

Poetic Dwelling: A Study on the Design of a Cross-Border Loneliness-Relieving App for International Students under the Site-Ontology Framework

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Abstract : In the folded field of cross-border, cross-time zone, and cross-cultural interaction, the loneliness of international students is no longer merely an internal psychological symptom, but rather an ontological dislocation event caused by the rupture of the three-dimensional relationship network of people, place, and time. It signifies a temporary failure of the theoretical contract between the individual and their inhabited world—familiar modes of being-in-the-world are suspended, and new modes of dwelling have not yet been established. This paper introduces field ontology as the core analytical lens, understanding loneliness as a temporary loss of a specific place spirit, that is, the individual's inability to effectively respond to symbolic systems from different fields within the folded, heterogeneous space. This paper proposes and employs a hybrid framework integrating weight, context, and multi-sensory fusion. This framework captures the dynamic nature of loneliness as a field phenomenon through hierarchical analysis and three-dimensional construction using the KANO-AHP method. Finally, it conducts research on the design of a loneliness-comforting app specifically for the international student population.

Keywords: Loneliness relief for international students; Field ontology; Hermeneutics; KANO-AHP; Multisensory interaction

1 Introduction

Heidegger (Richardson, 2012) said that existence (Salmon, 1987) is in the solitude of the abyss (Buchholz et al., 2022) . International students are a group of cross-cultural learners undergoing identity transformation and environmental and cultural shifts (Zarichanskyi et al., 2024) . They experience cultural conflicts and spiritual struggles that most people cannot comprehend. Carrying the genes of their native culture and a desire to explore the unknown world, they are like the Dasein (Onwuatiegwu, 2022) (Hegel, 2021) in Heidegger's philosophy, forced to confront the alienation and loneliness of being thrown into a foreign land.

This loneliness is not merely geographical separation from home, but also existential anxiety encountered amidst the rupture of language, customs, and value systems—when familiar symbolic systems fail and the coordinates of self-awareness begin to waver, they must re-answer the fundamental question of Who am I? in the cultural cracks. Academic pressure, financial burdens, and the ambiguity of identity surge like undercurrents, while the carefully crafted narratives of study abroad life on social media often starkly contrast with the individuals' true spiritual predicaments, making the loneliness deepen in silence.

Therefore, emotional support design for this group should not be limited to

providing instrumental solutions, but should also respond to this existential loneliness—by creating ritualistic spaces for emotional recording, building cross-cultural narrative communities, and introducing emotional guidance based on existential philosophy, to help international students build bridges of meaning in the abyss and transform loneliness into an opportunity for self-reconstruction. Only in this way can technological intervention reach the root of the spiritual struggle and become a support system for poetic dwelling in cross-cultural adaptation.

2 Research Background

2.1 Site-Ontology

Site-ontology is a philosophical approach that critiques and transcends traditional entity-based ontology. It was proposed and developed by contemporary philosophers such as Alain Badiou and scholars deeply influenced by him. Its core claim is that the essence of existence is not constituted by stable, pre-existing entities (such as objects or subjects), but rather by a dynamic, event-driven field and the relationships and operations within it. The field is not a simple background or container, but a structured, differentiated network of relationships or operational space. It defines possibilities, rules, discourses, and power relations.

Existence is a product of relationships. A field possesses relationality. In the political field, the identity of a citizen is not innate but defined by various networks of relationships. A field is not static or eternal. A field possesses eventuality; it is created, interrupted, or reconstructed by events. A revolutionary event can break down the old field structure, creating a new field and giving birth to new things and new types of subjects within it. There is no single, all-encompassing capitalized existence. A field possesses multiplicity; existence is a collection of multiple fields. A thing will present completely different appearances of existence in different fields.

The subject is not the starting point of thought or action. The subject is a latecomer; it is a product summoned in a specific field through intervention in events. For example, a revolutionary subject does not exist prior to the revolution, but is shaped in the process of engaging in revolutionary practice.

