College of Engineering and Information Technology

Information Technology Department

**Development and Evaluation of Axion:**

**A Web-Based Academic Task Management Tool for College Students**

For RESEARCH 1 – Methods in Research Computing

For the Degree of Bachelor of Science in Information Technology

December 30, 2021

Submitted by:

CLARIN, Mart Yazen Mikhail

HERRERA, Charles Maverick

MATIMTIM, El John S.

ROCHE, Joanne Razelle L.

Submitted to:

Mr. Roberto Guinto

**CHAPTER 1**

**THE PROBLEM AND ITS BACKGROUND**

**1.1 BACKGROUND OF THE STUDY**

A task, according to Wrike (n.d.), is an objective that can be attained by putting effort into it. Juneja (n.d.) defined the term ‘management’ as about individuals creating an environment for them to ensure that their efforts are progressing towards a certain purpose. MacKay (2018) defined task management as the process of overseeing tasks and how it is fulfilled throughout its life cycle, from planning to testing to tracking to reporting, in order to achieve its objective. And the application that is designed to support task management is called a task management tool. Warren (2021) defined a tool that is built and functioning alongside the World Wide Web server is called a web-based tool. Whereas, Lincoln (n.d.) has discussed that a tool that focuses on helping students in academic-related areas to produce quality output is called an academic tool. Therefore, a web-based academic task management tool or system gives the students the ability to manage their academic-related tasks through a web-based environment. It also provides features or specifications that cover the academic responsibilities of an ordinary college student. The system will be very useful for students, since it can help them to become productive and achieve their academic goals.

Since the beginning of the pandemic, college students have been engaged in an alternative way of studying, which is called blended learning. Hence, it will be expected that they have to manage their time and other resources, otherwise it can negatively affect their academic performance. They usually manage tasks on how they prefer, including writing on a piece of paper, or even typing on their devices. In other words, students have their own methods that seem to be effective for them to handle the tasks that they ought to undergo. Unfortunately, they may also face problems that are related to management. Such problems include: (1) poor management skills, (2) poor management environment, (3) uncertainty about the tasks, and (4) procrastination.

**1.2 PROBLEM STATEMENT**

This study focuses on the current problems that a college student might face regarding their management on their academic-related tasks, since college students are currently working on blended learning as an alternative to continue their education amidst pandemic, thus their sense of independence is being challenged and this includes managing their own time and resources. Certain management struggles that every student might face along the way are: (1) poor management skills, which can trigger more obstacles, (2) poor management environment, limiting students with their capabilities, (3) too much workload that it could overwhelm and pressure the students, (4) uncertainty about the tasks, and (5) procrastination. Such factors can negatively affect every college students' efficiency and well-being, including their academic performance, and may even lead to unpleasant results, such as internal chaos and demotivation.

**1.2.1 General Objective**

To design and develop Axion that aims to help college students to specifically improve their academic performance by managing and completing their academic tasks in a procedural way of doing the most prioritized tasks up to finishing the remaining and to help them overcome problems that are related to management. By that, the researchers will develop a web-based application which will be visually pleasing and user-friendly along with a fast reactivity of elements within interfaces.

**1.2.2 Specific Objective**

This study aims to fulfill the following objectives that are specified for designing and developing Axion in order to cover the said problems that the college students are experiencing:

* To commence a process of signing up a new account or logging into Axion’s system with existing Google and Facebook accounts.
* To develop and deliver a minimal, modernized, and innovative user-friendly interface for an ease of work and comfort in the eyes and reduced applications’ usage complexity of students when working with their tasks within Axion, which can be reformed later based on the responses of users as data to be gathered through survey questionnaire and evaluated.
* To implement and deliver reactivity of the Axion by means of Svelte files and compiler, which gives better user interface, animations, and no-lag experience when using the application.
* To propose a hierarchical structure for tasks to distinguish subjects, workspaces, boards, tasks, and subtasks.
* To apply certain parts and functionalities of the system that will be beneficial for better task management:
  + To implement functions for users to define structures: create, modify, and delete subjects, workspaces, tasks, etc.
  + To implement separate sections for group and individual activities.
  + To apply collaboration feature through automated data synchronization for group activities to view updated data on screens of every group members.
  + To implement a Kanban board that help users in identifying tasks being grouped by status.
  + To include a calendar that helps users in visualizing and identifying task urgency.
  + To access and only view tasks that are specifically assigned to the user.
  + To provide a favorites section along with a favorites manager, to reduce wasting time on looking for certain tasks.
  + To apply sorting of tasks by priority.
  + To add task description and details, helping users to know how they will approach the tasks.
  + To add a contact page in the website to make it easier for the developers to receive and respond to the users’ feedbacks during the testing phase.
* To exclusively execute Axion through user testing with college students of Pamantasan ng Lungsod ng Valenzuela being the testers in order to get feedback for the improvement of its system until it is fully-fledged and finalized to work on its own without maintenance and to be published wherein all college students will be able to use Axion.

**1.3 PURPOSE AND DESCRIPTION**

This study shows the purpose of Axion in helping college students to successfully organize their academic-related tasks and make sure that these tasks would ensure to progress towards academic success. College students will also be able to determine which tasks should be prioritized first before anything else. Due to this, they can produce sufficient performance to their work, encouraging them to exert their potential to become more productive. Then, it can result in investing more free time on other things that can either be related to academics or not, and achieving their academic goals. Positively boosting their well-being is also an expected implication, since the feeling of being successful, as discussed by Connors (2018), can stimulate positive feelings, such as happiness, confidence, and contentment. This study can also be a source of information that future researchers can use as support for their own studies. The beneficiaries for this study will be: **College students**, wherein this study can be a learning paradigm on how college students can perform better at managing their tasks, workflows in academic and non-academic tasks, and better grades or academic performance. Also to avoid the most problematic hindrances when managing tasks, such as procrastination and demotivation, and to help improve the students' academic competence and develop their managing skills on their own, which will aid them in managing their work resources in the future once they will be employed. **Future researchers**, will not only be informed about how Axion will work for college students, but also they are allowed to access and make use of this study as a supporting reference that will guide them for their own related research.

**1.4 SCOPE, DELIMITATION, AND LIMITATION**

This study is to acquire the benefits of management, such as submitting work on time and obtaining productivity, wherein academic performance will be directly and positively affected by it and the progression of achieving academic goals will be ensured. Therefore, the target users of the proposed system will be the college students, specifically those that are liable to have more tasks to work on. Rhodes (2017) have stated that college students are emerging into adulthood and their independence and maturation are being prepared before they finish their education. In addition, according to the Disability Resource Center (n.d.) of Clackamas Community College, college students are very likely to have more freedom to make day-to-day decisions that will support the path that they have chosen and help achieve their academic goals. By that, they are expected to become capable of handling and managing their tasks on their own. The researchers are able to understand the situation of college students, since they are in the same occupation and circumstances as them. The proposed system will aim to become befitting to college students through testing it to them to provide benefits to the researchers as well. It will require users to create and log-in their accounts to be able to arrange their unique subjects and tasks. By doing that, it will now allow users to create subjects, workspaces, tasks, subtasks, and such, including task details. Furthermore, it separates group tasks from individual tasks, view them in Kanban boards, through a calendar, even see only the user’s assigned tasks, mark favorites, and modify their user profile. A collaboration feature will be added to the proposed system for group activities, which present data synchronization feature to make sure that data is updated and consistent to every users or group members that are invited to a workspace. A login authentication will also be added, in which the credentials of the user accounts will be stored through the back end.

Since there are college students who expect themselves to use management tools to rearrange their tasks, they will be more befitting to the parameters of this study, thus a delimitation will be considered, wherein secondary level and other lower grade levels will not be included due to the expected lack of data quality if it is gathered. Another delimitation is that, with regards to the proposed system being web-based, implementing push notifications will not be included. Axion may not be doing any forms of encouragement, specifically push notifications, because it will become challenging to implement the code of the feature, thus students will be reminding themselves of their responsibility to manually keep constant track of their current tasks. The system will also be having limited communication when collaborating due to the difficulty to implement the code. Students will be able to interact by updating statuses of subtasks and even tasks thru checkboxes, adding task description and further details, such as the due date. The nesting of subtasks will also be only down to 2 levels only to avoid too many subtasks, bulky containers, or overload that can affect the performance of the database. As for the limitations, some of the college students may not find the system. This will be beyond the system’s control, because students have unique tastes. Nevertheless, the proposed system will still be developed to become uniformly acceptable for students, where they can easily adapt to the system and give out its full potential as a task management tool. An Internet connection will be required for Axion to work since it is a dynamic web-based application and also to activate data synchronization, which will be needed when doing collaboration, especially in real-time. Unable to have access to an internet connection would mean Axion will not work, therefore, it can be a hindrance to access the system. Lastly, students will hold the responsibility to keep track of their tasks, since Axion is only meant to support students with management. If students do not devote themselves to manage their tasks, they would not be able to give out its potential as a task management tool. This will remind them to make efforts to achieve better outcomes, which is likewise as managing task by pen to paper. However, even if they do so, the benefits of Axion will not be guaranteed to offer them absolute solutions that will answer every problem there is for their management-related problems, for it is only facilitated to aid them with their academic tasks.

**1.5 DEFINITION OF TERMS**

**Kanban board -** is a visual board or system originating from Japan that represents project tasks and to track and indicate their progress throughout a project.

**Organizing** - is one of the most important functions of management since it focuses on efficiently allocating and organizing people and other financial resources to carry out the organization's strategies.

**Planning** - The primary job of management is planning. It is a blueprint for the activities that will be carried out to achieve a desired goal. It entails planning forward and laying out a strategy for the future.

**Productivity -** is the capability of one or more individuals to produce goods and services efficiently.

**Productivity Management Software -** are programs designed to help users easily manage their activities to work productively and efficiently.

**Project -** is a series of related tasks that is carefully planned by an individual or a group of people to achieve a certain objective.

**Task** - A task is a single work unit — one stage in a multi-phase project. A task must be completed by a specific deadline and contribute to the achievement of work-related goals.

**Task Management** - is a process in which a person or a group of people keeps track of a task throughout its life cycle and makes choices based on the results.

**Task Management Tool** - is a tool being managed by one or more individuals to put order on their tasks. Task management tools have features and accessibilities that helps users with their management.

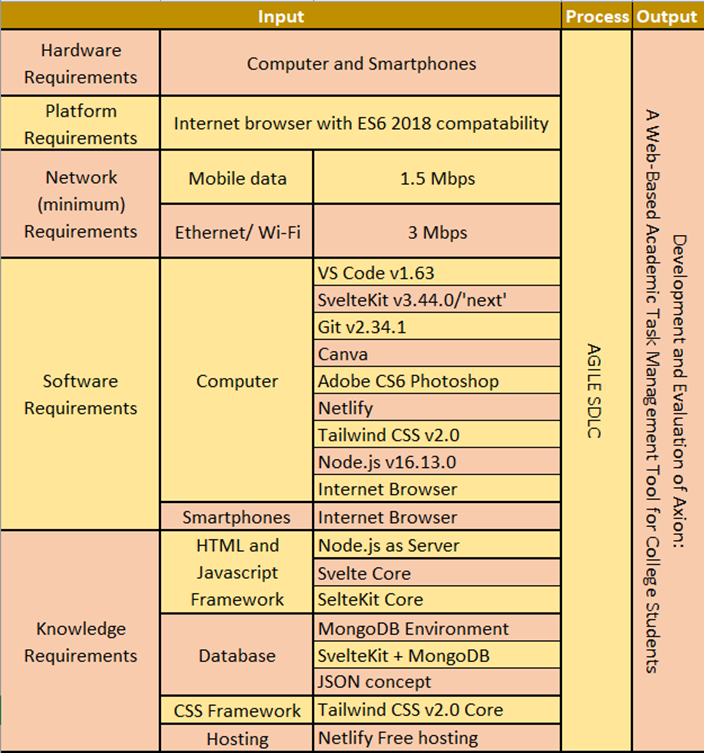
**Task Status -** is the indication of the current progress of a task (In Progress, Done, Cancelled, etc.)

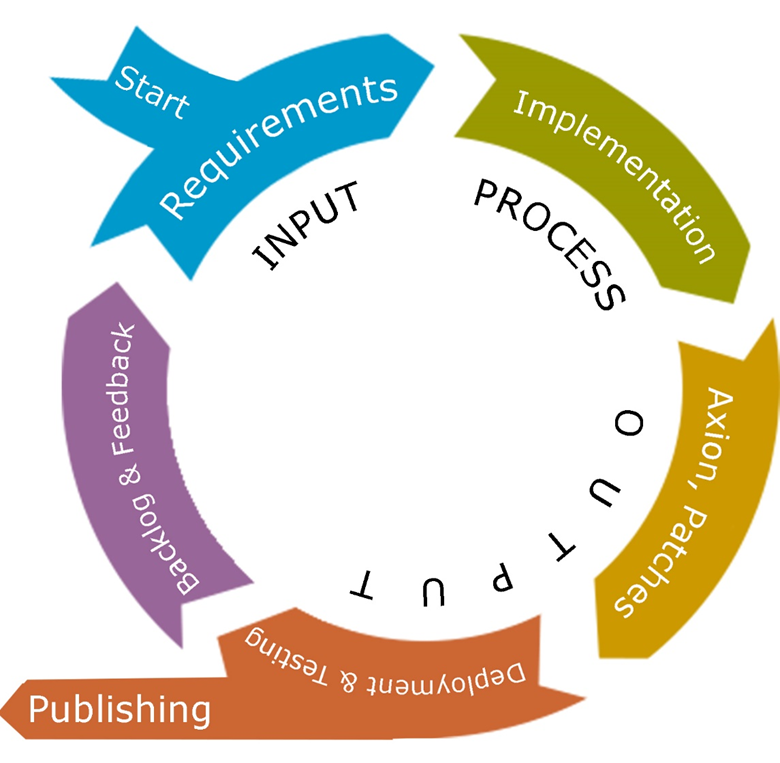
**Task Views** - are different ways to visualize your tasks (e.g. Kanban, Gantt Chart, Calendar)

**Web Application -** is a computer program that makes use of web technology, performs a specific purpose and is displayed over the Internet.

**1.6 CONCEPTUAL FRAMEWORK**

The following diagram describes the flow and process of Axion in different user-students state, the diagram is presented below.





