or disable background sounds , this supports the Garden Viewer role by letting users personalize their experience and maintain a calm, relaxing atmosphere.
- Allow switching between private and shared modes , this supports the Privacy Manager role by giving users control over who can view their memories and ensuring emotional safety.
- Display a progress section summarizing the number of memories and overall growth , this supports both the Memory Creator and Garden Viewer roles by motivating users through visible progress and growth feedback.
- Enable viewing of other users' public gardens (optional) , this supports the Community Explorer role by allowing users to draw inspiration from others while keeping their own garden private if desired

2.3 Non-Functional Requirements

- *Usability:* The application should be intuitive, easy to navigate, and require minimal learning effort.
- *Performance:* The system must respond smoothly, load within a short time, and handle animations without lag.
- *Accessibility:* The design should accommodate different screen sizes and users with various comfort preferences.
- *Privacy and Security:* User data (memories, photos, and voice notes) should be stored locally or securely, ensuring confidentiality.

Proposed Solution

Bloomind Garden provides a digital environment that transforms positive emotions into visual representations of growth.

Instead of writing a traditional diary or scrolling through social media, users can record a joyful moment through text, an image, or a short voice note.

The system then generates a flower or tree in their virtual garden, allowing them to "see" their happiness grow over time.

The idea combines elements of emotional design and interaction aesthetics, encouraging users to associate their personal progress with natural growth.

Unlike applications focused on productivity or mood tracking, Bloomind Garden emphasizes calmness, privacy, and symbolic reflection rather than measurement or comparison.

It serves as a gentle reminder that every positive moment, no matter how small, can bloom into something beautiful.

The proposed solution was implemented as a high-fidelity interactive prototype using Canva [7]. The prototype follows HCI visual and interaction design principles to clearly communicate the user journey, emotional experience, and core functionalities of the Bloomind Garden system.

Our innovation lies in transforming memories into symbolic plants without gamification, tracking, or social pressure—making Bloomind the first fully private, emotion-centered garden experience."

System Design

The design of Bloomind Garden focuses on creating a calm and emotionally engaging digital experience. The interface was developed in accordance with key Human-Computer Interaction (HCI) principles such as simplicity, consistency, feedback, and aesthetic and minimalist design.

Each screen is crafted to support the user's emotional journey, from recording a memory to visually observing its growth within a virtual garden. The system prototype, provided in Appendix F, includes twelve main interfaces that represent the complete interaction flow of the application.

Across the design, multiple trade-offs were made, such as prioritizing calm visuals over dense information, limiting customization to maintain simplicity, and reducing screen content to support focus and emotional comfort. These decisions ensured that the user experience remained serene, intuitive, and aligned with the app's well-being goals.

The design integrates multiple HCI principles [5] and [6], including aesthetic and minimalist design, consistency and standards, visibility of system status, recognition rather than recall, match between system and the real world, and flexibility and efficiency of use, ensuring an intuitive and meaningful user experience.



The splash screen introduces Bloomind Garden with a calm and natural visual identity. It uses the app's logo, colors, and floral illustrations to reflect positivity and growth, creating an emotional connection from the first interaction.

Design Principle	How it was applied	Justification
Aesthetic and Minimalist Design	The screen displays only the logo and app name on a clean white background.	Reduces distraction, highlights brand identity, and evokes calmness consistent with the app's concept of mindfulness.
Consistency and Standards	Colors (green, pink, yellow) and typography match the brand theme used throughout the app.	Ensures visual harmony and helps users immediately associate the screen with the app's purpose.
Emotional Design	The design appeals to users' emotions through warmth and familiarity.	Encourages positive feelings and readiness to explore the app's functions.
Trade-offs: Focus on emotional aesthetics limits functional elements, no interactive content is provided at this stage to maintain simplicity and anticipation.		



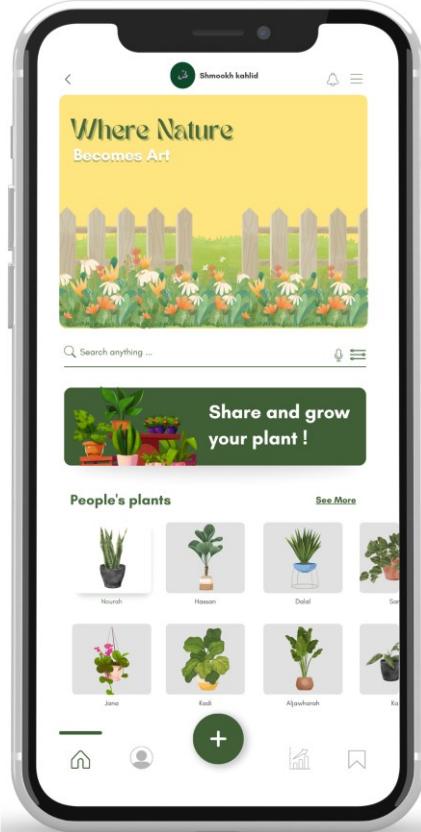
The onboarding screens introduce Bloomind Garden's main features simplicity, fast sharing, and discovery using clear floral illustrations and minimal text. Each screen helps users quickly understand the concept of planting digital memories and sharing positive emotions in an intuitive way.

Design Principle	How it was applied	Justification
Aesthetic and Minimalist Design	Each screen focuses on one message ("Very easy to plant", "Very fast sharing", "Share & discover") with a symbolic flower illustration and soft background.	Reduces cognitive load, ensuring users grasp the idea visually without reading large text blocks.
Consistency and Standards	Uniform design structure same button position, font, and color scheme.	Builds familiarity, making it easy for users to predict navigation and maintain focus.
Visibility of System Status	The progress indicator (three dots) shows which screen the user is on.	Provides feedback and supports smooth navigation through the introduction steps.
Trade-offs: Simplicity vs. information — limiting text maintains visual appeal but restricts detailed explanation of all app features.		



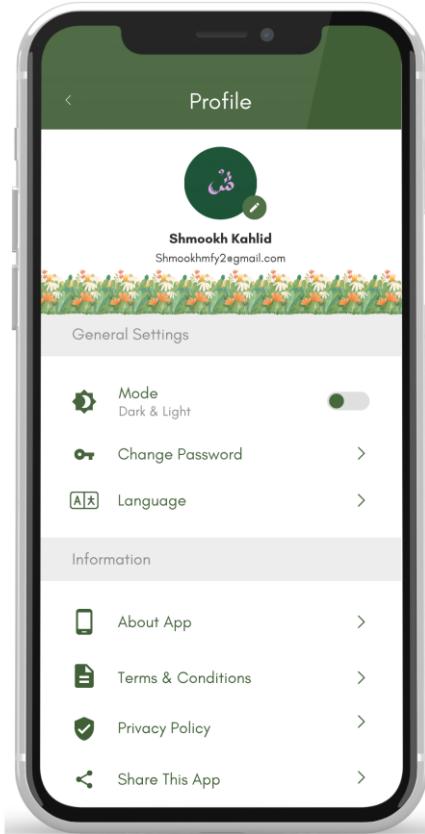
The Create Account screen allows new users to register and begin their journey in Bloomind Garden. It maintains the natural visual identity of the app while ensuring clarity, simplicity, and trust through consistent color and typography.

Design Principle	How it was applied	Justification
Aesthetic and Minimalist Design	The form uses minimal fields (Full Name, Email, Password) with ample spacing and soft green colors.	Simplifies user onboarding and reduces friction during registration.
Consistency and Standards	The same font, button style, and color palette are applied throughout the design.	Ensures users perceive continuity between onboarding and sign-up, reinforcing brand identity.
Visibility of System Status	The "Register Now!" button clearly indicates the main action and changes visually when active.	Provides immediate feedback and directs user attention to the next step.
Match Between System and Real World	The screen uses familiar real-world metaphors such as "Join us and start your journey" and plant icons that symbolize growth and new beginnings. The layout mirrors typical sign-up forms users already know.	Aligns digital actions with real-world experiences of planting and starting growth, making the concept intuitive and emotionally relatable while reducing cognitive effort.
Trade-offs: Simplicity vs. completeness — limiting extra options (e.g., sign in with Google/Apple) maintains focus but reduces flexibility for users seeking faster sign-up.		



The Home screen in Bloomind Garden serves as the central hub where users explore their digital plants, interact with others, and add new memories. The layout combines aesthetic appeal with functionality, ensuring users feel calm, inspired, and in control.

Design Principle	How it was applied	Justification
Match Between System and Real World	The garden-like layout visually represents progress through plant growth, directly mapping digital memories to physical growth processes found in nature.	Bridges users' mental model of nurturing plants with recording positive memories, creating immediate familiarity and emotional meaning.
Aesthetic and Minimalist Design	Balanced white space, soft green tones, and organized sections (banner, search, community plants).	Maintains focus and promotes a sense of relaxation and order.
Recognition Rather than Recall	Icons (home, add, chart) and labeled cards help users navigate without memorizing functions.	Enhances usability and lowers cognitive load.
Flexibility and Efficiency of Use	The floating "+" button provides a direct shortcut for adding a memory, while the navigation bar offers an alternate, guided path for new users.	Supports both novice and experienced users, new users can explore through menus, while experienced ones can perform key actions quickly, improving efficiency and satisfaction.
Trade-offs: Clarity vs. content density — displaying a clean interface improves focus but limits how many community elements can appear at once.		



The Profile screen in Bloomind Garden provides users with full control over personalization and privacy. The interface adopts a calm, nature-inspired theme to maintain emotional consistency with the overall app identity.

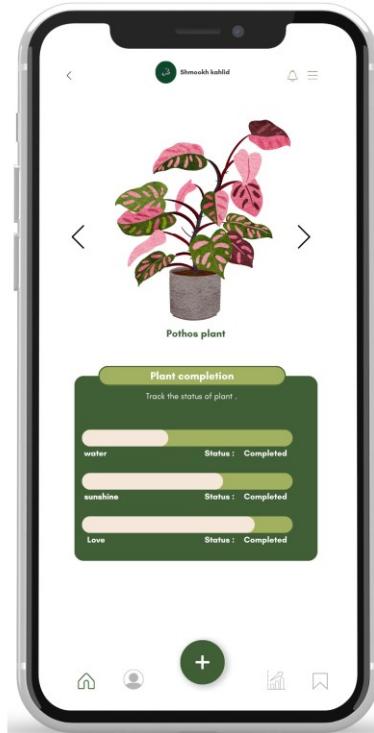
Design Principle	How it was applied	Justification
User Control and Freedom	Users can change the app mode (Dark/Light), update passwords, switch languages, and manage privacy.	Empowers users to customize their experience according to their comfort and preferences.
Consistency and Standards	All icons, text styles, and button formats align with those in other sections of the app.	Promotes familiarity and seamless navigation across pages.
Visibility of System Status	The toggle for dark/light mode provides instant visual feedback.	Reinforces transparency by confirming user actions immediately.
Error Prevention	Grouping options clearly under categories prevents misclicks or confusion.	Enhances navigation accuracy and usability.

Trade-offs: Functionality vs. simplicity focusing on essential settings keeps the screen visually clean but omits advanced customization features (e.g., notification controls).



The Garden View screen visually represents the user's positive memories as growing plants arranged on virtual shelves. Each plant corresponds to an entry or emotional moment, allowing users to see their progress and growth over time in an aesthetically pleasing, relaxing environment.

Design Principle	How it was applied	Justification
Match Between System and Real World	The layout resembles wooden shelves filled with potted plants, each representing a personal memory.	Translates digital data into a natural, real-world visual context that users easily understand, strengthening the metaphor of emotional growth.
Aesthetic and Minimalist Design	The interface features soft colors, realistic plants, and balanced spacing with minimal text.	Creates visual calmness and enhances emotional engagement.
Recognition Rather than Recall	Users identify each memory visually through the unique look of every plant.	Eliminates the need to recall text entries, making the interaction intuitive and emotionally resonant.
Consistency and Standards	The same green color palette, icons, and navigation bar are maintained.	Ensures harmony with the rest of the app's design and avoids cognitive disruption.
Flexibility and Efficiency of Use	Users can view their garden as a whole or tap specific plants to access details quickly.	Allows flexible exploration, users can move between overview and detail levels efficiently depending on their needs.
Trade-offs: Realism vs. scalability — using detailed plant illustrations enhances immersion but may limit the number of visible plants as the collection grows.		



The Plant Details screen allows users to track the growth status of each plant that represents a memory. It visually displays progress elements (Water, Sunshine, Love) with completion bars, offering emotional feedback and a sense of accomplishment as the plant “grows.”

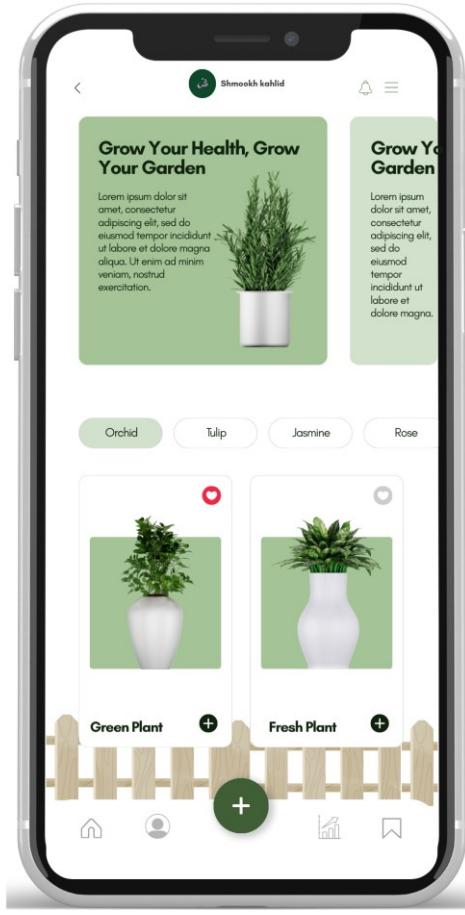
Design Principle	How it was applied	Justification
Visibility of System Status	Progress bars visually show the completion status of each growth factor.	Keeps users aware of their progress and motivates continued engagement.
Match Between System and Real World	Uses real-world concepts (water, sunshine, love) to symbolize memory nurturing.	Makes abstract emotional tracking intuitive and relatable.
Feedback	Each completed bar changes color to indicate success.	Reinforces user achievement and provides rewarding feedback.
Aesthetic and Minimalist Design	Limited text, soft gradients, and balanced spacing emphasize clarity and relaxation.	Reduces mental load and enhances focus on visual progress.
Trade-offs: Visual appeal vs. detailed data — prioritizing aesthetics simplifies interaction but limits the amount of quantitative tracking that can be shown.		



The Calendar screen in Bloomind Garden allows users to view dates and associate them with their planted memories. It complements the garden interface by helping users reflect on when each positive experience occurred, fostering awareness of emotional growth over time.

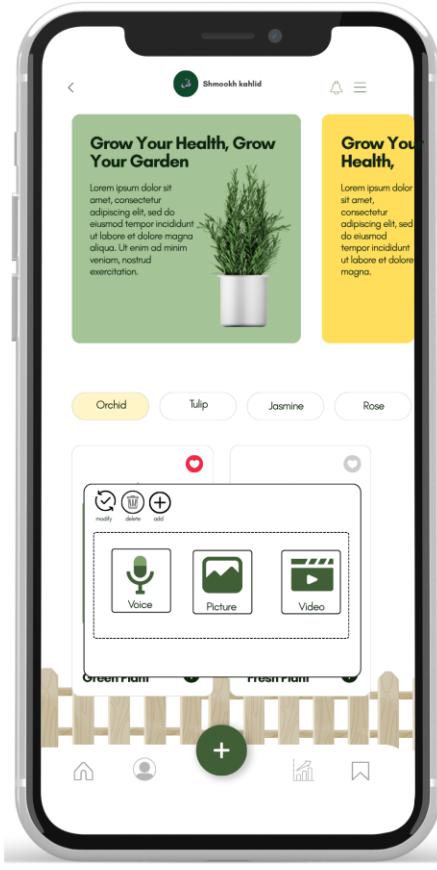
Design Principle	How it was applied	Justification
Visibility of System Status	The calendar highlights the current date and selected days in soft green.	Provides clear feedback and awareness of time context.
Consistency and Standards	The same typography, colors, and decorative floral border are used.	Maintains harmony with the rest of the interface and strengthens brand coherence.
Match Between System and Real World	The screen adopts a conventional calendar grid with weeks and days arranged in the same order users expect in real life.	Makes navigation effortless by using familiar patterns from physical calendars, minimizing learning time.
Recognition Rather than Recall	The highlighted date and minimal icons allow quick understanding without memorization.	Increases usability and reduces user effort.
Flexibility and Efficiency of Use	Users can jump between months or tap specific dates to view memories directly.	Provides multiple navigation paths, scrolling or direct selection, helping both casual and advanced users access information quickly.

Trade-offs: Simplicity vs. functionality — focusing on visual clarity limits advanced calendar features (e.g., event creation), but keeps the experience peaceful and aligned with the app's purpose.



The Explore screen in Bloomind Garden allows users to discover various plant types and view gardens shared by others. It promotes community engagement and inspiration while maintaining the calming and minimalistic nature of the app's identity.

Design Principle	How it was applied	Justification
Consistency and Standards	The layout, colors, and typography align with the home and garden pages.	Ensures a seamless transition between exploration and personal interaction.
Flexibility and Efficiency of Use	Category filters and search features enable users to quickly locate specific plants or themes, while casual users can simply scroll through the feed.	Supports efficiency by letting advanced users filter and discover content quickly without overwhelming new users who prefer simple browsing.
Feedback and Visibility of System Status	Heart and plus icons indicate interaction (favorite or add).	Provides instant feedback that enhances user confidence.
Trade-offs: Engagement vs. simplicity — adding interaction options increases user activity but introduces slightly more visual elements that require careful balance.		



The Add Memory screen enables users to attach media (voice, picture, or video) to a selected plant, symbolizing the act of “planting” a new memory. This interface bridges emotional expression and digital interaction through simple, intuitive choices.

Design Principle	How it was applied	Justification
Recognition Rather than Recall	Clear, labeled icons (Voice, Picture, Video) guide users without needing prior experience.	Enhances accessibility and usability for all user types.
Aesthetic and Minimalist Design	Organized layout with three central options and minimal text.	Reduces distractions and keeps users emotionally focused on the act of creation.
User Control and Freedom	Options to modify, delete, or add are clearly visible at the top of the panel.	Provides autonomy and flexibility, allowing users to manage their entries easily.
Match Between System and Real World	The act of “planting” a memory mirrors planting a real flower, and icons (voice, picture, video) use everyday metaphors for recording moments.	Reinforces the main concept, turning real experiences into symbolic growth, so actions feel natural and meaningful.
Flexibility and Efficiency of Use	Provides multiple ways to express a memory, through voice, image, or video, allowing users to choose whichever is most comfortable.	Accommodates different user preferences and contexts, improving efficiency for frequent users and flexibility for creative ones.
Feedback and Visibility of System Status	Each selected medium triggers a visual cue confirming the choice.	Reinforces confidence and clarity throughout the interaction.
Trade-offs: Simplicity vs. creativity limiting the input to three media types maintains clarity but restricts more complex expressive formats (e.g., text + sound combinations).		

Across all screens, the interface aligns with Nielsen's usability heuristics [5] by ensuring that interactions reflect familiar real-world metaphors and offer flexibility for both novice and expert users. This combination enhances efficiency, learnability, and emotional engagement.

Evaluation Plan

The purpose of this evaluation is to assess the usability, emotional impact, and overall user experience of the Bloomind Garden prototype. The study aimed to determine how effectively users understood the concept, navigated between screens, and interpreted visual elements representing their emotional growth. The results were used to identify usability issues and guide future design improvements.

Because the prototype is view-only (That is, it has not yet been released)., a guided cognitive walkthrough was used. During each session, the facilitator displayed the app's screens sequentially and asked participants to describe what they expected to happen on each page. This method allowed users to share their impressions, expectations, and emotional reactions without needing to physically interact with the app.

The evaluation followed a **within-group design**, meaning that all participants viewed the same prototype and completed the same set of tasks. This approach ensured that any differences in feedback were based on individual perceptions rather than variations in prototype versions.

All testing materials used in this study, including the Consent Form, Facilitator Script, Observation Sheet, and Satisfaction Survey, are provided in Appendices A–D of this report. These documents ensured consistency across sessions and transparency in data collection procedures.

Study Hypotheses

1. **Usability Hypothesis:** Participants will easily understand the app's navigation, layout, and purpose, demonstrating that the design communicates its intended functions clearly.
2. **Emotional Design Hypothesis:** Participants will describe the design as calming, nature-inspired, and emotionally positive, confirming that the visual style supports the app's mindfulness goal.
3. **Satisfaction Hypothesis:** Participants will report an average satisfaction score of 4 or higher (on a 1–5 scale) regarding clarity, comfort, and overall user experience.

Part 1: Usability Tests

1.1 Participant Profiles

A total of **five participants** were recruited to evaluate the Bloomind Garden prototype. The selection aimed to represent the app's intended users, individuals who value mindfulness, emotional reflection, and ease of use in digital well-being applications.

Participants varied in age, occupation, and familiarity with similar concepts to provide balanced feedback across different user backgrounds.

Participant name	Age	Gender	Background	Average knowledge of the concept (1–5)	Use of handheld device (1–5)
Aljawharah	29	Female	Office employee	5	5
Naif	28	Male	Office employee	3	5
Elham	23	Female	Office employee	4	5
Nouf	22	Female	Student	4	5
Rana	21	Female	Student	4	5

Mean age: 24.6 **Median:** 23 **Mode:** 22

The group consisted of **four females and one male**, representing a mix of working professionals and university students, both considered relevant audiences for an app focused on calmness, reflection, and mental well-being. All participants reported high comfort levels with smartphones (average score = 5/5) and moderate-to-strong understanding of mindfulness or journaling concepts (average score = 4/5).

These users were ideal for testing Bloomind Garden, as they combine strong technical proficiency with an interest in relaxation and self-expression apps.

Graphs of these measurements:

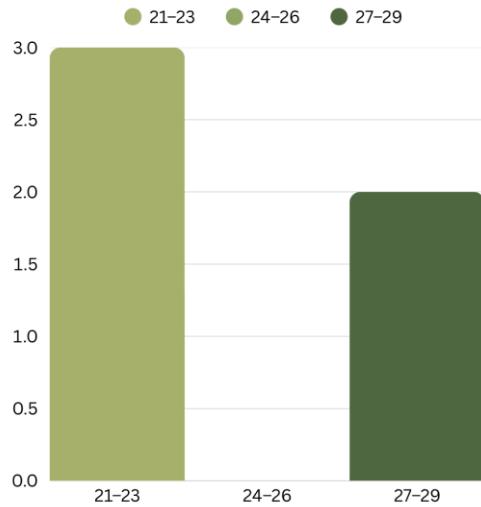


Figure 1. Age Distribution of Participants.

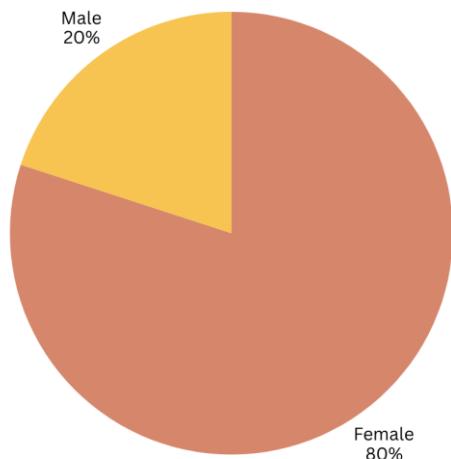


Figure 2. Gender distribution.

1.2 Timeline

Testing was carried out across two days (**October 28–29, 2025**) in a quiet, controlled setting to reduce distractions and align with the app's relaxing theme. Each session lasted around **5–10 minutes**, and all used the same high-fidelity version of the prototype.

Participant	Day	Date	Start session time	Finish session time	Duration of session	Prototype version
1.Aljawharah	Tuesday	28/10/2025	6:30 PM	6:37 PM	7:35	High Fidelity
2.Naif			7:00 PM	7:07 PM	7:33	
3.Elham			7:30 PM	7:38 PM	8:01	
4.Nouf	Wednesday	29/10/2025	1:30 PM	1:38 PM	8:32	
5.Rana			2:00 PM	2:08 PM	8:25	

1.3 Performance Measures and Feedback

To measure usability and satisfaction, three key metrics were used:

Metric	Definition	How was it measured?
Effectiveness	The degree to which users understood and completed each task successfully.	Observed using the Observation Sheet (Appendix C) to record confusion or misinterpretation during the walkthrough.
Efficiency	The effort or time users needed to grasp each feature.	Tracked by noting hesitation, time spent per task, and questions asked during testing.
Satisfaction	Users' emotional and aesthetic reactions.	Measured through the Post-Test Satisfaction Survey (Appendix D) using 1–5 Likert ratings and open-ended questions.

