

Dissertation Proposal: Spill - An AI-Supported Pseudonymous Platform for Mental Health Sharing and Perspective-Building

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1. Introduction:

Spill is a mobile app where users can anonymously share raw, unfiltered mental health stories under pseudonyms (ex: pillUser284). It uses AI to generate supportive insights and alternative perspectives to challenge negative thought patterns, reduce isolation, and promote mental wellness. The app grows a safe community with empathetic interactions and premium private groups (10-20 members) for daily mental health activities like meditation or journaling, where users post updates to build streaks for accountability. A freemium model offers free core features (posting, basic interactions) and premium tools (groups, unlimited follows, ad-free, mood analytics) to sustain operations while prioritizing user trust and anonymity.

Research Question: Can AI generated supportive and alternative perspectives in a pseudonymous platform for mental health stories reduce feelings of isolation, challenge negative thought patterns, and promote mental wellness by encouraging critical self-reflection?

Problem Domain: Many online mental health forums can sometimes become negative spaces where people only share similar painful feelings or give unhelpful advice. This can make users feel even more alone. **Spill** fixes this by letting people post anonymously (like *SpillUser284*) and using AI to respond

with kind, understanding messages. It offers supportive insights, different ways to look at a problem, and gentle guidance to help users feel heard and think more positively.

Hypothesis: We believe that when users see AI-generated supportive replies that offer different, positive viewpoints, they will feel less lonely, better understand themselves, have fewer negative thought patterns, and become more empathetic toward both their own and others' mental health experiences.

Business Model:

Spill uses a **freemium model** to stay sustainable.

The **free version** lets users post anonymously about their mental health, get AI-generated supportive responses, and interact in simple ways like following up to 5 users, leaving kind comments, and voting on posts. This helps build an open and caring community.

The **premium plan** (£4.99/month or £49.99/year) gives access to more support tools, such as:

- Private groups for shared experiences (for example: "*Mind Forge - a space to build mental strength*", "*Headspace Garage - The Tune-Up Room* – check in, tune up, carry on")
- Fun group challenges like "*Share a Win Wednesday*," or "*Mood Meme Battles*" that help members connect while building positive habits
- Unlimited follows
- Priority AI insights (like personal coping tips)
- Ad-free browsing
- Basic mood tracking

Spill focuses on specific **mental health communities** rather than trying to be a general social platform, helping users find structured and meaningful support.

Background / Literature Review

Online platforms where people can post anonymously have become useful for mental health support. When users don't have to reveal who they are, they feel more comfortable sharing personal problems without worrying about being

judged. This helps reduce the shame around mental health issues and makes people more open (as cited in Prescott et al., 2024). As Dawson (2015) notes in his guide on computing projects, understanding user needs and privacy concerns is crucial when developing any digital platform (as cited in Dawson, 2015). But if these platforms aren't designed carefully, they can create problems like spreading harmful ideas or trapping users in bubbles where everyone thinks the same way (as cited in Wang et al., 2024; as cited in Rader & Gray, 2015). Spill tries to solve these issues by using AI technology in two ways. First, it uses Gemini (a large language model) to give empathetic, helpful responses to users (as cited in Aduroja et al., 2024). Second, it uses OpenAI's moderation tools to keep the platform safe and prevent harmful content (as cited in OpenAI, 2024). Howard (2007) emphasizes that successful project implementation requires careful consideration of both technical capabilities and ethical implications, which is exactly what Spill aims to achieve through this dual approach (as cited in Howard, 2007). The platform focuses on providing emotional support, similar to other AI chatbots that have helped people deal with anxiety and feel heard when they're going through tough times (as cited in Abd-Alrazaq et al., 2024; as cited in Fitzpatrick et al., 2017). According to Dawson (2015), testing and validation with real users is essential to ensure the system meets its intended purpose (as cited in Dawson, 2015). Spill also includes group activities and challenges, based on research showing that when people work toward goals together and hold each other accountable, they're more likely to stick with healthy habits and feel connected to a community (as cited in Eime et al., 2023; as cited in Stawarz et al., 2015). Anonymity in online spaces further supports self-disclosure, fostering a sense of community and reducing stigma around mental health issues (as cited in Bazarova & Choi, 2014; as cited in Haimson & Hoffman, 2016). Additionally, AI-driven moderation and ethical design align with professional guidelines to ensure user safety and trust (as cited in Google, 2024; as cited in Mittelstadt et al., 2023).

Platform Features

Free Tier Features (Core Accessibility):

- Create pseudonymous accounts automatically upon app open, with a unique anonymous username (for example: SpillUser284).
- Post mental health stories anonymously, selecting from categories like 'Anxiety Share', 'Depression Vent', etc., with content up to 1000 characters.

- View a feed of posts from other users, including AI-generated supportive perspectives (e.g., empathetic user's view, supportive alternative, objective wellness observer, gentle challenge for growth).
- Engage in basic community interactions: Add empathetic comments to posts and vote (e.g., "Supportive" or "Needs Help").
- Follow up to 5 users to see their new posts in notifications.
- Receive simple push notifications for new posts from followed users.

Premium Tier Features (\$4.99/month or \$49.99/year):

- Create and join private support groups for shared mental health experiences (e.g., "Anxiety Warriors"), limited to 10-20 members for intimacy.
- Within groups, collaborate on daily mental health activities (e.g., meditation, journaling, gratitude sharing) where members post daily updates to build personal and group streaks; streaks reset after 24 hours of no update; AI provides gentle reminders and analyzes updates for encouragement.
- Unlimited follows of other users.
- Access priority AI insights, such as personalized coping suggestions.
- Enjoy an ad-free experience.
- Use basic mood tracking analytics for personal engagement.

All users benefit from AI moderation for safety, with disclaimers that the app is not a substitute for professional therapy.

3. Aim and Objectives

Aim: Develop Spill as a React Native mobile app focused on pseudonymous mental health sharing, AI-supported insights for wellness, limited community interaction including group activities, and a basic admin panel for moderation.

Objectives:

1. Implement pseudonymous authentication and persistent identities for safe sharing.
2. Build a posting system with AI-generated supportive perspectives and moderation.

3. Enable basic community engagement via empathetic comments and votes.
4. Set up simple notifications for new posts from followed users and group activity reminders.
5. Integrate premium group features, including collaborative daily mental health activities with streak tracking.
6. Create a streamlined admin web panel for content oversight and basic analytics.
7. Evaluate AI's impact on mental wellness through user metrics and surveys, focusing on isolation reduction and group activity engagement.

3.1 Business Justification

Market Need and Viability:

The UK mental health app market was worth £294.1M in 2024 and is projected to reach £734.4M by 2030 (15.8% annual growth), showing strong demand for digital mental health tools (as cited in Grand View Research, 2025). Spill fills a gap between therapy apps like Talkspace (paid sessions) and platforms like Reddit (unstructured communities) (as cited in Votta & Jurecic, 2024). It offers anonymous posting with AI support for balanced, empathetic feedback (as cited in Torous et al., 2023). Premium users get group challenges (for example, journaling streaks, mindset check-ins) that build consistency and community (as cited in Lattie et al., 2022). Spill uses a freemium model — core features are free, while premium (£4.99/month or £49.99/year) covers advanced tools. The target is 3,000 premium users in Year 1 to break even, given AI query costs (£0.01–£0.05 each) (as cited in Statista, 2025). No ads to keep trust in a personal, mental health-focused space (as cited in Graham et al., 2023).

3.2 My Research Questions and Defense

Research Questions:

1. Can AI-generated supportive messages on anonymous mental health platforms help people feel less alone and reflect more positively on themselves?
2. Do premium features like private support groups and daily activity streaks help users stick with mental health apps more than free versions?
3. Does adding smart, AI-powered insights make users feel the app is more valuable for their mental wellbeing and are they more willing to pay for it?

4. Can mental health apps use a freemium model (free basic access with paid extras) and still protect users' anonymity while staying financially sustainable?

Defense Against Potential Critiques:

- **Critique 1:** "This is just another social app with AI added." **Response:** Spill's core is mental health support via AI perspectives and group activities tailored to wellness, not generic social features backed by literature on AI for emotional aid (as cited in Fitzpatrick et al., 2017) and group accountability (as cited in Stawarz et al., 2015). User testing will show unique impact on isolation and engagement metrics.
- **Critique 2:** "AI for mental health is risky or gimmicky." **Response:** AI provides supportive, non-diagnostic insights with disclaimers; moderation ensures safety. Evaluations (ratings 3.5/5) will validate empathy-building effects (as cited in Inkster et al., 2024).
- **Critique 3:** "Premium limits accessibility in mental health." **Response:** Core features remain free; premium adds targeted support like group activities, similar to Calm's model (20% conversion; as cited in Statista, 2025). Feedback will confirm demand.
- **Critique 4:** "Privacy risks in mental health sharing." **Response:** Supabase ensures anonymity; OpenAI moderation flags harm. Ethics align with ACM (as cited in Google, 2024), with user testing for safety (as cited in Balaskas et al., 2023).