*Figure 1. IPO Model of development of Axion*

The researchers first look at the requirements to develop such system and this requirement are divided into five (5) categories. The categories are hardware, platform, network, software and knowledge requirement. Computer and smartphone for hardware requirement, as this is the most common and possible gadget that the students have. An Internet browser with the minimum of compatibility with ECMAScript 6 2018 to run properly all the codes and files needed for other services, software and frameworks and is the recommended web technology. Being online-dependent system requires stable internet connection for it to work and as for the mobile data the minimum would be 1.5 Mbps and if by Ethernet or Wi-Fi the minimum is 3 Mbps, also this is a mandatory requirement for the researchers as they use the internet to gather information, data and to download software, plugins, extensions, and modules that is needed in the development. In the development phase requires software and this software requirement are categorized into two parts, first computer software and second smartphone software requirement to develop Axion. On computer software starts with the coding environment, Visual Studio Code in regards to the most stable and latest version and inside of the code editor has any extensions and tools that can be used for better coding and development. SvelteKit specifically version 3.44.0 for this version is the stable version of SvelteKit in regards to Svelte as its core and Tailwind CSS version 2.0, these are frameworks that will be used are inline to layout and design of the system to make coding phase faster for it allows developers to code with less typing and with a huge variety of support in its community for better UI and designs in which saves a lot of time for the developers of the system. Git for updating and distributing files of the system especially codes, in help of GitHub as the remote stream of the developer’s codebase. Canva for system layout and low fidelity prototyping. Canva also supports live collaboration. Adobe Photoshop CS6 for additional graphics for the system. Computer and smartphone internet browser is where the output will be displayed after development of the system, note that internet browser must be ES6 2018 compatible. For the researchers to be able to use the software properly especially the frameworks and about database they need the knowledge about Svelte, SvelteKit, Tailwind CSS and Node.js for this are the major languages or scripts they will use in the development. Followed by the database connection with MongoDB through SvelteKit. Publishing the Axion to make it in the internet live and can be accessed by anyone is done by free hosting of Netlify with its free subdomain name to access the web application.

On the process, the researchers will be using the agile software development life cycle for this development is a rapid, fast, and has always changing the system being developed. Axion is not a long term project, after the publication of the system developers will no longer update it. At start of the development researchers gather all the requirements and finalize it and proceeds to the implementation in where the issues and bugs to the systems are in fix state and new features is to be develop and then next is to deploy it. If the system is not yet ready for publication the output is the Axion a web-based academic task management tool for college students, else additional patches and features or fixed bugs and errors in the system are released as patches or in version type.

**CHAPTER 2**

**REVIEW OF RELATED LITERATURE**

**2.1 TECHNICAL BACKGROUND**

Workspaces are seen, especially in enterprises, as an area to keep boards that are related to the same topic or workflow together, or even to keep all the important things for the same team and people, regardless of the subject. Workspaces provide a useful way to see boards and collaborate with all your team members in one place. Web is the area where users are able to visit through the Internet using a browser. A web browser is frequently used to execute web-based applications, which are software that is accessible through the Web over a network connection rather than being stored in memory on a device. Web-based applications can also be client-based, in which a tiny portion of the software is downloaded to the user's desktop but processing is done on an external server through the internet. The user interface (UI) is where users naturally interact with a system. The calendar system provides enterprise workspaces with a powerful visual approach to track and manage their cards, as well as their due dates and start dates. The calendar view provides users with the perspective that users need to arrange and prioritize tasks for the coming days, weeks, and months. A board is the central hub of the workplace, and it may hold any number of lists and cards. A list is a column that includes cards. It's to the users and their project's needs how they utilize and arrange lists. Each list, for example, may represent a team member, and the board would keep track of everyone's responsibilities. Alternatively, a user may set up the list as a workflow, with each card moving from one list to the next as tasks are processed and finished. Cards are the smallest units, which are used to identify tasks that must be completed. The card not only has a name, but can also contain file attachments, images, notes, and other information once being opened. If necessary, users can also make a card template that includes standard information, such as a team checklist. Cards can be opened and edited with a single click, and dragging and dropping cards between lists are as simple as dragging and dropping, allowing new users to get up and running quickly. Favorites are marked tasks in the favorites section wherein users will not have to find it along with the other tasks, making task searching faster.

**2.2 FOREIGN LITERATURE**

Based on an article by Martinez (2021), applications that support bookmarking or favorites are capable of marking sources, notes, or any kind, and will offer help when a user wants it to. In other words, these applications will serve its purpose as long as the users follow through. These applications will also require user effort when accessing marked sources or materials in a quick manner, especially when there are a lot of tabs that are open.

Individuals have to have enough knowledge and prerequisites to implement a plan to balance out tasks and determine which they would start working on first, according to Guévin (2021). Factors include assessing the resources that they may need to work on for a certain task, scaling how simple or complex a task is, knowing its urgency, and even defining the risks that can possibly or surely happen. With this, one can determine which path is best and most efficient to follow, avoiding tackling struggles in the future.

A webpage from Usability.gov (n.d.) have discussed that systems will become easy to learn and use for users if it supports usability, which is a widely applied key concept when utilizing systems. This can be achieved by collecting feedback from the target users that experienced or tested the early stages of the system itself. In addition, methods that will be conducted to improve a system will be based on the system’s characteristics and functionalities, and achieving this can mean that the system will be capable of ensuring good performance and satisfaction from its users.

Faust (2018) has pointed out on his blog’s post that a project management software that is highly customizable can become complicated, making the project to lack provision of user control and leaving out the system to be harder to adopt, implemented, learn, and use. Another drawback is that many companies that makes these project management software forms it into a ‘one size, fits all’, giving many features that can be added to it and making the project management software challenging to learn because of its broad and bloated features. Therefore, it will be crucial for the user interface to guide the perception of users and introduce them in a lighter manner to prepare them for a deeper understanding towards the system.

Lynn (n.d) has claimed that task management tools have key components that can surely make lives and works of its clients easier starting with prioritization. Organizing in accordance to prioritize your tasks such that the most critical tasks are accomplished first, telling that the users can focus on how work should be approached by prioritizing tasks rather than bouncing from one item to another without direction. Second is visualization, it helps users better understand a project as a whole and dependencies become evident and collaboration becomes natural when everything is spelled out in an easy-to-understand manner. Lastly, analysis as the project or task management software provides accomplishments. This reflects that the team or manager can analyze it and use it to have another form of management.

**2.3 LOCAL LITERATURE**

User interface is responsible for interacting the users of the system to the system itself. According to Angcod, Baranggan, Gonzales, Gamon, Ramacula, and Mahinay (2015), having a user-friendly interface must easily locate the screen menu and icons, keyboard shortcuts, mouse and gesture movements, command language and online help. Therefore, the user interface must be designed in which any user is capable to interact with the system more easily as possible. Furthermore, the functions shown in the user interface must be upscaled to improve the accommodation towards its users.

**2.4 FOREIGN STUDIES**

According to Juul & Norton (2017) in their study related to game systems and interfaces, newly-introduced users or players may be able to perceive and interpret the objectives of games as simple and feasible. But, it can be disrupted and framed as inefficient due to the interface and rules that are being set in the game to constrain players in achieving maximum control during gameplay. In other words, conversely, it is natural for software systems to be difficult. Therefore, the users must find the user interface of the application that they are using to be intuitive, pleasant, and easy to understand, which will lead to understanding the system well.

Sundström and Thelander (2004) have attempted to create a user interface for a web-based film production project management portal. This is created to face problems and barriers regarding information and communication exchange, and to serve as a widely accepted tool for every member within the film production department of The Chimney Pot, despite the differences of their skills and knowledge towards technology. They intend to define the user requirements, wherein the perspective of users should be focused on rather than the perspective of technology. This is done so that they can propose on what solution will be best based on it. Results have shown that it greatly enhances the portal’s quality and effectiveness. Furthermore, many potential users that are unfamiliar with technology are to be critically considered and expected when creating a user interface.

Farwell and Waters (2010) have referred in their study about the use of favorites or bookmarks in education, that in an educational setting, favorites or bookmarks, as an easily accessible collection of information that can be important or interesting to a certain student are capable of providing learning opportunities, improving learning experiences, promoting accuracy of information, and reinforcing learning objectives.

However, as finalized by Bergman, Whittaker, and Schooler (2021) in a related study that the bookmarks may not become capable as said, if they are not visible to the users. This can mean that college students are to be constantly aware of the use of favorites, thus recognizing and taking advantage of its potential to them.

As for setting priorities to tasks, Bahadori, Salesi, Ravangard, Hosseini, Raadabadi, Dana, and Ameryoun (2015) have recommended that an individual should be required to have sufficient knowledge regarding his or her current situation towards his or her responsibilities in order to plan and arrange their tasks accurately and properly, starting with the activities that are most urgent and important. Due to this, the improvement of managing time and resources in a proper manner can be achieved. This can also be relevant for college students, since their methods or practices towards management may influence their academic achievements in college.

**2.5 LOCAL STUDIES**

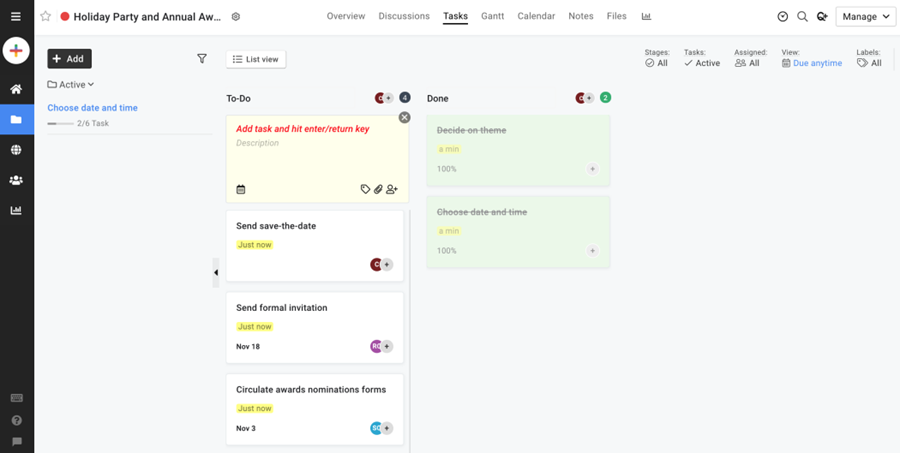
Heredia, Espinosa, and Caro (2014) has stated in their study about data synchronization that by utilizing triggers from updates made by the users through the user interface to the database, and using a container that will only retrieve the newly updated entries that have been done, synchronization of data can become effective, keeping the integrity and consistency of information to every user interface. The database has to be included in the synchronization since it handles and processes the data to be updated, modified, and displayed from one interface to another for all users.

Since cultural background plays a major role in designing a user interface, Almonte (2018) investigated if two countries with different cultures, Saudi Arabia and the Philippines, have different perspectives towards user interface components. It has found out that the hypothesis is true, besides the efficiency of the components. This can mean that focusing on a target audience, their demographic culture should be considered to check the appropriateness of a user interface design.

Furthermore, Martinez, Prasetyo, Robielos, Panopio, Urlanda, and Topacio-Manalaysay (2019) have conducted a study regarding the user interface usability that are perceived by users. The system design of the Metropolitan Manila Development Authority (MMDA) Mobile Traffic Navigator is to be evaluated on what view will be suitable for its target audience. They have facilitated a survey and results have shown that information is to be emphasized and to be made noticeable for users to easily perceive the system design, improving its usability.

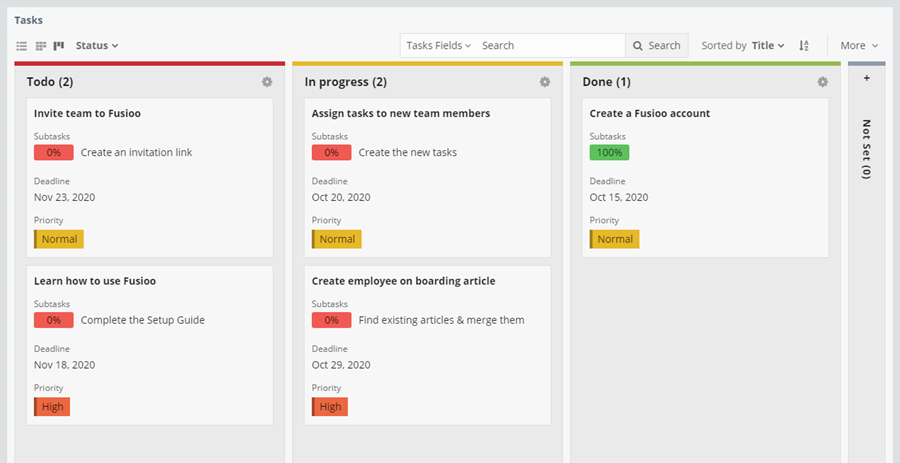
**2.6 FOREIGN SYSTEMS**

Andriiuk (n.d.) and Kashyap (2021) have included in their lists the following systems that are related to the system of Axion:



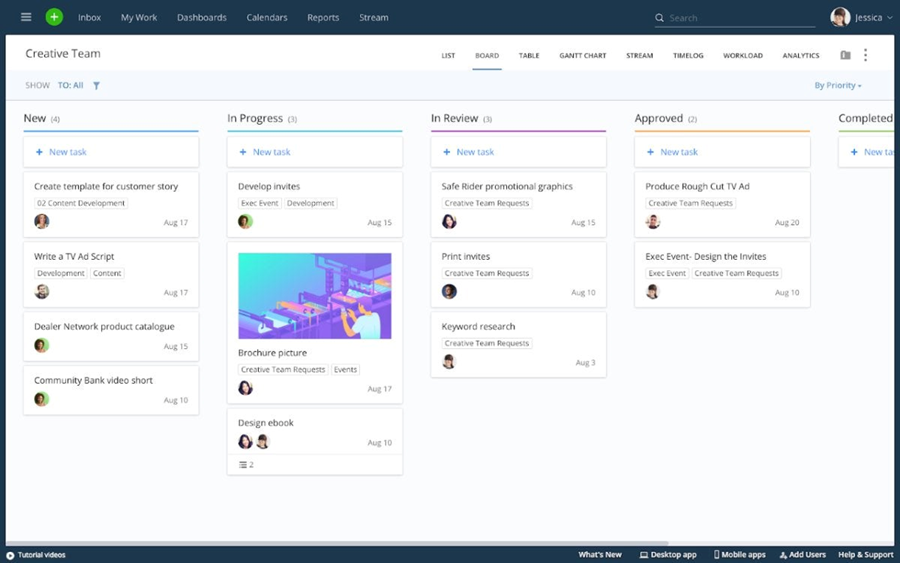
*Figure 2. ProofHub offers task management tools, milestones, Gantt charts, time tracking, reports, notifications, a calendar, in-app chat, and others.*

ProofHub gives teams a centralized location to collaborate and complete projects. Besides online collaboration, ProofHub contains capabilities for improved communication, visibility, progress monitoring, and accountability.



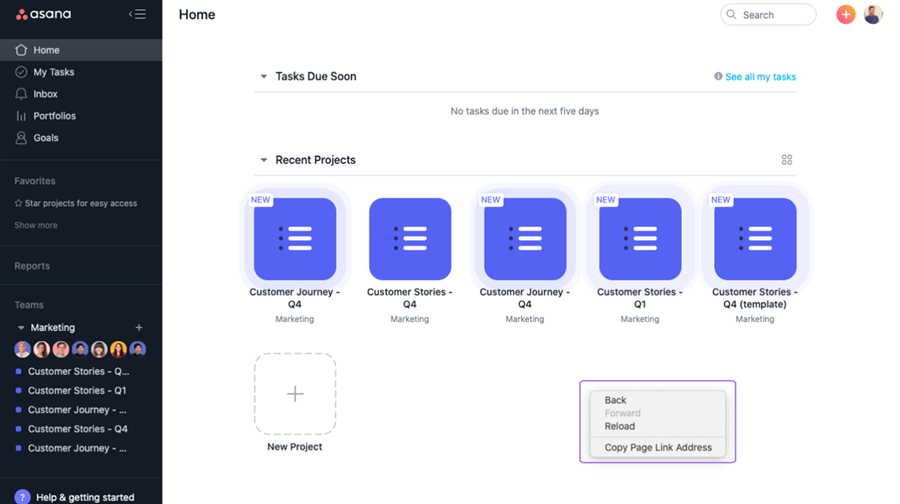
*Figure 3. Fusioo manages their workflows, stores relevant data, creates custom dashboards, visualizes data, plans projects, tracks deadlines, and more.*

Fusioo keeps track of a team's progress uniquely. It is favorable for small businesses to get organized because it lets them publish an online database in a short period of time and manage projects, clients, ideas, and timesheets in one certain location. Fusioo allows users to connect with both internal and external audiences within a secure system.



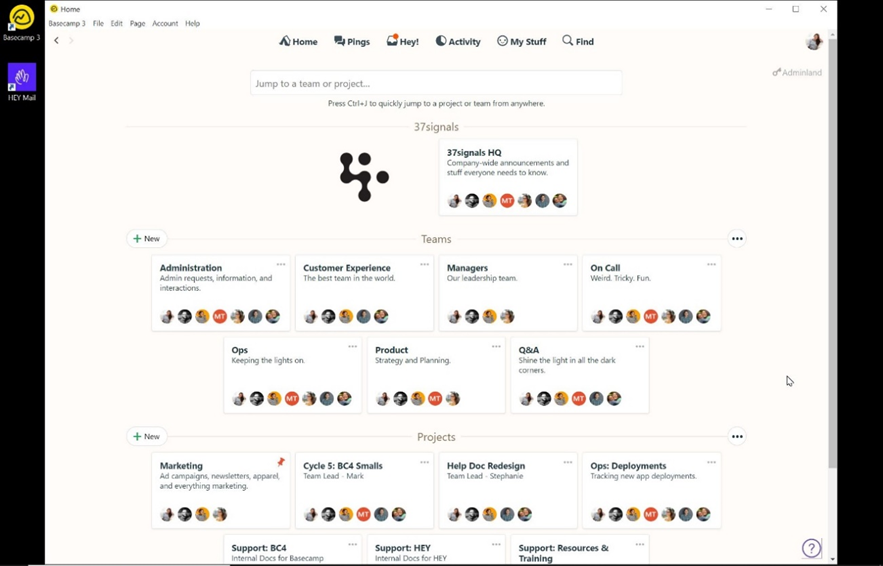
*Figure 4. Wrike has support for notifications, real-time comments, live editing, dynamic report. Wrike also makes it easy to share updates with stakeholders as needed.*

Wrike has collaboration and information management capabilities. It provides end-to-end project solutions, making and managing projects in a simple manner. Its task management and customization capabilities may help a team grow progressively.



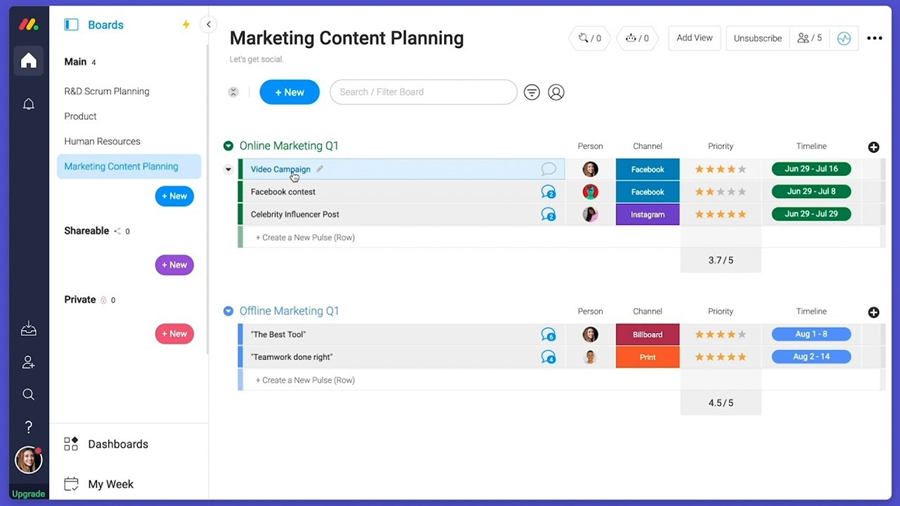
*Figure 5. Asana allows individuals and teams to divide large tasks into manageable parts, tracks the progress users make on projects and tasks, exchange files, comments, and notes, and keep track of progress and deadlines.*

Asana includes several features that can assist teams in managing tasks, information, and procedures. Asana is widely used by small firms and it effectively makes team collaboration convenient.



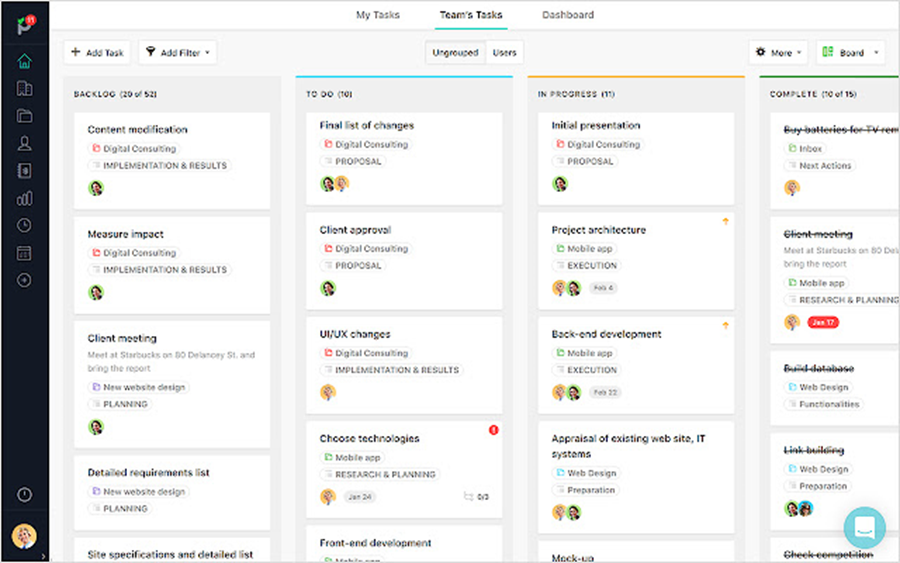
*Figure 6. Basecamp helps teams stay on the same page, despite being less on resource planning and long-term scheduling. Basecamp supports to-do-lists, calendaring, due dates and file-sharing, and provides a way for teams to keep track of priorities and actionable items.*

Basecamp is a collaboration and workstream platform and it is also a project management tool. It also incorporates a message board, real-time group chat, and other collaboration capabilities.



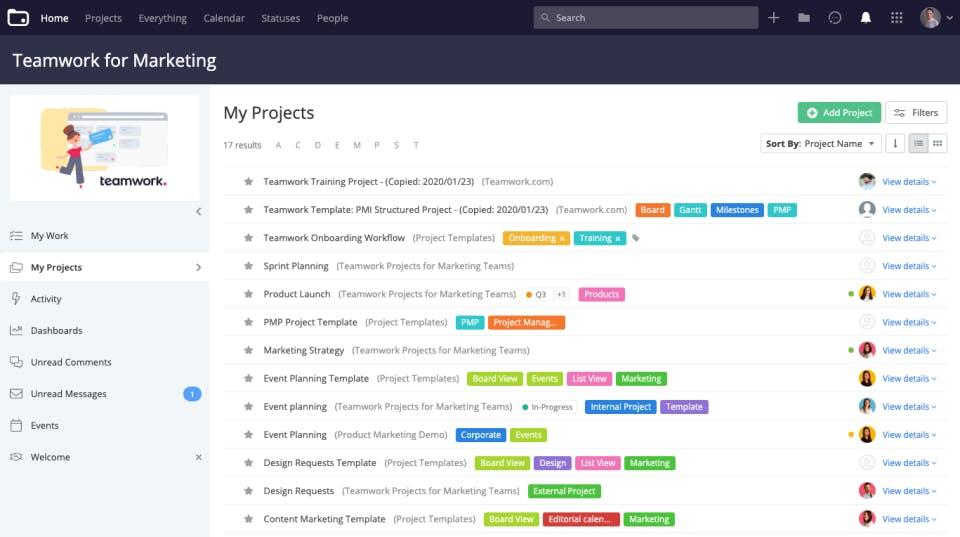
*Figure 7. Monday.com allows for ease of use and flexibility to onboard any team and manage multiple projects across the entire team. Monday.com supports time-tracking, an integrated Kanban board, automated notifications, workflow automation, dependencies, multiple views and calendar integration.*

Monday has many options regarding task management views, including a Kanban board, a list, a map, and a spreadsheet. Another appreciated feature is their reporting tool, which will make it easier for a team of users to keep track of their project's progress.



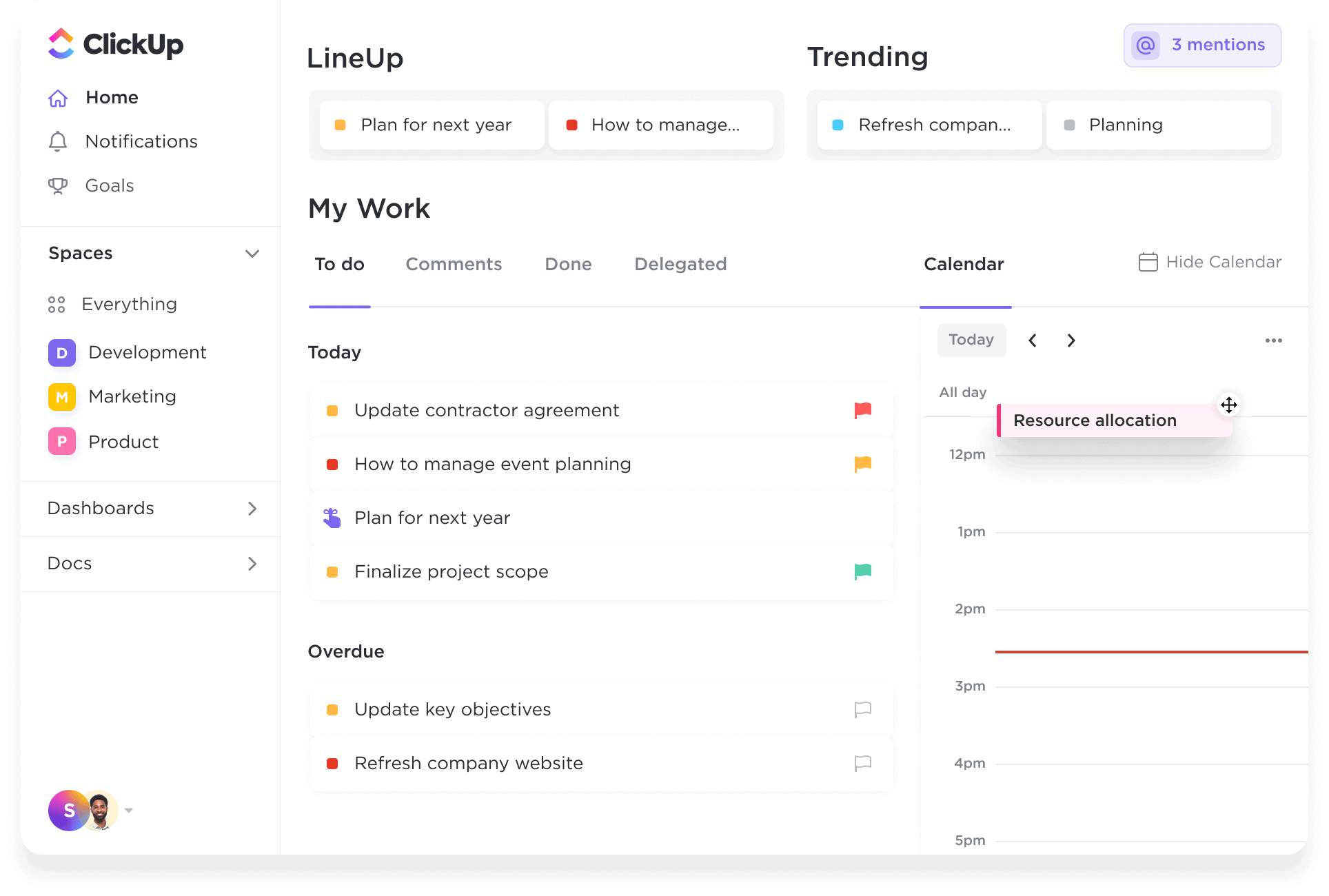
*Figure 8. Paymo is suitable for small and medium client-based businesses. Paymo supports remote work and offers project planning, resource scheduling, team collaboration, file proofing, time tracking, and project accounting within a single suite.*

Paymo assists users with resource scheduling, time tracking, project planning, accounting, file proofreading, and team collaboration. Users may create projects, check their progress using the time tracking tool, and manage their workflow using various task views such as Gantt charts, lists, tables, and Kanban boards.



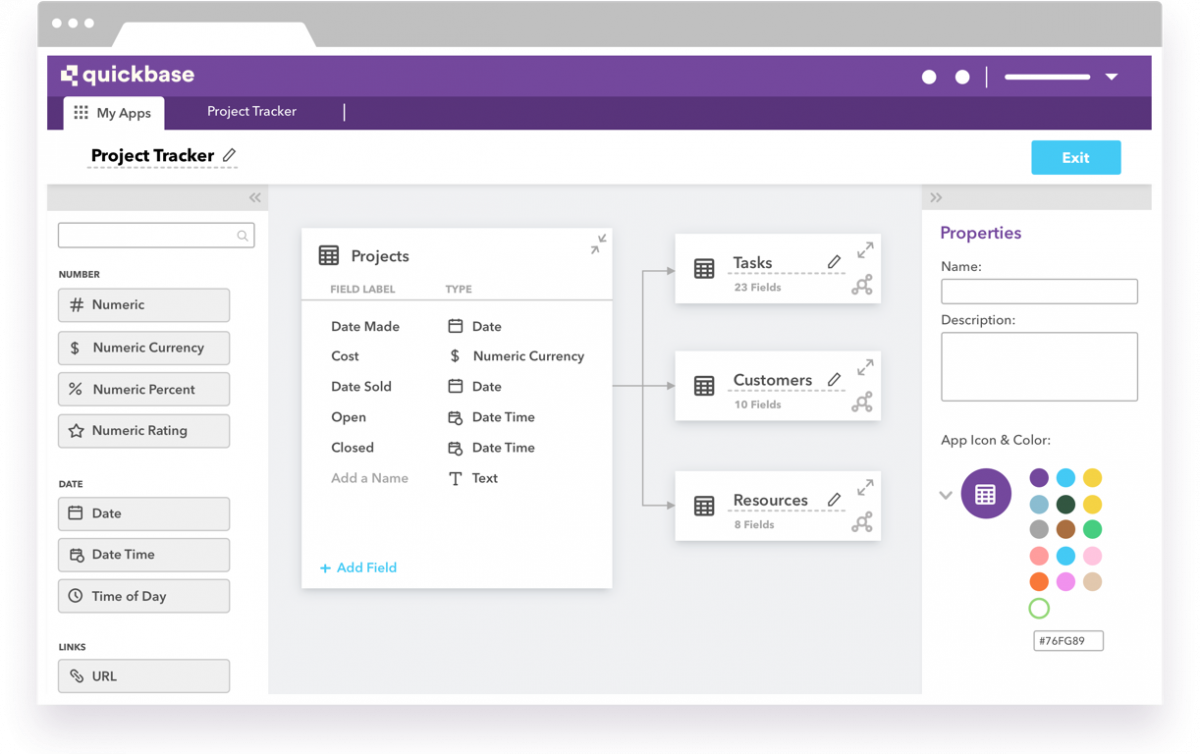
*Figure 9. Teamwork provides businesses functionalities to manage different operations of a project. Features include task lists, time tracking, file uploads and messages. Teamwork helps teams manage group objectives, communicate and establish business processes.*

Teamwork can be a good option to manage tasks, but it can also become sophisticated to users. Workload and portfolio management, time tracking, reporting dashboards, board view, and Gantt charts are what Teamwork can provide. It will allow users to manage many complex projects at the same time.



*Figure 10. Clickup includes the features of Kanban board, schedule tasks, subtasks, and even chat with their team members to enhance collaboration.*

ClickUp lets users plan, schedule, and manage their projects through Kanban boards. It will allow them to access a broader range of tools, such as Gantt charts and timeframes. To improve teamwork, users may plan tasks, subtasks, and even talk with their collaboration.



*Figure 11. Quickbase tables can organize data like spreadsheets, but are much more powerful. It collaborates through teams and sees information through real-time..*

QuickBase enables users to build more efficient methods of working. It facilitates communication by providing a platform for hundreds of team members, colleagues, and clients to interact and achieve productivity. Because QuickBase is a collection of programs, it is considerably adaptable and can be utilized through different means.

**2.7 PROJECT SYNTHESIS**

ProofHub, Fusioo, Wrike, Asana, Basecamp, Monday, Paymo, Teamwork, ClickUp, and Quickbase are the following management tool systems that are considerably related to Axion. The said related systems share similiraties. Axion will be having certain unique features that makes it uniquely stand out from other related systems. One is its user interface or its system design. For it to achieve a satisfying potential, one of the major things to consider is the user pserspective, which is agreed by Sundström and Thelander (2004). Especially to highly functionable task management tools, user perspective will shape the system design into something that sees its use for them. It may still cause confusion, but still, as followed by Faust (2018), the user interface should be the player to carry the weight of defining the system. Martinez et al. (2019) and Juul & Norton (2017) have followed up that the perception is to be considered from users, which will be one of the things that the user interface wil carry. Almonte (2017) have also added that it will be significant to improve the accomodation of the user interface to the users according to their demographics. Axion, with the college students as its target audience or users, will aim to become more perceptive by exhibiting more color and fun-looking fonts and components. Additionally, Axion will aim to provide a semi-casual voice and tone to static texts not only to match the user interface, but also to let the college students keep the formalities during their usage.

Furthermore, the structure of the system is dependent to its system design, and understanding the system design not only directs to understanding the system, but also presenting the purpose of usability, which is being discussed by Usability.gov (n.d.), Martinez et. al (2019), and Juul and Norton (2017). The proposed system will be capable of welcoming them through its system design, in addition to guiding them through a tutorial for new users to quickly deepen their level of understanding regarding the system and for users to find it comprehensible, intuitive, and quick to grasp. The said features are some that will make Axion unique than the said related systems, which appears to impress higher occupations. Online data synchronization will be implemented as well, which can be done through the collaboration of students when working on group activities, whether one or more members are offline, as long as data is updated, it will sync to other screens.

As to what Farwell and Waters (2010) have stated, bookmarks are capable of providing information quality and integrity when used. Agreed by Martinez (2021), this will be done by exerting effort to remember to recognize its purpose. Bergman, Whittaker, and Schooler (2021) have added that it is indeed useful, but only when it is visible to them. By that, Axion will be given a bookmark section as one of the main icons in the system design, wherein it will also have its own manager which separates sections, tasks, and other similar structures to avoid information overload.

Guévin (2021) took note that there are many things to think about before having a good approach in prioritizing tasks, which is backed up by Bahadori et al. (2015), wherein one of these things to think about is to have enough knowledge regarding the situation of users to have a proper procedure for them to use a guide to work on their tasks. Both have concluded how prioritization should be considered to even make management more effective. In Axion, a Kanban system will be mainly used by students and to highlight the tasks that need the most attention, Axion automatically sorts any tasks on a desired board from top to bottom, starting with the highest priorities at the top and the lowest priorities at the bottom. Supposing that the users’ reading order is from top to bottom, they’ll be able to see the tasks with the highest priority first. This is also to assert recognizability, stimulating the idea of proper prioritization to students.

**2.8 TABLE OF COMPARISON**

**2.8.1 Related Literature**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| System features | **1st**  **Foreign**  **Literature** | **2nd Foreign Literature** | **3rd Foreign Literature** | **4th Foreign Literature** | **5th Foreign Literature** | **1st**  **Local**  **Literature** |
| User-friendly, visually unique UI |  |  |  | Yes |  | Yes |
| Easy-to-learn management system |  |  | Yes |  |  |  |
| Favorites | Yes |  |  |  |  |  |
| Sorting and emphasizing high-priority tasks |  | Yes |  |  |  |  |

**2.8.2 Related Studies**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| System features | **1st Foreign Study** | **2nd Foreign Study** | **3rd Foreign Study** | **4th Foreign Study** | **5th Foreign Study** | **1st Local Study** | **2nd Local Study** | **3rd Local Study** |
| User-friendly, visually unique UI | Yes | Yes |  |  |  |  | Yes | Yes |
| Easy-to-learn management system | Yes |  |  |  |  |  |  | Yes |
| Favorites |  |  | Yes | Yes |  |  |  |  |
| Sorting and emphasizing high-priority tasks |  |  |  |  | Yes |  |  |  |

**2.8.3 Related Systems**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| System features  **ProofHub** | **Fusioo** | **Wrike** | **Asana** | **Basecamp** | **Monday** | **Paymo** | **Teamwork** | **ClickUp** | **Quickbase** |  |
| User-friendly, visually unique UI |  |  |  | Yes |  | Yes |  |  | Yes |  |
| Easy-to-learn management system |  | Yes | Yes |  | Yes |  | Yes |  |  |  |
| Favorites | Yes |  | Yes | Yes |  | Yes |  |  |  |  |
| Sorting and emphasizing high-priority tasks |  |  | Yes | Yes |  | Yes |  |  |  | Yes |

**REFERENCES**

Adams, R. V., & Blair, E. (2019). *Impact of time management behaviors on undergraduate engineering students’ performance*. SAGE Open, 9(1), 215824401882450. https://doi.org/10.1177/2158244018824506**\**

Almonte, R. G. (2018, June 2). Determinants of e-commerce websites’ user interface: A cross-cultural investigation between Saudi Arabia and Philippines. *International Conference on Cross-Cultural Design,* 300-313. https:/**/**doi.org/10.1007/978-3-319-92141-9\_23

Andriiuk, A. (2021, June 3). 9 best Trello alternatives to watch for in 2021. Retrieved from https://www.forecast.app/blog/trello-alternatives

Angcod, F. A., Baranggan, J. N., Gonzales, J. G., Gamon, M. J. T., Ramacula, A. A., & Mahinay, R. B. D., (2015, September 14). User interface satisfaction of various video-calling applications among the students of Mindanao University. http://dx.doi.org/10.13140/RG.2.1.4292.9128

Anjali J. (2021, February 15). *What is organizing? Definition, process and principles*. The Investors Book. Retrieved from https://theinvestorsbook.com/organizing.html

Bahadori, M., Salesi, M., Ravangard, R., Hosseini, S. M., Raadabadi, M., Dana, A. H., & Ameryoun, A. (2015, November 26). Prioritization of factors affecting time management among health managers. *International Journal of Travel Medicine and Global Health, 3*(4), 169-174. http://dx.doi.org/10.20286/ijtmgh-0304142

Barrot, J. S., Llenares, I. I., & del Rosario, L. S. (2021). Students’ online learning challenges during the pandemic and how they cope with them: The case of the Philippines. *Educ Inf Technol, 26*, 7321–7338. https://doi.org/10.1007/s10639-021-10589-x

Bergman, O., Whittaker, S., & Schooler, J. (2021). Out of sight and out of mind: Bookmarks are created but not used. *Journal of Librarianship and Information Science, 53*(2), 338–348. https://doi.org/10.1177/0961000620949652

Bhatti, S., Dewani, A., Hafiz, T., Noor, P., & Memon, M.G. (2018, February). Management of non-behavioral tasks via auto reminder and notifier. *International Conference on Advancements in Computational Sciences (ICACS)*. Retrieved from https://www.researchgate.net/publication/324379210\_Management\_of\_non-behavioral\_tasks\_via\_auto\_reminder\_and\_notifier

Britton, B. K., & Tesser, A. (1991, September). Effects of time-management practices on college grades. *Journal of Educational Psychology, 83*(3), 405-410. http://dx.doi.org/10.1037/0022-0663.83.3.405

Calvet, L., Marquès, J. M., Arguedas, M., Daradoumis, T., & Mor, E. (2021, June 7). Using a notification, recommendation and monitoring system to improve interaction in an automated assessment tool: An analysis of students' perceptions. Taylor & Francis. https://www.tandfonline.com/doi/full/10.1080/10447318.2021.1938400

Canada, T. (2019, October 31). *Project management software advantages and disadvantages*. Medium. Retrieved on November 6, 2021 from https://medium.com/@tenderly/project-management-software-advantages-and-disadvantages-c8dfa89d5d10

Carter, T. (2020, August 18). Notifications are killing your productivity -- here's what to do about it. Entrepreneur. Retrieved on November 9, 2021 from https://www.entrepreneur.com/article/354788

Connors, C. D. (2018, Novermber 16). *The feeling of achievement — 10 ways celebrating success improves your life*. Medium. https://medium.com/the-mission/the-feeling-of-achievement-10-ways-celebrating-success-improves-your-life-41532a964ff3

Disability Resource Center. (n.d.). *Differences between high school and college*. Clackamas Community College. https://www.whitworth.edu/cms/media/whitworth/documents/administration/educational-support-services/differences-between-high-school-and-college.pdf

Esmeria, G. J., & Seva, R. R. (2017). *Web usability: A literature review*. https://xsite.dlsu.edu.ph/conferences/dlsu-research-congress-proceedings/2017/SEE/SEE-I-013.pdf

Farwell, T. M., & Waters, R. D. (2010). Exploring the use of social bookmarking technology in education: An analysis of students’ experiences using a course-specific delicious.com account. *MERLOT Journal of Online Learning and Teaching, 6*(2). https://repository.usfca.edu/cgi/viewcontent.cgi?article=1020&context=pna

Faust, B. (2018, September 4). Why we’re building yet another task management platform. https://rindle.com/blog/why-were-building-yet-another-task-management-platform

Gloria, M., Gudith, D., & Klocke, U. (2008, April). The cost of interrupted work: More speed and stress. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems,* 107-110. https://dl.acm.org/doi/10.1145/1357054.1357072

Guévin, M. (2021, July 29). *How to prioritize tasks when everything is important?* NutCache. https://www.nutcache.com/blog/how-to-prioritize-tasks-when-everything-is-important//#content

Gutierrez, R. I. A. (2021, February 24, February 26, March 1). How to effectively control tasks and people [Conference session]. Employers Confederation of the Philippines, Makati, Metro Manila, Philippines.  https://ecop.org.ph/event/how-to-effectively-control-tasks-and-people/2021-03-01/

Heredia, G., Espinosa, K. J., &  Caro, J. (2014, January 7-9). A data synchronization model in mobile electronic medical record for operational efficiency. *Proceedings of the 2014 International Conference on Industrial Engineering and Operations Management.* http://iieom.org/ieom2014/pdfs/569.pdf?fbclid=IwAR0n-FtUgSP43s5QpLrLm2D13KC59PvhDQOTCLsfo\_aBb\_36jzEFrTPuyVY

Introducing the Eisenhower matrix. (n.d.). *Eisenhower.* Retrieved from https://www.eisenhower.me/eisenhower-matrix/

Juneha, P. (n.d.) *What is management?* Management Study Guide. https://www.managementstudyguide.com/what\_is\_management.htm