1.4 Tasks

Participants completed six scenario-based tasks that represented typical actions in the app.

Task #	Task	Objective of the task
1	View the onboarding screens (“Very easy to plant”, “Share & Discover”) and explain what you think the app does.	Evaluate clarity of purpose and first impression.
2	Create a new account on the registration page.	Test comprehension of input layout and ease of understanding.
3	Add a new memory by choosing a media type (voice, picture, or video).	Assess icon recognition and conceptual understanding of “planting” a memory.
4	Observe the garden screen and describe what each plant represents.	Measure how well users interpret visual metaphors and emotional engagement.
5	Navigate to the profile page and change to dark mode.	Examine visibility of customization and user control features.
6	Open the calendar screen and explain what the highlighted days mean.	Evaluate clarity of progress tracking and connection to recorded memories.

Part 2: Usability Results

This section presents the findings from the cognitive walkthrough sessions conducted with the five participants. The results summarize the main usability issues identified while participants completed the six core tasks of the Bloomind Garden prototype. Each problem was analyzed based on its frequency, impact, and persistence to determine its severity level, classified as **Critical, Major, or Minor**. The observations capture both functional and emotional responses, reflecting how effectively users understood the app's flow, metaphors, and visual feedback. The aim of this analysis is to highlight patterns in user confusion or hesitation and to translate them into actionable insights for improving clarity, emotional resonance, and overall user experience in future design iterations.

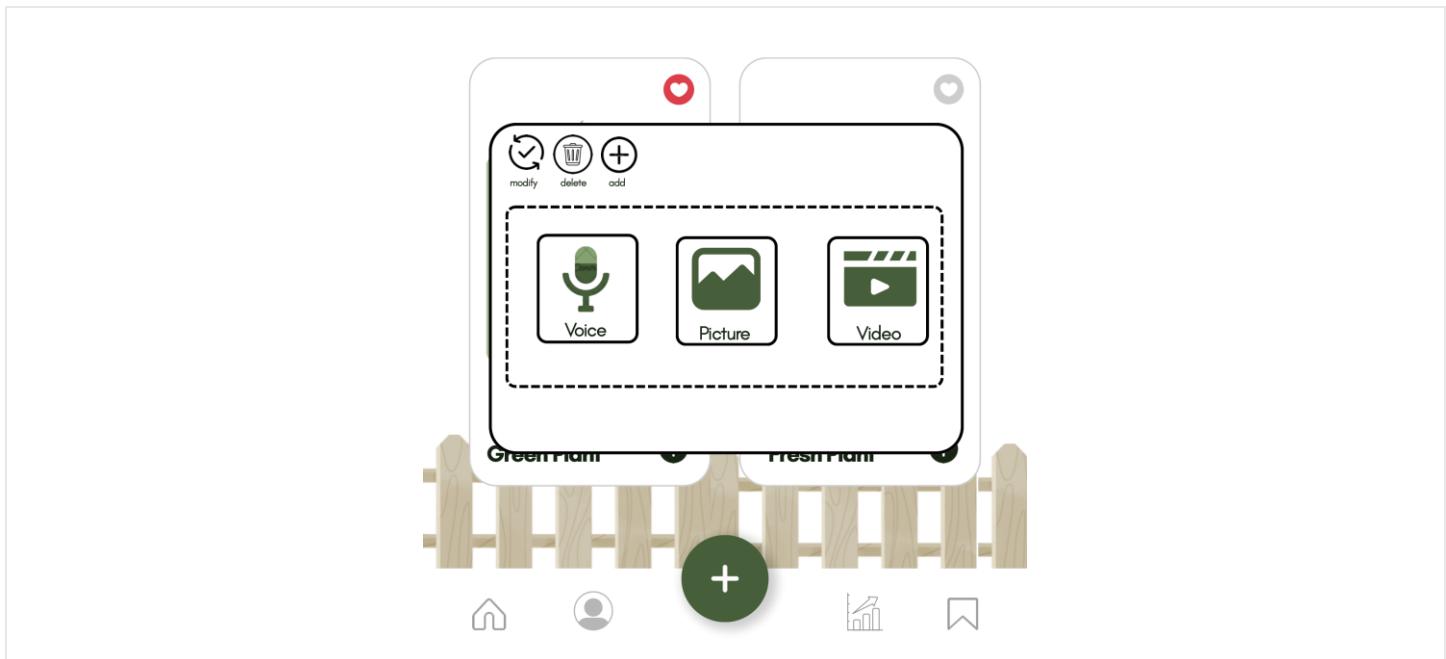
2.1 Critical Problems

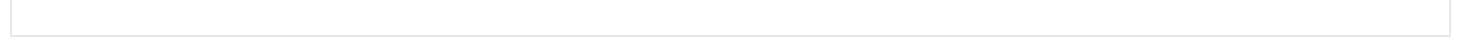
2.1.1 – No Confirmation Feedback After Adding a Memory

This issue is associated with Task 3: “Add a new memory by choosing a media type (voice, picture, or video).” All five participants selected a media type but immediately looked around the screen or asked, “Did it save?” or “Where is my plant now?” No visual or textual feedback (e.g., animation, success message, or plant appearing) was provided after selection.

This problem occurred with 100% frequency (5/5 users) and had a high impact users feared their personal memory was lost. Given that the target users strongly value privacy and emotional safety, and express concern about data loss from local storage, this uncertainty directly undermines trust in the app’s core function. The confusion persisted until the facilitator explained that the memory would “blossom later.”

Without confirmation, users cannot verify success—making this a Critical usability issue.





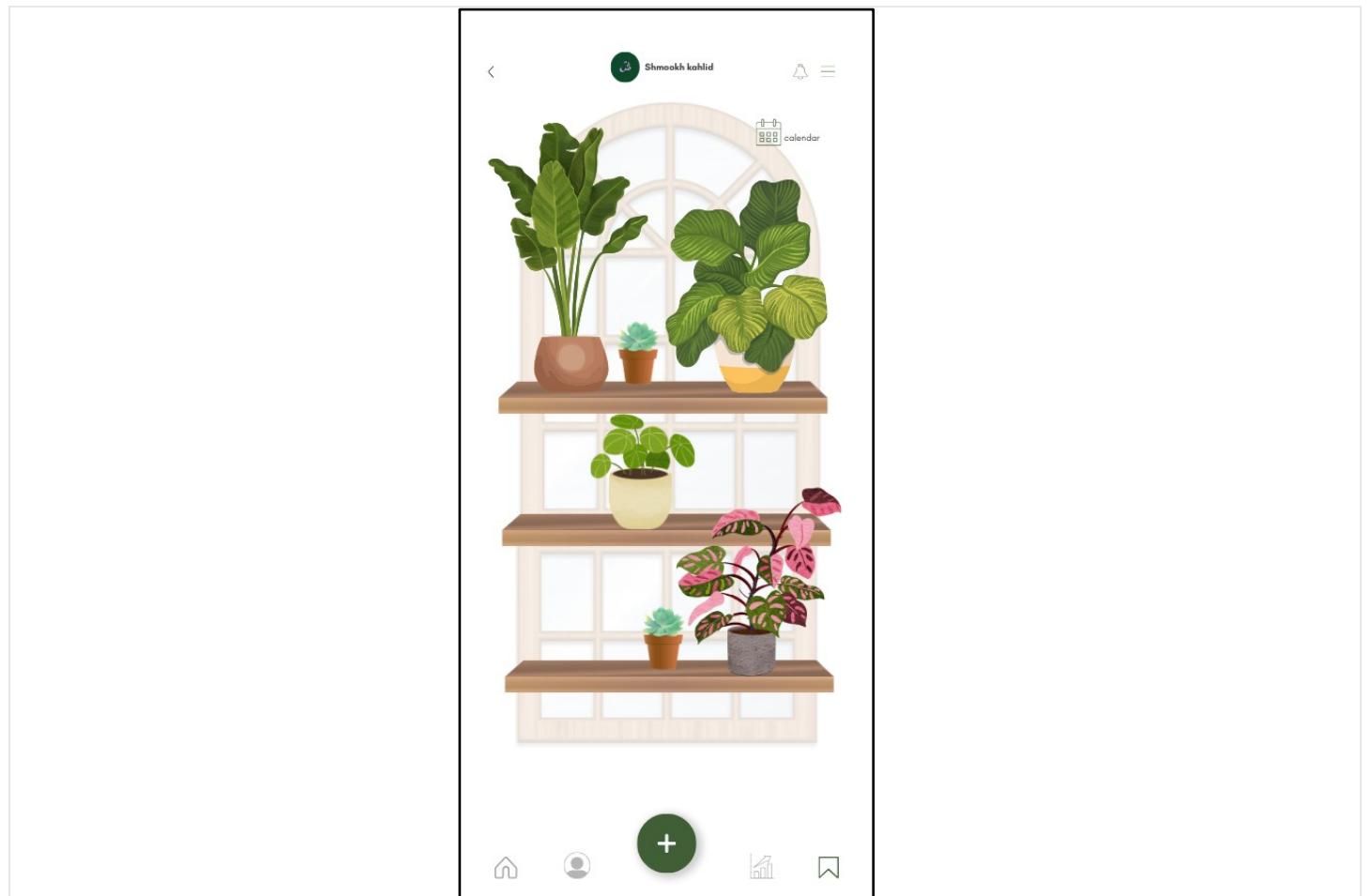
2.1.2 – Ambiguous Privacy Model: Unclear If Memories Are Shared by Default

