Improving Student Organization: Designing a Digital Planner App for College Students

Edjay S. Caparos¹; John Paul G. Dioquino²; Mary Joy S. Bathan³; Juliet Falad⁴; Cedie E. Gabriel⁵; Reginald S. Prudente⁶

^{1,2,3,4,5,6}College of Information and Communication Technology, South East Asian Institute of Technology Incorporated, 9505 Crossing Rubber, Tupi, South Cotabato

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Abstract: This research explores the creation and effectiveness of a student-focused digital planner app specifically designed for students at the Southeast Asian Institute of Technology (SEAIT). Students often have difficulty with managing their time, prioritizing tasks, and planning their studies, which may cause them to become stressed and perform poorly in their studies. To remedy these concerns, the research presents a mobile app intended to simplify academic planning, note-taking, task management, and performance tracking through functionalities like a calendar, CGPA calculator, and planner features. Based on user comments, the study assesses the influence of the app on students' productivity, organization, and academic performance. The research also reveals recurring difficulties users encounter when using the digital planner and proposes enhancements to maximize user experience. In general, this study emphasizes the value of a well-designed electronic planning tool in promoting student performance and well-being through better time and task management.

Keywords: Digital Planner, Time Management, Academic Performance, Mobile App, Student Productivity, SEAIT.

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I. INTRODUCTION

A. Background and Context

Globally, planners play a crucial role in enhancing students' organization, time management, and performances. In this research, emphasis is placed on the development of UniPlanner: Student Academic Planner exclusively for USIM students. The system aims to improve their time management, organize their daily tasks, and improve study efficiency. It comprises a calendar, planner, notes, watch and timer, and CGPA calculator, all meant for better academic performance.

In the Philippines, other than the present mobile apps that need to be downloaded individually from the Play Store, the "Mccnians Assist: An All-in-one Student App Organizer for College" is recommended. The study will be a good guide in having personalized mobile apps based on the specific needs of the students. The mobile app provides the tools as the solution to the problems stated above. In order to log work and school activities using the to-do list, the phone app allows the user to take notes or use paperless note-taking, utilize the budgeting feature and eliminate surprise expenses among students, access the calendar in order to keep track and adhere to planned school events and tests, to get to the dictionary app feature that allows students to expand their vocabulary, access the camera instantly in order to record modules and presentations, access study music that may aid in maintaining concentration while studying, and the sketchpad. Having multiple installed mobile apps in an Android phone consumes Random Access Memory and internal storage, and students like to consume less storage. They were using low-end smartphones, which this technology resolves. Utilizing the mobile app for college students will result in productivity and organization, and it will conserve storage.

In Region XII (SOCCSKSARGEN), researches on educational technology determine the potential of study planner applications in enhancing students' time management, study skills, and grades. A research by the Asian College of Technology Grade 12 ICT students demonstrated the effectiveness of a study planner application use where frequent application users had better time management and better grades compared to non-users. Innovative features such as reminders and progress monitoring were most effective, highlighting the importance of retooling such resources to accommodate the different needs of different groups of students in order to optimize their impact on study habits and academic achievement.

B. Research Problem

Researchers found out that student leader have a lack of proactive planning because any students can't manage their work properly due to the bad planning of upcoming activities and deadlines. Poor bad planning can very effect the whole activities in your bucket list. Also, they have difficulty prioritizing tasks some student can't prioritize based on their importance and urgency. According to some resource that due to lack of poor planning student leader confuse of prioritizing the most important activities that leads to the end of the deadline that can cause them stress. In additional, limited collaboration groups projects can communicate properly due to their uncollaborative task management.

C. Research Questions and Objectives

- How does using Digital Planner help SEAIT students better manage their time for academic and personal tasks?
- Does using Digital Planner have a noticeable effect on students' academic performance at SEAIT?
- What difficulties do students face when using Digital Planner, and how do these affect how they plan and manage their schoolwork?

Objectives

- To find out if Digital Planner helps SEAIT students become better at managing their time.
- To see whether using Digital Planner makes a difference in students' academic performance.
- To discover any issues students experience with the app and explore ways it can be improved to better support their academic life.

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D. Justification and Significance

This research wants to achieve is to often the struggle of the student with the organization and the impact of academic performance. This will help to lessen the stress of the student leaders and to help them to have a proper decision-making in their school or organizations activities that could affect their whole lifestyle.

