World Journal of Advanced Research and Reviews
eISSN: 2581-9615 CODEN (USA): WJARAI
Cross Ref DOI: 10.30574/wjarr
Journal homepage: https://wjarr.com/

(RESEARCH ARTICLE)

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Improving student habit consistency and personal development through Habitflow: A gamified habit tracker for 3rd year students at south east Asian institute of technology

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World Journal of Advanced Research and Reviews, 2026, 29(03), 1253-1269

Publication history: Received on 08 February 2026; revised on 14 March 2026; accepted on 17 March 2026

Article DOI: https://doi.org/10.30574/wjarr.2026.29.3.0659

Abstract

This study introduces HabitFlow, a gamified habit tracking application designed to promote habit consistency, personal development, and academic readiness among third-year students at the South East Asian Institute of Technology Incorporated. HabitFlow leverages AI-powered personalized coaching, habit monitoring, and interactive gamification elements such as rewards, streaks, and progress visualization to motivate students to cultivate positive physical and mental habits. The app features a culturally sensitive and user-friendly mobile interface that supports self-assessment and skill-building through integration with educational platforms, making it accessible and engaging for diverse student users. HabitFlow operates effectively both online and offline, ensuring continuous support even in low-connectivity environments common in some student settings. The system also promotes user empowerment by encouraging self-reflection and consistent habit adherence through tailored feedback and culturally relevant motivational content. Usability testing involving 100 student participants resulted in positive outcomes: 84% of users reported increased motivation and habit maintenance, 81% were satisfied with the AI coaching and gamification features, and 88% appreciated the app's role in preparing them for academic and professional challenges. The findings demonstrate HabitFlow's success in promoting sustainable behavior change and personal growth through an adaptive, culturally aware human-computer interaction platform. This research highlights the potential of gamified and AI-enhanced habit trackers to improve self-discipline, motivation, and readiness among students, addressing key challenges in education and health behavior management.

Keywords: Habit Tracking; Gamification; AI Coaching; Personal Development; Student Motivation; Behavioral Change; Cultural Sensitivity; Human-Computer Interaction; Educational Technology

1. Introduction

1.1. Background and Context

HCI research extensively explores how gamification can be leveraged to encourage habit consistency and personal development. Human-Computer Interaction research has significantly contributed to the understanding and application of gamification in diverse fields, ranging from promoting healthy habits to enhancing educational engagement (Morera et al., 2023). Increasingly focusing on the application of gamification techniques to promote healthy habits and manage chronic conditions (Iurchenko, 2019). Specifically, gamification, which involves integrating game design elements into non-game contexts, has demonstrated significant potential in nurturing behavioral change and sustained engagement across various domains (Lieder et al., 2023) (Zhao et al., 2020) (Iurchenko, 2019). This approach leverages intrinsic and

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extrinsic motivators to encourage users to adopt desired behaviors and maintain them over time (Torres-Munares et al., 2024). This has led to a growing interest in utilizing gamification for behavior change, as it provides experiences and motivations similar to games, making it an effective tool for encouraging positive actions (Bassanelli et al., 2022).

This method is particularly effective in educational settings, where gamified learning scenarios have been shown to increase student motivation, engagement, and ultimately, improve learning outcomes (Challco et al., 2023). Beyond academic performance, gamification is also explored for its capacity to address common challenges such as procrastination, turning daunting tasks into engaging challenges (Krath et al., 2024). Moreover, by transforming ordinary activities into interactive and rewarding experiences, gamification can cultivate self-discipline and enhance personal development among students (Hellín et al., 2023) (Imran, 2019). This includes an emphasis on usability, personalization, and social interaction within applications to ensure sustained user interest and effective behavior modification (Zhao & Wu, 2024).

1.2. Research Problem

This research presents HabitFlow, a gamified habit tracking system designed to support third-year students at the South East Asian Institute of Technology in building consistent physical and mental habits. The main focus of the research is to improve student motivation, confidence, and personal development as they prepare for academic and professional transitions. Many students face challenges such as low self-esteem, lack of confidence, and difficulty maintaining positive routines, which can hinder their readiness for real-life demands. Existing habit tracking apps often lack cultural relevance and engaging features that resonate with the student community. This study aims to develop a user-friendly, culturally sensitive habit tracking application that integrates AI-driven personalized coaching, self-assessment tools, and gamified rewards, thereby encouraging sustained habit formation and empowering students to explore and grow their full potential in an enjoyable and motivating way.

Research Questions and Objectives

- How does the use of HabitFlow's gamified habit tracking features influence students' motivation and consistency in building positive habits?
- How does the user-interface design of HabitFlow affect student engagement and ease of use across diverse technological skill levels?
- How do HabitFlow's AI-driven personalized coaching and reward mechanisms impact students' confidence, personal development, and sustained use of the system?

Objectives

- To design HabitFlow as a gamified habit tracking system that supports consistent habit formation and personal development among third-year students.
- To create a user-friendly and culturally sensitive interface in HabitFlow that promotes engagement and accessibility for students with diverse backgrounds.
- To implement AI-driven personalized coaching and gamified reward features in HabitFlow to enhance motivation, confidence, and long-term adherence to positive habits.

1.3. Justification and Significance

This research addresses the Human-Computer Interaction (HCI) challenges involved in developing HabitFlow, a gamified habit tracking system tailored for third-year students at the South East Asian Institute of Technology. HabitFlow aims to enhance students' motivation, consistency, and personal development by integrating AI-driven personalized coaching, gamification, and culturally sensitive design. The system supports students in forming lasting physical and mental habits, thereby improving their confidence and readiness for academic and professional challenges. By offering an accessible and engaging platform, HabitFlow encourages continual use across diverse user backgrounds and technological abilities. This research contributes to HCI by proposing strategies for creating educational technologies that are not only user-friendly and motivating but also culturally relevant and adaptable. The outcomes will guide the design of habit formation applications that empower learners to achieve sustained personal growth and improved self-efficacy.

2. Literature review

2.1. Gamification and Its Effectiveness in Habit Formation and Student Motivation

Gamification, the application of game-design elements in non-game contexts, has emerged as a significant strategy in education to enhance student learning outcomes, motivation, engagement, and habit formation (Wulan et al., 2024). Researchers and educators are increasingly interested in how gamification can address evolving educational needs and maintain student attention, especially in digital learning environments (Lumbantoruan & Ditasona, 2021). For example, incorporating gamified elements into digital platforms for cultural education has been shown to increase user interest in learning about indigenous cultures (Isa et al., 2022). Gamification significantly impacts student motivation and engagement by incorporating elements such as feedback systems, leaderboards, point-scoring mechanisms, rewards, and challenges (Covrig et al., 2023; Lumbantoruan & Ditasona, 2021; Psychology and Education: A Multidisciplinary Journal, 2025). These elements can stand-in active participation and make learning enjoyable (Çiğdem et al., 2024). Studies show that gamification can increase student motivation, improve engagement, and strengthen content retention (Jaramillo-Mediavilla et al., 2024). This approach extends beyond mere entertainment, effectively transforming mundane tasks into interactive experiences that encourage consistent engagement and the development of beneficial habits (Isa et al., 2022) (Diana et al., 2024) (Suryanto et al., 2020). Gamification techniques are also promising in promoting healthy behaviors and habit formation. This is relevant in educational settings for encouraging consistent study habits or other beneficial behaviors (Agrawal et al., 2023).

2.2. AI-Powered Personalized Coaching for Behavioral Change and Self-Development

AI-powered intelligent tutoring systems are central to sustainable education, providing personalized and adaptive instruction to cultivate learners' capabilities (Lin et al., 2023). These systems leverage AI to automate individualized teaching paths, making education more effective and accessible by adapting to student needs and providing objective metrics on learning (Clément et al., 2025). Designed to induce cognitive and motivational changes in students by offering personalized content, questions, tasks, and feedback, performing functions to human tutors (Paladines & Ramírez, 2020). The integration of AI into gamified learning environments can further optimize learning experiences by dynamically adjusting game mechanics and content based on individual student performance and engagement, thereby promoting sustained motivation and improved learning outcomes (Cao, 2023). This personalization, facilitated by AI, can dynamically adjust difficulty levels and gamified elements, ensuring that learning remains attractive and boosts motivation through rewards like points, badges, and rankings (Neugnot-Cerioli & Laurenty, 2024) (Niño et al., 2024). This adaptive personalization, driven by artificial intelligence, enables the system to continuously refine the learning experience, offering both academic and behavioral support, much like an experienced human tutor would (Lin et al., 2023).

Moreover, AI and Information Technology systems have the potential to provide students with personalized learning experiences that cater to their unique learning styles and preferences (Lin et al., 2023). Additionally, the development of AI-powered digital well-being applications presents significant challenges, including ethical concerns, privacy risks, and the potential for over-reliance on automated interventions (Scibetta et al., 2025).

2.3. Impact of Culturally Sensitive User Interface Design on Engagement and Usability in Educational Technologies

The integration of culturally sensitive user interface design into educational technologies is critical for enhancing user engagement, improving usability, and ultimately achieving effective learning outcomes. This approach recognizes that users from diverse cultural backgrounds interact with and perceive technology differently, and design must accommodate these variations to create inclusive and impactful learning environments (Eppard et al., 2021; Son, 2024). Culturally sensitive UI design significantly influences user engagement by making technology feel more familiar, relevant, and appealing to diverse user groups (Alsswey et al., 2021). In educational contexts, culturally relevant and appropriate technology can make teaching and learning more effective by establishing a dialogue between educators and students (Eppard et al., 2021). Research indicates that cultural attitudes, learning preferences, and interactive learning experiences, which are often embedded in UI design, positively influence behavioral intentions, attitudes, and perceived usefulness of technology, thereby boosting engagement (Dalle et al., 2024). Usability is directly impacted by how well a UI design caters to the cultural preferences and needs of its target users. A UI that aligns with cultural expectations tends to be perceived as easier to use, more intuitive, and ultimately more effective (Alsswey & Al-Samarraie, 2021).

3. Methodology

3.1. Research Design

This study employs a descriptive quantitative research design to assess user interaction, motivation, and satisfaction with the HabitFlow system. The independent variables include gamification components, AI-driven coaching features, and the culturally sensitive user interface. Dependent variables are user engagement, habit consistency, and perceived usability. This approach allows evaluation of HabitFlow's effectiveness in promoting habit formation and personal development among students.

3.2. Participants

Participants will consist of 100 third-year students from the South East Asian Institute of Technology, selected through purposive sampling to ensure diversity in academic backgrounds and varying levels of technological proficiency. The sample aims to represent the target user group for HabitFlow to fairly evaluate system usability and user experience.

3.3. Data Collection

Data will be collected via structured quantitative questionnaires using Likert-scale items to measure students motivation levels, ease of use, satisfaction with AI coaching, and perceived impact on habit formation. App usage data such as habit streaks and reward achievements will also be gathered to complement survey responses. Data collection will be conducted in accessible locations within the campus to maximize participant convenience.

3.4. Data Analysis

Descriptive statistics, including mean scores, standard deviations, and frequency distributions, will summarize engagement and satisfaction levels. Comparative analyses may be undertaken to explore differences among subgroups categorized by technological readiness or academic discipline. Correlation analyses will be used to examine relationships between app usage and self-reported motivation and habit consistency.

3.5. Ethical Considerations

The study will adhere strictly to ethical research standards, guaranteeing participant anonymity, informed consent, and voluntary participation. Participants will be fully informed about study aims, procedures, and their right to withdraw at any time without penalty. Data confidentiality will be maintained, and all procedures will comply with institutional and cultural norms relevant to the student community.

4. Advanced HCI design

4.1. System Architecture

The HabitFlow system's advanced Human-Computer Interaction (HCI) design aims to support consistent habit formation and personal development among students through an intuitive, culturally sensitive, and engaging mobile platform. The system addresses common barriers in habit tracking by incorporating personalized AI coaching, gamified reward mechanisms, and a user-friendly interface designed for diverse student users. HabitFlow is built with a modular architecture consisting of several key components that ensure responsiveness, accessibility, and motivation-driven usability.

Key Components Include:

- *Client Side (User Interface):* This is the mobile front-end accessible via smartphone. The interface is designed with simplicity and cultural relevance to engage third-year students. It features habit tracking dashboards, progress visualizations, AI coaching prompts, and gamification elements such as badges and certificates to encourage sustained use.
- *AI Coaching Engine:* This core module provides personalized feedback, habit recommendations, and motivational messages based on user behavior and habit consistency data. The AI adapts coaching strategies dynamically to support different motivation levels and developmental goals.
- *Habit Data Database:* This component securely stores user habit data, streaks, self-assessments, and reward records. It enables longitudinal tracking of habit formation and facilitates data-driven AI coaching.

- *User Management:* Responsible for registering and authenticating users, managing profiles, and segmenting user groups by engagement level and personal preferences. This supports tailored user experiences and access control.
- *Gamification Module:* Handles the logic for awarding points, badges, certificates, and unlocking milestones tied to habit completion and course integrations, promoting motivation through positive reinforcement.
- *Offline Mode Manager:* Ensures HabitFlow remains fully functional without continuous internet access by caching user data and syncing automatically with the backend database once connectivity is restored.
- *Backend Database and Security:* A centralized, encrypted storage system that manages all user data, AI model parameters, system logs, and synchronization tasks. It guarantees privacy, data integrity, and compliance with relevant security standards.

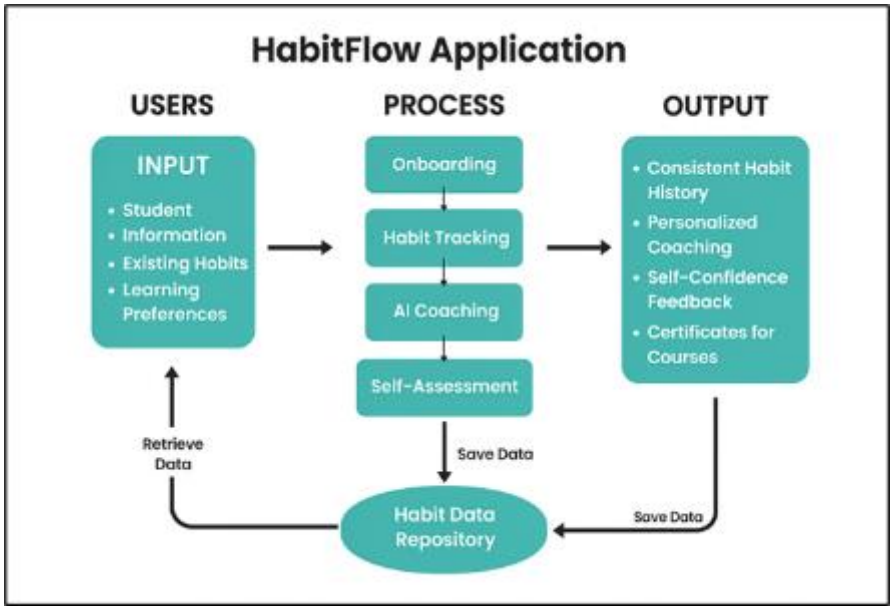

Figure 1 The diagram illustrates the HabitFlow system, connecting students to personalized habit tracking and self-improvement tools through AI-powered coaching and gamified rewards. It includes a user interface, AI coaching engine, progress tracker, gamification module, and self-assessment features, all supported by a backend database that securely stores user data and synchronizes information across devices. The system operates both online and offline, ensuring students can track their progress, stay motivated, and build lasting habits, even in areas with limited connectivity

4.2. Features and Functionalities

The features and functionalities of the HabitFlow system are as follows:

- Gamified Habit Tracking

Enables students to track their daily physical and mental habits through interactive streaks, points, and badges that motivate consistent behavior and progress.

- AI-Powered Personalized Coaching

Provides real-time, adaptive habit recommendations and motivational messages tailored to individual users progress and goals, supporting sustained personal development.

- Self-Assessment and Reflection Tools

Offers periodic prompts for users to evaluate their mental and physical well-being, encouraging self-awareness and guiding habit adjustments.

- Culturally Sensitive User Interface

Designed with culturally relevant visuals, language, and interaction patterns that resonate with the student community, making the app intuitive and engaging for diverse users.

- Data Synchronization and Offline Access

Allows habit data and progress to be saved locally and automatically synchronized with the cloud when internet connectivity is available, ensuring uninterrupted use in low-connectivity environments.

4.3. User Interface Design

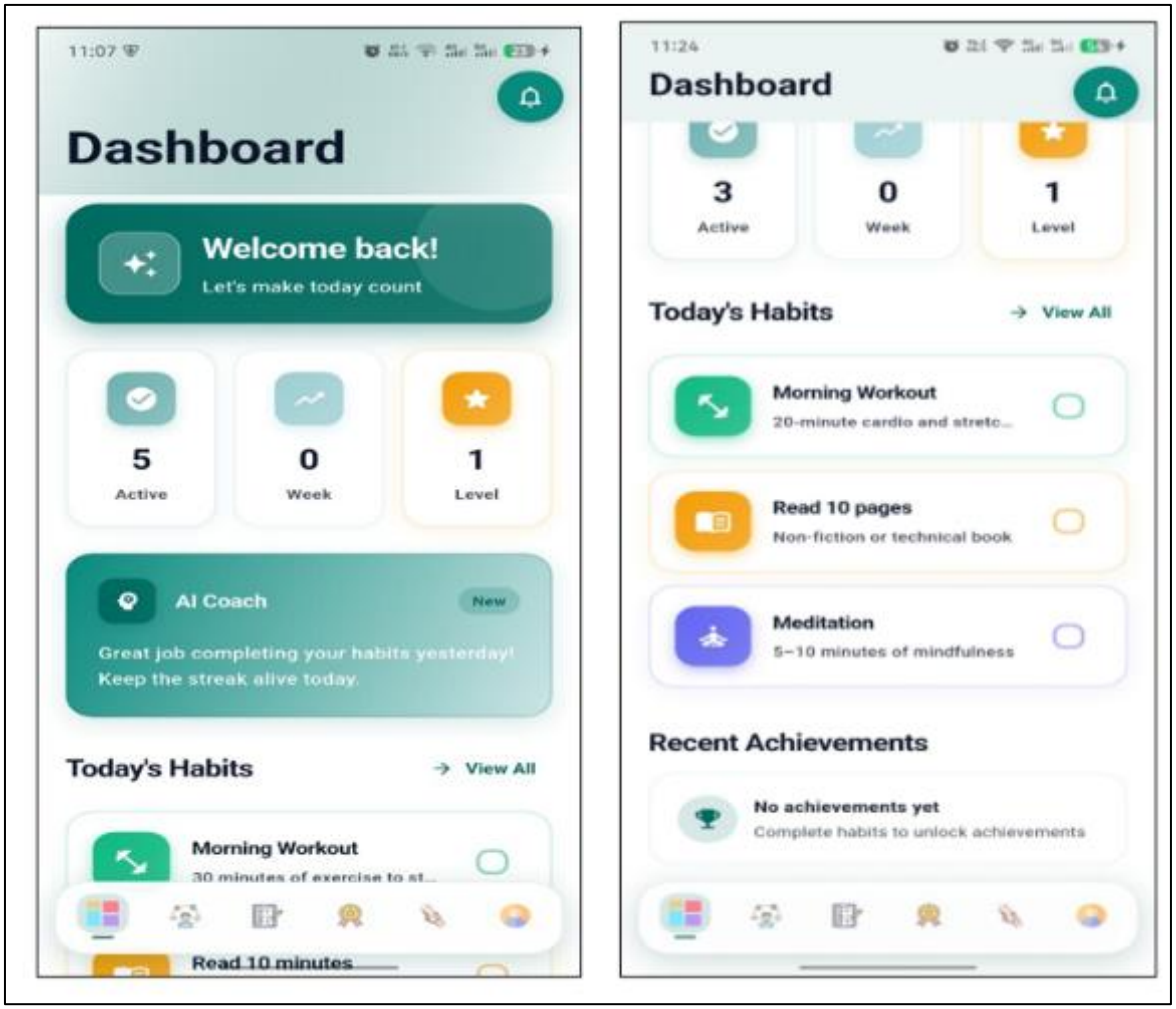

Figure 2 HabitFlow home screen overview showing welcome message, quick stats (active habits, weekly progress, level), AI coaching messages, today's habits, and recent achievements

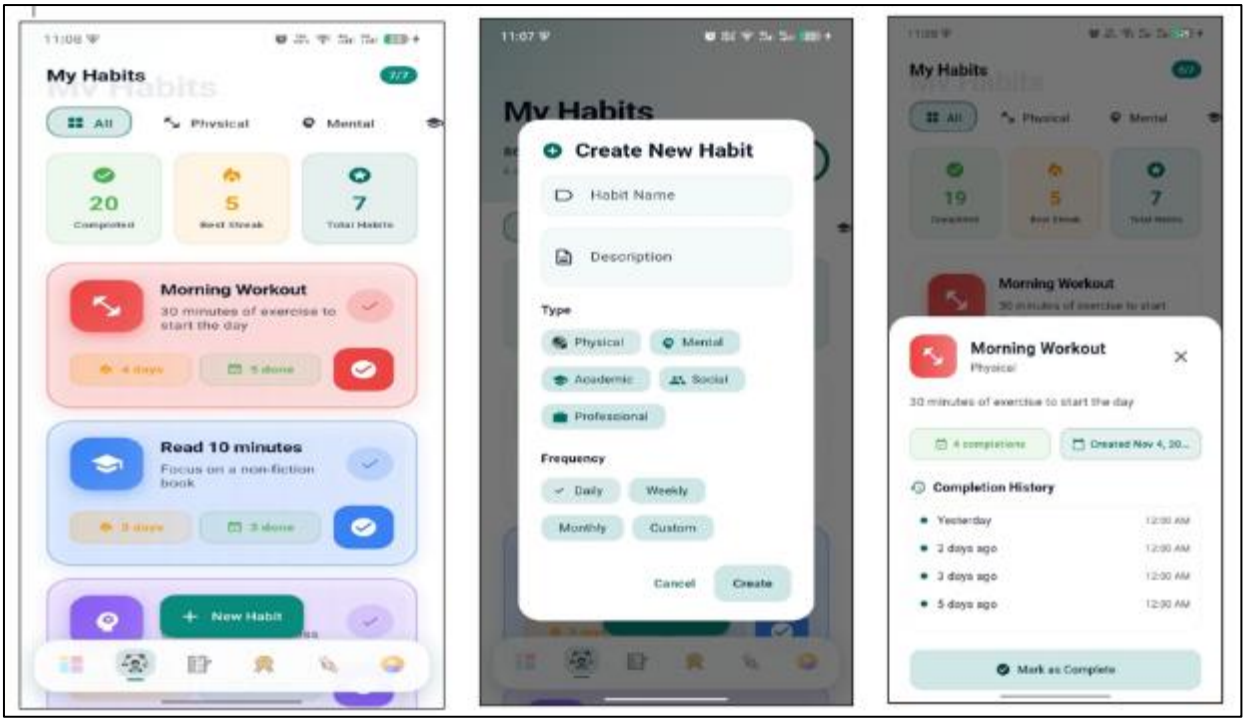

Figure 3 HabitFlow habit tracking interface with category filters (Physical, Mental, Academic, Social, Professional) and stats overview

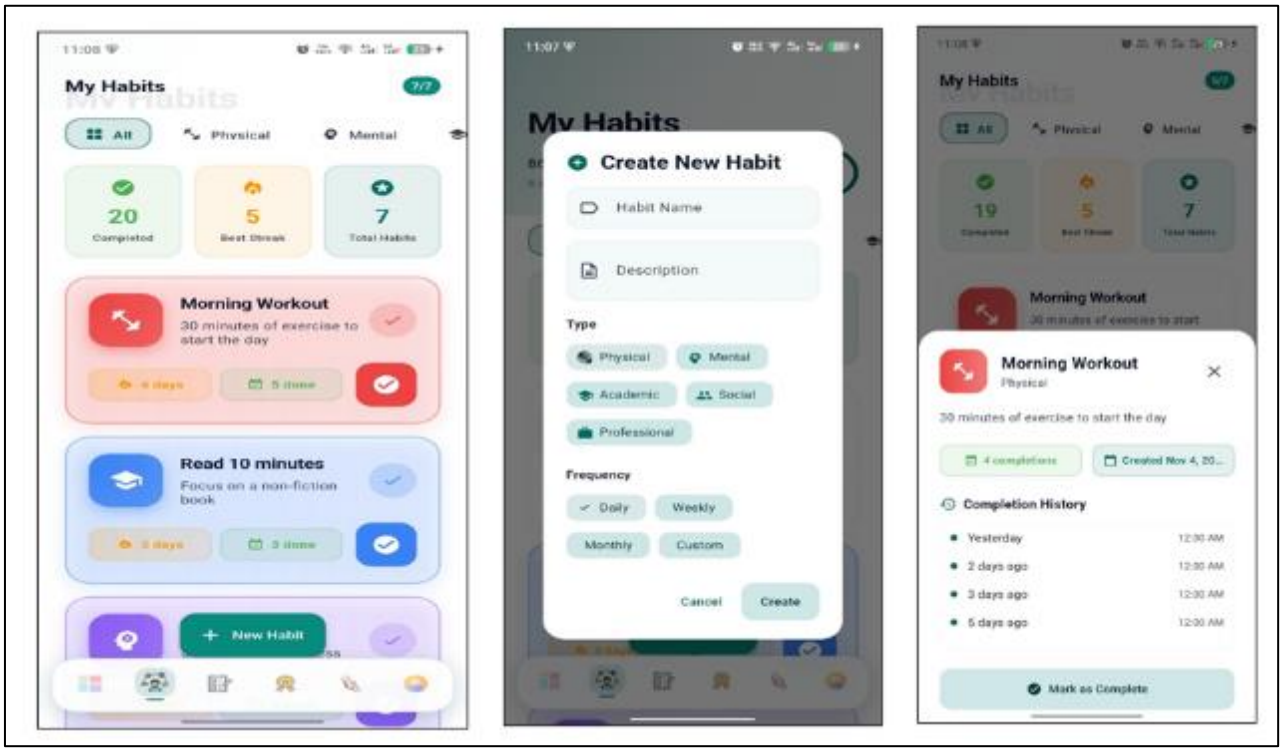

Figure 4 HabitFlow main habit tracking screen showing habit cards with completion tracking, streak tracking, and detailed habit information

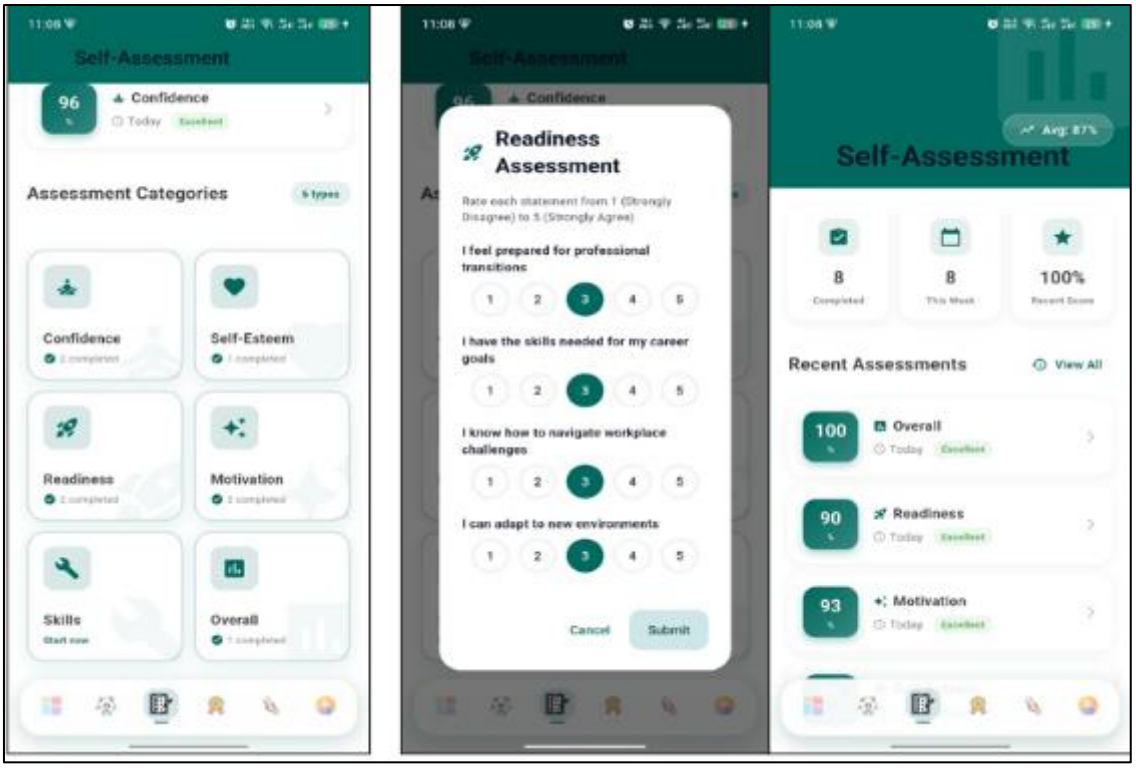

Figure 5 HabitFlow self-assessment interface with categories (Confidence, Self-Esteem, Readiness, Motivation, Skills, Overall), stats overview, recent assessment history, and category selection grid

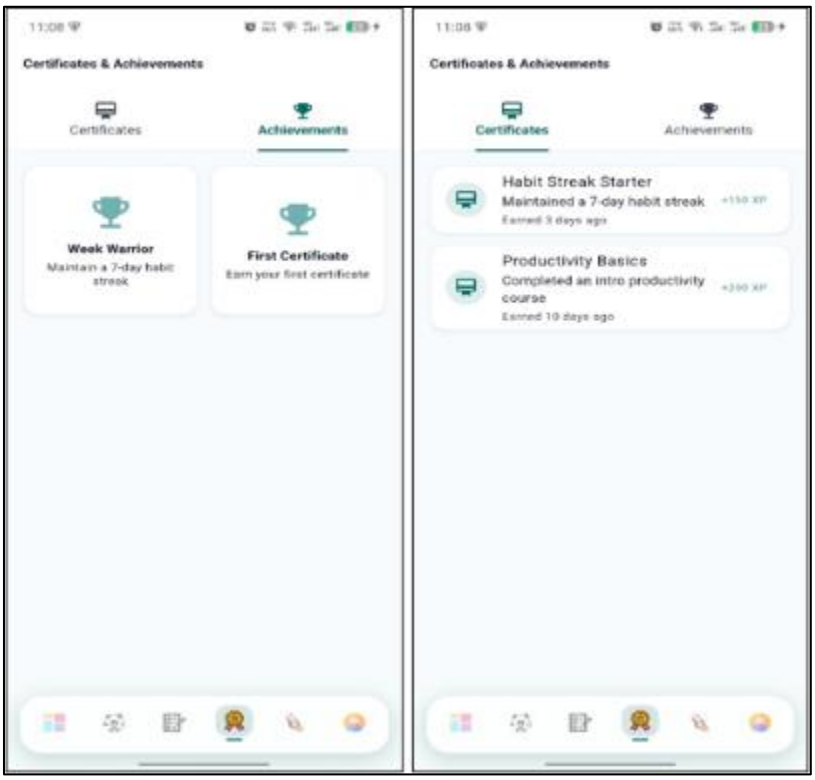

Figure 6 HabitFlow certificates and achievements gallery showing earned dates and experience points

Figure 7 Personalized coaching messages including celebrations, motivational tips, advice, reminders, analytical insights, and progress analysis

Figure 8 HabitFlow user profile screen showing level, experience points, certificates count, confidence level, with menu options for editing profile, viewing progress, connecting learning platforms, accessing help & support, and viewing app information

5. Evaluation and results

5.1. Usability Testing

The results of the usability testing for the HabitFlow system generally showed positive feedback from student users. This indicates a good compliance of the system with established usability principles. Students, who used HabitFlow to track habits and encourage personal development, found the system easy to use. The ease-of-use dimension scored an average of 4.10 (82%), while the willingness to continue using the app received an average score of 4.15 (83%). These outcomes suggest a strong engagement level among users. Furthermore, students expressed reasonable confidence in navigating the app independently, with an average confidence score of 4.05 (81%). Some moderate issues were noted in initial learning curves and occasional complexity in advanced features, with scores around 2.3 and 2.5 respectively, indicating areas for future improvement. Overall, the findings support HabitFlow as an effective and user-friendly tool for habit consistency and personal growth support.

Table 1 Usability Result Table

Questions	Students Mean
I thought the system was easy to use.	4.10
I found the system unnecessarily complex.	2.35
I needed to learn a lot before I could get going.	2.30
I imagine most people would learn to use this system quickly.	4.05
I think I would need the support of a technical person to use this system.	2.25
I found the app cumbersome to use.	2.45
I felt confident using the app.	4.05
I thought there was too much inconsistency in this system.	2.30
I think I would like to use this app frequently.	4.15
I found the overall experience of using the system satisfying.	4.20
TOTAL MEAN	3.22

5.2. Performance Metrics

Performance metrics were established to evaluate HabitFlow's impact on students engagement, confidence, and satisfaction. The evaluation focused on third-year students at the South East Asian Institute of Technology, who used the system to develop consistent physical and mental habits and support personal growth. Overall, users found HabitFlow intuitive, motivating, and accessible, which contributed to improved habit adherence and increased confidence. Students rated aspects such as visual clarity, ease of navigation, and cultural appropriateness positively. However, some areas, particularly related to system complexity, instructions clarity, and occasional technical responsiveness, revealed opportunities for improvement. Addressing these concerns can enhance usability and optimize sustained user engagement.

Accessibility (Students) 3.69 (73.8%) — Students reported strong scores in ease of navigation (4.10), cultural relevance (4.05), and confidence in using the system (4.08). Lower scores were noted in instructional support (3.05), system performance consistency (2.85), and complexity of certain features (2.65). This shows HabitFlow performs well overall but suggests the need to improve user guidance and technical reliability.

Table 2 Accessibility Result Table

Questions	Students Mean
The interface icons, buttons, and labels are clear and culturally appropriate.	4.10
HabitFlow is easy to access and navigate.	3.90
The system accommodates both new and experienced users effectively.	4.05
HabitFlow is accessible and usable regardless of my location or device.	4.08
I feel confident using the app regularly to maintain my habits.	4.00
I found instructions and help features difficult to locate or understand.	3.05
Some features of the system are unnecessarily complex.	2.65
The system occasionally experiences slow responses or technical issues.	2.85
I found it difficult to switch between different features in the app.	2.70
I sometimes need technical support to use the system effectively.	2.50
TOTAL MEAN	3.39

Functionality (Students): 2.50 (50%)- Students provided moderate feedback on the overall functionality of HabitFlow. They rated the habit tracking features as reliable and effective, with a mean score of 3.75 (75%). The AI-powered personalized coaching was also positively received, scoring 3.60 (72%). However, indicators related to system responsiveness (2.40 or 48%) and the clarity and ease of use of advanced features (2.20 or 44%) indicated that technical improvements and clearer guidance could substantially enhance the user experience.

Table 3 Functionality Result Table

Questions	Students Mean
The habit tracking and self-monitoring features worked as expected.	3.75
The system responded quickly to my inputs and interactions.	2.40
The AI coaching and motivational features helped me maintain my habits better.	3.60
All major functionalities of the system worked as intended.	2.20
The different features in HabitFlow are well-integrated and easy to access.	3.25
I found it difficult to understand how some system features worked.	2.10
The system occasionally froze or lagged during use.	2.30
I felt frustrated when the system did not respond as expected.	2.00
Navigating advanced features was confusing.	2.20
I had trouble overcoming obstacles while using HabitFlow's features.	2.15
TOTAL MEAN	2.60

5.3. Comparative Analysis

The study compared HabitFlow with other popular habit tracking and self-development applications used by students and young adults. HabitFlow stood out as a user-centered, culturally sensitive, and offline-capable system specifically designed to address the unique challenges faced by third-year students at the South East Asian Institute of Technology. The convenience of its personalized AI coaching, gamified rewards, and intuitive interface made habit formation more engaging and accessible compared to more generic or complex habit trackers. While some existing apps often overlook cultural context or overwhelm users with complicated features, HabitFlow strikes a balance between simplicity and personalized support. A few minor limitations, such as the need for improved onboarding and occasional interface

complexity, were noted; however, these did not significantly affect overall satisfaction. Users felt that HabitFlow better respects their cultural backgrounds and effectively supports their personal growth relative to other tools.

5.4. Results and Findings

The combined results from the evaluations of usability, accessibility, and functionality affirm that HabitFlow successfully achieves its intended goals:

- Usability – 3.82
- Accessibility – 3.39
- Functionality – 2.60

System Usability Scale (SUS) scores and qualitative feedback revealed that users are confident, satisfied, and eager to continue using HabitFlow. The system's ease of use, motivational features, and culturally relevant design facilitated more consistent habit formation and greater self-confidence among participants. These strengths demonstrate HabitFlow's practical value as a supportive tool for student development during critical academic and personal transitions. The system's user-friendly and adaptive design contributed significantly to maintaining user engagement and promoting sustained positive behavioral change.

6. Discussion

6.1. Interpretation of Findings

This research focused on how HabitFlow impacts habit formation, motivation, and user experience among third-year students at the South East Asian Institute of Technology. The findings indicate that three primary elements, HabitFlow's AI-powered personalized coaching, gamified reward system, and culturally sensitive, intuitive interface, significantly contribute to increased user engagement, improved habit consistency, and higher satisfaction levels.

Table 4 Descriptive Survey Result Table

Questions	Mean	Standard Deviation
How effective is HabitFlow's personalized coaching in supporting habit formation?	3.60	0.48
How motivating do you find the gamified reward system?	3.55	0.52
How user-friendly and culturally relevant is the interface design?	3.65	0.47
To what extent has HabitFlow increased your motivation to maintain habits?	3.58	0.50
How satisfied are you with your overall experience using HabitFlow?	3.62	0.45
TOTAL MEAN	3.60	0.48

RQ1: *How does the AI-powered personalized coaching in HabitFlow assist in habit formation and motivation?*

Based on user feedback, the personalized coaching scored 3.60, indicating its key role in supporting users to develop and maintain habits consistently. Students noted that the tailored recommendations and timely motivational messages made the habit-building process feel achievable and personalized, increasing their engagement and confidence throughout the experience.

RQ2: *How do the gamification elements affect user engagement and motivation?*

The gamified reward system received a high mean score of 3.55, reflecting that users found badges, points, and other rewards motivating. These elements helped users stay committed to their habits by providing tangible progress markers and a sense of achievement, thereby enhancing sustained use of the application.

RQ3: *How does the culturally sensitive and intuitive interface impact HabitFlow's accessibility and sustained usage?*

The interface design was rated highest at 3.65, highlighting that users perceived it as not only easy to use but also culturally meaningful. This design helped promote a supportive environment for habit tracking, encouraging students to interact regularly with the app. The culturally informed features contributed to a more personal and relevant experience, likely boosting both initial adoption and continued engagement.

6.2. Contributions and Innovation

This research underscores the significance of culturally sensitive design and human-computer interaction (HCI) principles in developing habit formation technologies that effectively support student development. HabitFlow stands out by integrating AI-powered personalized coaching, gamified rewards, and a culturally relevant, easy-to-use interface tailored specifically for third-year students at the South East Asian Institute of Technology. This combination creates an accessible platform that motivates students with diverse backgrounds to build and sustain positive habits. The system demonstrates how thoughtful, culturally aware design coupled with intelligent automation can make habit tracking more engaging, empowering students to take active control of their personal growth during critical academic transitions.

6.3. Limitations and Future Work

This study focused exclusively on third-year students from a single institution, which may limit the generalizability of the findings to broader or more diverse populations. Future research should evaluate HabitFlow across multiple campuses and varied demographic groups to validate and extend the system's effectiveness. Additionally, long-term studies could explore sustained habit adherence and its impact on academic and personal outcomes over time. Improvements could include enriching AI coaching algorithms, expanding gamification elements, and offering personalized learning pathways to increase user engagement. Enhanced user guides and onboarding tutorials should be developed to facilitate smoother adoption, especially for users less familiar with digital habit tracking.

7. Conclusion

7.1. Summary of Key Findings

HabitFlow received high acclaim in terms of usability, user engagement, and satisfaction among the students involved in the study. Participants valued its culturally sensitive interface, accessible design, personalized AI coaching, and motivating gamified features. These elements collectively contributed to increased habit consistency, confidence, and readiness for real-world challenges. The research highlights that a user-centered, culturally-informed design approach significantly enhances the system’s effectiveness in promoting positive behavioral change and student empowerment.

7.2. Final Remarks

In conclusion, HabitFlow is a well-designed, user-friendly, and culturally empathic tool that supports students in developing lasting habits and personal growth. The study demonstrates the critical role of integrating cultural considerations with HCI principles in technology development for education and health-related behavior change. Continuous improvements informed by user feedback, particularly in system responsiveness and ease of use, position HabitFlow as a promising, scalable solution to support student success and well-being in diverse educational contexts.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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Appendices

Appendix A: System Usability Scale (SUS) Likert Scale Survey Questionnaire

- Functionality

Questions	**Ratings**			
1. The habit tracking and self-monitoring features worked as expected.	1	2	3	4
2. The system responded quickly to my inputs and interactions.	1	2	3	4
3. The AI coaching and motivational features helped me maintain my habits better.	1	2	3	4

4. All major functionalities of the system worked as intended.	1	2	3	4
5. The different features in HabitFlow are well-integrated and easy to access.	1	2	3	4
6. I found it difficult to understand how some system features worked.	1	2	3	4
7. The system occasionally froze or lagged during use.	1	2	3	4
8. I felt frustrated when the system did not respond as expected.	1	2	3	4
9. Navigating advanced features was confusing.	1	2	3	4
10. I had trouble overcoming obstacles while using HabitFlow's features.	1	2	3	4

- Accuracy

Questions				
1. I thought the system was easy to use.	1	2	3	4
2. I found the system unnecessarily complex.	1	2	3	4
3. I needed to learn a lot before I could get going.	1	2	3	4
4. I imagine most people would learn to use this system quickly.	1	2	3	4
5. I think I would need the support of a technical person to use this system.	1	2	3	4
6. I found the app cumbersome to use.	1	2	3	4
7. I felt confident using the app.	1	2	3	4
8. I thought there was too much inconsistency in this system.	1	2	3	4
9. I think I would like to use this app frequently.	1	2	3	4
10. I found the overall experience of using the system satisfying.	1	2	3	4

- Accessibility

Questions				
1. The interface icons, buttons, and labels are clear and culturally appropriate.	1	2	3	4
2. HabitFlow is easy to access and navigate.	1	2	3	4
3. The system accommodates both new and experienced users effectively.	1	2	3	4
4. HabitFlow is accessible and usable regardless of my location or device.	1	2	3	4
5. I feel confident using the app regularly to maintain my habits.	1	2	3	4
6. I found instructions and help features difficult to locate or understand.	1	2	3	4
7. Some features of the system are unnecessarily complex.	1	2	3	4
8. The system occasionally experiences slow responses or technical issues.	1	2	3	4
9. I found it difficult to switch between different features in the app.	1	2	3	4
10. I sometimes need technical support to use the system effectively.	1	2	3	4

Appendix B: Descriptive Survey Questionnaire

Improving Student Habit Consistency and Personal Development through HabitFlow: A Gamified Habit Tracker for 3rd Year Students at South East Asian Institute of Technology

- How effective is HabitFlow's personalized coaching in supporting habit formation?

  ☐ Not At All ☐ Slightly ☐ Very Much ☐ Extremely

- How motivating do you find the gamified reward system?

  ☐ Never ☐ Rarely ☐ Often ☐ Always

- How user-friendly and culturally relevant is the interface design?

  ☐ Very Poor ☐ Poor ☐ Good ☐ Excellent

- To what extent has HabitFlow increased your motivation to maintain habits?

  ☐ Strongly Disagree ☐ Disagree ☐ Agree ☐ Strongly Agree

- How satisfied are you with your overall experience using HabitFlow?

  ☐ Very Dissatisfied ☐ Dissatisfied ☐ Satisfied ☐ Very Satisfied