This issue relates to **Task 4** (Garden View interpretation) and general navigation.

Three out of five participants (*Aljawharah, Elham, Rana*) asked: “Is my garden public?” or “Did I accidentally share this memory?” when they saw the Explore tab showing community gardens. The interface did not clearly indicate whether the user’s own garden was in private or shared mode.

This issue affected 60% of participants and had a high emotional impact especially since your users explicitly prefer private reflection over public sharing and only wish to share selected memories with close family. The confusion persisted even after viewing the Profile screen, as the privacy toggle was not prominently labeled or explained.

This creates a serious risk of unintended sharing, violating user trust and privacy expectations hence classified as **Critical**.



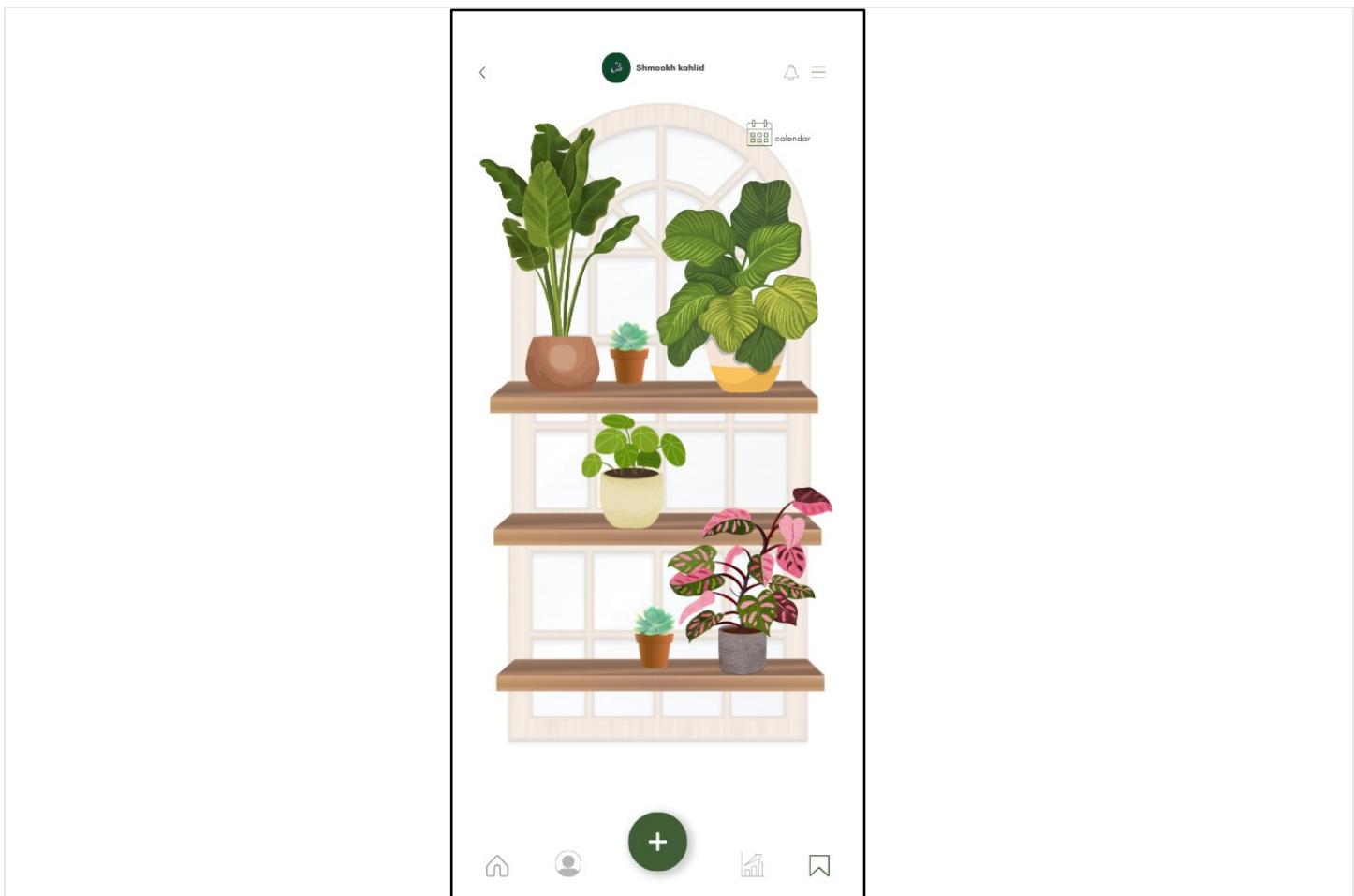
2.2 Major Problems

2.2.1 – Users Do Not Recognize That Plants Represent Personal Memories

This issue is tied to **Task 4:** “Observe the garden screen and describe what each plant represents”. Four out of five participants initially described the plants as “decorative,” “background art,” or “just part of the theme.” Only after prompting did they connect each plant to a saved memory. As Naif stated: “I didn’t realize these were my memories until you asked.”

The issue occurred with 80% frequency and had moderate-to-high impact: it undermines the core emotional metaphor of Bloomind transforming joyful moments into visual growth. Without this understanding, the app feels like a generic garden simulator rather than a personal emotional journal. The misinterpretation persisted without facilitator clarification.

While users could still navigate the app, the symbolic meaning central to the app’s purpose was lost, making this a Major problem.