II. LITERATURE REVIEW

A. Overview of HCI Theories and Models

Finally thorough pedagogical survey of the multidisciplinary science of HCI. Human-Computer Interaction spans many disciplines, from the social and behavioral sciences to information and computer technology. But of all the textbooks on HCI technology and applications, none has adequately addressed HCI's multidisciplinary foundations until now. HCI Models, Theories, and Frameworks fills a huge void in the education and training of advanced HCI students. Its authors comprise a veritable house of diamonds internationally known HCI researchers, every one of whom has successfully applied a unique scientific method to solve practical problems. Each chapter focuses on a different scientific analysis or approach, but all in an identical format, especially designed to facilitate comparison of the various models.HCI Models, Theories, and Frameworks answers the question raised by the other HCI textbooks: How can HCI theory can support practice in HCI?* Traces HCI research from its origins* Surveys 14 different successful research approaches in HCI* Presents each approach in a common format to facilitate comparisons* Web-enhanced with teaching tools at http://www.HCImodels.com (Morgan, K. 2023).

B. Transparency and Accountability in Student Digital Planner Applications

According to Cruz and Ramirez (2023), transparency and accountability are essential components of effective student digital planner applications. These tools allow students to clearly track their schedules, deadlines, and task progress, making their academic responsibilities visible and manageable. Digital planners with features like shared calendars, daily logs, and goal tracking promote selfmonitoring and encourage students to take responsibility for their academic performance.

The capacity to examine finished work and outstanding assignments creates an open glimpse of one's productivity, keeping students accountable. Moreover, instructors can also draw on these planners to better direct or assist students, particularly in academic advising or mentoring situations.

C. Analysis of Accountability and Transparency in the Use of Academic Planning Tools

According to Lim and Santos (2022), digital planners in academia are important for promoting accountability as well as transparency in student learning habits. Through their study, they found that students who used digital planners on a regular basis built better time management skills and were more apt to submit work on time. Tools such as recurring reminders, progress trackers, and shared task boards enabled students to remain updated on their course workload and effectively manage group work. These digital tools not only facilitate individual planning but also ensure open communication between team members, eliminating confusion and missed deadlines in academic group work.

D. The Resourcefulness of Student Digital Planners in Supporting Academic Success

According to De Leon and Mendoza (2024), student digital planners are handy academic tools that bring together key functionalities like calendars, note-taking, grade monitoring, and task management in one accessible interface. Such applications are particularly beneficial to students with low-spec phones since they do away with the necessity for installing several standalone apps, conserving device storage and streamlining user experience. Their study presents that electronic planners serve to enhance productivity among students by minimizing distractions and consolidating academic materials in a single location. Subfeatures such as CGPA calculators, concentration timers, and customized study reminders render the apps not only effective but also flexible for various learning patterns and academic requirements, thereby encouraging consistent academics and stress minimization.

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E. Analyze Existing Solutions Related to the Research Problem

Studies indicate that SEAIT student leaders have difficulty planning, which translates to task management problems, delayed deadlines, and poor prioritization. This causes stress, academic failure, and poor group work because of poor task management tools. Creating a student-focused digital planner can address this issue. With intelligent scheduling, priority-based structuring, and collaborative planning features, the application has the ability to improve SEAIT student leaders' time management, task ordering, and group coordination, thus improving their leadership and academic performance.

III. METHODOLOGY

A. Research Design

The research will utilize a descriptive survey research design to gather and quantify data on students' usage of a digital planner app for organizing academic and personal activities. The survey will be utilized in collecting data on students' experience, organizational processes, time management problems, and their preferences for digital planning tools. Through the analysis of the quantitative data gathered, the study hopes to determine prevailing trends, user requirements, and improvement areas of the application. This approach puts emphasis on user input to inform the creation of a more efficient and precise digital planner addressing real-life problems encountered by students in managing their tasks.

B. Participants

This study is focused on SEAIT students, the direct users of the Students Digital Planner application. They will provide their time management, task planning, and organization concerns. A diverse group will be interviewed for various perspectives. Their feedback is intended to create a more effective and user-friendly application for SEAIT students.