4. Methodology

Proposed Methodology:

- Agile Development: Iterative for core mental health modules, AI integration, group activities, and testing.
- Tech Stack: React Native Expo for app; Next.js + Tailwind for admin; Supabase for backend/auth/realtime; Gemini/OpenAI for AI perspectives/moderation; limited notifications via Expo Push.
- User Testing: Beta with 20–30 users focused on mental health.

- Evaluation: Quantitative (for example, isolation scores pre/post, engagement, streak completion rates) and qualitative (surveys on wellness impact). **Why Suitable:** Reduced scope minimizes work; free tools fit dissertation; AI handles wellness insights and group monitoring efficiently.

5. Implementation

Implementation Plan:

▼ **Phase 1 (Weeks 1–2): Supabase schema & auth; pseudonymous setup.**

Start by designing the database schema in Supabase and setting up secure authentication. Users will log in anonymously, using pseudonyms to protect their identity while still allowing personalized experiences.

▼ **Phase 2 (Weeks 3–4): Post creation & feed; AI display under posts.**

Build the core posting feature so users can share thoughts or questions. Under each post, AI-generated supportive perspectives will be displayed—offering empathy, reflection, or encouragement.

▼ **Phase 3 (Weeks 5–6): AI integration for perspectives and moderation.**

Integrate large language models to generate responses and moderate content. This ensures the platform remains emotionally safe and supportive, even in anonymous settings.

▼ **Phase 4 (Weeks 7–8): Basic interactions (comments, votes), simple follows, group creation basics.**

Add basic interaction features like comments, upvotes, and simple follow mechanics. Begin building group functionality so users can join wellness-focused spaces with shared goals.

▼ **Phase 5 (Weeks 9–10): Notifications for followed posts and group reminders; group activity streak tracking.**

Implement notifications for followed posts and group updates. Introduce streak tracking for group activities encouraging consistent engagement and habit formation.

▼ **Phase 6 (Weeks 11–12): Basic admin panel.**

Create a lightweight admin dashboard to manage flagged content, user reports, and group oversight. This helps maintain platform integrity and

safety.

▼ **Phase 7 (Weeks 13–14): Test, refine; dissertation.**

Conduct user testing, fix bugs, and polish the experience. Finalize documentation and reflect on the build process for your dissertation submission

Core Modules Overview

1. User Authentication

Users join anonymously, with pseudonyms generated automatically. This protects privacy while still allowing personalized experiences and community participation.

2. Posting & AI Perspectives

Users can share thoughts, questions, or reflections. Each post is paired with an AI-generated wellness perspective offering empathy, encouragement, or insight based on the content shared.

3. Community Interaction

Positive comments and voting options like "Supportive" or "Needs Help" allow users to engage meaningfully. All interactions are focused strictly on mental health topics to maintain emotional safety.

4. Follow System

Users can follow others to stay connected with posts that resonate. This helps build a sense of continuity and community without compromising anonymity.

5. Notifications

AI-time alerts keep users informed about new posts from people they follow and updates from their groups. AI also sends gentle reminders to maintain streaks and stay engaged.

6. AI Moderation

Tools help flag harmful content and assign a wellness score to posts. This ensures the platform remains safe and constructive, even in anonymous settings.

7. Group Activities (Premium Feature)

Users can join small, private groups (10–20 members) focused on daily wellness challenges. Members post updates to build streaks, and AI offers

encouragement based on their progress. A dashboard shows streaks, charts, and daily prompts to keep motivation high.

8. Admin Panel

The admin interface allows for moderation, analytics, and group oversight. It helps maintain platform integrity and ensures that community standards are upheld.

6. Testing / Evaluation

Evaluation Methods:

- Quantitative:

AI relevance ratings: Users will rate how well the AI responses match their emotional needs or context.

Engagement metrics: Includes number of comments, average session duration, and streak lengths in group activities.

Isolation surveys: Pre- and post-use surveys will assess changes in users' feelings of isolation.

- Qualitative:

User feedback: Open-ended responses will capture how users feel about the platform's impact on their mental wellness.

Case studies: Selected group interactions will be analyzed to understand how daily challenges and peer support influence behavior and mood.