2.2 Field, event, subject identity

The international student community possesses a diverse and overlapping sphere; they simultaneously occupy multiple spheres, each with its own logic, capital, and rules.

In the academic sphere, international students may be marginal participants or intermediaries in cross-cultural knowledge exchange. In the socio-economic sphere, they may be consumers, laborers, or expanders of social networks. In the cultural and social sphere, the rules are different cultural norms, social etiquette, and language

practices; the capital is cultural familiarity, language proficiency, and social networks. In this sphere, international students often occupy a hybrid position of cultural translator or outsider. Their subjectivity arises from the tension and negotiation at the boundaries of these spheres.

To understand anything or anyone, one cannot look at its essence in isolation, but must analyze the structure, history, rules, and ongoing events of the specific field in which it is embedded. Changing something often means changing the field in which it exists, or triggering a groundbreaking event within that field.

2.3 The loneliness of studying abroad

The existence of emotions associated with studying abroad stems from the influence of the study environment on students' emotions, thus generating unique feelings. Loneliness is a core and symptomatic emotion among these emotions. This loneliness stems from an emotional dislocation of subjectivity between different study environments. This loneliness is not simply homesickness or a lack of friends, but a deep anxiety arising from an ontological displacement and suspension.

The failure of the belonging coordinate system means that within a singular, stable cultural field, the individual's subjectivity—Who am I?—is provided by a relatively coherent narrative and belonging coordinate system provided by that field. International students, however, are thrown into an unfamiliar, heterogeneous field, attempting to cultivate and summon a different self. Loneliness arises from the inability to integrate this original self with the newly summoned self into a unified whole. International students cannot fully belong to either, thus experiencing a pervasive yet rootless sense of drifting.

The generation and expression of emotions are deeply rooted in cultural contexts. When profound emotional experiences, such as the frustration after setbacks or the joy of success, are translated across different contexts, they generate enormous cognitive and emotional energy consumption. The stagnation and exhaustion of emotional translation lead to the flattening of emotions. Describing homesickness to a close friend may fail to evoke resonance due to a lack of shared cultural reference, resulting in emotional isolation. This continuous labor of emotional translation, along with its inevitable wear and tear and misunderstandings, constitutes the deep-seated texture of loneliness—a solitude that is heard but not truly understood.

2.4 Significance of the study

This study introduces a philosophical analytical framework encompassing ontology, epistemology, and axiology, breaking through the limitations of a single perspective in traditional emotion research. From an ontological perspective, it clarifies the essential existence and constituent dimensions of emotions related to

studying abroad; from an epistemological perspective, it analyzes the cognitive patterns of emotions among international students; and from an axiological perspective, it explores the multifaceted value of emotion regulation. This constructs a three-in-one theoretical system for the study of emotions among international students, integrating existence-cognition-value, providing a new analytical paradigm for cross-cultural emotion research.

Based on research, we accurately grasped the core pain points and needs of international students' emotions, and designed a professional app that integrates emotion monitoring, cognitive guidance, and value empowerment. This app provides international students with highly accessible and targeted emotion management tools, helping to improve the quality of study abroad services and promote the healthy physical and mental development of international students.

3 Emotional support design for international students

3.1 From Intervention to Co-occurrence – Building a Sense of Presence

Loneliness is essentially a structural product of cross-cultural survival. The goal of design is not to eliminate loneliness, but to help international students find affirmation of existence and an anchor of meaning within it. On this existentialist foundation of loneliness, design aimed at providing emotional support to international students is given a deeper mission. It should not merely be a remedy for superficial anxiety, but a companion on their existential exploration across cultural divides. Design should be a dynamic, responsive mirror of existence, reflecting and reconstructing their subjectivity.

This app is not an emotion management tool, but an emotional refuge. Its significance lies not in improving emotions, but in acknowledging the inherent chaos of international students' emotions and their sense of cultural alienation. This stance determines all subsequent design decisions. The aim of this study is to deeply understand the emotional experiences of international students in specific circumstances. The meaning of this emotional refuge cannot be observed with value neutrality, but must be approached with hermeneutic sensitivity.

