**Android-Based College Planner**

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**ABSTRACT**

A lack of ability to prioritize activities and manage schedules is one of the reasons why college students suffer from poor academic performance. As a solution, students often make use of paper planners that can be custom made or readily bought on bookstores. However, there are underlying problems with the use of paper planners in terms of efficiency. Thus, this paper aims to develop and design an Android application that will help students organize and manage their schedule effectively. It will be evaluated by students from University of the Philippines Los Ba[ñ](https://en.wikipedia.org/wiki/Los_Ba%C3%B1os,_Laguna)os through system testing. The effectiveness of the application will be determined based from the result of evaluation.

**INTRODUCTION**

Along with rigors of college education, students often work and participate in extracurricular activities as well as maintaining personal relationships. College students may become overwhelmed with feelings that there is not enough time to complete all their work adequately. According to Dipboye, Philips, Macan and Shahani (1990), many college students suffer poor academic performance mainly due to lack of ability to prioritize activities and manage schedules.

There is no doubt that it is important for college students to organize and manage their activities effectively. Many students are still using the traditional way to create a college planner which uses a pen and paper. However, the problem with paper planners is that it has limited capacity to store information. There is no way for the student to arrange the activities according to priority since editing and deleting information can make a disorganized page. In addition, paper planners can be large and bulky with frequent updates which may cause difficulty in tracking your activities. Smaller versions often don’t have enough writing space. Hence, it will just require more paper. And lastly, it can be easily misplaced with no built-in backup system (Gray, 2013).

With the emergence of smartphones, college students were able to use different mobile applications not only for entertainment, but also for educational purposes (Strike, n.d.). Thus, the proposed solution is to develop and design an Android-based college planner which will provide more functionalities and improved user experience. The application will replace the manual system, the paper planner, and solve its existing problems stated above. The gained knowledge in the development of the system will be an effective tool in providing the needed skills of ICS students in mobile development considering the rapid development of technology such as smartphones in almost all fields of operation and its use in relation to information management.

**REVIEW OF RELATED LITERATURE**

Different kinds of educational apps became widely available in the market. The various types of educational apps such as planners differ mainly from the technology, user interface, features and functionalities.

On the other hand, several studies have been conducted concerning on the improvement of the features of a planner. According to Brad Monroe, a senior at George Washington University who has experimented with scheduling and organizational apps for educational purposes, such apps can be a huge benefit for students who fail to meet deadlines (Lytle, 2012).

According to Truluck, April, Zick, Garibaldi and Rush (2002), some study planning products have features that evaluate the user’s progress in terms of percentage complete. However, no product has assisted the user in setting up, maintaining and monitoring study goals that are customized for the user based on personal circumstance. Thus, they implemented a study planner system that provides a method for creating personal scheduled study plan. It is established for a user based on a session frequency. The progress of the user may be monitored and displayed in a form of complete and incomplete activities.

Hamalainen, Porras and Koskinen (2005) also conducted a study in maintaining a student’s personal study plan. The main objective of the study is to decrease the unnecessary supervision and administrational work by automatically guiding the students to make proper choices while selecting their studies.They implemented the study tool by basing the personal plan created by the student on the rules defined in the curriculum by his/her university and department. The application was proven success after it was taken in use in the Department of Information Technology at Lappeenranta University of Technology.

Pantic, Djordjevic, Rothkrantz and Kopelaar (2008) designed an Automated Study Planning (ASP) system to assist the students in organizing their studies. According to them, a conventional organized advice about planning of studies is given to a student personally by advisers. However, two major problems are encountered with the conventional system. (1) A lot of study-advisor’s time is needed to help the individual students by giving quite routine advice about making a good study-planning. (2) Students cannot be individually advised as quickly as they probably want to be. These two problem initiated them the idea of automating the existent study-planning system.

After implementing, the researchers conducted a user-test. Students and teachers from Information Technology and Systems used the app and the test shows that the generated advice of ASP is understandable and helpful.

On the other hand, a study about project planning was conducted by Jones, Klasnja, Civan and Adcock (2008). The basis for an association of information is the project as well as the planning involved in its completion. According to them, project involves planning, and people often create simple to-do-list to elaborate planning documents.

Thus, the main feature of the planner is the Task Management. Users can structure a project as a hierarchy of sub-projects and basic task, and set the priority of a task through drag and drop. The planner also provides a grouping task-relevant information and connecting this information to important dates and times. Other features are: Outline, Re-order, Folders as Tasks and Information Integration.

To assess the overall usefulness of the planner features, Jones, Klasnja, Civan and Adcock performed an interim evaluation. Twenty-one participants took part in the evaluation. They first watch a 5-minute video that described the planner and its features. Using the planner, the participants were asked to try each feature of the planner. After the testing, the participant rated each feature on a one to five scale. Results showed a high overall rating; however, Folders as Task and Task Management were rated significantly lower than each of the other features.