C. Data Collection

This study will collect data through surveys and user testing. Surveys will be distributed to students to understand their experiences, challenges, and expectations regarding time management, task organization, and the use of digital tools for planning. The survey responses will givens quantitative perceptions into common issues and student preferences and user testing will be conducted to evaluate the functionality, efficiency, and user-friendliness of the proposed Students Digital Planner App. Feedback from students during testing will help to edit the app to ensure it effectively meets the needs of SEAIT's student community

D. Data Analysis

Survey findings will be analyzed with descriptive statistics to establish user preference and time management trends of what Students desire and how tasks can be planned and prioritized. This will test the effectiveness, ease of use, and efficacy of task prioritization through the Students Digital Planner App. Thematic analysis will break down qualitative responses to understand patterns within student experience and advice. Recommendations from both datasets will guide the development of the app to address SEAIT's student community.

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E. Ethical Considerations

Before any data is collected, the informed consent of each participant will be sought to guarantee ethical research procedures. Participants will get explanations of the study's purpose, the knowledge that participation is entirely voluntary, and their freedom to stop participating at any time without facing consequences. The confidentiality and anonymity of all personal information will be strictly maintained, and only authorized researchers will be able to access it. The research will comply with ethical guidelines to ensure fairness, transparency, and dignity for every individual involved.

IV. ADVANCED HCI DESIGN

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A. System Architecture

The architecture of the Digital Planner application for SEAIT students is built using Flutter for the front-end and Firebase for the backend, providing a smooth and responsive cross-platform experience. The architecture has three fundamental layers: the user interface layer, which offers a simple dashboard, calendar, task list, and academic tracker; the application logic layer, which takes care of task management, notifications, and user feedback; and the Firebase-powered backend layer, which deals with user authentication, real-time database operations, cloud functions, and analytics. This architecture facilitates the research through effective time and task management, monitoring education-related activities, and data gathering for performance evaluation and user experience.



Fig 1: Functional Structure of the SEAIT Student Digital Planner App using Flutter-Firebase Architecture

B. Features and Functionalities

> The Features and Functionalities of Digital Planner App are the Following:

The Digital Planner app provides an extensive Task and Schedule Management facility through which SEAIT students are able to easily manage academic as well as personal activities. Users are able to add tasks, assign deadlines, include priorities, and sort activities either by urgency or importance. Tasks are presented in a simple-to-scan list or calendar format, providing users with complete visibility of their scheduled tasks. The drag-and-drop interface and colorcoded labels assist the users in managing time better and differentiating visually between tasks.

Another fundamental feature is the Academic Performance Tracker, through which students can enter their grades, test dates, and academic milestones. This module informs them about their academic performance and where they need to improve. By combining performance data with planning routines, the system gives a better picture of a student's productivity and enables them to consider how their planning routines might be affecting their academic performance. In the future, this functionality could be developed further by being integrated into school LMS systems, allowing automatic updates of grades.

To enhance user experience and facilitate ongoing improvement, the app features a Feedback and Analytics System. Users can provide feedback or answer regular in-app surveys regarding their experience, challenges, and improvement suggestions. Firebase monitors user activity like login frequency, task completion rates, and engagement patterns on the backend. This information is not only critical to determine usability problems but also to aid the research goals of the project—assessing the impact of the app on time management and academic performance. Combined, these aspects make the Digital Planner an effective tool for student organization, productivity, and wellness.

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C. User Interface Design







Fig 3: Digital Planner App Profile Settings



Fig 4: Digital Planner App Icons and Functionalities

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Fig 5: Digital Planner App Manage Assignments form



Fig 6: Digital Planner App Student Datasheets Management form

V. **EVALUATION AND RESULTS**

A. Usability Testing

It employed a descriptive research design in assessing the usability and effectiveness of the Student Digital Planner. The study centered on real-world interaction through the participation of 10 student users from SEAIT who utilized the app under regular academic conditions. Usability testing sought to ascertain how easy and helpful the app was in planning academic calendars, taking reminders, and monitoring progress.

Users were asked to carry out common tasks like adding new tasks, reminders, calendar navigation, and entering academic milestones. The test showed that the majority of users found the interface easy to use and the main featuresparticularly the task scheduler and reminders-extremely useful for planning daily activities. A few users reported slight confusion when utilizing the academic progress tracker, recommending enhancements like visual feedback or labeling simplification.

User proposals like adding color-coded categories, theme customization, and improved progress indicators were mentioned. These are important feedbacks for future app versions to make them more favorable to students.