3.2 Survey of International Students under Interpretive Perspective

International students embody the extreme manifestation of Heidegger's philosophical concept of being thrown. They are thrown into a completely heterogeneous world, which refers to a pre-existing, unfamiliar set of languages, customs, social rules, and daily practices.

Their original mode of being suddenly becomes ineffective. Their familiar mother tongue becomes unusable, and the world transforms from a welcoming home into an

other requiring strenuous interpretation. This fundamental ontological insecurity and disorientation is the deep-seated soil of loneliness.

The ontological stance of international students' emotional dwelling possesses temporality and unreadableness. It requires an interpretative research paradigm. To understand the intrinsic meaning, experiential structure, and generative process of emotional dwelling, a deep understanding, interpretation, and dialogue are needed to enter the participants' world of meaning. This paper's research question has already been chosen philosophically—it inherently demands a path of understanding rather than measurement, interpretation rather than verification. It meticulously analyzes international students' emotions from the philosophical perspective of experience and interpretation. Phenomenology requires us to suspend all presuppositions, return to the things themselves, and describe the vivid experience that precedes understanding. The hermeneutic paradigm focuses on the understanding and interpretation of meaning, which is the core of interpreting experience.

When studying the emotions of international students, phenomenology requires us to suspend the psychological judgment that loneliness is a negative emotion; to suspend the sociological theory that culture conflict leads to maladaptive behavior; and to suspend the statistical labels defining the characteristics of the international student group. Through suspension and restoration—clearing the way for unreadable experiences—loneliness, before becoming a story to be told, may be a physical feeling: such as the sudden feeling of speechlessness in a noisy supermarket; or the fleeting emptiness in one's heart as the light shifts in a dormitory in the afternoon. Homesickness may precede the thought of being home, manifesting as an unconscious pursuit of a certain smell, or the muscle memory-like anxiety of swiping across a phone screen searching for a familiar face. Phenomenology focuses on pre-reflective experiences, the raw feelings before we categorize, interpret, or narrate them. Phenomenology trains researchers to capture these subtle, almost below-the-radar perceptions, which are the most authentic sources of emotional dwelling.

Phenomenology offers a pure description that returns to the experience itself, while hermeneutics places experience within the flow of understanding, interpreting its deeper meaning. Hermeneutics transforms experience into comprehensible text and allows for the fusion of perspectives from different international students and cultural backgrounds, thereby generating a deeper shared understanding.

3.3 Hermeneutic-Phenomenological Research Approach to Emotional Dwelling

This study combines in-depth interviews and questionnaire surveys to analyze the loneliness and app functionality needs of international students. The first step involved an in-depth interpretive interview with one international student. In this semi-structured interview, descriptive questions beyond phenomenology were used to guide the student into a search for meaning. For example, questions included: Has

your study abroad experience changed your self-perception? and If you were to give a metaphor for loneliness, what would it be? The interviewer paid attention to metaphors, narratives, and contradictions, such as comparing oneself to an ignorant child groping in the dark. They also noted any breaks or contradictions in the story, which are often key points in the student's emotional struggle.

The questionnaire survey focused on analyzing the complex composition of international students' emotions, verifying the psychological burden and changes that studying abroad brings to most students. It listed numerous emotional support needs, allowing international students to prioritize based on their subjective feelings. A total of 11 questionnaires were collected, primarily from master's and doctoral students aged 22-30, with durations of stay in the UK ranging from two months to two years.

3.4 Data Analysis

This data includes 5 men and 6 women, aged 18-40. Their recent emotional data were tested, and they rated their emotions from 1 to 5, including loneliness, anxiety, happiness, stress, frustration, homesickness, calmness, and satisfaction. The overall data results are shown in Figure 1.