Juul, J., & Norton, M. (2009). Easy to use and incredibly difficult: on the mythical border between interface and gameplay. *In Proceedings of the 4th International Conference on Foundations of Digital Games,* 107-112. http://dx.doi.org/10.1145/1536513.1536539

Kashyap, V. (2021, November 17). 54 best project management tools & software for 2021. Retrieved from https://www.proofhub.com/articles/top-project-management-tools-list

Lam, T. (n.d.). Time management: A key to success. *Filipino Journal, 29*(8). Retrieved from  https://filipinojournal.com/time-management-a-key-to-success/

Lincoln, S. (n.d.). *12 academic tools and resources useful for university students.* MyPrivateTutor. https://www.myprivatetutor.ae/blog/12-academic-tools-and-resources-useful-for-university-students

Lualhati, G. P. (2019). Time management practices of educators in a state university. *PUPIL: International Journal of Teaching,* *Education and Learning, 3*(1), 281-289. https://dx.doi.org/10.20319/pijtel.2019.31.281289

Lynn, R. (n.d.). *What is a task management tool?* Planview. https://www.planview.com/resources/articles/lkdc-task-management-tool/

MacKay, J. (2018, June 20). *What is task management? how to break a project down into (actionable) tasks.* Planio. https://plan.io/blog/what-is-task-management/

Martinez, J. E. F., Prasetyo, Y. T., Robielos, R. A. C., Panopio, M. M., Urlanda, A. A. C., & Topacio-Manalaysay, K. A. C. (2019, September 27). The usability of Metropolitan Manila Development Authority (MMDA) Mobile Traffic Navigator as perceived by users in Quezon City and Mandaluyong City, Philippines. *ICIBE 2019: Proceedings of the 2019 5th International Conference on Industrial and Business*, 207–211. https://doi.org/10.1145/3364335.3364391

Martinez, K. (2021, January 5). *4 ways to make your bookmarking app work for you*. Zapier. https://zapier.com/blog/automate-read-it-later-bookmarking-apps/

Milano, S. (2021, July 26). Challenges of poor team communication work. Retrieved from https://work.chron.com/challenges-poor-team-communication-8813.html

Partner, B. (2021, September 30*). What is planning? Meaning and definition of planning.* Bench Partner. https://benchpartner.com/what-is-planning-meaning-and-definition-of-planning

Planio GmbH. (n.d*.). What is task management? How to break a project down into (actionable) tasks.* Planio. Retrieved from https://plan.io/blog/what-is-task-management/#what-is-task-management

Rhodes, K. (2017, May 20). *College allows students to exercise independence*. The Trumpet. https://thetrumpetwlu.org/4207/opinion/college-allows-students-exercise-independence/

Rios, R. (2016, June 22). *Managing time effectively.* The Freeman. https://www.philstar.com/the-freeman/cebu-lifestyle/2016/06/22/1595490/managing-time-effectively

Rotas, E. E., & Cahapay, M. B. (2020). Difficulties in remote learning: Voices of Philippine university students in the wake of COVID-19 crisis. *Asian Journal of Distance Education, 15*(2), 147-158. https://doi.org/10.5281/zenodo.4299835

Sundström, S., & Thelander, E. (2004). Designing a user interface for web-based project management in film production. Retrieved from https://www.diva-portal.org/smash/get/diva2:19735/FULLTEXT01.pdf

Techopedia. (2015, June 2). *Task management*. Techopedia.Com. https://www.techopedia.com/definition/9652/task-management

*The importance of technology in Philippine education.* (2021, March 15). Childhope. https://childhope.org.ph/importance-of-technology-in-philippine-education/

Urueña, A., Arenas, A., & Hidalgo, A. (2018, May 3). Understanding workers’ adoption of productivity mobile applications: a fuzzy set qualitative comparative analysis (fsQCA). *Economic Research-Ekonomska Istraživanja, 31*(1), 967-981. https://doi.org/10.1080/1331677X.2018.1436451

*Usability evaluation basics.* (n.d.). Usability.gov. https://www.usability.gov/what-and-why/usability-evaluation.html

Warren, G. (2021, June 25). *What are browser-based tools and applications?* Lifewire. https://www.lifewire.com/what-are-browser-based-tools-2377407

*What is a task in project management?* (n.d.). Wrike.https://www.wrike.com/project-management-guide/faq/what-is-a-task-in-project-management/

**APPENDICES**

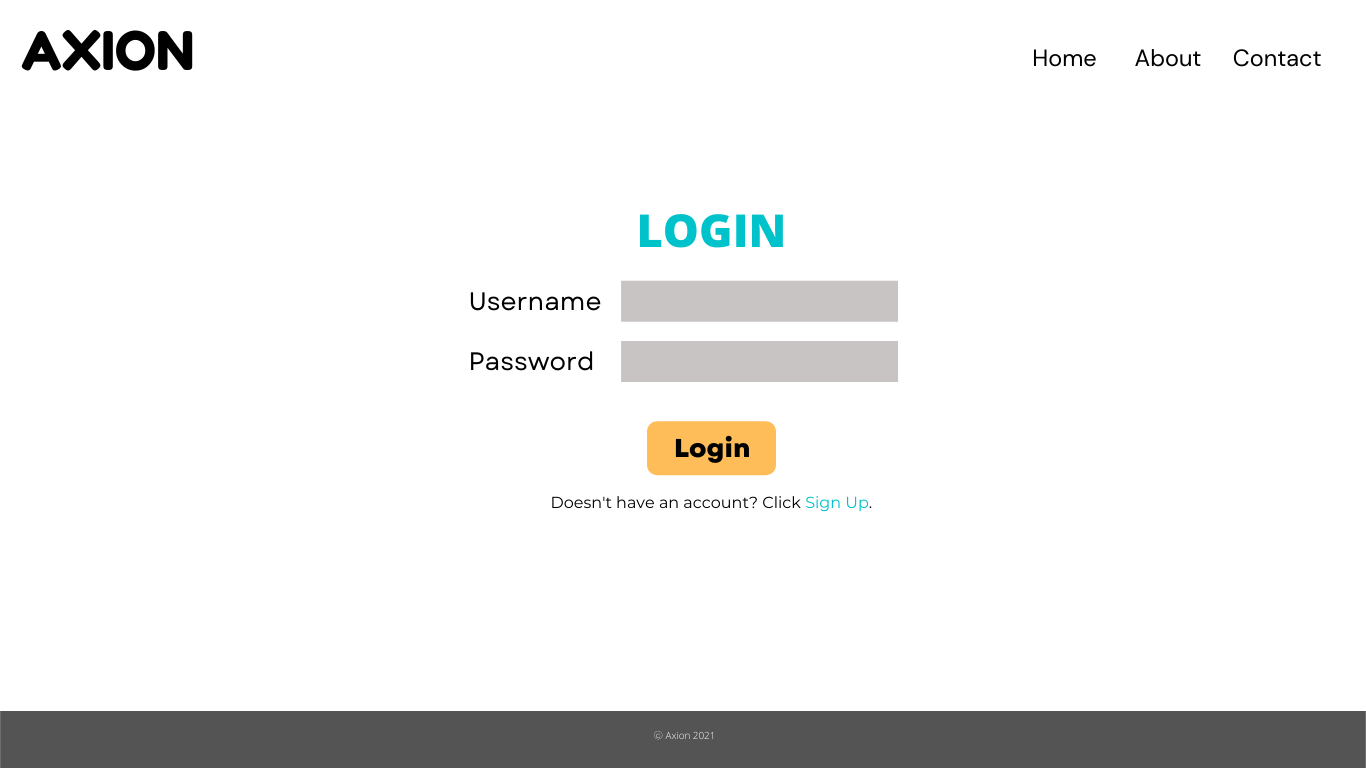
**LOW FIDELITY PROTOTYPE**

****

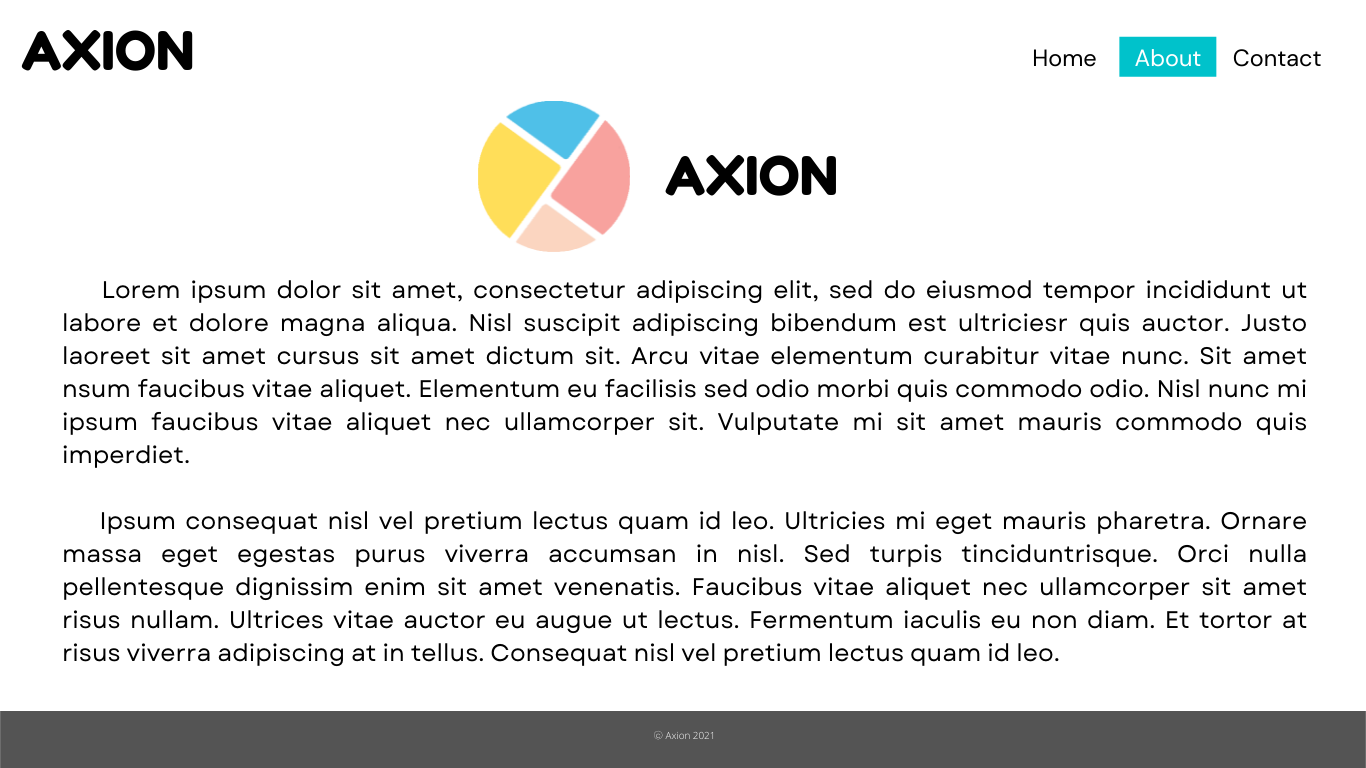
The landing page of Axion is what a first-time visitor will see. Landing page highlights the Sign Up button with warm yellow-orange color for easy to catch the eye of the visitor attempting to try and sign up in the Axion else if the visitor already has an account he/she can log in already by clicking the Login keyword below the Sign Up button. Additionally, has a carousel on the right side for the overview of what could be the Axion inside of the web-application. With three (3) navigation menus “Home”, “About” and “Contact” are pages for each small website or introductory about Axion and its developers which mainly can be contacted via the information provided in the Contacts page.



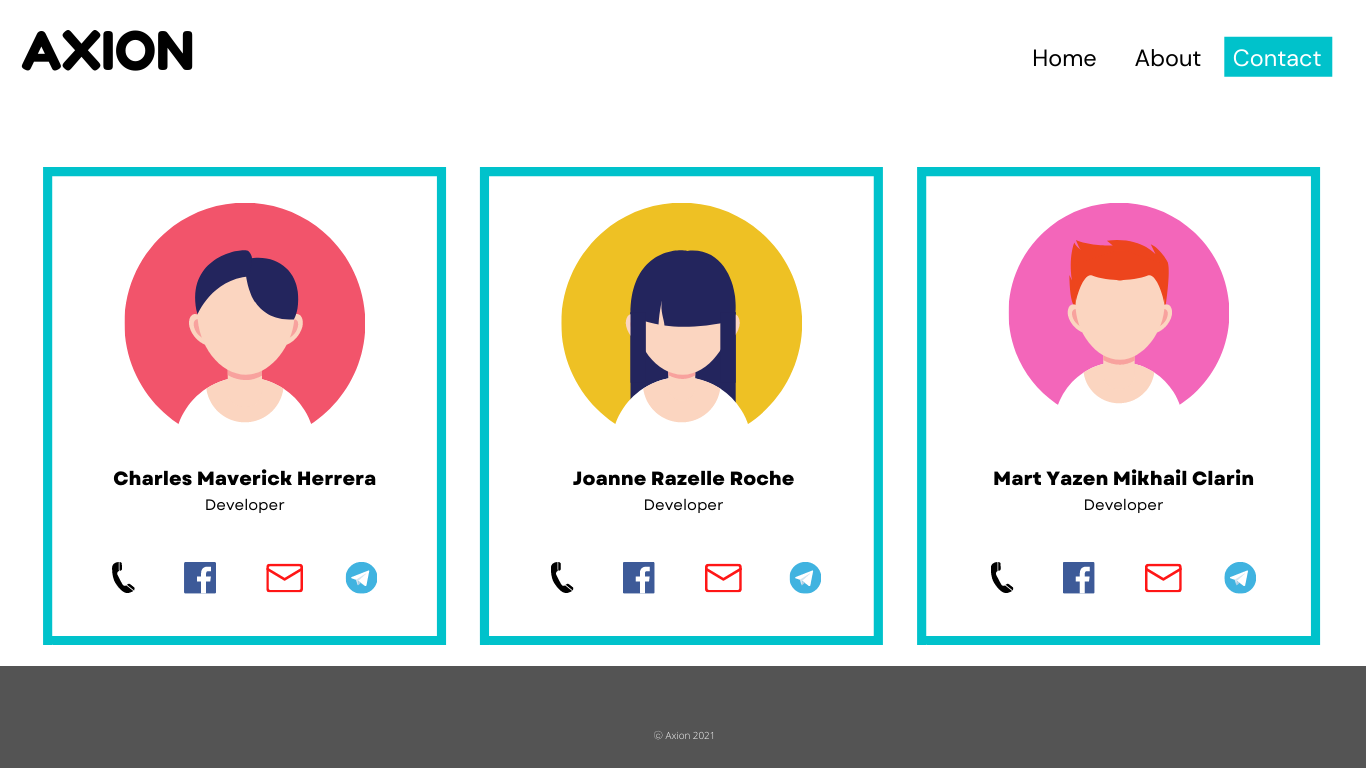
For the first time to use or new users who will sign up to use the Axion this page gets information from the soon to be user of Axion or the visitor. This information will be then encrypted, especially the credentials to be used to login to avoid any data leak and personal identity thief cases, this will be then uploaded and recorded in Axion's online database where all the information.