Yarboi and Tetteh (2014) implemented an interactive web-based application that will be used by students of California State University San Bernandino. The proposed system replaces the manual planner given to students by the school. According to Yarboi and Tetteh, the manual way of storing information is not effective, since the student is limited in what to write and how to keep it safe. Their application fixes all these limitations in the manual system.

They conducted an interview with students, 95% of the students were in support the development of the interactive student planner. Most of the difficulties encountered in designing the planner were not actually from the requirements of the users but from the setting up of the database itself.

In this paper, the proposed system is different in that it will integrate a to-do-list planner and other scheduling and organizational features into one single app but will provide more functionalities. In addition, the proposed system will run in an Android platform unlike most of the reviewed applications which are web-based.

**METHODOLOGY**

The main entity of the system is the student, the primary user of the application. The features were determined through literature reviews and existing similar applications available in the market.

The features that are needed in the application for student are as follows:

1. **Instructor**

In this feature, the student can add, delete and edit an instructor. On the user interface, there would be a list of instructors, only the first and last name of the instructor are displayed. When the student tap or select the instructor, a new interface will appear containing the full details of the instructor selected. There will be also an option to create a timetable of schedule (consultation hours) for each instructor on the list.

1. **Course**

In this feature, there would be a list of subjects that the student’s currently taking. Student can set the day and time of the subject and they will be notified daily of the upcoming class.

1. **Task**

This would be the main feature of the application. The student can create a task by subject. The list of subjects will come from course feature. When viewing tasks, there would be two lists of tasks, the upcoming and completed task. The student can arrange tasks according to subject, due date, weight (assignment, exam, quiz, group meeting, etc.) or priority. There is also an option to setup a notification or alarm to notify the student about the upcoming tasks. When a task is done, the student can marked it as completed, and it will be automatically move to the completed list of tasks. Tasks in the completed list can still be move back to the upcoming list. When a subject is deleted on the course feature, all the task associated on that subject will be also deleted.

1. **Note**

The student can create, edit and add notes. It shows the note name, date created and description.

1. **Absence**

In this feature, there would be a list of subjects based from the course feature. The student will first need to supply the maximum allowed absences of each subject. If the student had an absent, the student should add one absent to the current number of absences. The date of absence would be automatically saved and can be viewed when a subject on the list is tapped or selected. If the student’s number of absences is approaching the maximum allowed absences, the application will send a notification. If the current absences reached the maximum allowed absences, the student will receive a daily reminder.

1. **Widget**

In this feature, the student can display a widget on the phone’s home screen. Basically, the widget is just a summary view of the task and absence feature.

**EVALUATION**

At least 30 UPLB students will test the application. They will be given a copy of the detailed specification and system workflow of the application. After the system testing, the testers will be given a questionnaire for evaluation. The effectiveness of the application will be determined based from the result of evaluation.

Metrics for Evaluation:

|  |  |
| --- | --- |
| **User Interface** | Rate from 1-5 (lowest to highest) |
| It is easy to interact and navigate across the user interface (UI). |  |
| The UI is consistent (font, color, layout). |  |
| The UI design is engaging and attractive. |  |
| The application responds quickly. |  |

|  |  |
| --- | --- |
| **Features**  (Based on the project specification and workflow given, the following features below met the functional requirements.) | Rate from 1-5 (lowest to highest) |
| Instructor |  |
| Course |  |
| Task |  |
| Note |  |
| Absence |  |
| Widget |  |

|  |  |
| --- | --- |
| **Overall Usefulness**  **(based on: Davis, F. D (1989 *Perceived Usefulness*)** | Rate from 1-5 (lowest to highest) |
| Using the application would enable me to accomplish tasks more quickly |  |
| Using the application would improve my scholastic performance |  |
| Using the application would increase my productivity in college |  |
| Using the application would enhance my effectiveness in college |  |
| Using the application would make it easier to do my studies |  |
| I would find the application useful in college |  |

**TIMELINE**

|  |  |
| --- | --- |
| **ACTIVITY** | **DATE** |
| Creation of database | Jan 25 – Jan 29, 2016 |
| Planning of user interface | Feb 1 – Feb 5, 2016 |
| Implement instructor feature | Feb 8 – Feb 19, 2016 |
| Implement course feature | Feb 22 – Mar 4, 2016 |
| Implement task feature | Mar 7 – Mar 18, 2016 |
| Implement note feature | Mar 21 – Mar 25, 2016 |
| Implement absence feature | Mar 28 – Apr 8, 2016 |
| Implement widget feature | Apr 11 – Apr 15, 2016 |
| Integration and debugging | Apr 18 – 29, 2016 |
| Evaluation | May 2 – May 6, 2016 |

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