

PERPY: A Guidance Counselor Support Tool for Student Assessment and Well-Being Enhancement Using Natural Language Understanding

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Abstract

The mental health landscape in academic institutions is increasingly challenged by barriers such as stigma, shyness, and a lack of awareness regarding available support services. At Perpetual Help College of Manila (PHCM), students experience significant academic and personal stressors but often exhibit reluctance to utilize the Guidance Office due to fear of judgment and intimidation. To address this accessibility gap, this study develop PERPY, which stands for Peer Engagement, Reflection, and Psychological Yield. This mobile application is designed as a digital bridge between students and guidance counselors.

The system employs a Hybrid AI Architecture that integrates the Rasa Framework for secure, rule-based dialogue management and structured Natural Language Understanding (NLU) tasks. It combines this with a Large Language Model (LLM) API fallback mechanism using Claude and Gemini to handle complex or context-heavy emotional queries. Key features include an AI-powered chatbot for real-time interaction, a mood-tracking dashboard, a private journal with Cognitive Behavioral Therapy (CBT) prompts, and a secure appointment scheduling tool.

Using a descriptive research design with data triangulation, the system was assessed by 15 IT experts, 15 guidance counselors, and 15 student end-users based on ISO/IEC 25010:2023 software quality standards. The results confirmed the effectiveness of the system. IT experts rated it as "Highly Effective" with a Grand Mean of 3.41 and particularly commended its functional suitability. Guidance counselors validated its professional utility as "Highly Effective" with a Grand Mean of 3.31 emphasizing its ability to streamline workflow and facilitate early identification of at-risk students. Student users rated the application as "Highly Accepted" with a Grand Mean of 3.35. Security emerged as the highest-rated category among students with a score of 3.54. This indicates that the digital anonymity provided by the app successfully mitigates the fear and stigma associated with help-seeking.

The study concludes that PERPY effectively bridges the gap between technological capability and mental health support services. By providing a private and non-intimidating platform, it encourages student self-

reflection and facilitates timely professional intervention, proving to be a viable supplementary tool for the Guidance and Counseling Office at PHCM.

INTRODUCTION

In today's educational landscape, students, particularly children and adolescents—face mounting challenges from academic stress, social pressures, and excessive online exposure, contributing to a global mental health crisis. These stressors heighten psychological distress, increase vulnerability to mental health disorders, and pose long-term risks to well-being. In the Philippines, this issue is especially pronounced among university students, where overuse of the internet has been linked to elevated distress levels, though online social support can provide partial relief (Cleofas et al., 2023). Compounding the problem, access to professional mental health resources remains limited, with Filipino counselors encountering significant barriers in remote delivery, such as technological constraints and challenges in assessing non-verbal cues (Simon et al., 2023). These factors leave many students underserved in demanding academic environments, underscoring the urgent need for accessible, scalable interventions. Existing technology-based solutions, including adaptive web apps and chatbots, have shown promise in supporting student mental health but often fall short in addressing the full range of needs. For instance, Ngo (2023) developed ACAPP, a web application for Filipino college students that promoted self-awareness and healthy habits through a menu-based assistant; however, it lacked real-time professional integration and advanced AI capabilities. Similarly, Sia et al. (2021) evaluated the "Abot" chatbot, which improved metrics like sleep quality and productivity, yet struggled with user engagement and handling uncommon inputs. Broader reviews highlight additional limitations in current AI-driven mental health tools, including insufficient personalization, cultural relevance for Filipino contexts, and ethical concerns such as bias and privacy risks (Salcedo et al., 2023). Recent evidence supports the integration of Cognitive Behavioral Therapy (CBT) principles into mobile apps, demonstrating reductions in mental health symptoms (Prydz et al., 2024), but few tools combine this with natural language understanding (NLU), counselor oversight, and culturally attuned features tailored to Philippine students. Despite these advancements, a significant gap persists no widely available mobile application fully integrates NLU for sentiment analysis, CBT-based interventions, real-time personalized coping strategies, and direct support for guidance counselors in a culturally relevant, ethically sound manner for Filipino higher education students. This leaves institutions like Perpetual Help College of Manila (PHCM) without scalable digital tools to complement traditional counseling, resulting in inconsistent support amid rising student mental health needs. To address this gap, the present study developed and evaluated Peer Engagement, Reflection, and Psychological Yield (PERPY), a mobile application designed to assist guidance counselors at PHCM in assessing and enhancing student well-being. PERPY incorporates NLU for analyzing student inputs, delivers CBT-informed coping strategies, and includes features for mood tracking, reflective journaling, progress monitoring, and appointment scheduling. Built on the Rasa framework for intelligent conversational AI, it generates actionable student reports (including sentiment analysis, mood trends, and engagement metrics) for counselors via an admin dashboard. Evaluated against ISO/IEC 25010:2023 quality standards, PERPY aims to provide a reliable, ethical, and institution-specific tool that empowers students to foster self-awareness and cognitive restructuring while enabling counselors to offer timely, data-informed interventions. By examining the development and potential impact of PERPY, this study seeks to determine how such an integrated mobile solution can bridge existing technological and support

gaps, ultimately contributing to improved mental health outcomes among Filipino students in higher education.

METHODS

This study employed a descriptive-evaluative research design with a quantitative approach to develop and evaluate the Peer Engagement, Reflection, and Psychological Yield (PERPY) mobile application. A total of 45 purposely selected participants from Perpetual Help College of Manila (PHCM) were involved: 15 students from Computer Science, Information Technology, Nursing, Business Administration, and Communication programs who used the application over a two-week period; 15 IT experts who assessed its technical quality and software attributes; and 15 guidance counselors who evaluated its perceived utility, clinical relevance, and alignment with counseling workflows. Descriptive methods were used to observe and document barriers to students’ utilization of guidance services, the application’s features, and its performance in a natural setting at PHCM. The evaluative component examined relationships between PERPY usage, technical quality attributes, user satisfaction, and perceived utility for mental health support and counselor assistance. Quantitative data were collected via Likert-scale survey questionnaires based on the ISO/IEC 25010:2023 software quality model, measuring functional suitability, performance efficiency, usability, reliability, security, compatibility, maintainability, portability, and safety. These instruments were administered to all three participant groups—students (user acceptance), IT experts (technical effectiveness), and guidance counselors (professional utility)—to enable multi-perspective triangulation. As a non-experimental design, the study avoided manipulation of variables and instead observed naturally occurring interactions, perceptions, and outcomes through criterion-referenced evaluation aligned with ISO/IEC 25010:2023 standards. This approach facilitated the identification of strengths, weaknesses, and correlations between system attributes and key outcomes, yielding comprehensive insights into PERPY’s effectiveness in addressing student mental health needs and supporting guidance services at PHCM.

RESULTS AND DISCUSSION

This chapter deals with the gathered data that were analyzed and interpreted for better understanding of the study. The framework of the analysis and interpretation was guided by the problems stated in chapter 1.

Figure 1. Reasons for Not Visiting the Guidance Office

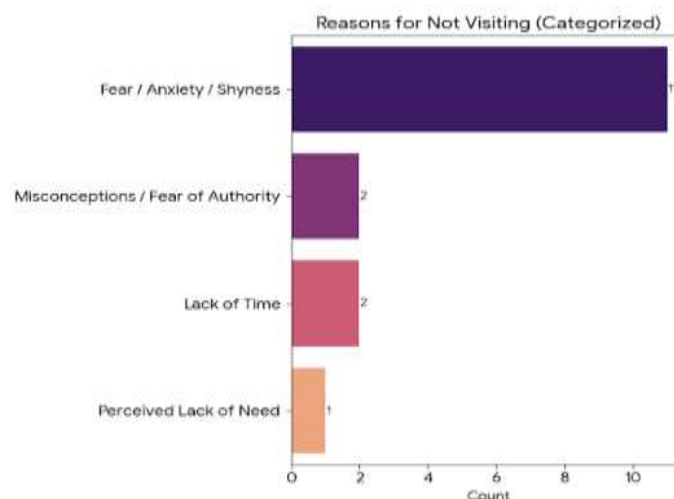


Figure 1 shows the distribution of barriers to accessing guidance services, with Fear/Anxiety/Shyness (11) as the dominant factor. Other responses included Lack of Time (2), Misconceptions/Fear of Authority (2), and Perceived Lack of Need (1). These findings underscore the need for PERPY as a low-barrier, anonymous digital alternative that directly addresses emotional inhibitions while redefining guidance services as accessible and supportive.

Table 1: Tabulated Results of level of Effectiveness in terms of Functionality

Description	Weighted Mean	Interpretation
The system’s features meet the requirements for emotional assessment and reporting.	3.6	Highly Suitable
Each feature performs correctly and produces accurate outputs.	3.55	Highly Suitable
The system’s functionalities are appropriate for monitoring student well-being.	3.75	Highly Suitable
The chatbot responses align accurately with user inputs.	3.58	Highly Suitable
The system’s output data are useful for the guidance counselors and students.	3.5	Highly Suitable
AVERAGE WEIGHTED MEAN	3.6	Highly Suitable

Table 1 presents IT experts' evaluation of PERPY's functionality, with an average weighted mean of 3.60 (Highly Suitable). The highest score was 3.75 for appropriateness in monitoring student well-being, confirming strong alignment with emotional assessment and guidance needs. All items were rated Highly Suitable.

Table 2: Tabulated Results of level of Effectiveness in terms of Efficiency

Description	Weighted Mean	Interpretation
The system responds promptly to user inputs.	3.72	Highly Efficient
The system operates smoothly during peak usage scenarios.	3.55	Highly Efficient
The software architecture is optimized to minimize overhead and maximize resource efficiency.	3.35	Highly Efficient
System latency remains within acceptable thresholds (2-3 seconds) regardless of simultaneous user load.	3.68	Highly Efficient
The system loads features and dashboards within 2-3 seconds.	3.65	Highly Efficient
AVERAGE WEIGHTED MEAN	3.59	Highly Efficient

Table 2 presents IT experts' evaluation of PERPY's level of effectiveness in terms of efficiency, with an average weighted mean of 3.59 (Highly Efficient). The highest mean score was 3.72 for the system's prompt response to user inputs, confirming strong performance in real-time interaction. All items were rated Highly Efficient, indicating optimized response time, smooth operation, low latency, and effective resource use even under varying loads.

Table 3: Tabulated Results of level of Effectiveness in terms of Usability

Description	Weighted Mean	Interpretation
The user interface is simple and easy to navigate.	3.88	Highly Usable
The application's interface design adheres to standard usability principles, minimizing the learning curve for new users.	3.75	Highly Usable
The system's design and layout are visually appealing.	3.56	Highly Usable
The system provides clear instructions and helpful feedback.	3.69	Highly Usable
Rarely encountered errors or dead ends while talking to the chatbot.	3.00	Usable
AVERAGE WEIGHTED MEAN	3.58	Highly Usable

Table 3 presents IT experts' evaluation of PERPY's level of effectiveness in terms of usability, with an average weighted mean of 3.58 (Highly Usable). The highest mean score was 3.88 for the user interface being simple and easy to navigate, confirming strong overall usability. All items except one were rated Highly Usable, indicating effective design, clear instructions, visual appeal, and minimal learning curve; the lower score of 3.00 (Usable) for rare Chatbot errors suggests minor room for improvement in conversational reliability.

Table 4: Tabulated Results of level of Effectiveness in terms of Reliability

Description	Weighted Mean	Interpretation
The application runs properly without unexpected crashes.	3.65	Highly Reliable
The system maintains stability during prolonged use.	3.75	Highly Reliable
The chatbot consistently processes user inputs correctly.	3.35	Highly Reliable
The application restores data correctly after interruptions.	3.65	Highly Reliable
The system maintains steady performance over time.	3.6	Highly Reliable
AVERAGE WEIGHTED MEAN	3.6	Highly Reliable

Table 4 presents IT experts' evaluation of PERPY's level of effectiveness in terms of reliability, with an average weighted mean of 3.60 (Highly Reliable). The highest mean score was 3.75 for the system's stability during prolonged use, confirming strong overall dependability. All items were rated Highly Reliable, indicating consistent performance, minimal crashes, accurate input processing, proper data restoration, and steady long-term operation.

Table 5: Tabulated Results of level of Effectiveness in terms of Security

Description	Weighted Mean	Interpretation
The system ensures confidentiality of user data.	3.6	Highly Secure

Data integrity is maintained during processing and storage.	3.45	Highly Secure
Access controls prevent unauthorized use.	3.2	Secure
Users' privacy is respected and protected.	3.35	Highly Secure
The system ensures authenticity and accountability of user actions.	3.55	Highly Secure
AVERAGE WEIGHTED MEAN	3.43	Highly Secure

Table 5 presents IT experts' evaluation of PERPY's level of effectiveness in terms of security, with an average weighted mean of 3.43 (Highly Secure). The highest mean score was 3.60 for ensuring confidentiality of user data, confirming strong protection of sensitive information. All items were rated Highly Secure except access controls (3.20, Secure), indicating overall robust security with minor room for strengthening authorization mechanisms.

Table 6: Tabulated Results of level of Effectiveness in terms of Compatibility

Description	Weighted Mean	Interpretation
The app functions correctly across different Android API levels.	3.25	Compatible
PERPY is compatible with a wide range of Android device manufacturers.	3.35	Highly Compatible
The application performs consistently on both low-end and high-end Android devices.	3.15	Compatible
The app uses standard Android libraries and components.	3.4	Highly Compatible
PERPY avoids deprecated APIs and follows current Android development best practices.	3.2	Compatible
AVERAGE WEIGHTED MEAN	3.27	Highly Compatible

Table 6 presents IT experts' evaluation of PERPY's level of effectiveness in terms of compatibility, with an average weighted mean of 3.27 (Highly Compatible). The highest mean score was 3.40 for the app's use of standard Android libraries and components, confirming strong adherence to development best practices. All items were rated Compatible or Highly Compatible, indicating reliable performance across Android API levels, device manufacturers, and varying hardware capabilities.

Table 7: Tabulated Results of level of Effectiveness in terms of Maintainability

Description	Weighted Mean	Interpretation
The project is clearly separated into folders and modules.	3.3	Highly Maintainable
Standard tools and libraries are used to allow future developers to reuse components easily.	3.35	Highly Maintainable
Error logs and monitoring tools clearly show problems for fast debugging.	3.15	Maintainable

Database schema changes can be done with simple migrations.	3.1	Maintainable
The codebase includes clear comments and documentation.	3.25	Maintainable
AVERAGE WEIGHTED MEAN	3.23	Maintainable

Table 7 presents IT experts' evaluation of PERPY's level of effectiveness in terms of maintainability, with an average weighted mean of 3.23 (Maintainable). The highest mean score was 3.35 for the use of standard tools and libraries to enable easy component reuse by future developers. All items were rated Maintainable or Highly Maintainable, indicating a well-structured, documented, and modular codebase with reasonable support for debugging, migrations, and long-term maintenance.

Table 8: Tabulated Results of level of Effectiveness in terms of Portability

Description	Weighted Mean	Interpretation
The app runs smoothly on different Android versions and screen sizes.	3.2	Portable
Replacing the current LLM provider (Claude/Gemini) can be done with minimal code changes.	3.15	Portable
Switching from one cloud provider to another requires only configuration updates.	3.05	Portable
The app works correctly on both low-end and high-end Android devices.	3.25	Portable
Backend services can be scaled up by adjusting server settings.	3.3	Highly Portable
AVERAGE WEIGHTED MEAN	3.19	Portable

Table 8 presents IT experts' evaluation of PERPY's level of effectiveness in terms of portability, with an average weighted mean of 3.19 (Portable). The highest mean score was 3.30 for the ability to scale backend services by adjusting server settings, confirming good adaptability. All items were rated Portable or Highly Portable, indicating reliable performance across Android versions, screen sizes, and device capabilities, with reasonable flexibility for LLM provider changes, cloud migrations, and scaling.

Table 9: Tabulated Results of level of Effectiveness in terms of Safety

Questions	Weighted Mean	Interpretation
The app detects serious messages and shows hotline numbers.	3.4	Highly Safe
The chatbot never acts like a real guidance counselor.	3.35	Highly Safe
No harmful advice is ever given.	3.4	Highly Safe
All chats and journals are fully private and encrypted.	3.3	Highly Safe

Students stay in control of who sees their data.	3.35	Highly Safe
AVERAGE WEIGHTED MEAN	3.36	Highly Safe

Table 9 presents IT experts' evaluation of PERPY's level of effectiveness in terms of safety, with an average weighted mean of 3.36 (Highly Safe). The highest mean scores were 3.40 (tied) for detecting serious messages and displaying hotline numbers, and for ensuring no harmful advice is given. All items were rated Highly Safe, confirming strong safeguards including clear boundaries on the chatbot's role, full privacy and encryption of chats/journals, user control over data visibility, and appropriate crisis-handling mechanisms.

Table 10: Tabulated Results of level of acceptance in terms of Functionality

Description	Weighted Mean	Interpretation
The system helps monitor students' emotional well-being effectively.	3.3	Highly Suitable
The chatbot responses reflect understanding of students' emotions.	3.15	Suitable
The system provides relevant information that supports counseling decisions.	3.4	Highly Suitable
The emotional reports are clear and appropriate for guidance use.	3.35	Highly Suitable
PERPY supports early identification of students needing assistance.	3.45	Highly Suitable
AVERAGE WEIGHTED MEAN	3.33	Highly Suitable

Table 10 presents the guidance counselors' evaluation of PERPY's level of acceptance in terms of functionality, with an average weighted mean of 3.33 (Highly Suitable). The highest mean score was 3.45 for the system's support in early identification of students needing assistance, confirming strong perceived value for proactive emotional monitoring and counseling decisions. All items were rated Suitable or Highly Suitable, indicating effective functionality in monitoring student well-being, delivering relevant support information, generating clear and appropriate reports, and enabling chatbot responses that reflect emotional understanding.

Table 11: Tabulated Results of level of acceptance in terms of Performance Efficiency

Description	Weighted Mean	Interpretation
The application responds 2-3 seconds to input and requests.	3.35	Highly Efficient
PERPY processes a report efficiently during student assessments.	3.45	Highly Efficient
Reports or summaries are generated within 2-3 seconds.	3.5	Highly Efficient
The system performs well without errors during use.	3.25	Efficient
The app operates with no lags during continuous	3.5	Highly Efficient

sessions.		
AVERAGE WEIGHTED MEAN	3.41	Highly Efficient

Table 11 presents the guidance counselors' evaluation of PERPY's level of acceptance in terms of performance efficiency, with an average weighted mean of 3.41 (Highly Efficient). The highest mean score was 3.50 (tied) for reports/summaries generated within 2-3 seconds and for the app operating without lags during continuous sessions, confirming strong real-time responsiveness and reliability for counseling support. All items were rated Efficient or Highly Efficient, indicating effective processing of inputs, reports, and assessments with minimal delays or errors, enabling timely insights for guidance counselors in monitoring student emotional well-being.

Table 12: Tabulated Results of level of acceptance in terms of Usability

Description	Weighted Mean	Interpretation
The app is easy for counselors to learn and use.	3.45	Highly Usable
The interface supports smooth navigation between features.	3.55	Highly Usable
The chatbot communication feels natural and supportive.	3.2	Usable
Instructions and options are clear and understandable.	3.2	Usable
The design and layout are visually pleasing.	3.5	Highly Usable
AVERAGE WEIGHTED MEAN	3.38	Highly Usable

Table 12 presents the guidance counselors' evaluation of PERPY's level of acceptance in terms of usability, with an average weighted mean of 3.38 (Highly Usable). The highest mean score was 3.55 for the interface supporting smooth navigation between features, confirming strong usability for counseling workflows. All items were rated Usable or Highly Usable, indicating that the app is easy to learn and use, features clear instructions and options, a visually pleasing design, and natural chatbot communication suitable for supporting student interactions.

Table 13: Tabulated Results of level of acceptance in terms of Reliability

Description	Weighted Mean	Interpretation
The application consistently functions without crashing.	3.4	Highly Reliable
The emotional data displayed are accurate and consistent.	3.5	Highly Reliable
The reports remain available for later review without issues.	3.3	Highly Reliable
Data recovery after interruption works effectively.	3.45	Highly Reliable
The system performance is stable and dependable.	3.4	Highly Reliable
AVERAGE WEIGHTED MEAN	3.41	Highly Reliable

Table 13 presents the guidance counselors' evaluation of PERPY's level of acceptance in terms of reliability, with an average weighted mean of 3.41 (Highly Reliable). The highest mean score was 3.50 for the emotional data displayed being accurate and consistent, confirming dependable performance for counseling use. All items were rated Highly Reliable, indicating that the application functions consistently without crashes, supports effective data recovery, maintains stable performance, and ensures reports remain accessible and reliable for ongoing student monitoring.

