Business Case – Untangle

Market & Rationale

1.1 Market for the project

Rates of anxiety, depression, and stress-related disorders continue to rise globally, with young adults especially affected (WHO, 2023). In Germany, for example, the number of days lost due to mental health issues has doubled in the last ten years (IGES Institut, n.d.). The perceived stress levels among the population have also increased significantly. In 2021, around two-thirds of Germans were sometimes stressed and a quarter were frequently stressed. Compared to 2013, the proportion of people who are frequently stressed has risen by 30% (TK, 2024). Similar trends can also be seen worldwide: In the US, for example, nearly 20% of adults reported mental illness in 2022, with the number increasing each year (Research and Markets, 2025). At the same time, awareness of mental health has increased significantly in recent years. With Covid-19, acceptance of digital and self-guided offerings has also grown considerably. Accordingly, there is an upward trend in the market for digital mental health offerings:

- The global digital mental health market is projected to grow from USD 27.56B (2025) to USD 50.45B (2029) (CAGR 16.3%) (Research and Markets, 2025).
- North America currently accounts for over 50% of digital mental health technology adoption.

With the rapid development of technology, the global market for AR is also growing explosively:

- Global AR market: USD 93.67B (2024) → USD 140.34B (2025) → USD 1.7T (2032) (CAGR 43%) (Fortune Business Insights, 2025).
- AR in healthcare: USD 4.04B (2025) → USD 18.38B (2034) (CAGR 18.38%) (Precedence Research, n.d.)).

At the same time, the general trend in the field of digital mental health is increasingly moving toward customizable tools, gamification, and the integration of clinical evidence (Kentucky Counseling Center, 2025). The market is moderately to highly competitive, with the presence of a diverse mix of players ranging from large tech giants and healthcare platforms to startups and specialized mental health providers. Digital tools for mental health are becoming increasingly popular, with mood and habit tracking apps racking up millions of downloads on app stores, and there is a rising trend of people turning to AI systems for emotional support (see study in the Harvard Business Review; therapy/emotional support reached the top use). Many users apply these systems to organise the emotional world, using systems like ChatGPT for journaling, self-reflection, understanding external situations, and refining reactions and emotional regulation in the self. This shows a demand for accessible guidance, but current systems often provide comfort without helping users build long-term regulatory skills, and often miss the embodied and experiential aspects that shape how emotions are understood and experienced. HCI research identifies a growing need for technologies that integrate sensory engagement, spatial interaction, and reflective structure, for example in the way that immersive environments can produce stronger emotional presence than flat interfaces.

At the moment, the competitive landscape shows isolated research projects (e.g., VR journaling prototypes) and general VR wellbeing apps, but no established player offering an integrated ‘emotion embodiment + journaling + XR’ solution for everyday use.

In summary, the following opportunities arise for our project on the market:

- Rising global demand for scalable emotional wellbeing tools
- Strong user acceptance for supportive AI + XR experiences
- Growing unmet need for mental health prevention
- Lack of direct competitors offering “emotion embodiment + journaling + XR”

1.2 PESTEL Analysis

Factor	Key Impact
Political	Political pressure to reduce healthcare costs increases interest in scalable digital prevention tools
Economic	Rising costs of mental illness for employers; large digital health budgets; economic downturn increases demand for affordable, scalable solutions
Social	Growing mental health awareness; reduced stigma; digital-native generations expect gamified emotional support; loneliness and stress increasing
Technological	Growing adoption of AR/VR hardware (Meta Quest, Apple Vision); AI advancements make personalization possible; cloud infrastructure affordable
Environmental	Preference for digital over physical interventions; reduced need for travel to clinics supports sustainable healthcare
Legal	Increasing data privacy regulation (GDPR); mental health data classified as highly sensitive; ethical AI standards required; safety requirements for immersive content

1.3 Target Groups

Primary Target Group: Digitally fluent young adults (18–25)

- Young adults are the strongest early adopters of self-help apps, wellbeing tools, and immersive technologies. They regularly use emotional self-tracking, AR filters, and subscription apps.

Secondary Target Group: Emotionally overloaded adults (25–45)

- Non-clinical emotional stress, helping them in their support of themselves

Secondary Target Group: Creative & reflective individuals

- People who already use journaling or creative self-reflection, and want a new way to visualize their emotional space.

Tertiary Target Groups (B2B/B2B2C)

- Corporate wellbeing programs
- Universities & colleges to aid in student support

Security and Compliance Considerations

- GDPR-compliant data governance
- End-to-end encrypted journal storage
- No commercial use of emotional data
- Psycho-safety design: exit gesture, cooldown spaces
- No diagnosis, no clinical claims, but a note to users that they should seek professional help if they consistently feel bad over a longer period of time
- Transparent AI behavior (explainable and limited)

Implementation Plan

Phase 1 (4–6 weeks): Research, emotion framework, UX prototype

Phase 2 (12–20 weeks): MVP development

Phase 3 (4–8 weeks): Pilot test

Phase 4 (4 weeks): Optimization + launch

Cost Estimate (CAPEX / OPEX)