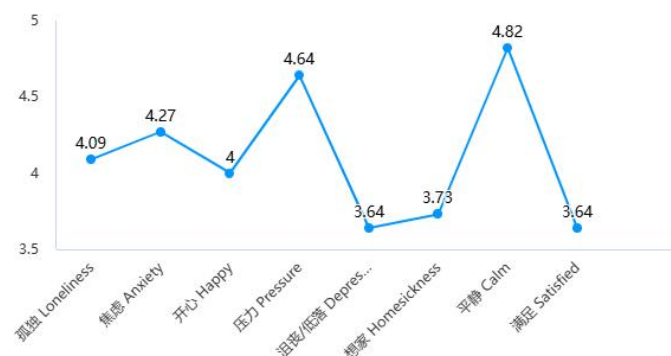


Figure 1. Various emotional indicators of international students

A survey on factors that most easily trigger negative emotions in international students studying in the UK found that most people identified financial stress (72%), academic stress (72%), and language barriers (63%) as the main sources of negative emotions. The overall data is shown in Figure 2.

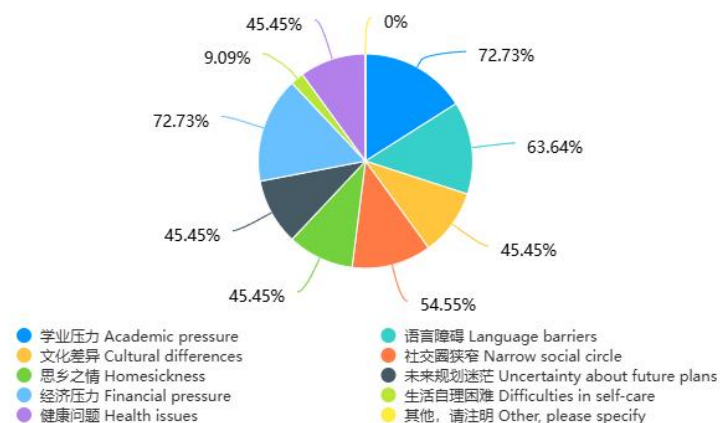


Figure 2. Various emotional indicators of international students

Analysis revealed that academic and financial pressures were the primary sources of negative emotions among international students. Although the overall average mood during their studies improved compared to before going abroad, negative emotions such as anxiety and stress remained significant. Regarding coping mechanisms, respondents heavily relied on self-help methods such as listening to music, watching movies, and exercising, as shown in Figure 3. The proportion using professional mental health apps was extremely low, indicating a clear gap in this market. In terms of functional needs, access to professional psychological counseling appointments and personalized emotion regulation program recommendations were considered core requirements; meanwhile, basic health management functions such as sleep improvement guidance and emotion tracking were also widely anticipated. In terms of interface style, a simple and clean design was the most favored.

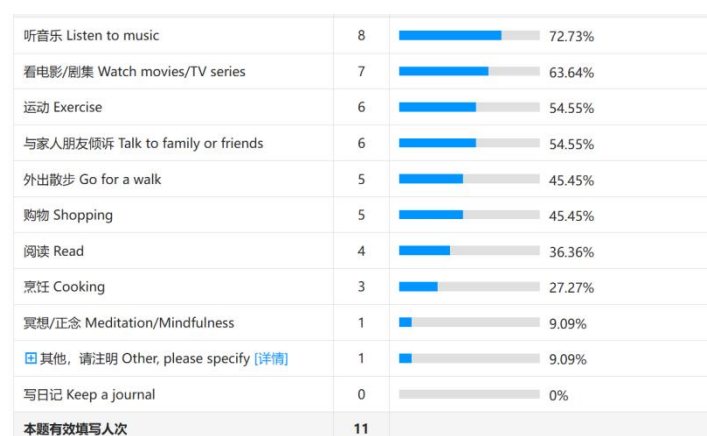


Figure 3. Statistics on international students' methods of regulating emotions

An effective emotional support app for international students should have the following features: integrating two core modules, namely bedtime emotional guidance and a community support specifically for international students, as shown in Figure 4, 5 and incorporating auxiliary tools such as recipe management and emotional recording. Finally, it should be presented through a simple and refreshing user interface to truly meet the specific psychological support needs of international students in a foreign environment and improve their emotional well-being and adaptability.

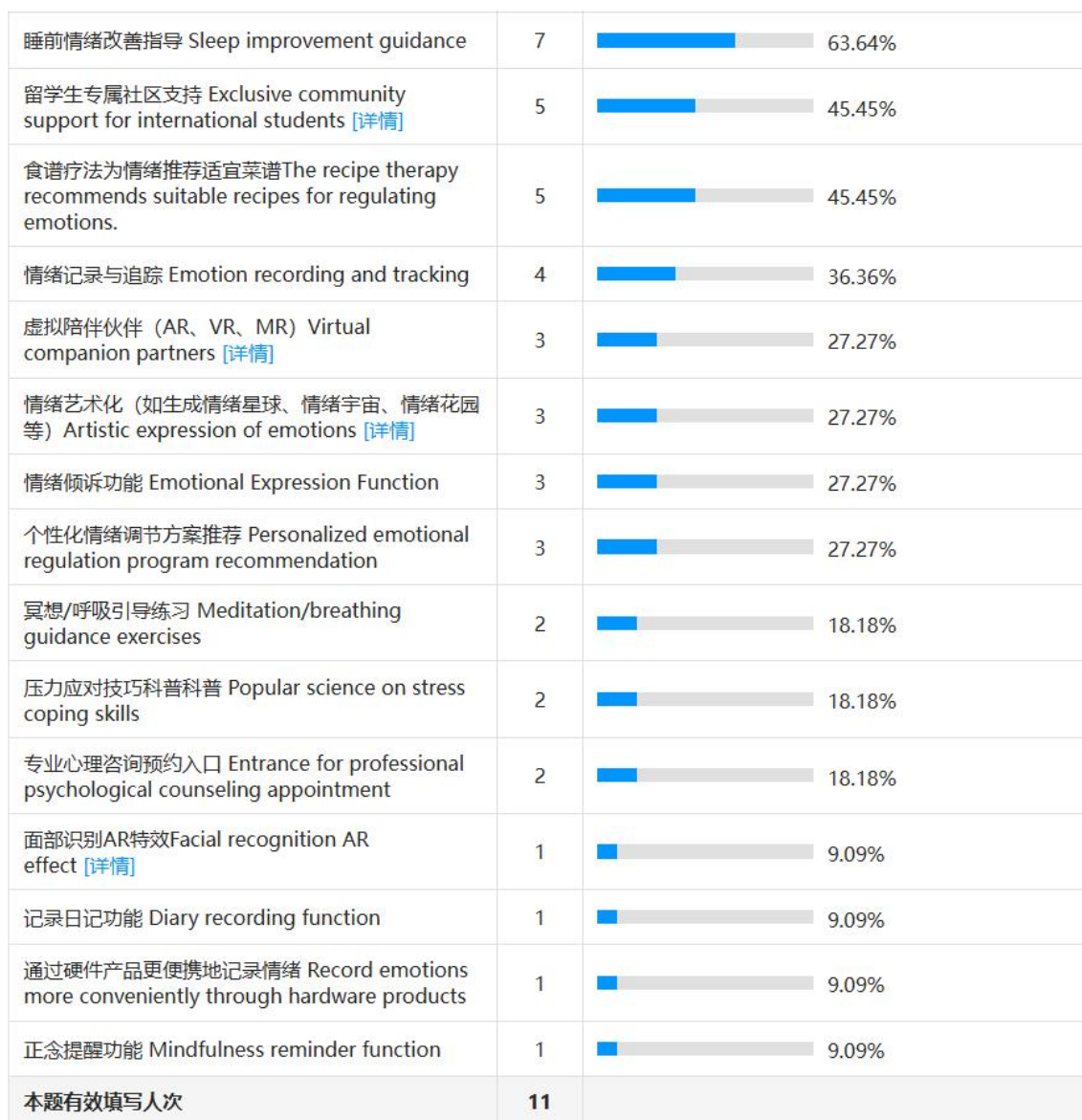


Figure 4. Functional Tendencies of Emotional Support Apps for International Students

情绪记录与追踪 Emotion recording and tracking	5.82	4(57.14%)	0(0%)	3(42.86%)	0(0%)	0(0%)	0(0%)	0(0%)
留学生专属社区支持 Exclusive community support for international students	5.55	3(37.5%)	2(25%)	0(0%)	1(12.5%)	0(0%)	0(0%)	0(0%)
留学生交友指导	5.36	0(0%)	2(22.22%)	4(44.44%)	0(0%)	0(0%)	1(11.11%)	0(0%)
睡眠改善指导 Sleep improvement guidance	4.36	1(14.29%)	2(28.57%)	1(14.29%)	1(14.29%)	0(0%)	0(0%)	1(14.29%)
冥想/呼吸引导练习 Meditation/breathing guidance exercises	4.27	2(33.33%)	1(16.67%)	0(0%)	1(16.67%)	1(16.67%)	1(16.67%)	0(0%)
个性化情绪调节方案推荐 Personalized emotional regulation program recommendation	4	1(20%)	2(40%)	2(40%)	0(0%)	0(0%)	0(0%)	0(0%)
压力应对技巧科普 Popular science on stress coping skills	3.36	0(0%)	2(40%)	0(0%)	1(20%)	2(40%)	0(0%)	0(0%)
正念提醒功能 Mindfulness reminder function	1.82	0(0%)	0(0%)	1(33.33%)	1(33.33%)	0(0%)	1(33.33%)	0(0%)
专业心理咨询预约入口 Entrance for professional psychological counseling appointment	1.82	0(0%)	0(0%)	0(0%)	0(0%)	2(50%)	0(0%)	2(50%)
其他 others	0.73	0(0%)	0(0%)	0(0%)	1(50%)	0(0%)	0(0%)	0(0%)

Figure 5 Function weight of the emotional support app for international students

4 APP architecture

4.1 Functional Design

Based on requirements analysis, the functional architecture is constructed with :

- (1) Emotion Monitoring Module: Provides emotion diary, emotion assessment, and emotion trend analysis functions to accurately capture the user's emotional state.
- (2) Cognitive Guidance Module: Helps users correct cognitive biases through emotion popularization, attribution training, and cognitive reconstruction courses。
- (3) Value Empowerment Module : Sets up academic incentives, cross-cultural social matching, and an emotional achievement system to realize the multi-faceted value transformation of emotion regulation.

(4) Auxiliary Modules: Includes privacy protection, intelligent customer service, and data backup functions. Simultaneously, the app's interaction logic and interface style are designed to suit the usage habits of international students.

4.2 App design strategy

A poetic interface avoids utilitarianism in its design language, employing white space, metaphor, and natural imagery to create a sense of space for contemplation and introspection. Interactive feedback is as gentle as a breeze or ripples, symbolic rather than providing answers.

Open-Ended Generation: The system does not offer standardized adaptation solutions, but rather provides tools, frameworks, and resonance to support users in generating their own interpretations of meaning and survival strategies. It is a cross-cultural survival guide waiting to be co-written.

Ethical Guardianship: Strictly protects users' emotional privacy, clearly defining the system's role as a companion, not a therapist. When a deep psychological crisis is identified, it provides a warm yet firm pathway to professional resources.

4.3 Creative Feature Cases

Cross-cultural resonance communities represent a shift from isolated existence to co-existence. These are non-verbal resonance pods, building themed communities based on music, natural sounds, and abstract visual art. When language becomes a barrier, they provide a connection that bypasses semantics and reaches directly to emotion. For example, the Frequency of Homesickness channel shares folk melodies expressing sorrow from different cultures.

Using philosophy, literature, and film as mediums, they structured discussions on core existential themes such as loneliness, belonging, and freedom and responsibility. When personal struggles are explored within the context of universal human existence, loneliness transforms from a personal defect into a shared human condition, thus achieving liberation and connection.

Third-person narrative workshops encourage users to write their study abroad stories from the perspective of the other, or anonymously share key experiences. This detachment provides a safe distance for emotional catharsis, and reading about the similar yet different struggles of others can generate a profound mirror neuron resonance—realizing I am not the only one falling into the abyss.

5 Shortcomings and Conclusion

5.1 Shortcomings and Prospects

This paper systematically reviews the ontological characteristics, cognitive patterns, and value connotations of international students' emotions, and summarizes the core logic and innovative points of the APP design. However, due to limitations in the representativeness of the survey sample and the preliminary nature of the APP development, the app could not be fully developed. Future research directions should

include expanding the survey scope, improving the APP's functional architecture, and conducting long-term effect tracking.

5.2 Conclusion

Phenomenology leads us to the edge of the abyss, allowing us to witness the raw being of experience. Hermeneutics, on the other hand, is the art of weaving a web of meaning above that abyss. It does not deny the unreadableness of experience, but firmly believes in humanity's extraordinary ability to unlock meaning in silence through dialogue, narrative, and understanding.

In the study of emotional dwelling, hermeneutics ultimately helps us answer a fundamental question: In the midst of cross-cultural rupture and displacement, how can one still, and is, construct a habitable world of meaning for oneself? This is precisely the deepest humanistic quest behind all emotional struggles.

The loneliness of international students is a prerequisite for cross-cultural existence and a potential spark for spiritual awakening. An ideal emotional support system should be like a sanctuary built atop an abyss: it does not deny the abyss's depth, but accompanies its inhabitants through resonant light, ropes of thought, and ladders of action, accompanying them as they explore, descend, and even rebound from the bottom. The ultimate goal is to assist users in transforming the passive situation of being thrown in into a creative process of actively choosing to become—forging a more resilient, clear-headed, and richer global self amidst the tension between two cultures.

From an ontological standpoint of emotional dwelling, this app is not a functional tool to solve or discipline the negative feelings of international students, but rather a digital field that allows emotions to exist on their own within it; in other words, its primary design issue is not how to alleviate loneliness, but how loneliness, as an existence, is allowed to linger here. Thus, the app's existence differs from any psychological intervention product that presupposes improvement: it does not provide an exit, but a place to reside; it does not pursue recovery, but acknowledges dwelling. Ultimately, the design transforms the emotional state of international students from a problem that needs to be managed into a world that can be inhabited, making the app itself a medium-architecture that continuously questions what it means to exist in a foreign land, rather than an optimization program under the guise of healing.

References

Richardson, J., 2012. Heidegger. Routledge.

Salmon, N., 1987. Existence. *Philosophical perspectives*, 1, pp.49-108.

Buchholz, M.B. and Dimitrijevic, A. eds., 2022. From the abyss of loneliness to the bliss of solitude: Cultural, social and psychoanalytic perspectives. Karnac Books.

Zarichanskyi, O., Pugachov, V., Shostak, V. and Stoliarchuk, N., 2024. Analysis of cultural and identity transformations in the modern world. Multidisciplinary Reviews.

Onwuatiegwu, I.N., 2022. Explicating Martin Heidegger's "Dasein" as being-in-the-world. International journal of health sciences, 6(S5), pp.5218-5227.

Hegel, G.W.F., 2021. Vorlesungen über die Philosophie der Religion und Vorlesungen über die Beweise vom Dasein Gottes II: Nachschriften zu den Kollegien über Religionsphilosophie der Sommersemester 1827 und 1831 und Sekundäre Überlieferung. Nachschriften zum Kolleg über die Beweise vom Dasein Gottes des Sommersemesters 1829 (Vol. 292). Felix Meiner Verlag.