Table 14: Tabulated Results of level of acceptance in terms of Security

Description	Weighted Mean	Interpretation
Students' emotional data are treated with confidentiality.	3.35	Highly Secure
PERPY prevents unauthorized access to student records.	3.35	Highly Secure
The app provides secure data handling for counseling sessions.	3.1	Secure
The system maintains data privacy and ethics.	3.25	Secure
The system aligns with ethical standards in counseling practice.	3.3	Highly Secure
AVERAGE WEIGHTED MEAN	3.27	Highly Secure

Table 14 presents the guidance counselors' evaluation of PERPY's level of acceptance in terms of security, with an average weighted mean of 3.27 (Highly Secure). The highest mean score was 3.35 (tied) for treating students' emotional data with confidentiality and preventing unauthorized access to student records, confirming strong perceived protection of sensitive information in counseling contexts. All items were rated Secure or Highly Secure, indicating effective secure data handling, alignment with ethical standards in counseling practice, and overall robust privacy measures suitable for professional use.

Table 15: Tabulated Results of level of Effectiveness in terms of Compatibility

Description	Weighted Mean	Interpretation
PERPY works well on all the different Android phones counselors use in school.	3.1	Compatible
The app still works fine even when my phone is in battery-saver mode or "Do Not Disturb" during counseling.	3.15	Compatible
PERPY is okay to use with slow school Wi-Fi or when I only have little data left.	3.05	Compatible
The app runs smoothly on many brands like Samsung, Realme, OPPO, Xiaomi, Huawei, etc.	3.2	Compatible
Tapping and scrolling feel fast and easy even on phones with small RAM (2-4 GB only).	3.05	Compatible
AVERAGE WEIGHTED MEAN	3.11	Compatible

Table 15 presents the guidance counselors' evaluation of PERPY's level of effectiveness in terms of compatibility, with an average weighted mean of 3.11 (Compatible). The highest mean score was 3.20 for the app running smoothly on various device brands (Samsung, Realme, OPPO, Xiaomi, Huawei, etc.), confirming reliable cross-device performance in real counseling settings. All items were rated Compatible, indicating acceptable functionality across different Android phones, under low-resource conditions (battery-saver, low RAM, slow Wi-Fi/limited data), and during typical school usage scenarios.

Table 16: Tabulated Results of level of Effectiveness in terms of Maintainability

Description	Weighted Mean	Interpretation
The dashboard loads within 2-3 seconds even after many students have used it.	3.25	Maintainable
The sentiment charts and mood trends always stay accurate over time.	3.3	Highly Maintainable
The app feels stable and reliable even after 2-3 weeks of daily use.	3.2	Maintainable
All past mood logs and journal entries stay safe and visible.	3.3	Highly Maintainable
The app keeps running smoothly even after a long time of use.	3.2	Maintainable
AVERAGE WEIGHTED MEAN	3.25	Maintainable

Table 16 presents the guidance counselors' evaluation of PERPY's level of effectiveness in terms of maintainability, with an average weighted mean of 3.25 (Maintainable). The highest mean score was 3.30 (tied) for the sentiment charts and mood trends remaining accurate over time, and for past mood logs and journal entries staying safe and visible, confirming reliable long-term data integrity and stability for ongoing counseling use. All items were rated Maintainable or Highly Maintainable, indicating that the dashboard performs efficiently, the app remains stable after extended daily use, and overall system reliability supports sustained professional application.

Table 17: Tabulated Results of level of Effectiveness in terms of Portability

Description	Weighted Mean	Interpretation
The app works on my phone and tablet.	3.35	Highly Portable
Reports look good on any screen size.	3.3	Highly Portable
It works even with a weak internet.	3.1	Portable
Data can be exported easily if needed.	3.2	Portable
The app feels smooth whether I'm at home, school, or commuting.	3.25	Portable
AVERAGE WEIGHTED MEAN	3.24	Portable

Table 17 presents the guidance counselors' evaluation of PERPY's level of effectiveness in terms of portability, with an average weighted mean of 3.24 (Portable). The highest mean score was 3.35 for the app working effectively on both phones and tablets, confirming good cross-device adaptability in

counseling contexts. All items were rated Portable or Highly Portable, indicating reliable performance across screen sizes, varying internet conditions, locations (home, school, commuting), and ease of data export when needed.

Table 18: Tabulated Results of level of Effectiveness in terms of Safety

Description	Weighted Mean	Interpretation
The chatbot clearly says it's not a therapist.	3.4	Highly Safe
Responses are always kind and safe.	3.35	Highly Safe
Only I can see a student's data after they allow it.	3.3	Highly Safe
Minors need parent permission to use it.	3.35	Highly Safe
The chatbot never gives medical or diagnostic advice.	3.35	Highly Safe
AVERAGE WEIGHTED MEAN	3.35	Highly Safe

Table 18 presents the guidance counselors' evaluation of PERPY's level of effectiveness in terms of safety, with an average weighted mean of 3.35 (Highly Safe). The highest mean score was 3.40 for the chatbot clearly stating it is not a therapist, confirming strong boundary-setting. All items were rated Highly Safe, indicating that responses remain kind and non-diagnostic, data access is strictly user-controlled (with explicit permission required), minors are protected via parental consent requirements, and the system avoids providing medical or therapeutic advice, aligning well with ethical and professional counseling standards.

