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**“STUDYSTREAK: ENCOURAGING THE STUDENTS OF UNIVERSIDAD DE MANILA TO TRACK AND ELEVATE ACADEMIC HABITS”**

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**CHAPTER I**

**INTRODUCTION**

Students frequently find themselves balancing a variety of duties in the fast-paced world of academia, from extracurricular activities to academics, all while attempting to maintain a healthy work-life balance. But juggling all these responsibilities can be exhausting, which can result in stress, inefficiency, and poor academic results. With the advent of technology, educators and scholars have increasingly turned to technology-driven solutions to empower students in developing healthy practices and routines, realizing the essential role that habits play in determining student achievement. To better prepare university students as proficient, versatile, and productive information and industrial technologists in the 21st century, the need to implement instructional strategies and activities that naturally align with their predispositions will make them better learners.[1] Student habit tracking systems are one of these options that stands out as a potentially useful tool for helping students become more self-aware, accountable, and goal-oriented. This study aims to provide insightful information to educators, administrators, and stakeholders who are interested in using student habit-tracking systems as throttles for academic achievement and all-around student development. This study tries to add to the continuing conversation on educational technology and the student's well-being in the modern age by providing a fine distinction on the examination of this creative approach to student support.

The more we do anything, the more we tend to repeat doing it. [8] Habits tend to form when you consistently do something until you do it unconsciously. Students approach their studies with varying attitudes and behaviors; nevertheless, when appropriate motivation and assistance are emphasized, they might be motivated to adopt appropriate learning styles in their study habits. Technology has developed into a crucial tool to influence human behavior. Persuasive technology involves computers being designed explicitly for influencing behavior. This habit-forming technology can be repurposed to be useful for education. [12]

With the help of technology, the researchers were able to develop a system that helps students keep track of their studying habits while improving the student’s own habits. This system, namely, “StudyStreak” provides users with an easy-to-understand user interface that has a habit tracker and calendar to help students manage and organize their day-to-day activities. This helps student awareness and will improve efficiency. To keep things captivating, the researchers will employ gamification and rewarding methods to keep the students engaged and provide them with a way to keep on improving with their habits and keep up with their schedule. Games for change is a growing research field and studies have shown that these games can promote positive behavior change using various persuasive strategies. An analysis reveals the reward strategy is the most popular persuasive strategy employed in the persuasive games’ research. [13] The system will also provide notifications and reminders that keep students active with their studies. Utilizing the convenience of technology will provide the students with modern innovations to bridge the gap from the traditional ways of studying to a modern environment with the skills and tools necessary to thrive in today's rapidly changing society. This study will help benefit and encourage students journeying through their academic careers as it gives them a definitive outlook on their progress. A study argues that apps, and technology-based interventions in general, have the potential to provide real habit support, and present design guidelines for interventions that could support habit formation through contextual cues and implementation intentions. [9]

The system’s primary targets are the students of Universidad de Manila, both senior high and college parties, who are currently wanting to improve their studying ways and those who want to find a way to keep track of their activities and studies. Aiding a wide range of strands and courses, “StudyStreak” aims to provide ways for students to expand on their academics. Moreover, not only benefit the students, but also the educators and those working on the project themselves, and its stakeholders. It will provide key information as to how it will provide a better experience for the student’s development following their career. All in all, the goal is to provide the students with a convincing experience that will help them with their academical journey.

**PURPOSE AND DESCRIPTION OF THE STUDY**

Study habit of students is one of the pressing issues a lecturer encounters despite of the many motivational factors given to them. Learning styles can enhance students’ development and initiative to their study habits. A study examines the learning styles of students particularly, focuses on their study habits as a motivating factor to the learning process and enhancement of students that provide also an intervening action in the improve study habits. [2] A study habit tracking system can be a good solution to the problem; however, it will not be an ultimatum. The system will only provide one of the many solutions to address the problem and give the students many more options to branch out on. It will introduce them to many different studying techniques to work on. The Pomodoro Technique for time management could be recommended as one of the efficient time-management techniques in improving the students' reading ability during the period of study from home. [10] The proponents will create a system with minimalistic features and only introduce gamifying methods such as a rewarding system to minimalize distractions and keep the students focused on the task at hand. Among the noted unfavorable study habits were inefficient time management, lack of planning and concentration in their studies. [4] This is why the system will also include a planner, calendar, and a to-do list for the students to keep track of their activities.