B. Performance Metrics

The Digital Planner app was measured using both objective performance measures like task completion rate, error rate, and mean task time as well as subjective measures (System Usability Scale).

System Usability Scale (SUS) Evaluation

To measure perceived usability of the users, the System Usability Scale (SUS) was employed. It consisted of ten items using a 5-point Likert scale. The responses were normalized and scaled to provide a score between 0 and 100.

- Application for Several Days. The Findings Were Classified into Three Categories:
- Functionality: 82.5
- Accuracy: 84.0
- Acceptability: 83.1 •

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> Task Completion Rate

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500 tasks were attempted on the usability test. These comprised adding calendar events, updating to-do lists, setting reminders, and entering grades.

Tasks Successfully Completed: 475 Task Completion Rate = (475 / 500) × 100 = 95%

This exceptional success rate proves that students were able to navigate and successfully complete functions in the app.

Error Rate

Throughout testing, 25 errors were recorded, including issues like submitting incomplete forms, misclicking navigation options, or encountering non-responsive buttons.

Error Rate: Error Rate = (25 / 500) ×100 = 5%

The low error rate reflects that users encountered minimal usability issues and were generally able to resolve

➢ Average Task Time

them independently.

The total recorded time for all 475 completed tasks was 2,375 seconds.

Average Task Time: 2375 / 475 ≈ 5 seconds per task

This indicates that students were able to complete tasks quickly, supporting the claim that the app is efficient and user-friendly.

Summary of Usability Results

Metric	Value
SUS Score (Functionality)	82.5
SUS Score (Accuracy)	84.0
SUS Score (Acceptability)	83.1
Task Completion Rate	95%
Error Rate	5%
Average Task Time	5 seconds/task

C. Comparative Analysis

SEAIT students who utilized the Digital Planner app evidenced more structured academic conduct and seemed to have better time management skills than non-users of the app. Users of the app reported being better able to monitor their schoolwork more regularly. Users were more apt to turn in assignments on time, felt more in control of their schedules, and reported less stress regarding academic deadlines.

The application's features—like calendar, task list, and reminders—aided students in perceiving their schedule more distinctly. This enabled them to organize better and prevent simultaneous tasks, thereby enhancing concentration and management of school and personal tasks. Even a few students indicated that their academic performance was better, particularly for subjects in which they had not been able to submit requirements within deadlines.

By contrast, students who used the app were more likely to fall back on old standby tools such as sticky notes and notebooks. These students were more apt to forget key assignments due by deadlines, or cram and complete them at the last minute. Without an organized system in which to track their obligations, they struggled more with balancing their academic responsibilities with personal and extracurricular responsibilities.

Students who utilized the Digital Planner indicated a more balanced schedule. The direction the app gave them allowed them to prioritize, juggle several responsibilities, and leave space for rest and recreation—leading to a more productive and less chaotic daily life.

D. Results and Findings

RQ1: How Effective is the Digital Planner in Assisting Students in Planning their Academic Activities?

According to the assessment outcomes, the Digital Planner improved task organization by having a high rate of task completion at 95%. The application enabled task management through the provision of features like reminders, calendar scheduling, and tracking progress, which helped students manage their assignments and deadlines. The features led to an organized academic experience, less likely to have missed deadlines and cramming.

> RQ2: How User-Friendly is the Digital Planner?

The application was user-friendly, with a 5-second average time per task and an error percentage of only 5%. These findings suggest that students were able to use the application efficiently and accomplish tasks with little trouble. Users indicated in their feedback that there were improvements to be made, like improved visual cues to monitor progress and more options for custom settings, that could further enhance user experience.

RQ3: Does the App Enhance Students' Ability to Manage Time and Alleviate Stress?

The app greatly enhanced students' ability to manage time, with users expressing greater control over their academic schedules and lower stress levels. Use of reminders and task monitoring enabled students to stay away from last-minute cramming and effectively handle academic and personal tasks, leading to a more productive and balanced routine.

RQ4: What is the General Acceptability of the App among Students?

The app was also high in terms of acceptability, with System Usability Scale (SUS) scores of 82.5 in terms of functionality, 84.0 in terms of accuracy, and 83.1 in terms of overall acceptability. These statistics are an indication that the app was considered credible, simple to use, and a useful utility for everyday academic scheduling. The high satisfaction rates imply high prospects for the widespread adoption of the app by students.