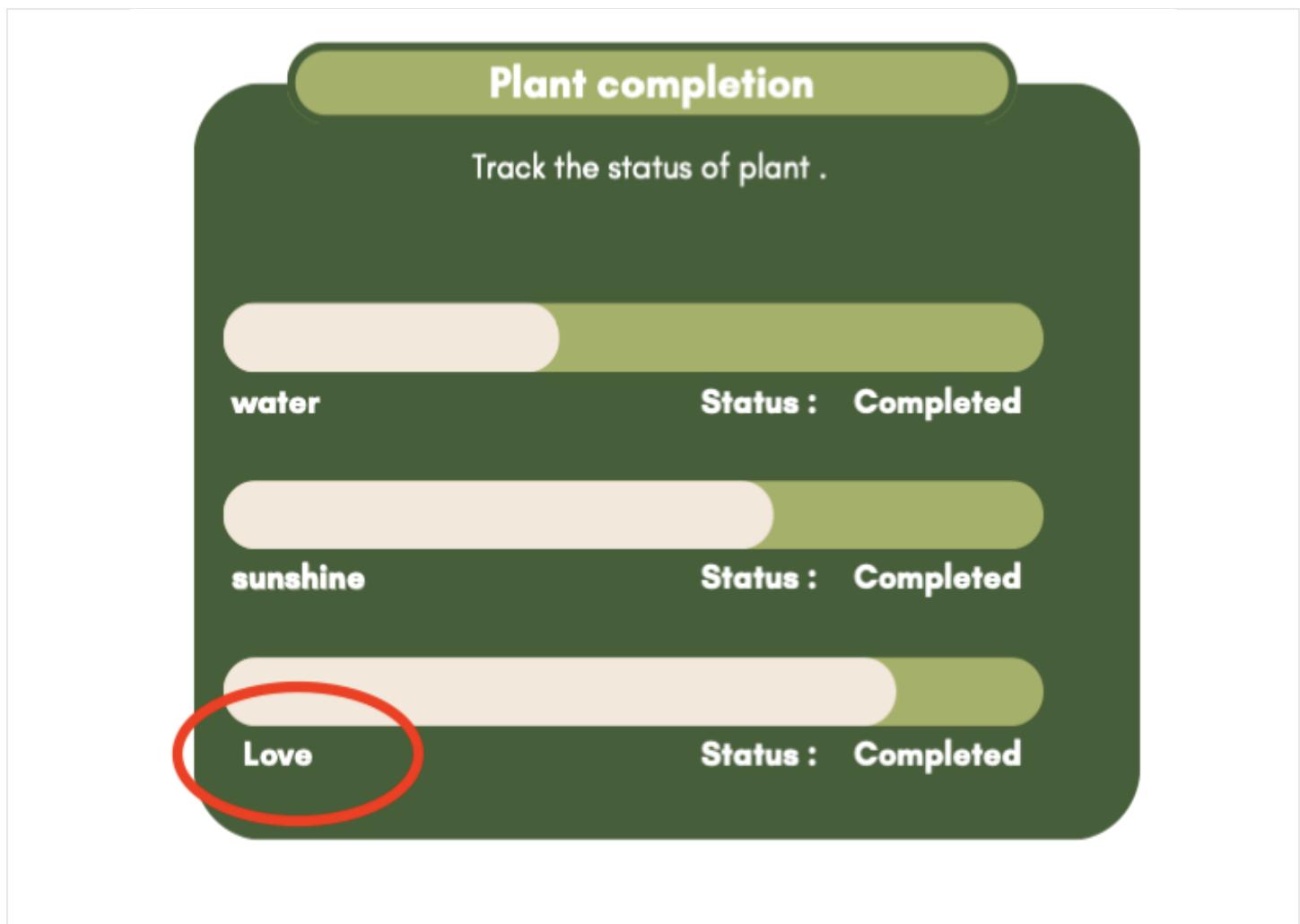


2.2.2 – Confusion About the Meaning of “Love” in Plant Growth Metrics

This issue emerged during exploration of the Plant Details screen (implied in Task 4). Three participants understood “Water” and “Sunshine” as nurturing actions (e.g., revisiting or reflecting), but expressed uncertainty about “Love.” Comments included: “Is someone liking my memory?” or “Do I need to do something to fill the Love bar?”

The issue affected 60% of users and had moderate impact: it weakens the emotional feedback loop that encourages continued engagement. While it did not block task completion, the ambiguity reduced the reflective and rewarding nature of the experience. The confusion persisted throughout the session.

This qualifies as a Major issue due to its effect on the app’s emotional resonance.



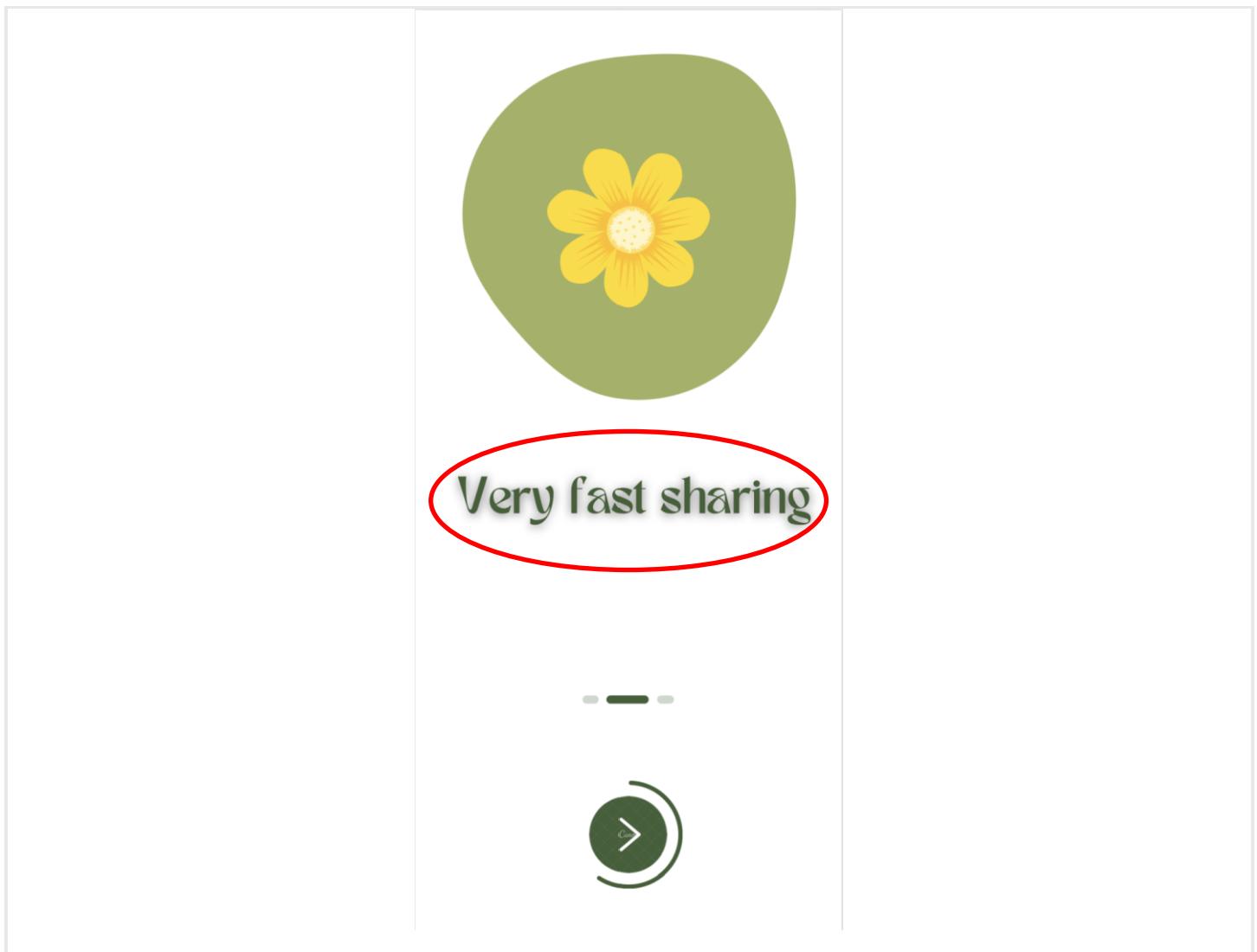
2.3 Minor Problems

2.3.1 – Vague Onboarding Language (“Very Fast Sharing”)

This issue relates to **Task 1**: “View onboarding screens and explain what the app does.” Two participants (Nouf, Rana) interpreted phrases like “Very fast sharing” and “Share & Discover” as social media-like, conflicting with their expectations of a private tool. One said: “I thought this was for posting publicly at first.”

The issue occurred in 40% of sessions and had a low impact: users self-corrected once they saw the Garden View. The confusion was short-lived and did not affect task success.

This is a Minor issue, it creates a slight misalignment in first impressions but does not impair core functionality.

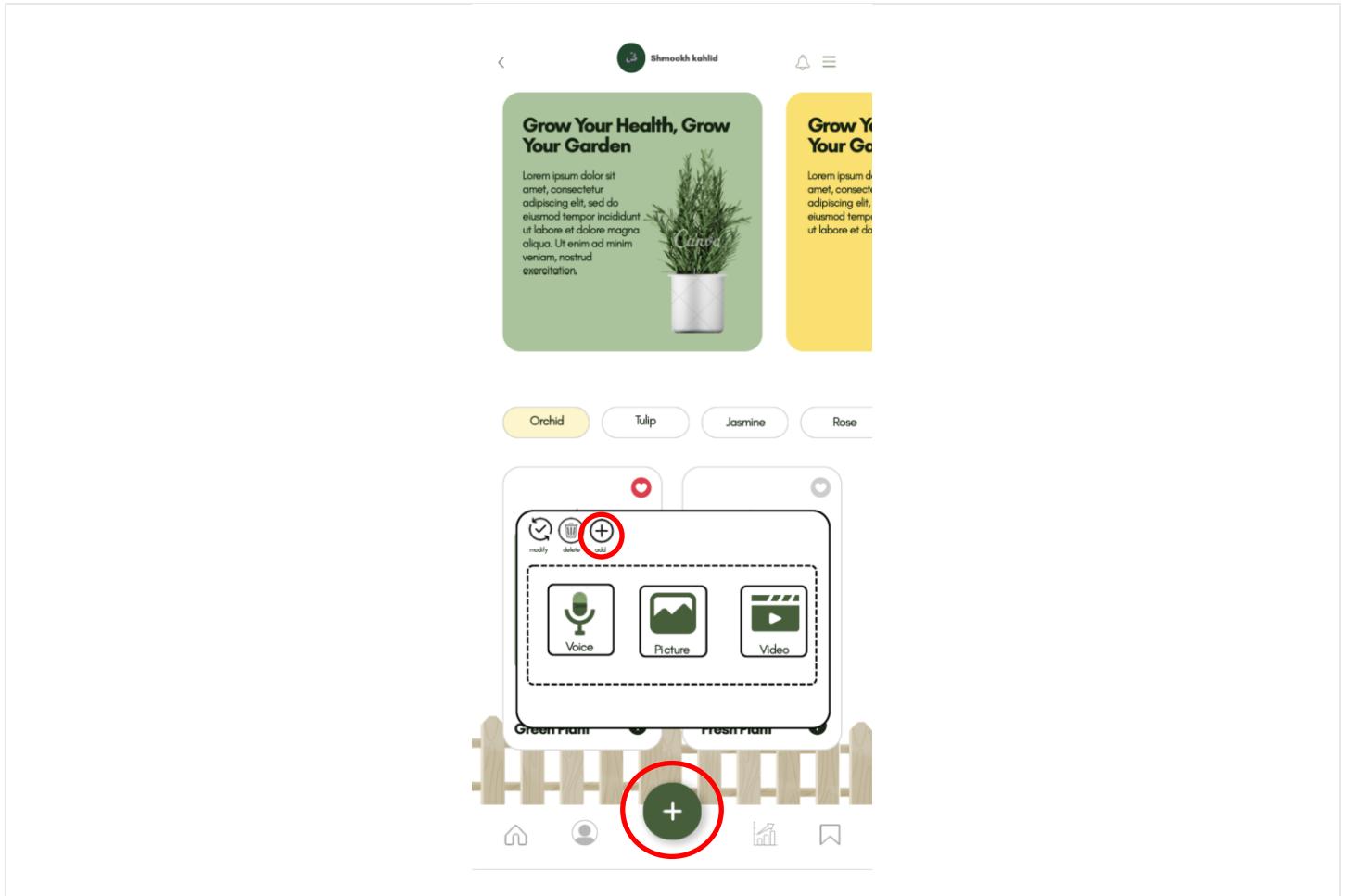


2.3.2 – Inconsistent Use of the “+” Button Across Screens

This issue relates to **Task 3** and general navigation. On the Home screen, the floating “+” button opens Add Memory. On the Explore screen, it appears to be Add to My Garden. One user (Naif) hesitated and asked: “Does this let me copy someone else’s plant?”

Only 1 user (20%) experienced this, and the confusion lasted seconds. No task failure occurred.

This is a Minor inconsistency that slightly increases cognitive load but does not disrupt usability.



Part 3: Recommendations

This section outlines the design improvements proposed based on the usability issues identified during the evaluation sessions. Each recommendation directly corresponds to a specific problem classified in **Part 2** and aims to enhance clarity, feedback, emotional engagement, and efficiency, core values of Bloomind Garden's user experience. The suggestions are prioritized by severity level (**Critical, Major, or Minor**) and focus on strengthening the connection between the system's emotional purpose and usability principles. These adjustments will not only resolve observed issues but also refine the overall interaction flow, ensuring that the prototype better reflects Human–Computer Interaction (HCI) standards and user expectations.

Usability Issue	Recommendation	Severity (Critical/Major/Minor)
<i>Lack of confirmation after adding a memory</i>	<i>Display a clear confirmation (e.g., message, subtle animation, or visual cue) indicating that the memory has been successfully added and is now visible in the garden.</i>	<i>Critical</i>
<i>Ambiguous privacy model</i>	<i>Include an option during the memory-adding process that allows users to choose whether the memory should be shared or kept private. The default setting should remain "Private" to align with user preferences.</i>	<i>Critical</i>
<i>Users do not understand that plants represent personal memories</i>	<i>Enhance the plant design so that memory-related elements such as an image, date, or brief title, appear on or near each plant to clarify the connection between plants and memories.</i>	<i>Major</i>
<i>Confusion about the meaning of "Love" in growth metrics</i>	<i>Remove the "Love" metric, as it was perceived as vague and confusing, and does not provide meaningful value in representing or enhancing the memory.</i>	<i>Major</i>
<i>Vague onboarding phrases like "Very fast sharing"</i>	<i>Replace the phrase "quick share" with language that better reflects the app's purpose, such as "Share it with family and friends" ensuring alignment with user expectations of privacy and emotional safety.</i>	<i>Minor</i>
<i>Inconsistent function of the "+" button</i>	<i>Use only one "+" button (the primary green one) across all screens and remove the smaller duplicate to avoid confusion.</i>	<i>Minor</i>

Conclusion

The **Bloomind Garden** project successfully demonstrates how thoughtful interaction design can promote emotional well-being through technology. By transforming positive memories into symbolic digital plants, the system bridges emotional design with practical usability.

The prototype applies core HCI principles, such as simplicity, consistency, feedback, and real-world metaphors, to create a calm, intuitive, and aesthetically pleasing user experience. Findings from the usability evaluation confirmed that users easily understood the app's concept and appreciated its visual serenity, though minor areas for improvement were identified in feedback visibility and metaphor clarity.

Overall, the project highlights how Human-Computer Interaction principles can be used not only to improve usability but also to design experiences that nurture positivity, reflection, and personal growth. Future development could include interactive animations, enhanced privacy indicators, and additional customization features to further enrich user engagement and satisfaction.

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Appendix

- *Appendix A: Consent form.*



نموذج الموافقة على المشاركة

تهدف هذه الدراسة إلى اختبار تصميم واجهات المستخدم لبعض برامج الجوال. إن مشاركتكم في هذه الدراسة تطوعية وستبقى غير معروفة. سيطلب من المستخدم خلال الجلسة تعبئة استبيانات واستخدام البرنامج للقيام بمهام محددة. ستقوم مراقبة بتسجيل بعض الملاحظات أثناء استخدامه كما أنه سيقوم برنامج محمول في الجهاز المستخدم خلال الجلسة بتسجيل خطوات تصفحه. كما سنقوم بالتسجيل الصوتي والفيديو للشاشة في الجلسة، إن رغبت بعدم التسجيل الرجاء الإشارة إلى ذلك:

أوافق على تسجيل الفيديو للشاشة في الجلسة

أوافق على تسجيل الجلسة باستخدام الكمبيوتر وتسجيل الحوار الصوتي

تستغرق الجلسة 20-25 دقيقة، بإمكانك إيقاف الجلسة في أي وقت إن رغبت بذلك.

أفيد بأنني قرأت وفهمت ما المطلوب مني خلال المشاركة في الدراسة

الإسم

التوقيع

التاريخ

مراقبة الجلسة

- **Appendix B:** Facilitator Script.

Introduction

"Hi, thank you for joining us today. We're testing a prototype of our app, Bloomind Garden. The goal is to understand how users interpret the design and whether it feels calm, clear, and meaningful. This isn't a test of you, it's a test of the app. Please feel free to share your honest thoughts about what you like, what confuses you, or what you'd expect to happen next."

Consent Reminder

"Before we start, I just want to confirm that you've read and signed the consent form. If you have any questions, please ask now."

Instructions

"Because this version of the app is view-only, I'll guide you through each screen. As we go, please think aloud, say what you notice, what you expect to happen, or what you might click if it were interactive. There are no right or wrong answers."

Scenario Setup

"Imagine you're using Bloomind Garden for the first time after a long day. You want to record a happy moment so that it becomes a flower or plant in your personal garden. As you go through the app, I'll show you several screens that represent each stage of that process."