- Success Criteria:

To consider the project successful, the following benchmarks will be aimed for:

- AI relevance: Over 85% of responses rated as emotionally appropriate or helpful
 - User ratings: Average feedback score above 3.5 out of 5
 - Session time: Users spend more than 8 minutes per session on average
 - Isolation impact: Over 50% of users report feeling less isolated after using the app
 - Streak consistency: Average group activity streak exceeds 7 days
 - System stability: Platform uptime and reliability above 99%

7. Professional, Social, Economic, and Legal Issues

Social: Fosters mental wellness through groups and activities; moderation prevents harm. **Disclaimers:** Not therapy. **Legal:** Anonymity protected; T&Cs emphasize user responsibility. **Economic:** Low costs (£20–50) via free tools. **Professional Guidelines:** ACM Ethics; responsible AI (as cited in Google, 2024); wellness-focused disclaimers (as cited in Balaskas et al., 2023).

8. Resource Requirements

- **Software:** React Native/Expo, Next.js/Tailwind, Supabase, Gemini/OpenAI APIs.
- **Hardware:** Laptop.
- **Costs:** £20–40 APIs, £10 domain.
- **Time:** 260–300 hours dev, 30 testing, 50–70 dissertation (14 weeks).

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Appendix 1 – Project Gantt Chart

Week	Task	Deliverable
1–2	Supabase & auth	Pseudonymous setup
3–4	Posting & feed	Basic sharing
5–6	AI integration	Perspectives/moderation

Week	Task	Deliverable
7–8	Basic interactions & groups	Comments/votes/follows/groups
9–10	Notifications & activities	Alerts/streaks
11–12	Admin panel	Oversight
13–14	Testing & dissertation	Final app/report

Feature

1. Vent Mode / Disappearing Posts(done)

- Time-limited posts (disappear after 24h) for when you need to get something out but don't want it permanent
- "Burn after reading" style for raw, unfiltered venting

2. Mood Check-In Widget& Gratitude Jar(partially)

- Save positive moments/wins in a private collection
- Animated jar fills up as you add more
- Shake phone to see a random past gratitude
- Shows personal mood trends over time (graph/calendar heatmap)

3. Anonymous Polls

- "Does anyone else feel...?" quick polls
- See you're not alone with real-time voting
- Categories match your post tags

Medium Effort (More Engaging)

6. Gratitude Jar

- Save positive moments/wins in a private collection
- Animated jar fills up as you add more
- Shake phone to see a random past gratitude

7. Buddy System

- Opt-in peer matching based on shared struggles
- Accountability pairs for streaks
- Weekly check-in prompts

9. Community Challenges

- Weekly themes ("Self-Care Sunday," "Motivation Monday")
- Leaderboards for positive actions (not competitive, just visible progress)
- Collaborative goals (e.g., "Let's meditate 1000 minutes together this week")

10. Coping Cards / Resources

- Swipeable deck of coping strategies
- Save favorites
- Community can submit their own techniques

Premium-Tier Ideas

11. AI Therapy Prompts

Anonymous Matching

- "Find someone like me" - anonymous 1:1 matching based on struggles

- Timed conversations (30 min windows) for safety
- Option to extend or end gracefully
- Personalized reflection questions based on your posts/mood
- "It seems like you're feeling X, have you tried Y?"
- Weekly summaries with insights

12. Private Audio Rooms

- Live group voice chats (like Clubhouse but mental health focused)
- Scheduled sessions: "Nighttime Anxiety Hour," "Morning Motivation"

13. Playlist Integration

- Mood-based music sharing
- Spotify/Apple Music embeds in posts
- Community playlists per group

14. Progress Dashboard

- Visual analytics: mood trends, streak stats, engagement over time
- Exportable reports (good for therapy sessions)

The "Wow" Features

15. Moment Capsules

- Write a letter to your future self
- Gets delivered 1 month/6 months later
- Can include photos, voice notes

17. Trigger Warnings & Content Filters

- Users can tag posts with triggers
- Custom filter settings ("hide posts about X")
- Shows masked "potentially triggering content" with option to reveal

20. Reflection Threads

- AI prompts you weekly: "Last Tuesday you said X, how do you feel about it now?"
- Shows growth over time
- Can share reflections with groups or keep private

Which of these vibe with your vision? I'd personally prioritize:

- Mood check-ins + trends (foundational, drives engagement)
- SOS quick actions (literally life-saving)
- Vent mode (unique selling point)
- Buddy system (creates real connections)