CAPEX

Category	Estimation (EUR)
Technical Development	342,500 – 692,000
Psychology & Ethics Consulting	27,700 – 70,600
Security & Data Protection (initial)	32,000 – 75,000
Total CAPEX	402,200 – 837,600

The CAPEX values are based on industry benchmarks for AR/VR development, mobile app engineering, AI/NLP integration, cybersecurity setup, and professional psychological and ethical consulting. The technical development block (342,500–692,000 €) reflects consolidated hourly-rate estimates for XR developers, full-stack engineers, UX designers, QA testers, and infrastructure specialists, aligned with typical market compensation levels and average development effort for immersive, AI-enhanced applications (Bhardwaj, C., 2025; Agarwal, N., n.d.). Psychology and ethics consulting costs (27,700–70,600 €) were calculated using standard hourly compensation rates for licensed psychologists, clinical psychologists, psychiatrists, and ethics advisors (Bundesagentur für Arbeit, 2017; Gehalt.de, n.d.; jobvector, 2025). Security and GDPR investments (32,000–75,000 €) reflect common practices recommended by cybersecurity and data-protection authorities for encryption, system hardening, security architecture, and penetration testing (Columbus, L., 2024).

OPEX

Category	Estimation (EUR)
Cloud, Hosting, AI APIs	30,000–70,000
Maintenance & Technical Development	80,000–150,000
Content Updates	40,000–90,000
Psychological & Ethical Review	15,000–35,000
Cybersecurity Monitoring	20,000–55,000
Marketing	40,000–150,000
Total OPEX	225,000–550,000 €

The OPEX estimates are derived from established cost ranges for operating and maintaining digital wellbeing platforms that rely on cloud infrastructure, AI services, immersive content, and sensitive user data. Cloud, hosting, and AI processing costs (30,000–70,000 €) reflect typical expenses for compute resources, storage, data transfer, and NLP-based inference workloads (All about security, 2025). Maintenance and iterative development (80,000–150,000 €) follow the common industry practice of allocating roughly 15–25% of the initial development effort to annual updates, quality improvements, and feature enhancements. Content creation costs (40,000–90,000 €) reflect the continuous production of AR/VR scenes, visual assets, and micro-interventions (Bhardwaj, C., 2025; Agarwal, N., n.d.). Ongoing psychological review (15,000–35,000 €) ensures that new content adheres to psychological safety principles and remains appropriate for non-clinical emotional wellbeing support (Bundesagentur für Arbeit, 2017; Gehalt.de, n.d.; jobvector, 2025). Cybersecurity monitoring (20,000–55,000 €) covers system logging, audit routines, security scanning, and regular penetration tests, as recommended by cybersecurity standards (Columbus, L., 2024). Marketing (40,000–150,000 €) reflects typical acquisition and retention costs for wellbeing apps, based on common cost-per-install ranges and monthly campaign budgets (King, M., 2025).

Revenue Forecast (Medium Growth)

Subscription: € 9.99/month

Year	Number of users	Sales (EUR)
1	5,000	599,400
2	15,000	1,798,200
3	30,000	3,596,400
4	54,000	6,481,000
5	81,000	9,725,100

ROI & Break-even

Assumptions:

CAPEX: €600,000

OPEX (Year 1): €300,000

Revenue (Year 1): €599,400

Result:

Profit Year 1: ~€299,000

Break-even: between Q1 and Q2 of the second year

ROI from mid-year 2

From year 3: scalable growth & high margin

2 Benefits / Impacts on Users

Enhanced emotional awareness

By writing about daily experiences and revisiting them in immersive VR/AR environments, users gain a clearer understanding of their emotional patterns.

Engaging and meaningful reflection

Instead of traditional text-only journaling, users interact with their emotions through dynamic VR/AR “boxes” that gently remind them of their experiences and guide them through structured reflection. This keeps the process motivating and experiential.

Support for stress management and everyday wellbeing

Short guiding questions, grounding activities, and reflection prompts help users pause, breathe, and handle daily challenges with more clarity.

Safe space to explore emotions

The VR/AR scenes create a controlled, gentle, and non-judgmental environment where users can interact with stylized emotional metaphors, making difficult feelings more approachable.

Not a therapy replacement — but a supportive companion

The app is designed *not* to diagnose, treat, or replace psychotherapy.
Instead, it serves as:

- a personal reflection tool
- a daily emotional companion
- a way to stay connected to oneself
- a playful and accessible extension of everyday wellbeing

3 Risks

Risk: XR is still an emerging segment; users might be hesitant to adopt a VR/AR wellbeing tool.

Impact: Lower-than-expected revenue, delayed ROI.

Risk: Different phones/VR headsets perform differently.

Impact: Reduced quality on low-end devices.

Risk: Data breach of journal entries → highest risk category.

Impact: Severe reputational damage, legal consequences, user loss.

Risk: Some users may interpret reflective prompts as clinical guidance.

Impact: Ethical issues, legal liability.

Risk: Revisiting emotional events may overwhelm users.

Impact: Dropouts or negative emotional experiences.

Risk: New guidelines may impose stricter rules on wellbeing apps.

Impact: Additional compliance costs.

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