A study conducted an investigation on the effects of gamifying. Specifically, it aimed to find out whether the use of gamified instruction can motivate the students both extrinsically and intrinsically, enhance their behavioral, emotional and cognitive engagement and improve their academic performance. [6] Introducing gamifying methods will further motivate the students to work on their studying habits. The result of a study in Malaysia indicates the potential of monitored mobile application in inducing changes in daily habit. Apparently, bad habit is difficult to be changed. Even if some measures were taken to form a new and better habit, unfortunately, new habit is difficult to sustain. [14] The researchers will also consult with a psychologist to further expand on the idea of the effects of a habit tracking system towards studies.

**STATEMENT OF THE PROBLEM**

The study aims to develop a system that will aid the students of Universidad De Manila in their academic pursuits. It offers an objective outlook on good and bad habits that the students develop. StudyStreak aims to improve or give the student a more effective and enjoyable way to study. The system would include some features that the researchers think would help the student in their journey to start studying.

The study seeks to answer the following issues such as:

* How can the researchers convince the students to consistently use our system?
* How can the system accommodate diverse learning needs?
* What is the incentive for these students to keep on using the app?
* If they’ve already adapted a way to effectively study, why should they keep the app in the first place?
* What makes this system unique compared to other tracking apps?

**GENERAL OBJECTIVE**

To offer a thorough tracking system for student habits that will enable users to improve their academic performance and develop productive study habits. It seeks to establish an atmosphere that is both empowering and helpful so that users can succeed academically, acquire the necessary skills for success, and form lasting habits that promote learning and personal development.

**SPECIFIC OBJECTIVE/S**

* To provide a dedicated system towards the students of Universidad de Manila.
* To provide rewards through gamification methods such as certificates implemented in the system locked behind a progress bar.
* Iterate on features and functions to satisfy identified needs and improve user experience.
* Provide resources for efficient time management, helping students prioritize tasks and allocate study time effectively.
* Offer guidance on effective study techniques and learning strategies to enhance comprehension and academic performance.

**SIGNIFICANCE OF THE STUDY**

The main of the system is to encourage the students of Universidad de Manila with their studies through gamification methods that have multiple features in one. Applying gamification to non-gaming domains aims to maintain user engagement while encouraging their studies.

The study is of importance to the following:

* Students – the system itself will help the students develop healthy habits as it improves time management, awareness, and productivity.
* Educators – the educators can utilize the findings and feedback from the study to improve their own teaching environment.
* Developers – studying the feedback from user engagement can enhance the developer’s social skills and sense for design. Discover new mechanics, maximize user retention and participation, and produce more engaging experience.
* Stakeholders – interested personnel can use the study as reference.
* Future Researchers – similar researchers in the field can utilize the study as reference and advance the study on many fields.

**CONCEPTUAL FRAMEWORK**

**OUTPUT**

System Requirements:

User:

* Access to the system’s features

System:

* Notices and reminders set up by the system

**INPUT**

System Requirements:

User:

* Schedule
* Activities
* Personal Reminders
* Editing
* Access to own personal records

**PROCESS**

System Requirements:

User:

* motivation via gamification strategies, reminders, and notifications

System:

* Adaptation based on user habits and scheduling using the reward system

**FEEDBACK**

Figure 1: Conceptual Framework

Input:

* Allows the user to input personal information such as:
  1. Schedule
  2. Activities to be done
  3. Personal reminders
* Allows the user to edit information.
* Users are allowed access to personal records.

Process:

* To keep users motivated and inspired to adhere to their routines, the system employs gamification strategies, reminders, and notifications.
* The system will consider user habits and scheduling based on their progress for the reward system.

Output:

* Users can view the homepage, calendar, and progress bar.
* The system will put up reminders and notices regarding the information inputted by the users.