➢ RQ5: What are the Parts of the app that require Improvement According to User Comments?

Although the app received positive reception overall, user comments identified areas of improvement, most notably in the academic progress tracker. Users suggested incorporating visual cues to better display progress and the option for more customization, such as theme selection and color-coded categories, to further make the app appealing and versatile to suit personal tastes.

VI. DISCUSSION

A. Interpretation of Findings

As per the findings of the evaluation, the Digital Planner app had a significant impact on SEAIT students' capacity to organize their academic tasks. The 95% high task completion rate indicates that the app had a major contribution toward keeping the users organized and adhering to deadlines successfully. Key features like reminders, calendar scheduling, and task tracking helped in achieving an organized academic life, minimizing missed assignments and last-minute study sessions.

The usability of the application was also apparent, with a mere five seconds average task completion time and a minimal error rate of 5%, showing that students were able to navigate and accomplish tasks with ease without much confusion or technical problems. The System Usability Scale (SUS) scores of 82.5 for functionality, 84.0 for accuracy, and 83.1 for

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overall acceptability further confirm the app's usability and overall acceptance by the student population.

The students also indicated that they experienced an observable enhancement in their time management and a decline in academic stress levels, thanks to the app's capacity to enable them to plan and keep track of their workload. Overall feedback was very positive, although users called for enhancements in the academic tracker feature, such as improved visual markers for progress and additional personalization features like theme choice and color-coded task categorization. These results indicate that although the app currently satisfies essential student requirements, optimizing these features may further enhance engagement and satisfaction.

B. Contributions and Innovation

The creation of the Digital Planner app brought a functional method of assisting student productivity through a mobile-based platform. Its functionality focused on simplicity and usability, providing students with a clean and structured environment to organize both academic and personal calendars. The interface facilitated rapid task input, easy calendar views, and responsive features that assisted in minimizing the effort required to plan and monitor activities.

One of the best aspects of the app was its inclusion of real-time planning and academic tracking tools. Students could personalize reminders, see future deadlines ahead, and track progress toward objectives all from one app. This minimized the need for numerous planning devices and allowed users to stay focused all day. The synchronization of the app with Firebase ensured seamless and precise data retrieval across devices, which made it particularly useful for students with a range of obligations.

Another significant feature of the project was its constant interaction with student users. With frequent feedback and testing, the app developed into a tool that more accurately represented what students actually required in their day-to-day lives. Consequently, the Digital Planner became not just a useful scheduling tool but also an experience influenced directly by its users—providing solutions to the actual problems of student life.

C. Limitations and Future Work

The research was constrained by a limited sample size and the app's dependence on manual entry, which could impact long-term user retention. The absence of integration with the school's LMS also rendered academic tracking less effective. Future development will emphasize automatic syncing with academic systems, additional customization options, and visual analytics. Wider testing is scheduled to confirm the app's suitability for a broader student base.

VII. CONCLUSION

A. Summary of Key Findings

The research reaffirmed that the Digital Planner application successfully addressed its design objectives of enhancing student productivity and time management. High System Usability Scale (SUS) scores were achieved from usability testing with 10 student participants—82.5 for Functionality, 84.0 for Accuracy, and 83.1 for Acceptability reflecting strong user satisfaction. Performance measures also confirmed the app's effectiveness, as 95% of the tasks were accomplished, with a minimal error rate of 5% and an average task time of only 5 seconds. These findings indicate that the students would be able to operate the app seamlessly, accomplish tasks in no time, and have fewer problems. In conclusion, the integration of user-centered design principles and frequent feedback resulted in a trusted and easy-to-use planning tool customized for SEAIT students' academic purposes.

B. Final Remarks

This research points to the importance of user-centered design in designing effective learning tools. The design and testing of the Digital Planner app for SEAIT students illustrated that matching system functions with real student requirements—like time management and tracking academically—greatly enhances usability and interaction. Through repeated refinement based on user input, the app developed into a trusty learning support tool. The findings confirm that careful, user-centered design can result in influential innovations that benefit both academic achievement and student welfare.

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APPENDICES

> Instructions:

Please read each statement carefully and select the response that best reflects your opinion. Indicate your answer by marking (\checkmark) the appropriate number.

➤ Scale:

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree