

# Transforming Student Success: The Impact of the StressSync Framework on Reducing Stress and Enhancing Academic Achievement

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**Abstract**—Academic stress is a major trial encountered by higher education students. “StressSync” is a proposed framework for a stress management system, specifically tailored to university/college students to cope with academic work with the inclusion of a task navigator. To help students monitor their stress levels while concentrating on their academic responsibilities, this research suggests a mechanism. It is designed to provide students with access to real-time stress data that is derived from a variety of pertinent stressors. StressSync empowers students to take proactive measures to preserve their mental health by providing individualized stress-reduction techniques that are specifically catered to their needs. Additionally, the framework includes robust virtual community networks that will offer the social activities and resources needed to build relationships. To create a healthier and happier society, StressSync intends to support Omani college students in overcoming their academic obstacles and raising knowledge of appropriate stress management techniques. The methodologies used for this research project included qualitative research, persuasion in systems design, and design thinking models. Surveys, interviews, and research studies were used for the data collection process. A survey was undertaken to ask students about their experiences in utilizing the functionalities offered by StressSync and to validate the use of its features by university students. The results of these surveys were employed in hypothesis testing using the t-test and scatter graph analysis to find out if students would be likely to adopt the use of StressSync. The primary findings of the research were that learners were more likely to use these features that lower stress and help them refocus on their academic work.

**Index Terms**— Academic stress; Academic task organization systems; Heart rate; Stress factors; Stress management systems; StressSync; T-test; Scatter graph analysis

## I. INTRODUCTION

Stress is a vital indicator that our bodies generate when we're overwhelmed and struggling to adjust to different circumstances. Stress, according to [1], it is "the response of the body when one cannot adapt to a situation when they feel

under pressure or tension" (p. 117). Stress is a highly individualized experience shaped by a complex interaction of psychological and physiological elements that require significant research to fully comprehend.

The way in which people cope with stress is highly unique and subjective. In Oman, college students suffer stress from a variety of sources. The country's growing urbanization and modernization have resulted in inevitable substantial lifestyle changes, with students now having to balance academic commitments, family obligations, and upholding expectations of traditional values, which further intensifies their stress.

### Academic Stress Among College Students

Nowadays, one of the biggest concerns for college students is stress related to academic life. While students face a variety of challenges in their daily lives, the expectations placed upon achieving academic excellency can be burdensome.

The move from high school to university presents numerous additional hurdles for students to adapt to. As [2] points out, this cschedules andly means dealing with a faster pace of study, managing a greater courseload and tighter deadlines, sorting out clashing job schedules, and balancing personal obligations.

Education and academic success are highly valued in Oman because they are viewed as a gateway for the country's youth to raise their standard of living in society through acquisition of knowledge and skills.

Academic stress places additional strain on college students when combined with cultural and familial expectations. Society views academic excellence as a route to better job chances. "Overall, irrespective of gender, race/ethnicity, or year of study, students who reported higher academic stress levels experienced diminished mental well-being." [3]. Furthermore, part-time students may struggle with juggling employment and life while also completing academic work, which requires extensive dedication and time management.

### ***Coping Mechanisms and the Risks of Dangerous Strategies***

When it comes to reducing the negative impacts of stress, it is critical to employ good coping techniques, particularly among college students. Unfortunately, this group is susceptible to establishing detrimental habits, which can hamper academic attention and overall well-being [4].

Some of the worrying coping techniques used by college students include the use of illicit drugs, alcohol, e-cigarettes, stress-induced overeating, insomnia, excessive procrastination, and even a lack of physical activity. Nicotine's easily accessible nature makes it a popular "quick fix" for the youth. However, while nicotine may provide short comfort, it can quickly become addictive, worsening the underlying problems.

Students also often overlook the basic maintenance of their physical health, like eating and sleeping in a healthy manner. Procrastination is one coping strategy they might use, which only helps to increase their stress levels, and they might also disregard their mental health.

It is critical to address these unhealthy coping mechanisms and promote the adoption of effective stress management techniques to help college students' well-being as they negotiate the demanding academic environment. Building resilience and using more long-lasting stress management techniques can be facilitated by fully understanding the factors that lead to academic stress and by making resources and support easily accessible.

## **II. PROBLEM STATEMENT**

High levels of stress are often experienced by college students due to the demands of both their personal and academic lives. The issues college students experience cannot be solved by the stress management strategies now in use. There is a need for a comprehensive framework that can precisely identify the primary stressors affecting college students and provide tailored interventions to help them manage their stress more successfully and help them succeed academically in the process.

### ***Objectives***

In the development of proposing a framework for StressSync, these are the key objectives:

1. To identify the major academic stress factors for college students, investigate the use of IoT devices, used to monitor physiological stress indicators such as heart rate, and study existing stress management systems through extensive literature review.
2. Investigate current gaps in the realm of stress management strategies for college students and find research gaps to propose unique and useful solutions.
3. Propose a framework after finding conclusive data through the data collection process and develop the system design and prototype to be used for testing on college students.
4. Determine enhancements that can be made to the

proposed "StressSync" framework through testing and analyzing results to determine the most suitable methods.

### ***Problem solution***

The suggested "StressSync" framework seeks to solve this issue through the following methods:

1. Conducting research to look at the various stressors that have the most impact on college students, including physiological ones (diet, water consumption, and sleep quality).
2. Establishing a system designed to take advantage of physiological indicators, such as heart rate variability (HRV), found in wearable IoT devices equipped with pulse sensors.
3. Including relevant stress management techniques in a mobile application (for Android users) that incorporates stress monitoring technology.
4. Adding a task scheduling feature to the framework to help students organize their academic assignments.

### ***Hypothesis testing***

To assess and apply the necessary methods to evaluate the StressSync framework, certain tests must be done to prove whether StressSync app will be suitable for use. For this research process, a hypothesis is made, which is based on how likely college students would adopt a system like StressSync. The null hypothesis and alternative hypothesis are mentioned below for which testing will be performed to understand which statement passes as true.

#### Null Hypothesis:

*Students won't be likely to be willing to follow the StressSync framework which drastically reduces the perceived stress levels in students and improves their academic performance by providing personalized stress management techniques and an integrated academic task completion priority system compared to the existing methods.*

#### Alternative Hypothesis:

*Students will be likely to be willing to follow the StressSync framework which drastically reduces the perceived stress levels in students and improves their academic performance by providing personalized stress management techniques and an integrated academic task completion priority system compared to the existing methods.*

## **III. RELATED WORK**

In this section, different aspects related to stress factors, stress management systems, and academic task organization are discussed.

In a study, according to [5], ultra-short-term heart rate variability (HRV) was considered as a main factor by comparing it with other factors. "Heart rate variability (HRV) is the fluctuation in the time intervals between adjacent heartbeats" [6]. It has been believed to be an asset that generates a quick reaction and involves less time than usual HRV evaluations.

One method of determining heart rate (HR) is through wearable activity trackers which focus on optical blood flow,

using photoplethysmography (PPG) techniques. PPG sensors use LED lights that can interact with human skin to find changes in arteries' blood volume and find HR [7].

Pulse sensors also employ PPG to monitor HR; this sort of sensor was linked to an Arduino microcontroller to develop the StressSync prototype and assess the significance of pulse/heart rate as a stress component.

Studies conducted on Saudi medical college students by [8] and [9] revealed a strong inverse link between sleep quality and stress levels. The study by [9] found that students with higher GPAs (3.0 to 4.0) had better sleep quality versus those with lower GPAs, indicating the relevance of good academic performance and the association with stress. In their study, which used Kessler's Psychological discomfort Scale and the Pittsburgh Sleep Quality Index (PSQI), 48.63% of respondents with poor sleep quality reported the highest level of psychological distress.

Similarly, in a study by [10], 450 students from the University of Indonesia were surveyed using PSQI scores and the Perceived Stress Scale (PSS), and it was observed that students with poor sleep quality are 4.7 times more inclined to have moderate to high sleep than those who get adequate sleep.

This highlighted the value of sleep as a crucial physiological stress component in the Stress Sync framework. Since the demography comprised of medical students who are frequently subjected to academic stress, it demonstrated how vital sleep is in regulating a person's stress and vice versa.

Stress hormone (cortisol) and plasma concentrations of arginine vasopressin (AVG) were shown to be continuously increased through urine in low volume water drinkers [11]. A short experimental trial indicated that drinking more water lowers salivary cortisol levels [12].

[13] identified in their study of the relationship between academic stress and eating habits that many students, about 70% of the 100 participants, miss meals when under exam pressure. 27% of those who suffered considerable stress consumed only one meal per day. At the same time, college students experiencing higher academic stress, particularly final-year students, may be more prone to stress eating and overeating due to increased caloric intake of fast meals [14]. The StressSync prototype takes into account the impact of water and nutrition intake on stress levels to determine stress scores.

[15] used the Independent Sample t-Test to compare HR and HRV variables at the baseline and exam levels. The t-test results were utilized to predict stress levels based on HR and HRV using Naïve Bayes, SVMs, Random Forest, and K-nearest neighbor (kNN) algorithms. The sensitivity value was approximately 75% (identifying stressed individuals), while the specificity value was approximately 78% (identifying non-stressed ones).

[16] employed k-means clustering as their machine learning technique. multiple clusters enable the authors to visualize data based on multiple clusters (activity, time of activity, results of activity, heart rate, and pulse rate) using scatter plots against

any two features and line plots against stress levels.

Wearable technology sensors can detect physiological parameters such as heart rate (HR), blood pressure (BP), electrodermal activity (EDA), electroencephalogram (EEG), breathing rate (BR), and many more. Biofeedback is the technique of providing people with information about their physiological variables and showing them how to control them via feedback via visual or audio signals [17].

Interestingly, the iCare-Stress system [18] utilized the Emotiv Device, a Brain Computer Interface (BCI) that records brainwave values detected by sensors placed on the user's scalp. Neurofeedback (EEG biofeedback) provides stress management interventions via a graphical interface. This is a creative method of development utilized for stress management. However, in contrast with extracting and verifying the accuracy of data from heart rate sensors, their research does not discuss the accuracy of this device.

SortOut was created by [19] as a time management tool for students. It uses the Persuasive Systems Design (PSD) methodology, which includes persuasive tactics for getting users to desire to use a system, such as linking task structure to rewards, reminders, and social learning strategies. Task Organization was the most persuasive feature, followed by Customized Reminders, Goal Setting (by adding tasks), Progress Tracking (self-monitoring), and Healthy Brain (reward system).

**Table 1. Comparison of different stress management systems for college students**

|                               | <b>Integrated wearable device/sensor</b>            | <b>Stress Management Strategies</b>                              | <b>Machine Learning Involvement</b>                                       |
|-------------------------------|-----------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------------------|
| <b>EUSTRESS Solution [15]</b> | Microsoft Smartband 2 (HRV, body temp., etc.)       | x                                                                | Different statistical tests to predict stress based on HR                 |
| <b>Mellow [20]</b>            | In-built heartbeat sensor                           | Recommendation system: art therapy, music playlists, poems, etc. | Lasso Regression, SVM, Random Forest for detecting a user's stress level. |
| <b>StressOn-Campus [21]</b>   | x                                                   | Proposed relaxation body exercises, chatbot                      | x                                                                         |
| <b>iCare-Stress [18]</b>      | Emotiv Device (used for recording brainwave values) | Concentration, relaxation and music therapy                      | x                                                                         |

*Note.* HR- heart rate, HRV- heart rate variability, SVM- Support Vector Machine, temp.- temperature.

In the above Table 1, different stress management systems for college students are discussed. These systems are in various stages of development; EuStress and Mellow are proposed systems while StressOnCampus and iCare-Stress are developed applications. Both the developed applications didn't include machine learning, which requires further learning. But those who proposed system frameworks performed testing on various criteria in a stress management system, such as machine learning tests on heart rate (HR) in EuStress, and SVM in Mellow for making a recommendation system for different stress relief strategies for different users StressOnCampus does not rely on wearable devices in their application, but instead on a questionnaire. This is a more subjective way of measuring stress, while HR has proven to be reliable and accurate. Many systems in this field are focused on only stress detection and not providing solutions to counter stress, but Mellow, StressOnCampus and iCare-Stress are three systems which provide creative and personalized stress relief methods, which is useful for building StressSync's framework.

#### IV. METHODOLOGY

This framework uses a mixture of qualitative research to collect and analyze data from literature review and interviews, persuasive design model (PSD) to find out about user behavior that prompts one to use a system, design thinking model to think of creative ideas for the framework and application, and lastly the prototyping model for application development.

- Qualitative Research: Interviews conducted through this method, in addition to research studies aid in gaining a deeper understanding of the unique stress challenges faced by college students.
- Persuasive Design Model: This consists of design principles to motivate students to adopt and engage with such an application, based on behavior change with persuasive and influential user experience.
- Design Thinking Model: The user-centric model takes an iterative approach to problem solving, such as empathizing with users, collecting their feedback, forming new solutions, and testing. In this process, a prototype is created to make the users understand the system better and perform the needed testing/evaluation to gain useful user feedback for improvements.

#### V. FRAMEWORK/PROCESS FLOW

The proposed framework designed to help college students manage academic stress and improve task organization is shown in the Fig. 1. The key elements include:

1. Secure login/registration with customizable user preferences.
2. Comprehensive stress monitoring using physiological, psychological, social, and academic

factors to calculate a stress score.

3. Personalized stress management strategies like games, music, exercises, journaling, and future features like self-care check-ins and VR simulations.
4. Academic task management with prioritized to-do lists, progress tracking, Pomodoro timers, and an award system to motivate task completion.
5. Community support to share stress management tips and collaborate on shared academic goals.
6. Notification system to prompt regular stress factor inputs, breaks, and stress score checks.
7. Machine learning and business intelligence (BI) to make the system optimize algorithms for personalized recommendations.

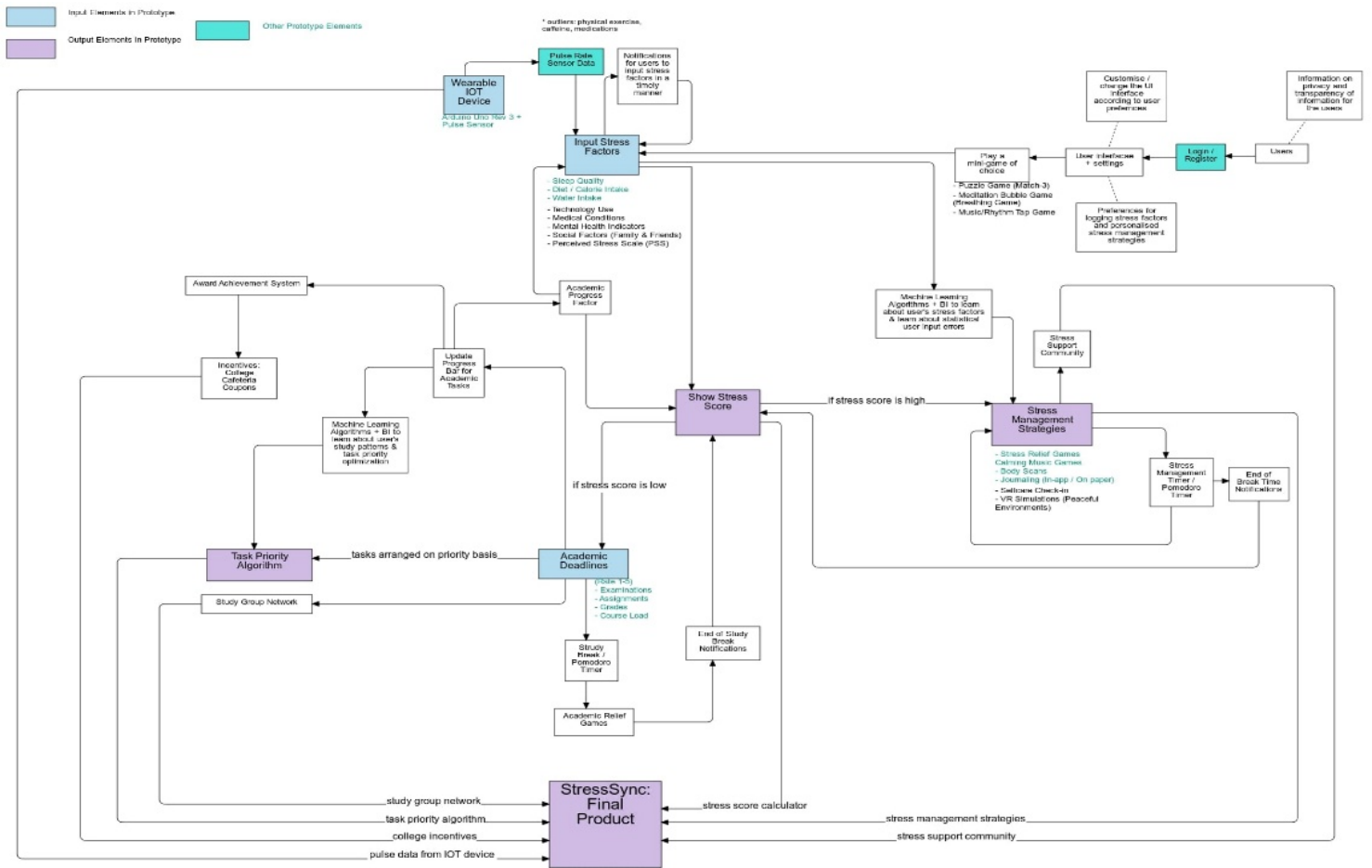
The framework first of all, emphasizes privacy protection and transparency. Users are able to customize the pleasant and soothing interface according to their liking. Relaxing mini-games are available to calm down highly stressed individuals when they visit the system, thereby motivating them to use it. Physiological factors, including pulse/heart rate from IoT devices, are tracked to calculate the stress score.

The stress score has high and low components. For a high stress score, users are directed to stress management strategies, which have a wide array of selection according to user preferences. For a low stress score, the focus shifts to prioritizing academic deadlines using a task priority algorithm.

Task progress is incentivized through an award system and food coupons which students can redeem through their college cafeterias.

Machine learning and business intelligence are used to optimize the task priority algorithm and stress management strategies based on user data entered in the system. A study group network allows students to collaborate and motivate each other.

Overall, StressSync integrates various features to provide a comprehensive approach to managing academic stress and improving task organization for college students.

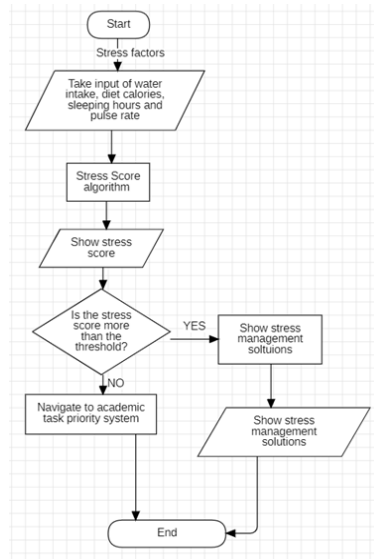


**Fig. 1.** The proposed framework for StressSync

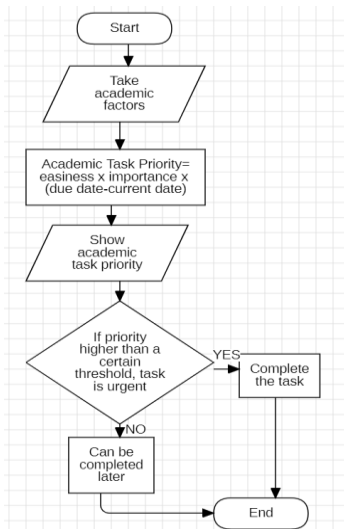
## VI. DIAGRAMS

The StressSync framework's stress management approach is depicted in the flowchart in Figure 2. The system will ask for the input parameters to determine the stress score. After the parameters are entered, the system will calculate the stress score using a stress score algorithm. Based on the user's stress score, the system decides what to do next. It will offer stress management choices if the stress score is higher than the threshold; if not, it will direct the user to the academic task priority system so they may complete the assignments.

A flow chart displaying the academic task priority scheme of the StressSync framework is displayed in Fig. 3. It tries to provide students with assignments based on their ease of completion, significance, and amount of time left (due date minus current date) until they are completed. The user inputs academic data, including due dates for assignments, tests, projects, and so forth. Additionally, there will be an important and ease-of-use ranking system available. Considering all these variables, the system will use the provided academic task priority formula to calculate the task priority algorithm for a task, e.g., the Diploma Project report, and display the priority score. If the score is higher than a certain point, the report needs to be finished right away; otherwise, it can wait.



**Fig. 2.** Flowchart for proposed stress management system



**Fig. 3.** Flowchart for proposed academic task priority system

## VII. PROTOTYPE

To build the prototype, the pages of the mobile application were first visualized in Figma to understand the design concepts better and to implement an attractive, and soothing user interface with pleasant colors which invites users to use the application. Fig. 4 contains the prototype design elements from Figma. Light and pastel colors are recommended to relieve

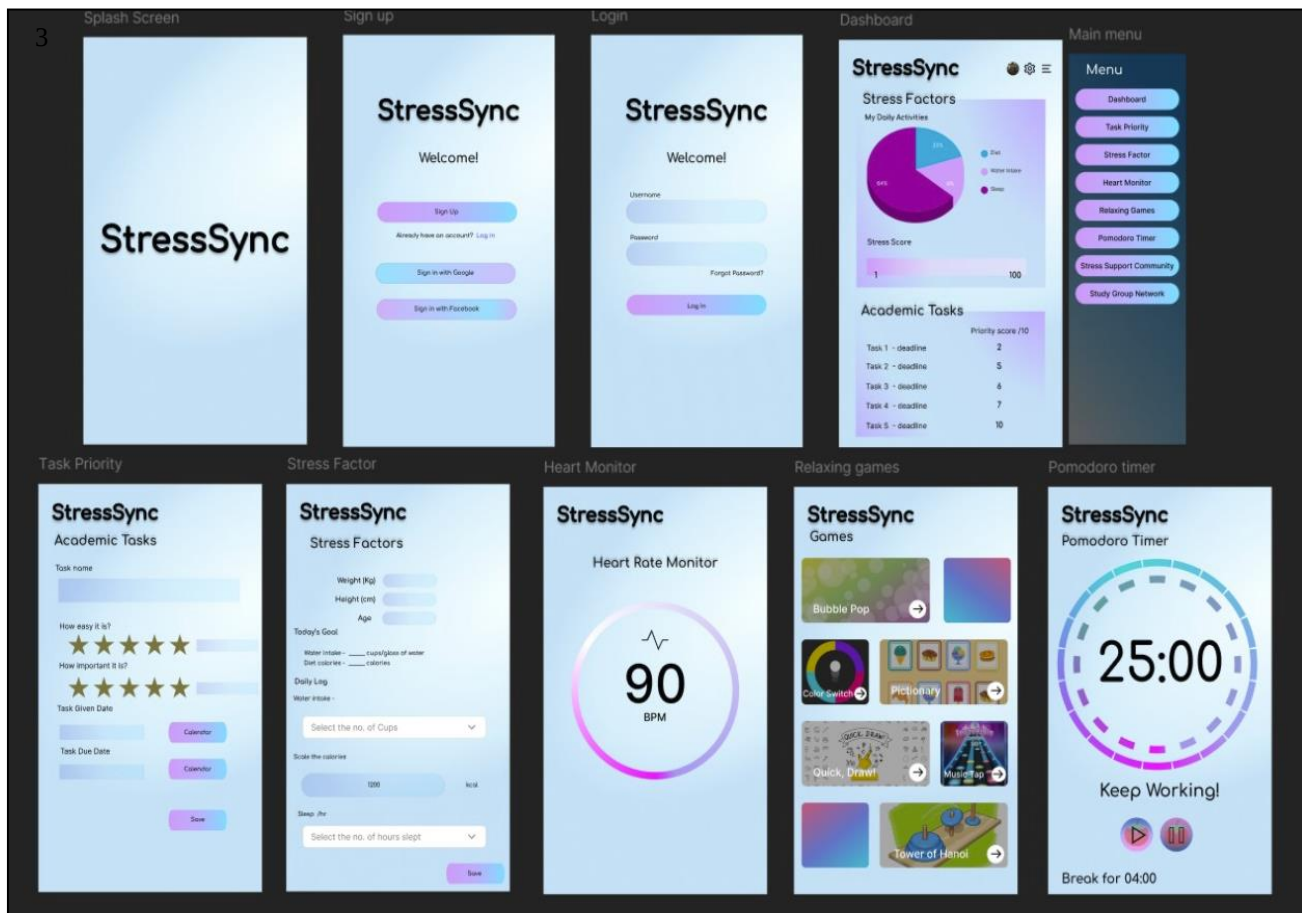
stress, hence used in the design to give a vibrant user experience.

The key prototype pages (mentioned in Fig.1 framework) were coded in Android Studio, shown in Fig. 5. To gain pulse data, the Arduino Uno Rev3 micro-controller, along with the pulse sensor was used to receive the pulse rate readings of the user, which is under development. The coded prototype, along with the framework were then shown to a select group of college students, to get their feedback on the system and to perform testing on the hypotheses.

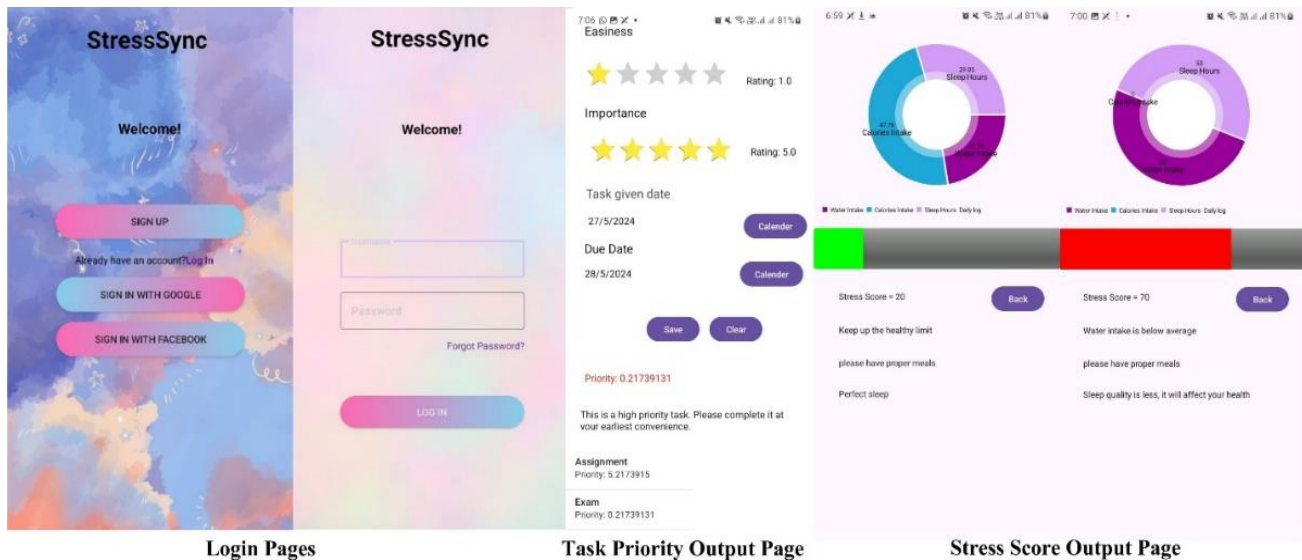
## VIII. DATA COLLECTION PROCESS

### Quantitative data analysis

A survey was conducted among 50 college students in Oman to get an initial idea about the awareness of the public about academic stress, stress management systems, academic to-do list applications, and the use of health tracker devices. This survey was done in the preliminary stage, to gather information before the start of the research project. Some of the results found are shown in Fig. 6, 7, 8, 9, and 10.

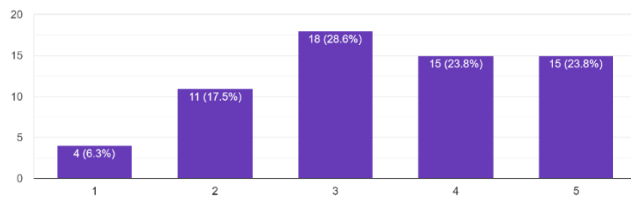


**Fig. 4.** Prototype user interface designed in Figma



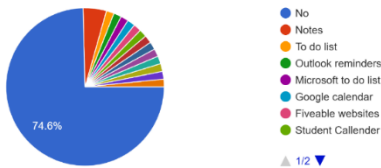
**Fig. 5.** Prototype login pages and main output pages coded in Android Studio

How hard is it to focus on your academic tasks when you're stressed? (ما مدى صعوبة التركيز على مهامك الأكاديمية عندما تكون متوترًا؟)  
63 responses



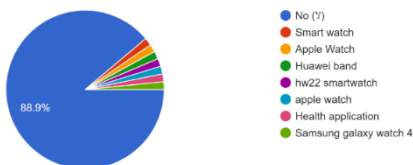
**Fig. 6.** Linear scale for focus level of students under stress

Do you use any applications to track your academic tasks? (Eg: calendars, to-do lists, etc.) If yes, mention the applications. (إذا كنت الإجابة بنعم، فاذكر التطبيقات (هل تستخدم أي تطبيقات لتتبع مهامك الأكاديمية، وما إلى ذلك).)  
63 responses



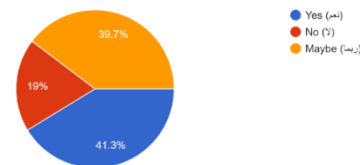
**Fig. 7** Pie chart demonstrating whether students implement apps to keep track of their tasks.

Do you use any device (Eg: smartwatches) to check your pulse/heart rate? If yes, please mention the device. (هل تستخدم أي جهاز (على سبيل المثال: الساعة الذكية...، بصق/معدل ضربات القلب؟ إذا كانت الإجابة بنعم، يرجى ذكر الجهاز).)  
63 responses



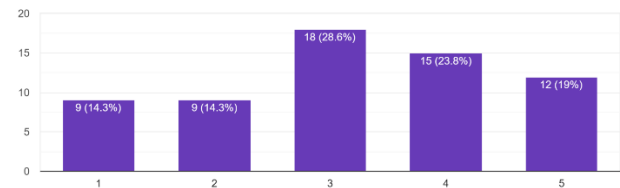
**Fig. 8.** Pie chart indicating the percentage of students using technology to track their pulses

How willing are you to use an IOT device (Eg: smartwatches) to track your stress levels, if it helps in completing your academic tasks on time? (ما مدى استعدادك ... كان ذلك يساعد في إكمال مهامك الأكاديمية في الوقت المحدد؟)  
63 responses



**Fig. 9.** The proportion of learners who would be willing to engage with IOT devices to complete assignments when stressed

How willing would you be to use an application or a portal that can track your stress levels and help you complete your academic tasks on time? (ما مدى استعدادك...، إنك ومساعدتك على إكمال مهامك الأكاديمية في الوقت المحدد؟)  
63 responses



**Fig. 10.** A linear scale indicating the interest of learners in implementing the proposed framework

From Fig. 6, we can infer that 47.6% of the students surveyed agree highly (on a scale 4-5) that they cannot concentrate on academics when they are stressed. From Fig. 7, it is shown that academic task-tracking applications weren't used by 74.6% of the students, but 25.4% used a variety of to-do lists applications. This shows that some students have organizational skills, while others need awareness and training on improvement in this field. 88.9% of the respondents didn't use devices to measure their heart/pulse rate (Fig. 8). This is understandable due to many people not consciously needing the use of wearable devices, however from Fig.9, it is observed that more than half

the respondents were willing to use IOT devices if it helps them in their academics when they are stressed. From these findings, it is observed that students in Oman would be immensely benefitted from a system that has features of StressSync. Finally, Fig. 10 shows that 42.8% of the people (on a scale of 4-5) are interested in such a proposed system.

### Qualitative data analysis

Interviews were conducted with several local mental health clinics to gather information about how the youth deal with stress in Oman, and the techniques mental health professionals use to deal with their clients in their clinic.

College students have been found to engage in habits like 'doom scrolling' on the internet, smoking and other forms of nicotine use, and consuming high levels of caffeine. They suggested healthy coping strategies which involved mindful breathing exercises, journalling, body scans, calming music-guided meditation, and practicing regular self-care.

There was a need to educate students on how much stress affects students' minds and bodies, and to use technological advancements to aid stress management. The professionals recommended games to be incorporated with stress relief techniques that involve meditation, journalling, mindful breathing, etc. to keep students attentive.

## IX. KEY FINDINGS

### Hypothesis testing and evaluation

To prove the usefulness of the StressSync framework, a few tests were considered in the form of scatter plot analysis done on Jupyter Notebook using python. These consisted of alternate and null hypotheses testing.

A survey was performed among more than 50 college students in Oman to gather their opinions on whether certain features proposed by StressSync will likely be adopted by the respondents. The respondents were asked to test the prototype and then fill in the survey. To evaluate the hypothesis of Likert's scale study, the scatter chart, Jupyter was considered. Scatterplots are a useful tool for visualizing the variable level of correlation. This is shown in Figs. 11.a., 12.a, and 13.a.

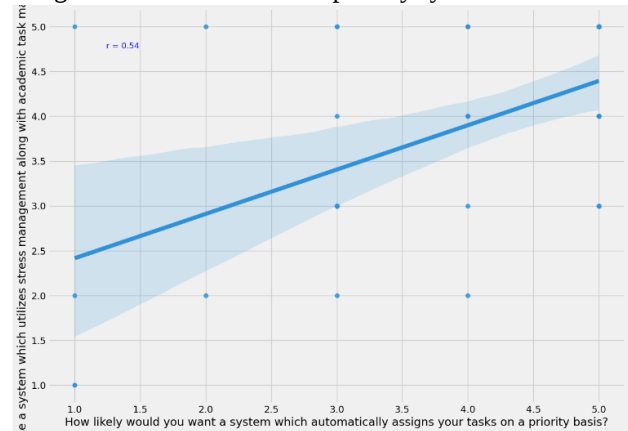
### Scatter plot analysis

Using scatterplots, one can determine whether the plot's slope is positive or negative, signifying a positive or negative association between the variables, as well as the degree of correlation between the variables (i.e., the "scatter" in the plot; the stronger the relationship, the more concentrated the dots are along the line).

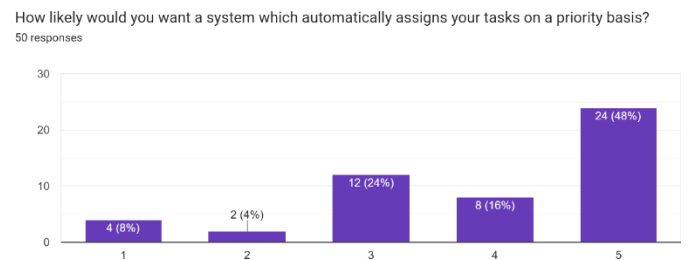
The features of the proposed StressSync framework are as follows:

- Assign academic tasks on a priority basis.
- Play mini games during breaks from academic pressure.
- A reward system from the college to encourage students to use the StressSync system.

The scatter plot in Fig. 11.a. shows a positive correlation between the two variables, with the correlation coefficient value,  $r = 0.54$ , indicating a medium positive correlation. The bar graph in Fig. 11.b. shows that 64% of the respondents are willing to use an academic task priority system.

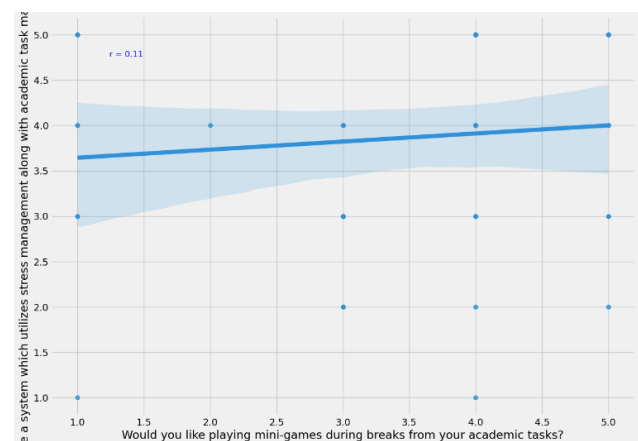


**Fig. 11.a.** The scatterplot relationship between “How likely would you want a system which automatically assigns your tasks on a priority basis?” and “How likely would you be willing to use a system which utilizes stress management along with academic task management tailored towards your habits?”

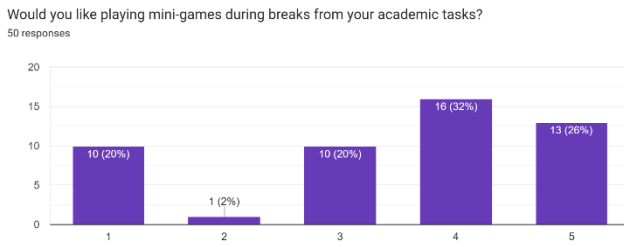


**Fig. 11.b.** Bar graph showing percentage of students that would likely want to use an academic task priority system

The scatter plot in Fig. 12.a. demonstrates that the two variables have a positive association; the correlation coefficient value,  $r = 0.11$ , indicates a weak positive correlation. According to the graph in Figure 12.b, over half of the students are open to playing minigames when they have a break from their studies.

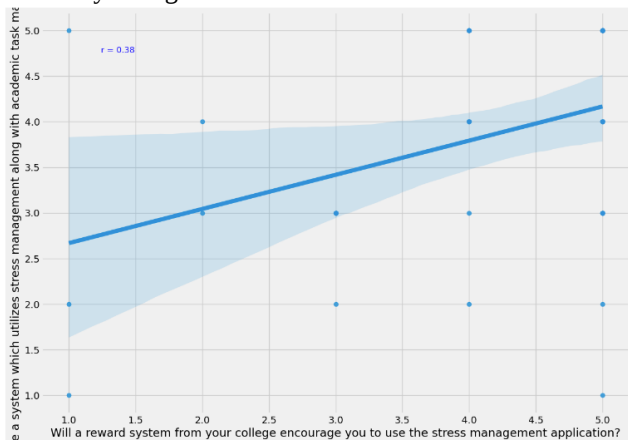


**Fig. 12.a.** The scatterplot relationship between “Would you like playing mini games during breaks from your academic tasks?” and “How likely would you be willing to use a system which utilizes stress management along with academic task management tailored towards your habits?”

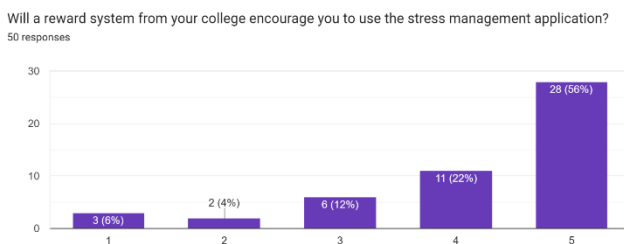


**Fig. 12.b.** Bar graph shows percentage of students that would likely play mini games during breaks from academic tasks

The scatter plot in Fig. 13.a. demonstrates a positive correlation between the two variables, with a correlation coefficient value of  $r = 0.38$ , showing a weak positive association. The bar graph in Fig. 13.b. shows that over 80% of students will be encouraged to utilize a stress management system with an academic task priority system if they are awarded for their success by college.



**Fig. 13.a.** The scatterplot relationship between “Will a reward system from your college encourage you to use the stress management application?” and “How likely would you be willing to use a system which utilizes stress management along with academic task management tailored towards your habits?”



**Fig. 13.b.** Bar graph shows the percentage of students that would be encouraged to use the stress management application

integrated with a reward system from college.

The survey data collected using linear scale indicated these proposed features to be likely to be used by college students which will assist in reducing their stress levels significantly. To supplement these survey results, a scatter plot analysis revealed a weak positive link between these characteristics and the use of StressSync, a stress management system coupled with an academic task prioritization system.

### T-testing

Using python in Jupyter IDE, the code below the results of the t-testing done for the statement: “How likely would you be willing to use a system which utilizes stress management along with academic task management tailored towards your habits?” The results obtained were:

*t*-statistic: 5.288

*p*-value: 0.00000143086919

*Students will be likely to be willing to follow the StressSync framework which drastically reduces the perceived stress levels in students and improves their academic performance by providing personalized stress management techniques and an integrated academic task completion priority system compared to the existing methods.*

By combining the results, it can be concluded that the analysis supports the alternate hypothesis.

## X. CONCLUSION

‘StressSync’ is a framework developed with a prototype as a proof of concept for a stress management system with an in-built academic task navigator to combat academic stress faced by college students. This paper discussed how the framework was composed, through a comparative literature review, and quantitative and qualitative data analysis. Physiological stress indicators like sleep, diet and water intake, and heart rate variability (HRV) were taken into consideration. It was observed that 47.6% of the respondents’ faced difficulties in concentrating in their studies when they were stressed. The framework consisted of many features which included: Wearable IOT Device, Stress Factor Input, Stress Score Calculator, Stress Management Strategies, Task Priority Algorithm, and Support Groups.

A small prototype of StressSync was also designed and implemented for hypothesis testing purposes. StressSync showed positive results for different testing scenarios under scatter plot analysis, among which many features of StressSync showed weak positive correlation, such as mini games and a reward system being implemented in the system. 64% of the respondents were willing to use an academic task priority system. The t-test on the results of the statement “How likely would you be willing to use a system which utilizes stress management along with academic task management tailored towards your habits?” was performed, where the null hypothesis was rejected. Therefore, *Students will be likely to be*

willing to follow the StressSync framework which drastically reduces the perceived stress levels in students and improves their academic performance by providing personalized stress management techniques and an integrated academic task completion priority system compared to the existing methods.

The features of StressSync were also represented diagrammatically through flowcharts and designed in Figma to give visual ideas of the framework.

## XI. ACKNOWLEDGEMENTS

Special thanks to the local mental health clinics in Oman for their valuable input which helped us gain a deeper understanding into this topic. We would also like to thank the Middle East College faculty for their unwavering support and guidance throughout this research project.

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