**ENTITY-RELATIONSHIP DIAGRAM**

A diagram of a computer

Description automatically generated

**DATA DICTIONARY**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **ADMIN** |  |  |
| Field Name | Data Type | Field Size | Constraint | Description |
| Id | INT | 11 | PRIMARY KEY, AUTO\_INCREMENT | Unique identifier for the admin |
| FirstName | VARCHAR | 50 | NOT NULL | The first name of the admin |
| LastName | VARCHAR | 50 | NOT NULL | The last name of the admin |
| Email | VARCHAR | 100 | NOT NULL, UNIQUE | The email address of the admin |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **USER** |  |  |
| Field Name | Data Type | Field Size | Constraint | Description |
| Id | INT | 11 | PRIMARY KEY, AUTO\_INCREMENT | Unique identifier for the user |
| Username | VARCHAR | 50 | NOT NULL, UNIQUE | The username chosen by the user |
| Password | VARCHAR | 255 | NOT NULL | The hashed password for the user's account |
| Role | ENUM | N/A | NOT NULL | The role of the user (e.g., 'admin', 'student') |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  | | **STUDENT**  **INFO** |  | |  | |
| Field Name | | Data Type | | Field Size | Constraint | | Description | |
| Id | | INT | | 11 | PRIMARY KEY, AUTO\_INCREMENT | | Unique identifier for the user | |
| StudentID | | VARCHAR | | 20 | NOT NULL, UNIQUE | | The student ID of the user | |
| FirstName | | VARCHAR | | 50 | NOT NULL | | The first name of the user | |
| LastName | | VARCHAR | | 50 | NOT NULL | | The last name of the user | |
| Email | | VARCHAR | | 100 | NOT NULL, UNIQUE | | The email address of the user | |
|  |  | | **CALENDAR** | | |  | |  |
| Field Name | Data Type | | Field Size | | | Constraint | | Description |
| Id | INT | | 11 | | | PRIMARY KEY, AUTO\_INCREMENT | | Unique identifier for the calendar entry |
| Date | DATE | | N/A | | | NOT NULL | | The specific date for the calendar entry |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **SUBJECT** |  |  |
| Field Name | Data Type | Field Size | Constraint | Description |
| Id | INT | 11 | PRIMARY KEY, AUTO\_INCREMENT | Unique identifier for the subject |
| Name | VARCHAR | 100 | NOT NULL, UNIQUE | The name of the subject |
| Description | TEXT | N/A | NULL | A detailed description of the subject |

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| --- | --- | --- | --- | --- |
|  |  | **SCHEDULE** |  |  |
| Field Name | Data Type | Field Size | Constraint | Description |
| Id | INT | 11 | PRIMARY KEY, AUTO\_INCREMENT | Unique identifier for the schedule entry |
| SubjectId | INT | 11 | FOREIGN KEY, NOT NULL | Identifier for the subject associated with the schedule |
| StartTime | DATETIME |  | NOT NULL | The start time of the scheduled event |
| EndTime | DATETIME |  | NOT NULL | The end time of the scheduled event |

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| --- | --- | --- | --- | --- |
|  |  | **POMODORO**  **SESSION** |  |  |
| Field Name | Data Type | Field Size | Constraint | Description |
| Id | INT | 11 | PRIMARY KEY, AUTO\_INCREMENT | Unique identifier for the Pomodoro session |
| StudentID | VARCHAR | 20 | NOT NULL | The student ID associated with the session |
| StartTime | DATETIME |  | NOT NULL | The start time of the Pomodoro session |
| EndTime | DATETIME |  | NOT NULL | The end time of the Pomodoro session |
| BreaksTaken | INT |  | DEFAULT 0 | Number of breaks taken during the session |
| TotalAccumulatedTime | INT |  | DEFAULT 0 | Total accumulated time in seconds |

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| --- | --- | --- | --- | --- |
|  |  | **TODO**  **LIST** |  |  |
| Field Name | Data Type | Field Size | Constraint | Description |
| Id | INT | 11 | PRIMARY KEY, AUTO\_INCREMENT | Unique identifier for the todo list item |
| Date | DATE |  | NOT NULL | The date for the todo list item |

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| --- | --- | --- | --- | --- |
|  |  | **TODOLIST**  **ITEM** |  |  |
| Field Name | Data Type | Field Size | Constraint | Description |
| Id | INT | 11 | PRIMARY KEY, AUTO\_INCREMENT | Unique identifier for the todo list item |
| TodoListID | INT | 11 | FOREIGN KEY, NOT NULL | Identifier for the todo list to which the item belongs |
| Description | TEXT |  | NOT NULL | Description or details of the todo list item |
| isCompleted | BOOLEAN |  | DEFAULT false | Indicates whether the todo item is completed or not |

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|  |  | **GAMIFICATION**  **SYSTEM** |  |  |
| Field Name | Data Type | Field Size | Constraint | Description |
| Id | INT | 11 | PRIMARY KEY, AUTO\_INCREMENT | Unique identifier for the gamification record |
| StudentId | VARCHAR | 20 | NOT NULL | Identifier for the student associated with the gamification progress |
| ProgressPoints | INT |  | DEFAULT 0 | Points indicating the progress in gamification |

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| --- | --- | --- | --- | --- |
|  |  | **TITLE** |  |  |
| Field Name | Data Type | Field Size | Constraint | Description |
| Id | INT | 11 | PRIMARY KEY, AUTO\_INCREMENT | Unique identifier for each title record |
| GamificationSystemId | INT | 11 | FOREIGN KEY, NOT NULL | Identifier linking the title to a gamification system |
| Title | VARCHAR | 100 | NOT NULL | The title associated with the gamification |
| DateAwarded | DATE |  | NOT NULL | The date when the title was awarded |

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| --- | --- | --- | --- | --- |
|  |  | **CERTIFICATE** |  |  |
| Field Name | Data Type | Field Size | Constraint | Description |
| Id | INT | 11 | PRIMARY KEY, AUTO\_INCREMENT | Unique identifier for each certificate record |
| GamificationSystemId | INT | 11 | FOREIGN KEY, NOT NULL | Identifier linking the certificate to a gamification system |
| Title | VARCHAR | 100 | NOT NULL | The certificate associated with the gamification |
| DateAwarded | DATE |  | NOT NULL | The date when the certificate was awarded |

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|  |  | **BADGE** |  |  |
| Field Name | Data Type | Field Size | Constraint | Description |
| Id | INT | 11 | PRIMARY KEY, AUTO\_INCREMENT | Unique identifier for each badge record |
| GamificationSystemId | INT | 11 | FOREIGN KEY, NOT NULL | Identifier linking the badge to a gamification system |
| Title | VARCHAR | 100 | NOT NULL | The badge associated with the gamification |
| DateAwarded | DATE |  | NOT NULL | The date when the badge was awarded |

**SCOPES AND LIMITATIONS**

**SCOPES**

The application of the study is to be able to design a habit-tracking system that will help the students of Universidad De Manila monitor and track their studying habits.

The main functions of the system are as follows:

* Homepage - The system would have a homepage customized for students, that includes a calendar, their schedules, a tracker, and their progress
* Calendar- A calendar would be included in the system for the student to manage their daily schedule and update their agendas
* Schedule – A scheduler is included on the homepage to remind the student of their subjects
* Tracker - A tracker is featured to be able to keep track of their studying habits, which would be recorded on their progress
* Progress Bar - A progress bar would show their studying habits and daily progress. The progress would have a reward system as well, that would give them titles, badges, and streaks each time they reach a certain peak.
* Reward System - A reward system would be used for students to appreciate their progress with their habits.
* Studying Techniques (e.g. Pomodoro Technique) - Techniques would be readily available to students to educate them to effective studying techniques, to learn about them and to find which fits them effectively.
* To-Do List – Including a to-do list to help the students keep track of their activities and prioritize those important tasks of the day.

**LIMITATIONS**

* The system does not have any automation and would not be able to adapt to the student’s external activities.
* Users might not accurately record their habits, either due to forgetfulness or intentional misrepresentation.
* Forgetting to log habits can result in incomplete data, making it difficult to track progress accurately.
* Users might become overly reliant on the app, feeling lost without it or struggling to maintain habits without digital tracking.

**DEFINITION OF TERMS**

* Habit Tracker - is a record that you use to monitor the habits you've developed and follow.
* Pomodoro Technique – is a time management technique that Francesco Cirillo created in the late 1980s. It divides work into 25-minute portions and takes brief pauses between them using a kitchen timer.
* Cloud Service – third-party hosted software made available to users on the internet.
* Automation – the use of technology to perform tasks with minimal human intervention.

**REFERENCES**

**Local**

[1] Gilbert C. Magulod Jr., “Learning Styles, Study Habits and Academic Performance of Filipino University Students in Applied Science Courses: Implications for Instruction”, October 2018.