****

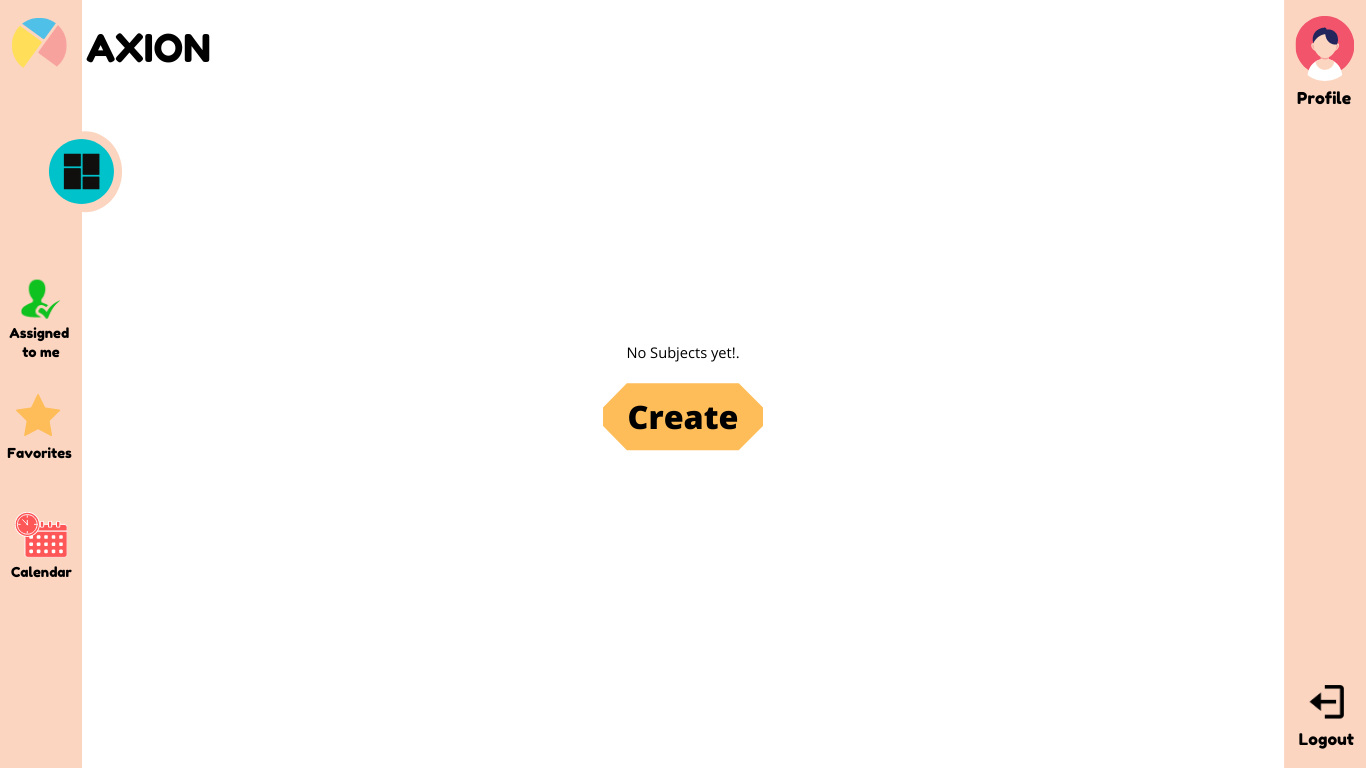
If the user has already an account the website will automatically go to the login page for the ease of the user to login on the Axion. This page requires the credentials to login in which the password will be seen as an asterisk or “password-text” style to avoid others to see the actual password. If the one who is using the device to access the Axion, Login page has the Sign up link below the Login button for them to directly go to the page of the Sign up.



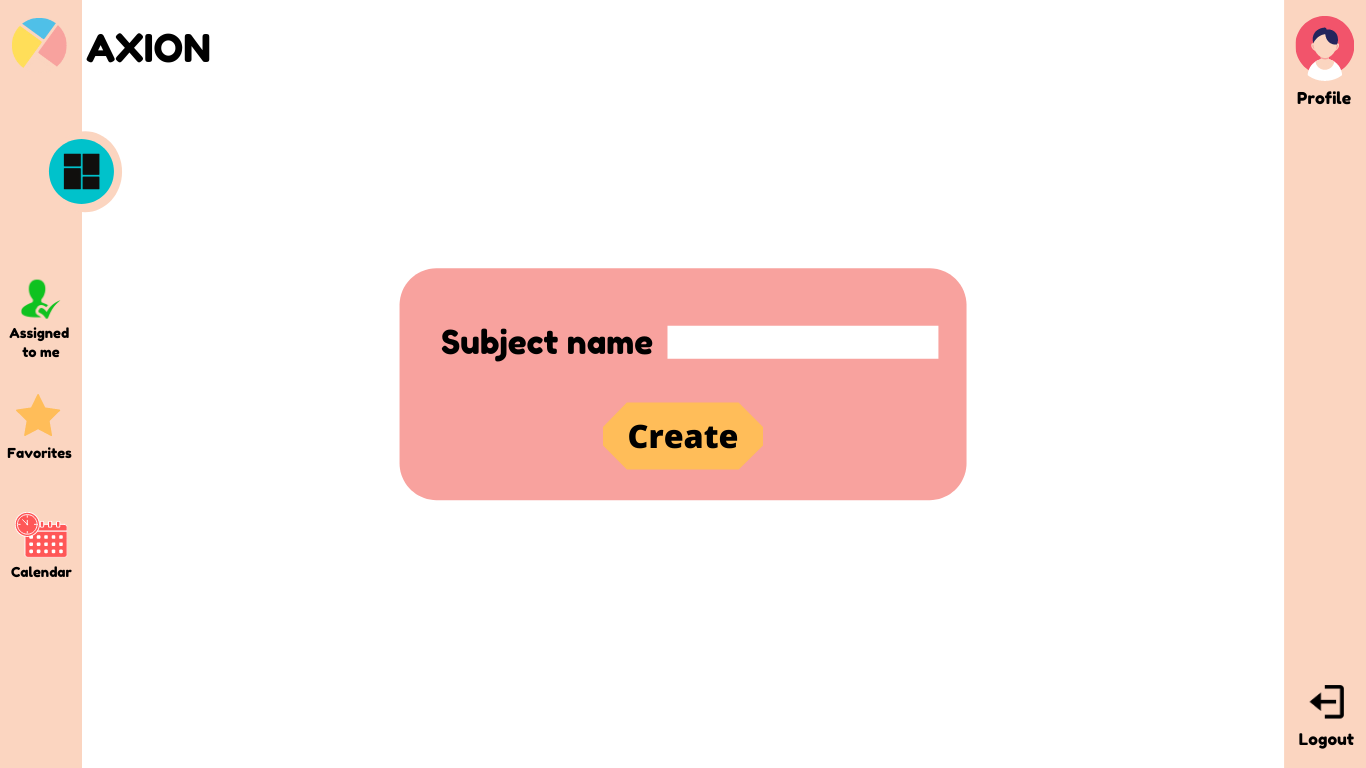
Axion website’s About page is all about telling what is Axion and what are its features and the reason why there is such a system like this. More of this will be tackled and discussed by the developers.

****

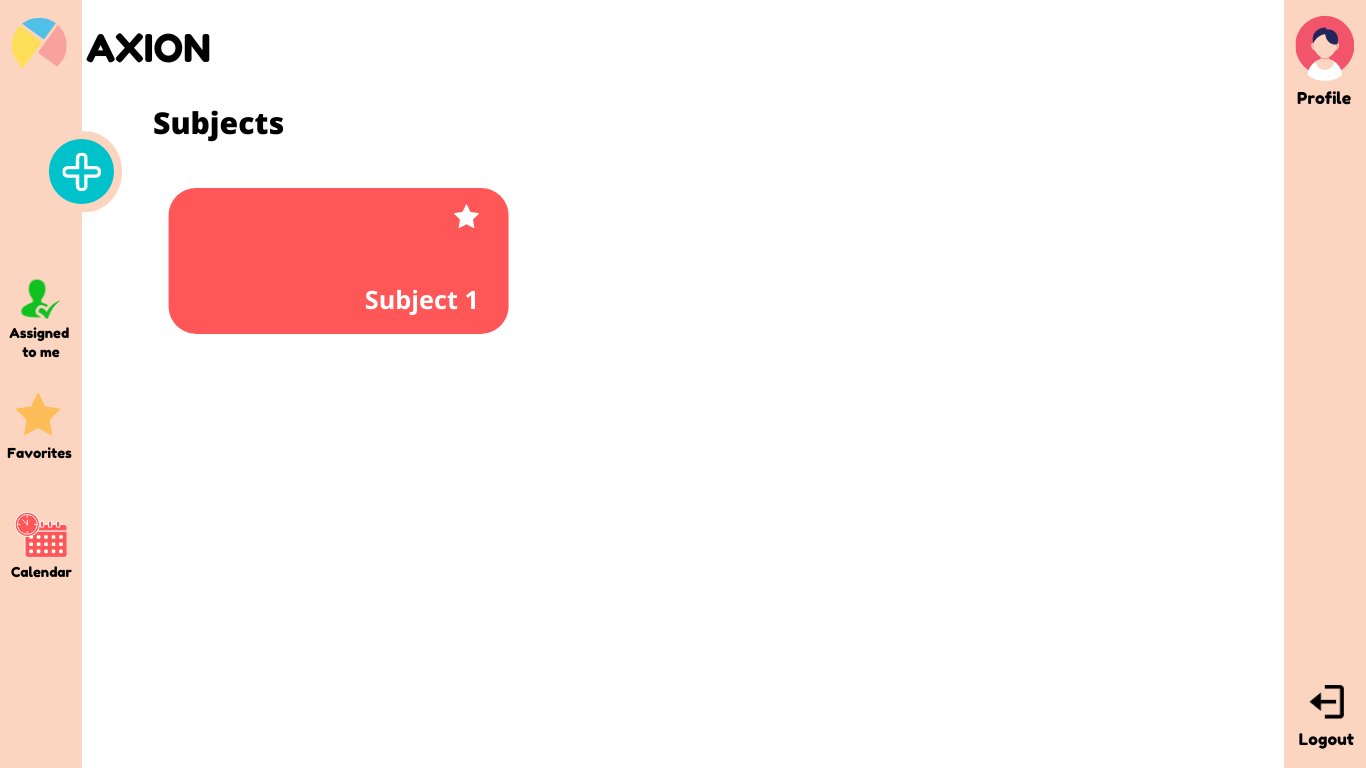
Axion website’s Contact page, contains the contact information of the developers.

****

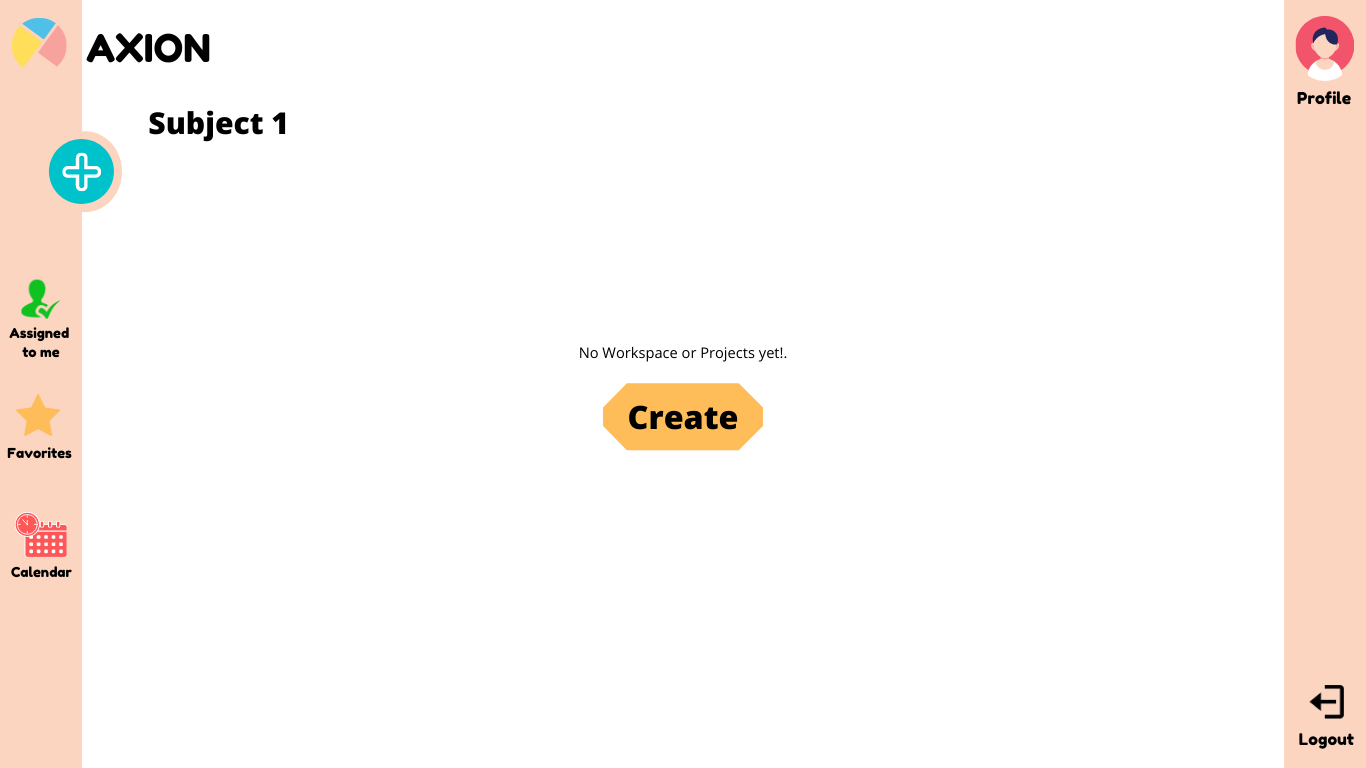
Given that the new user and refreshing old users who deleted all subjects, this is the screen or page that they will see. There will be a ‘Create’ button that attempts the user to create a new subject that they will work on with their members added.

****

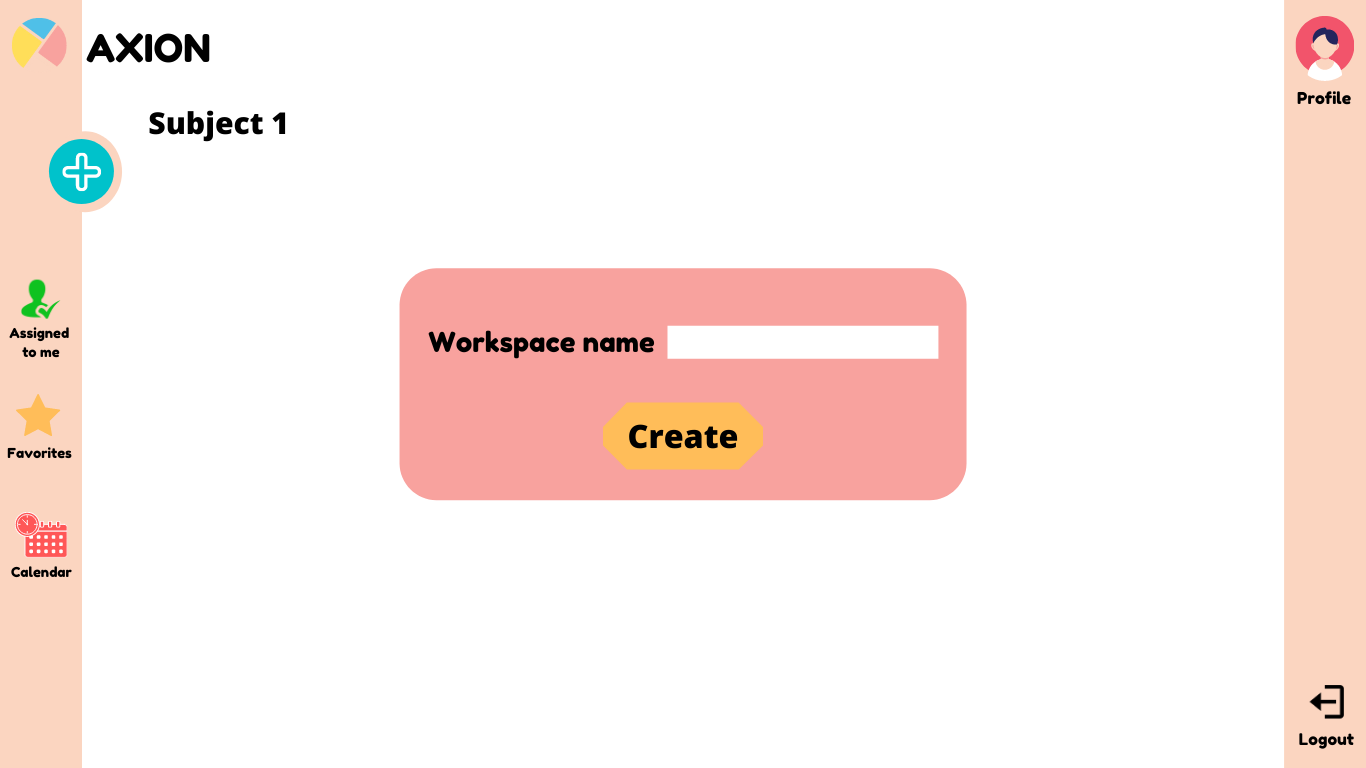
When attempting to create a subject, a small, pink box will appear that will require the user to fill up the subject name on the white blank. Pressing the ‘Create’ button will instruct the application to create the subject along with its subject name.

****

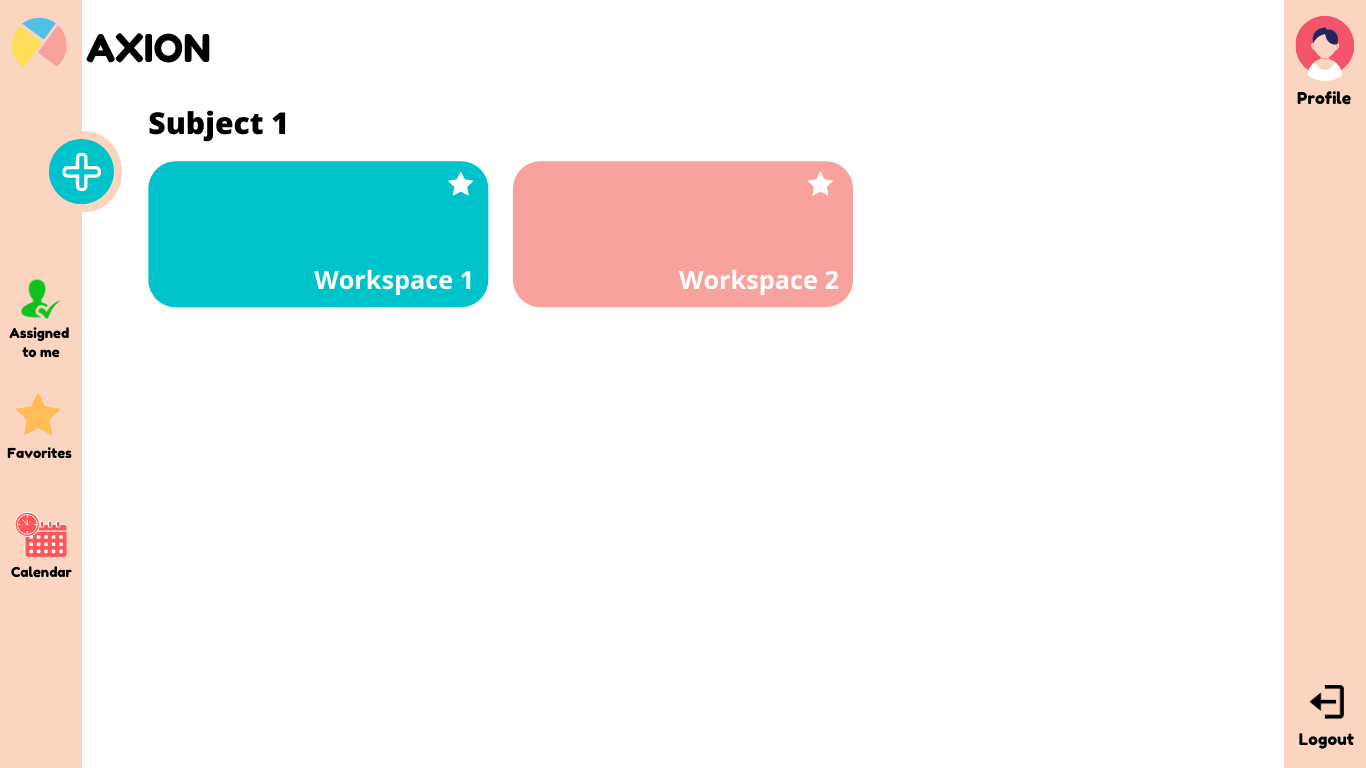
A subject has been created.

****

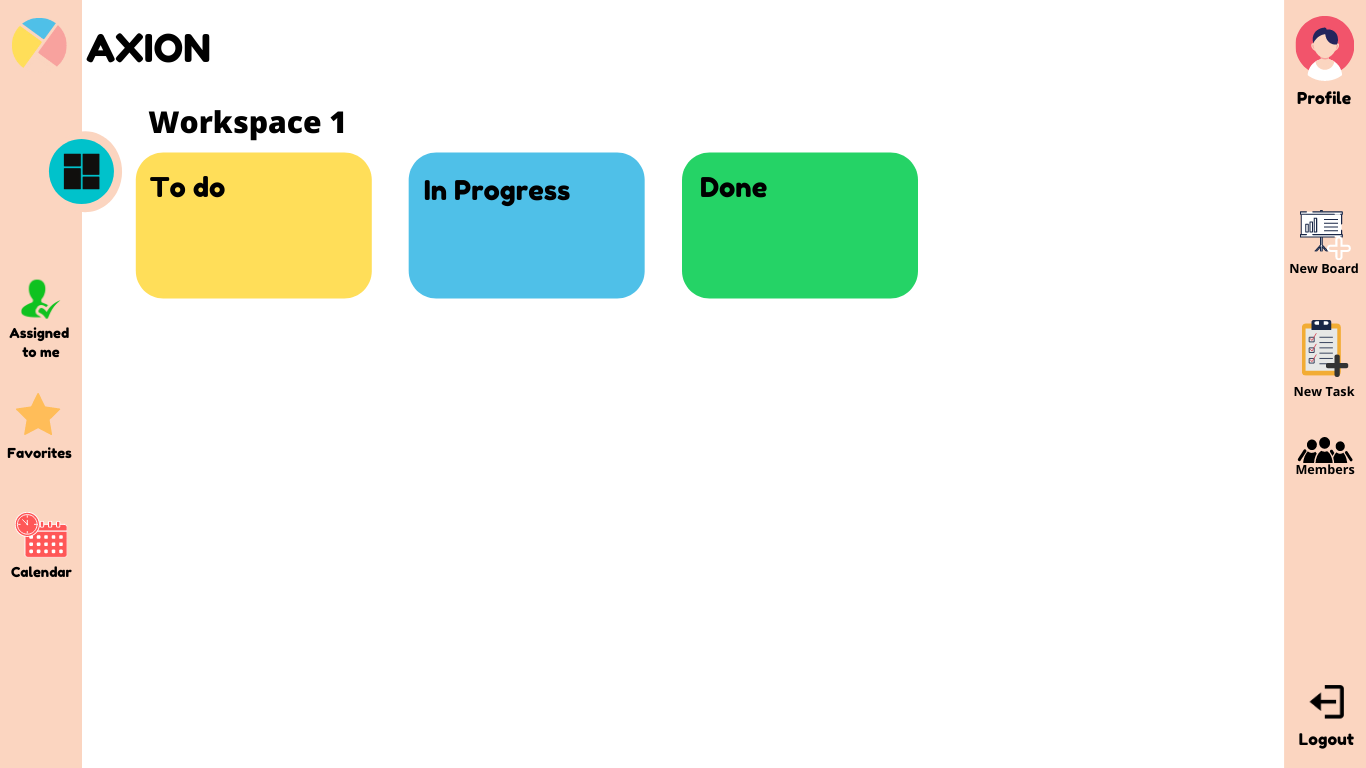
This screen or page will appear after pressing a certain subject. It will be a default for a new subject to have no workspaces or projects. There will be a ‘Create’ button that attempts the user to create a new workspace.

****

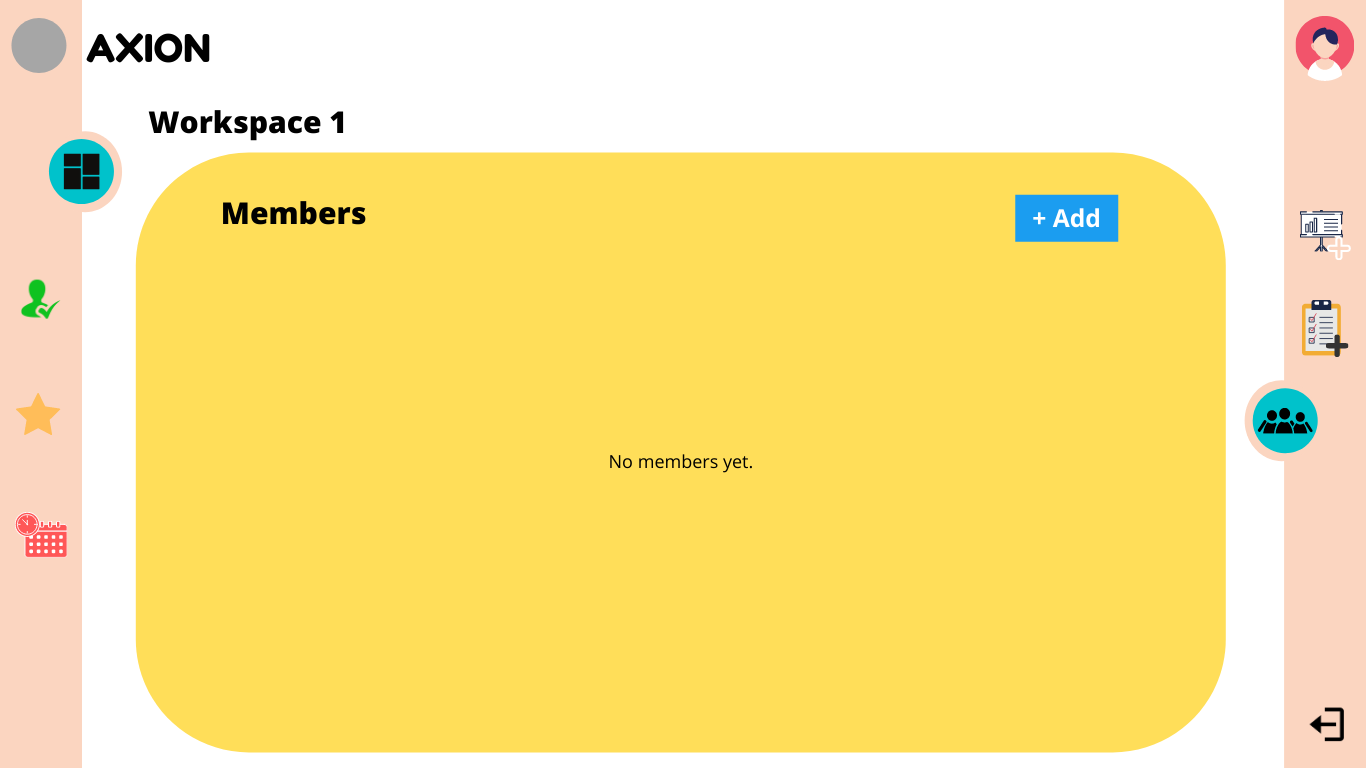
Attempting to create a workspace, a small, pink box will appear that will require the users to fill up the workspace name on the white blank. Pressing the ‘Create’ button will command the application to create the workspace along with its name.