Table 19: Tabulated Results of level of acceptance in terms of Functionality

Description	Weighted Mean	Interpretation
The chatbot (PERPY) provides responses that match the student's emotional messages.	3.2	Suitable
The journaling feature correctly saves and displays the student's written entries.	3.6	Highly Suitable
The mood tracking accurately shows the student's recorded moods over time.	3.2	Suitable
The appointment booking feature allows students to successfully schedule guidance sessions.	3.45	Highly Suitable
The system properly sends notifications when appointments are accepted or rescheduled.	3.35	Highly Suitable
AVERAGE WEIGHTED MEAN	3.36	Highly Suitable

Table 19 presents the students' evaluation of PERPY's level of acceptance in terms of functionality, with an average weighted mean of 3.36 (Highly Suitable). The highest mean score was 3.60 for the journaling feature correctly saving and displaying written entries, confirming strong reliability in personal reflection tools. All items were rated Suitable or Highly Suitable, indicating effective chatbot emotional matching, accurate mood tracking over time, successful appointment scheduling, and reliable notifications for session updates, supporting positive student engagement with the application's core mental health features.

Table 20: Tabulated Results of level of acceptance in terms of Performance Efficiency

Description	Weighted Mean	Interpretation
The chatbot (Perpy) loads and responds quickly during conversations.	3.3	Highly Efficient
The journaling page saves entries without delays.	3.75	Highly Efficient
The mood tracking displays updates immediately after a mood is recorded.	3.55	Highly Efficient
The booking page processes appointment requests without lag.	3.4	Highly Efficient
The system sends appointment notifications promptly after counselor updates.	3.25	Efficient
AVERAGE WEIGHTED MEAN	3.45	Highly Efficient

Table 20 presents the students' evaluation of PERPY's level of acceptance in terms of performance efficiency, with an average weighted mean of 3.45 (Highly Efficient). The highest mean score was 3.75 for the journaling page saving entries without delays, confirming strong real-time reliability for personal use. All items were rated Efficient or Highly Efficient, indicating quick chatbot loading and responses, immediate mood tracking updates, lag-free appointment processing, and prompt notifications, supporting seamless and responsive student interaction with the application.

Table 21: Tabulated Results of level of acceptance in terms of Usability

Description	Weighted Mean	Interpretation
The chatbot (Perpy) is easy for students to understand and interact with.	3.3	Highly Usable
The journaling feature is simple to use for recording thoughts or feelings.	3.45	Highly Usable
The mood tracking is easy to navigate and interpret.	3.5	Highly Usable
The appointment booking process is clear and straightforward.	3.25	Usable
The system's overall design and layout help students use the features without confusion.	3.4	Highly Usable
AVERAGE WEIGHTED MEAN	3.38	Highly Usable

Table 21 presents the students' evaluation of PERPY's level of acceptance in terms of usability, with an average weighted mean of 3.38 (Highly Usable). The highest mean score was 3.50 for the mood tracking being easy to navigate and interpret, confirming strong user-friendliness for emotional self-monitoring. All items were rated Usable or Highly Usable, indicating that the chatbot is easy to understand and interact with, the journaling feature is simple for recording thoughts, the appointment booking process is clear, and the overall design and layout minimize confusion for student users.

Table 22: Tabulated Results of level of acceptance in terms of Reliability

Description	Weighted Mean	Interpretation
The chatbot (Perpy) works properly without sudden errors during chats.	3.2	Reliable
The journaling entries remain saved even after the student logs out.	3.7	Highly Reliable
The mood tracking displays accurate information each time it is opened.	3.3	Highly Reliable
The booking system consistently records and updates appointments correctly.	3.55	Highly Reliable
Notifications about accepted or rescheduled appointments are always received by the student.	3.4	Highly Reliable
AVERAGE WEIGHTED MEAN	3.43	Highly Reliable

Table 22 presents the students' evaluation of PERPY's level of acceptance in terms of reliability, with an average weighted mean of 3.43 (Highly Reliable). The highest mean score was 3.70 for journaling entries remaining saved even after logging out, confirming strong data persistence for personal use. All items were rated Reliable or Highly Reliable, indicating that the chatbot operates without sudden errors, mood tracking displays accurate information consistently, the booking system records and updates appointments correctly, and notifications are reliably received, supporting dependable daily interaction for students.

Table 23: Tabulated Results of level of acceptance in terms of Security

Description	Weighted Mean	Interpretation
The system keeps the student's chat messages private and confidential.	3.7	Highly Secure
The student's journal entries are securely stored and protected from others.	3.45	Highly Secure
Only authorized users can access the student's mood and booking information.	3.6	Highly Secure
The system safely handles personal data shared during appointment bookings.	3.55	Highly Secure
Notifications and messages sent to students do not reveal private information.	3.4	Highly Secure
AVERAGE WEIGHTED MEAN	3.54	Highly Secure

Table 23 presents the students' evaluation of PERPY's level of acceptance in terms of security, with an average weighted mean of 3.54 (Highly Secure). The highest mean score was 3.70 for the system keeping chat messages private and confidential, confirming strong student trust in data protection. All items were rated Highly Secure, indicating effective safeguards for journal entries, mood and booking information, appointment-related personal data, and notifications, ensuring privacy and confidentiality throughout student use.

Table 24: Tabulated Results of level of Effectiveness in terms of Compatibility

Description	Weighted Mean	Interpretation
PERPY installed and opened without problems on my Android phone.	3.35	Highly Compatible
The app works fine even if my phone is an inexpensive or older Android model.	3.1	Compatible
PERPY still runs smoothly when I have many other apps installed.	3.2	Compatible
Using PERPY doesn't make my phone slow, hot, or drain battery too fast.	3.15	Compatible
I can type my feelings easily; the keyboard does not get stuck.	3.3	Highly Compatible
AVERAGE WEIGHTED MEAN	3.22	Compatible

Table 24 presents the students' evaluation of PERPY's level of effectiveness in terms of compatibility, with an average weighted mean of 3.22 (Compatible). The highest mean score was 3.35 for the app installing and opening without problems on their Android phones, confirming reliable initial setup and accessibility. All items were rated Compatible or Highly Compatible, indicating smooth performance on older or inexpensive Android models, minimal impact on device resources (speed, heat, battery), and stable typing/keyboard functionality even with multiple apps running.

Table 25: Tabulated Results of level of Effectiveness in terms of Maintainability

Description	Weighted Mean	Interpretation
I never lose my old chat history with the bot.	3.25	Maintainable
My progress and streaks are never reset by updates.	3.3	Highly Maintainable
The app never becomes confusing after an update.	3.2	Maintainable
I never see weird error messages after updates.	3.15	Maintainable
The app still works even if I don't update right away.	3.25	Maintainable
AVERAGE WEIGHTED MEAN	3.23	Maintainable

Table 25 presents the students' evaluation of PERPY's level of acceptance in terms of maintainability, with an average weighted mean of 3.23 (Maintainable). The highest mean score was 3.30 for progress and streaks never being reset by updates, confirming reliable continuity of user experience over time. All items were rated Maintainable or Highly Maintainable, indicating that chat history persists, the app remains stable and non-confusing after updates, error messages are minimal post-update, and functionality is preserved even without immediate updates.

Table 26: Tabulated Results of level of Effectiveness in terms of Portability

Description	Weighted Mean	Interpretation
Mood logs and journals are saved even if I change phones.	3.35	Highly Portable

The app uses little storage and battery compared to other apps.	3.2	Portable
It doesn't lag even on phones with little RAM.	3.1	Portable
I can use it on my tablet the same way as on my phone.	3.25	Portable
The app opens within 2-3 seconds even on an old phone.	3.15	Portable
AVERAGE WEIGHTED MEAN	3.21	Portable

Table 26 presents the students' evaluation of PERPY's level of effectiveness in terms of portability, with an average weighted mean of 3.21 (Portable). The highest mean score was 3.35 for mood logs and journals remaining saved even when changing phones, confirming reliable data continuity across devices. All items were rated Portable or Highly Portable, indicating low resource consumption (storage and battery), smooth performance on low-RAM or older phones, quick startup times, and consistent functionality on both phones and tablets.

Table 27: Tabulated Results of level of Effectiveness in terms of Safety

Description	Weighted Mean	Interpretation
I feel safe knowing no one can read my journal unless I choose to share it.	3.4	Highly Safe
The chatbot never says I have a mental illness or tells me to take medicine.	3.35	Highly Safe
My chats and journals feel completely private.	3.4	Highly Safe
The chatbot never says anything scary or harmful.	3.3	Highly Safe
The app feels like a safe place to write anything.	3.4	Highly Safe
AVERAGE WEIGHTED MEAN	3.37	Highly Safe

Table 27 presents the students' evaluation of PERPY's level of effectiveness in terms of safety, with an average weighted mean of 3.37 (Highly Safe). The highest mean scores were 3.40 (tied) for feeling safe knowing no one can read their journal unless shared, and for chats and journals feeling completely private. All items were rated Highly Safe, indicating strong student perceptions of privacy, confidentiality, absence of harmful or diagnostic language from the chatbot, and an overall sense of the app as a secure, non-threatening space for emotional expression.

Table 28: Summary of Effectiveness (IT Experts)

ISO/IEC 25010:2023 Criteria	Average Weighted Mean	Verbal Interpretation
Functional Suitability	3.6	Highly Suitable
Performance Efficiency	3.59	Highly Efficient
Usability	3.41	Highly Usable
Reliability	3.6	Highly Reliable
Security	3.43	Secure

Compatibility	3.27	Compatible
Maintainability	3.23	Maintainable
Portability	3.19	Portable
Safety	3.36	Safe
GRAND WEIGHTED MEAN	3.41	Effective

Table 28 summarizes the IT experts' overall evaluation of PERPY's effectiveness based on ISO/IEC 25010:2023 criteria, yielding a grand weighted mean of 3.41 (Effective). The highest-rated characteristics were Functional Suitability and Reliability (both 3.60, Highly Suitable/Highly Reliable), followed by Performance Efficiency (3.59, Highly Efficient) and Safety (3.36, Safe). Lower but still positive ratings were observed for Compatibility (3.27, Compatible), Maintainability (3.23, Maintainable), and Portability (3.19, Portable). These results confirm PERPY's strong overall technical quality and suitability as a reliable tool for student mental health monitoring and guidance support.

Table 29: Summary of Perceived Utility (Guidance Counselors)

ISO/IEC Criteria	25010:2023	Average Weighted Mean	Verbal Interpretation
Functional Suitability		3.33	Suitable
Performance Efficiency		3.41	Efficient
Usability		3.38	Usable
Reliability		3.41	Reliable
Security		3.27	Secure
Compatibility		3.11	Compatible
Maintainability		3.25	Maintainable
Portability		3.24	Portable
Safety		3.35	Safe
GRAND WEIGHTED MEAN		3.31	Effective

Table 29 summarizes the guidance counselors' overall evaluation of PERPY's perceived utility based on ISO/IEC 25010:2023 criteria, yielding a grand weighted mean of 3.31 (Effective). The highest-rated characteristics were Performance Efficiency and Reliability (both 3.41, Efficient/Reliable), followed by Usability (3.38, Usable) and Safety (3.35, Safe). Lower but still positive ratings were observed for Compatibility (3.11, Compatible), Security (3.27, Secure), and Portability (3.24, Portable). These results affirm PERPY's practical value and effectiveness as a supportive tool for counselors in monitoring student emotional well-being and facilitating timely interventions.

Table 30: Summary of User Acceptance (Students)

ISO/IEC Criteria	25010:2023	Average Weighted Mean	Verbal Interpretation
Functional Suitability		3.36	Acceptable

Performance Efficiency	3.45	Acceptable
Usability	3.38	Acceptable
Reliability	3.43	Acceptable
Security	3.54	Acceptable
Compatibility	3.22	Acceptable
Maintainability	3.23	Acceptable
Portability	3.21	Acceptable
Safety	3.37	Acceptable
GRAND WEIGHTED MEAN	3.35	Acceptable

Table 30 summarizes the students' overall evaluation of PERPY's user acceptance based on ISO/IEC 25010:2023 criteria, yielding a grand weighted mean of 3.35 (Acceptable). The highest-rated characteristics were Security (3.54, Acceptable) and Performance Efficiency (3.45, Acceptable), followed by Reliability (3.43, Acceptable) and Safety (3.37, Acceptable). Lower but still positive ratings were observed for Compatibility (3.22, Acceptable), Portability (3.21, Acceptable), and Maintainability (3.23, Acceptable). These results demonstrate strong student acceptance of PERPY as a functional, secure, efficient, and safe tool for personal mental health support and emotional self-management.

Table 31: Composite Validation of System Effectiveness

Respondent Group	Evaluative Perspective	Grand Weighted Mean	Verbal Interpretation	Validation Verdict
IT Experts	Technical Quality (ISO/IEC 25010:2023)	3.41	Highly Effective	VALID
Guidance Counselors	Professional Utility & Workflow	3.31	Highly Effective	VALID
Student Users	User Experience & Acceptance	3.35	Highly Accepted	VALID

Table 31 presents the composite validation of PERPY's system effectiveness across the three respondent groups, yielding consistently positive grand weighted means and VALID verdicts for all perspectives. IT Experts rated technical quality (ISO/IEC 25010:2023) highest at 3.41 (Highly Effective), confirming robust adherence to software engineering standards in the hybrid architecture (Rasa Framework with LLM fallback on Google Cloud). Guidance Counselors assessed professional utility and workflow integration at 3.31 (Highly Effective), validating PERPY as a practical tool that streamlines counseling processes and supports student monitoring. Student Users rated user experience and acceptance at 3.35 (Highly Accepted), affirming accessibility, trustworthiness, and a safe, user-friendly interface for emotional expression. The consolidated results show strong convergence across technical, professional, and end-user perspectives, with all grand weighted means exceeding the acceptance threshold of 3.26. This multi-dimensional validation provides robust evidence that PERPY effectively bridges technological capability

with mental health support needs at Perpetual Help College of Manila, fulfilling its intended objectives as a reliable, useful, and accepted intervention.

CONCLUSIONS AND RECOMMENDATIONS

The study concludes that the Peer Engagement, Reflection, and Psychological Yield (PERPY) mobile application effectively addresses the primary barriers to accessing mental health support at Perpetual Help College of Manila (PHCM), namely shyness and social anxiety, fear and intimidation associated with formal counseling, and lack of awareness regarding available emotional services. Multi-stakeholder evaluation grounded in ISO/IEC 25010:2023 standards demonstrated strong convergence of positive assessments: IT experts rated the system Highly Effective with a grand mean of 3.41, confirming its robust functional suitability, reliability, security, and safety; guidance counselors rated its professional utility Highly Effective with a grand mean of 3.31, validating its practical value in streamlining counseling workflows and enabling proactive student monitoring; and student users rated the application Highly Accepted with a grand mean of 3.35, with notably high scores for security (3.54) and safety (3.37). These consistent findings affirm PERPY as a trustworthy, non-intimidating, and ethically sound digital tool that delivers Cognitive Behavioral Therapy-informed features—such as mood tracking, reflective journaling, breathing exercises, and appointment scheduling—while strictly upholding data privacy, non-diagnostic boundaries, and appropriate crisis guidance. Overall, PERPY successfully bridges accessibility gaps in traditional guidance services, reduces stigma associated with help-seeking, fosters proactive self-awareness and emotional engagement, and aligns with growing evidence supporting responsible AI-assisted mental health interventions in higher education settings. To realize its full potential, Perpetual Help College of Manila is strongly recommended to formally adopt PERPY as a supplementary tool within the Guidance and Counseling Office to enrich existing student well-being programs. Guidance counselors should receive ongoing training on interpreting PERPY-generated emotional reports and effectively incorporating these insights into face-to-face counseling sessions. The institution should actively promote the application through campus orientations, awareness campaigns, and integration into student onboarding activities to increase awareness, adoption, and sustained usage. For future enhancements, developers should prioritize multilingual support (particularly Tagalog and Taglish) to improve cultural relevance and inclusivity for Filipino users. The user interface, notification privacy, and overall visual design should be refined to address comparatively lower-rated aspects identified in the evaluation. Finally, crisis detection mechanisms should be strengthened by automatically displaying national mental health hotline numbers and implementing clear, immediate escalation protocols for urgent counselor referral when indicators of severe distress are detected. These measures will further enhance PERPY's scalability, ethical integrity, and long-term impact as a culturally attuned, institutionally aligned solution for supporting student mental health at PHCM.

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