<https://upcommons.upc.edu/bitstream/handle/2117/134350/504-3078-1-PB.pdf?sequence=1&isAllowed=>y

[2] Leovigildo Lito D. Mallillin, Jocelyn B. Mallillin & Regilito D. Laurel, “Learning Styles: A Motivation to Study Habits of Students”, 2020.

<https://gjhss.com/index.php/gjhss/article/view/2026/2026>

[3] Jhoselle Tus, Reymark Lubo, Francis Rayo, Mark Anthony Cruz, “The Learner’s Study Habits and its Relation on their Academic Performance”, 2020.

<https://www.researchgate.net/profile/Jhoselle-Tus/publication/346580149_THE_LEARNERS'_STUDY_HABITS_AND_ITS_RELATION_ON_THEIR_ACADEMIC_PERFORMANCE/links/5fc88a44a6fdcc697bd7a5ed/THE-LEARNERS-STUDY-HABITS-AND-ITS-RELATION-ON-THEIR-ACADEMIC-PERFORMANCE.pdf>

[4] Mendezabal, Marie Jean N. “Study Habits and Attitudes: The Road to Academic Success.”, Feb. 2013.

<http://www.open-science-repository.com/study-habits-and-attitudes-the-road-to-academic-success.html>

[5] Ngo, Ma. Gishelle Anne M., “ACAPP: A Mental Health Application for the Well-Being of Filipino University Students”, 2023.

<http://dspace.cas.upm.edu.ph:8080/xmlui/bitstream/handle/123456789/2690/CD-CS114.pdf?sequence=1&isAllowed=y>

[6] Amado, Coleen & Roleda, Lydia, “The Effect of Gamifying Physics in Student Motivation, Engagement and Performance”, July 2018.

<https://www.researchgate.net/publication/326713948_THE_EFFECT_OF_GAMIFYING_PHYSICS_IN_STUDENT_MOTIVATION_ENGAGEMENT_AND_PERFORMANCE>

[7] Jhoselle Tus, “The Influence of Study Attitudes and Study Habits on the Academic Performance of the Students”, October 2020.

<https://www.researchgate.net/profile/Jhoselle-Tus/publication/344659816_The_Influence_of_Study_Attitudes_and_Study_Habits_on_the_Academic_Performance_of_the_Students/links/5f877620299bf1b53e28d4f5/The-Influence-of-Study-Attitudes-and-Study-Habits-on-the-Academic-Performance-of-the-Students.pdf>

**Foreign**

[8] Eric T. MacKnight, “Good Habits, Good Students: A Complete Guide for Students Who Want to Succeed”, 2006.

<https://www.ericmacknight.com/goodhabits/GoodHabitsGoodStudents.pdf>

[9] Kataryzna, Stawarz, Anna L. Cox, Ann Blandford, “Beyond Self-Tracking and Reminders: Designing Smartphone Apps That Support Habit Formation”, April 18, 2015.

<https://dl.acm.org/doi/abs/10.1145/2702123.2702230>

[10] Kisno, Kisno, “Pomodoro Technique For Improving Students' Reading Ability During Covid-19 Pandemic”, 2020.

<https://www.neliti.com/publications/561735/pomodoro-technique-for-improving-students-reading-ability-during-covid-19-pandem>

[11] Miguel A. Cerna, Ksenia Pavliushchenko, "Influence of Study Habits on Academic Performance of International College Students in Shanghai", 2015.

<http://files.eric.ed.gov/fulltext/EJ1075118.pdf>

[12] Justin Filippou, Christopher Cheong, France Cheong, “Designing Persuasive Systems to Influence Learning: Modelling the Impact of Study Habits on Academic Performance”, 2015.

<https://web.archive.org/web/20200803152259id_/https://aisel.aisnet.org/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1100&context=pacis2015>

[13] Chinenye Ndulue, Rita Orji, “Games for Change—A Comparative Systematic Review of Persuasive Strategies in Games for Behavior Change”, June 2023.

<https://ieeexplore.ieee.org/abstract/document/9735285>

[14] Nurulhuda Ibrahim, Soo Jun Hui, Yap Kay Li, “The Effectiveness Of A Persuasive Mobile App To Influence Habit Change”, June 10, 2021.

<https://www.europeanproceedings.com/article/10.15405/epsbs.2021.06.02.62>