Tasks

#	Task (Given to Participants)	Purpose / What It Tests
1	Look at the onboarding screens ("Very easy to plant", "Share & Discover") and tell me what you think this app is about.	Tests first impressions and clarity of app purpose.
2	View the registration screen and explain how you would create an account.	Tests form layout, simplicity, and visual clarity.
3	On the "Add Memory" page, choose between voice, picture, or video and describe what you think will happen next.	Tests icon clarity and understanding of memory-planting concept.
4	Observe the "Garden View" screen and explain what you think each plant represents.	Tests user interpretation of metaphors and emotional feedback.
5	Go to the "Profile" screen and find where you could switch to dark mode or change the language.	Tests visibility of customization options and user control.
6	Look at the "Calendar" screen and explain what the highlighted days represent.	Tests comprehension of memory tracking and progress design.

Closing

"That's the end of the walkthrough, thank you! Please answer this survey that has a few short questions about how you felt about the design overall."

- *Appendix C: Observation Sheet.*

Participant Name:

<i>Task #</i>	<i>Completed (Y/N)</i>	<i>Confusion or Error Observed</i>	<i>User Comment / Reaction</i>	<i>Facilitator Notes</i>
1				
2				
3				
4				
5				
6				

Observation results were recorded here:

https://studentksuedu-my.sharepoint.com/:x/g/personal/444201021_student_ksu_edu_sa/EXhkzIf_qyNBulYxdZ_aecUBN3PnSUd06K7_lt8XrBweDg?e=acFern

- *Appendix D: Satisfaction Survey.*

User Experience Survey

We value your feedback! Please take a moment to share your thoughts about your experience using the app.

Please rate your level of agreement with each statement (*1 = Strongly Disagree, 5 = Strongly Agree*):

1. The interface was clear and easy to understand.

Mark only one oval.

1 2 3 4 5

Strongly Agree

2. I could easily imagine how to perform each task.

Mark only one oval.

1 2 3 4 5

Strongly Agree

3. The app's visuals felt calm and relaxing.

Mark only one oval.

1 2 3 4 5

Strongly Agree

4. The idea of growing memories into plants was meaningful.

Mark only one oval.

1 2 3 4 5

Strongly Agree

5. The layout and navigation felt logical.

Mark only one oval.

1 2 3 4 5

Strongly Agree

6. The icons and labels were clear.

Mark only one oval.

1 2 3 4 5

Strongly Agree

7. I would use this app to record positive moments.

Mark only one oval.

1 2 3 4 5

Strongly Agree

8. Overall, I found the design appealing.

Mark only one oval.

1 2 3 4 5

Strongly Disagree Strongly Agree

9. What did you like most about *Bloomind Garden*?

10. What felt confusing or unclear?

11. What improvements would you suggest for the next version?

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Google Forms

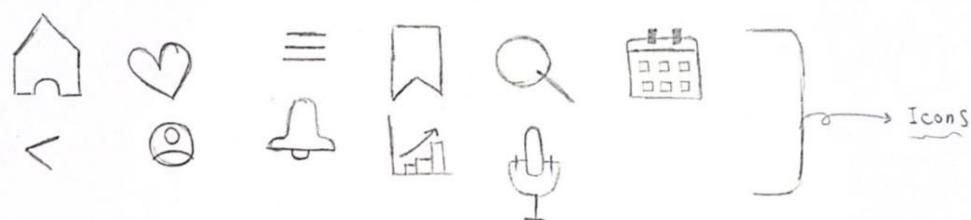
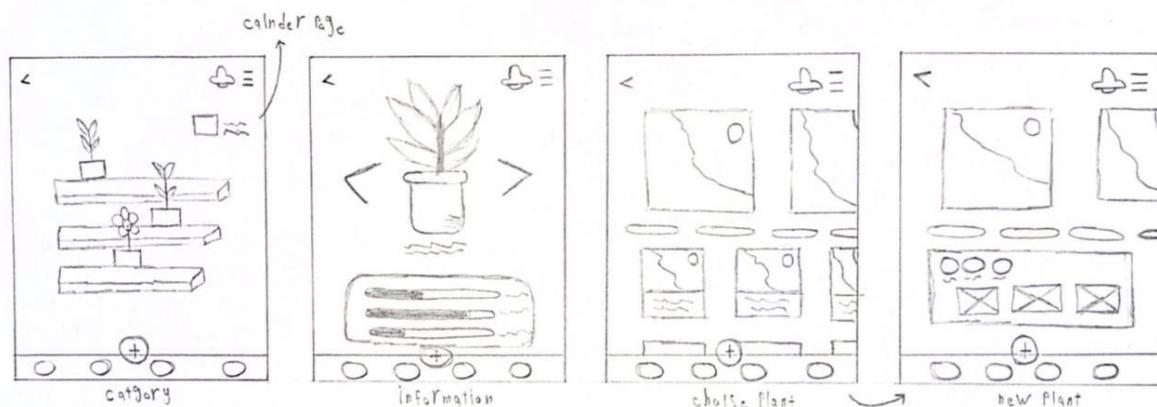
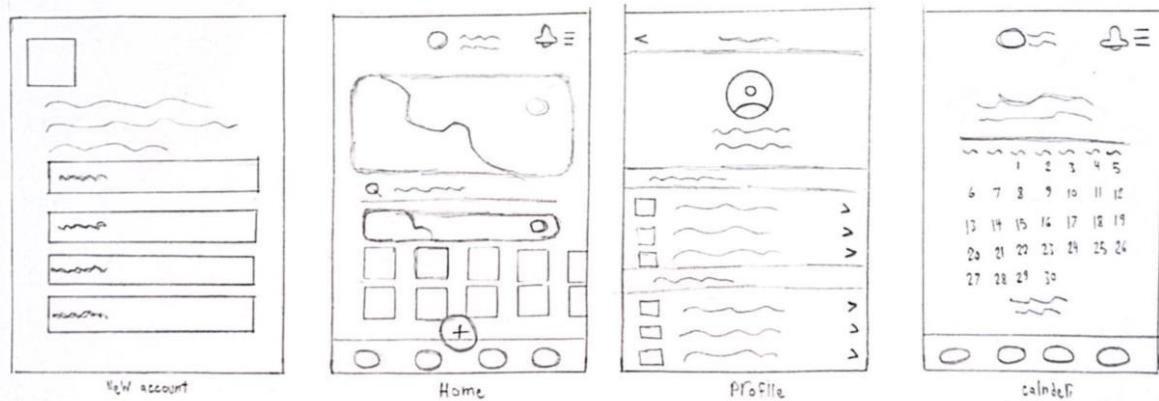
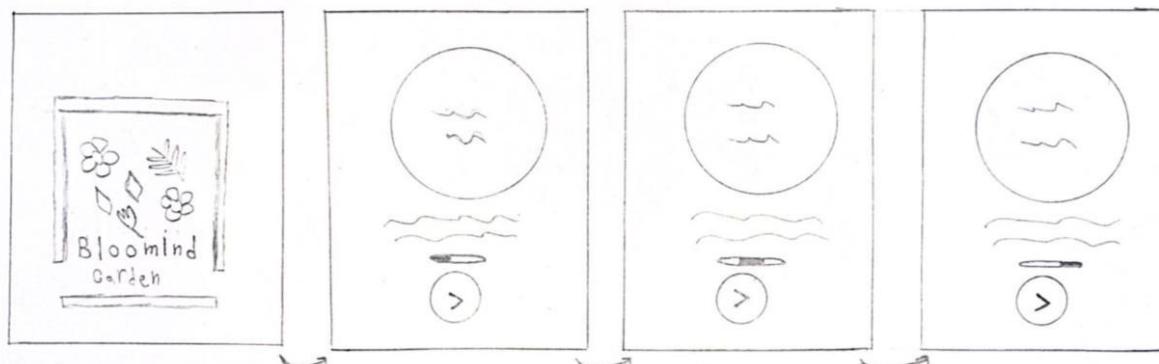
Survey results were recorded here:

<https://docs.google.com/spreadsheets/d/1CxUhZFn86FyLeQDbGX9OKyUdsBG2jzUXzOyShSGYgBk/edit?usp=sharing>

• Appendix E: Sketches.

UI design sketches

Paper Prototype Sketch



- *Appendix F: Prototype.*
-

To access the prototype:

https://www.canva.com/design/DAG4fUHTalg/XuOSUP74bhuNWSbbzYwz1A/edit?utm_content=DAG4fUHTalg&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton





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