****

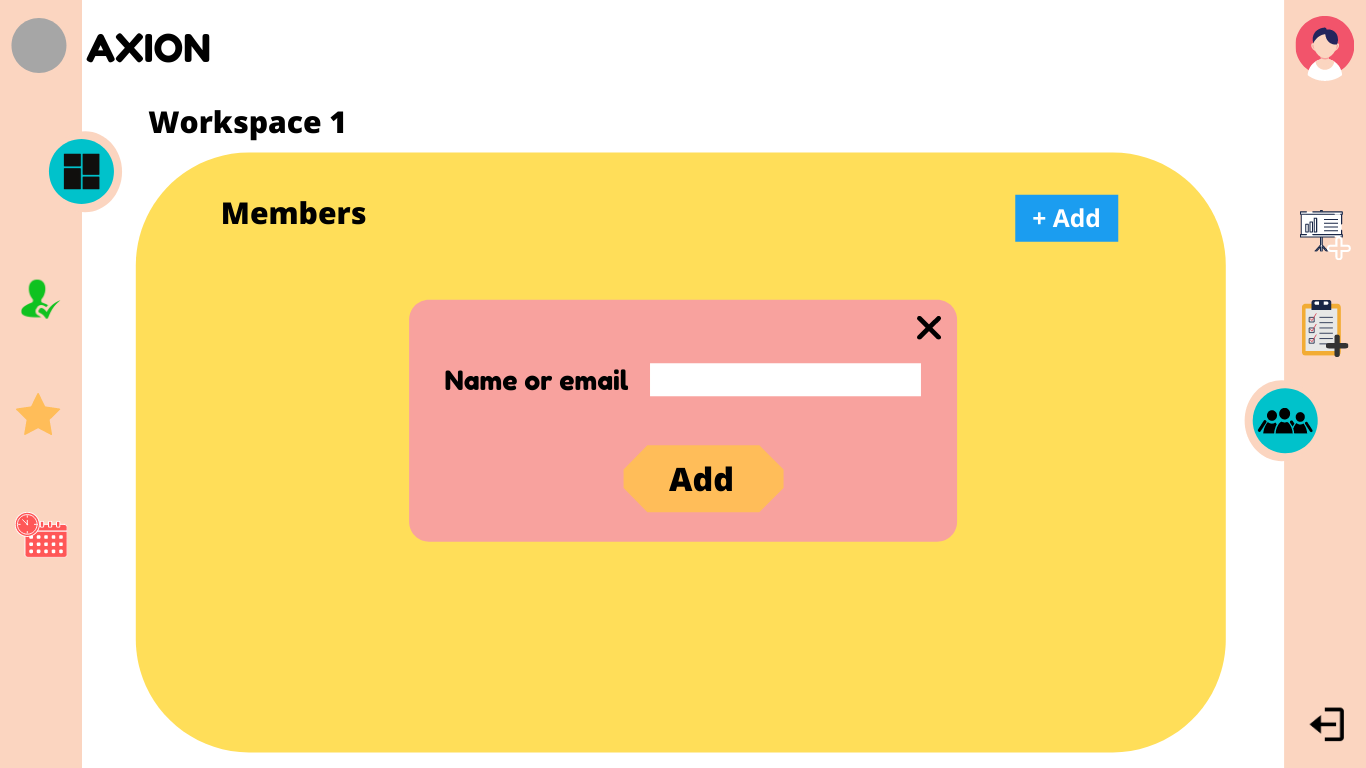
After pressing the ‘Create’ button during the process of creating a workspace, this screen can appear. As shown, there are two examples of workspaces that are created: ‘Workspace 1’ with a blue color, and ‘Workspace 2’ with a pink color.

****

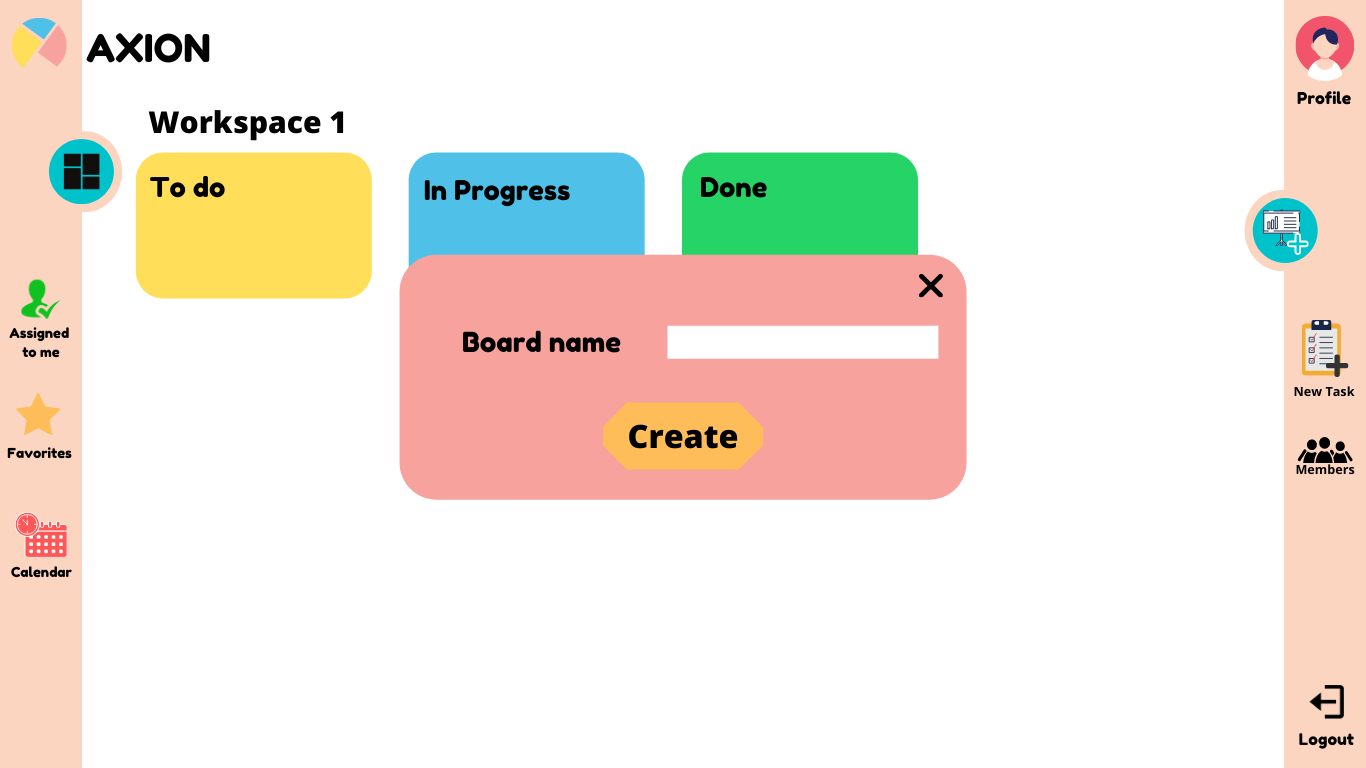
Clicking on ‘Workspace 1’ will move the user to this screen, wherein it is being structured as a Kanban board or system. The workspace will have 3 areas: the yellow ‘To Do’ section, which will list tasks that have no progress and are about to be worked on by the user. Then, the blue ‘In Progress’ section refers to the tasks that has progress and are being worked on by the user. Lastly, the green ‘Done’ section, which shows the tasks that are finished or done.

****

Clicking on the ‘Members’ at the lowest icon at the right, pink bar, shows all the invited group members in the workspace. As shown, there are currently no members being invited.

****

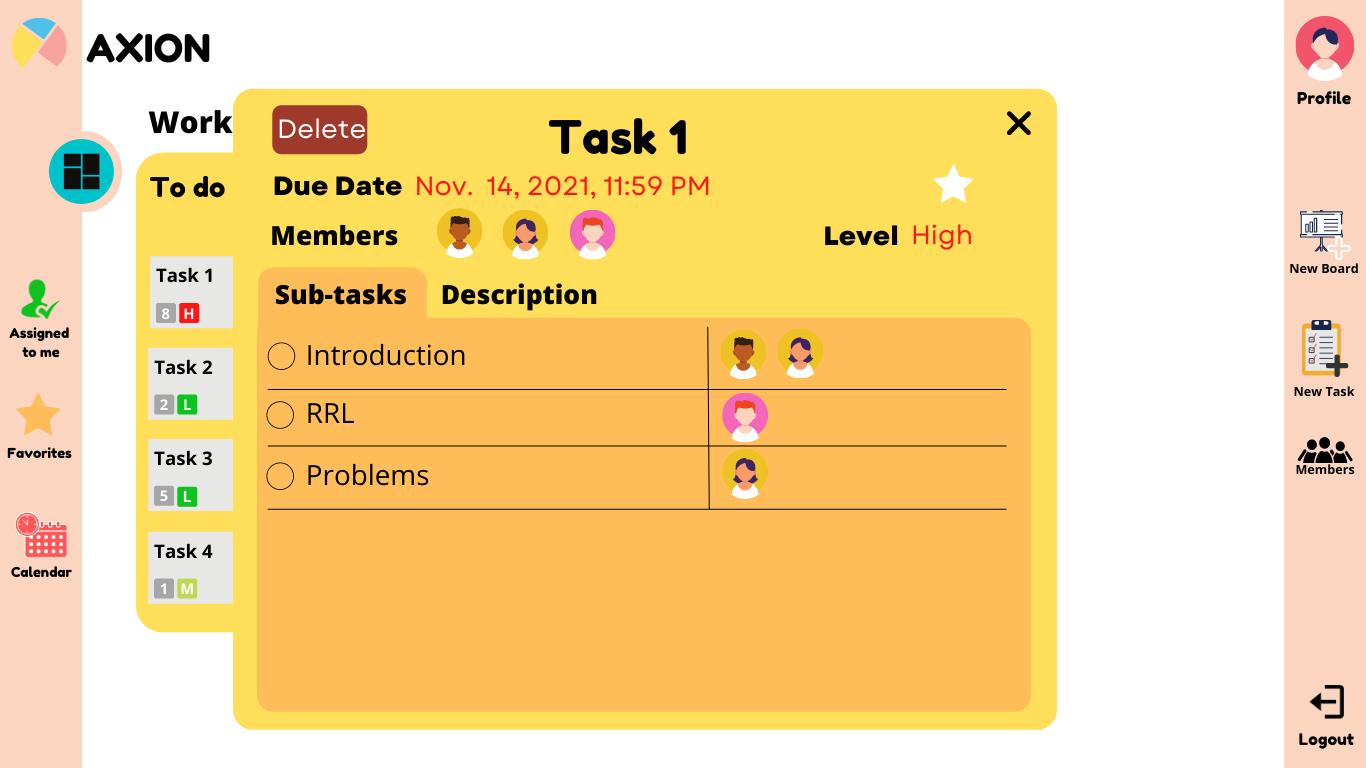
After pressing the blue ‘+Add’ button at the top right part, a small, pink box will appear which tells the user to put the name or the email address of the member that the user wants to add or invite to the workspace.

****

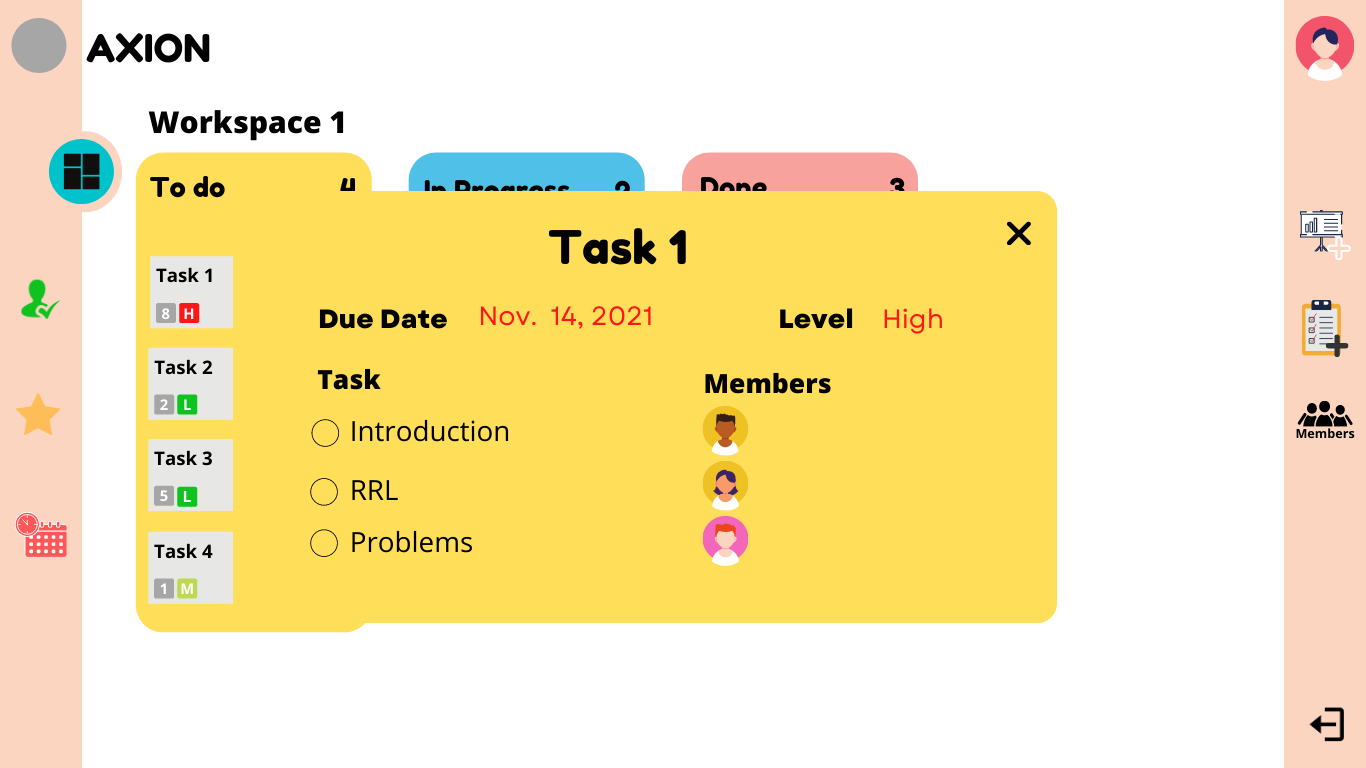
When attempting to create a board on the top icon at the right, pink bar, a small, pink box will appear on the center that will require the user to fill up the board name on the white blank. Pressing the ‘Create’ button will instruct the application to create the board along with its name.

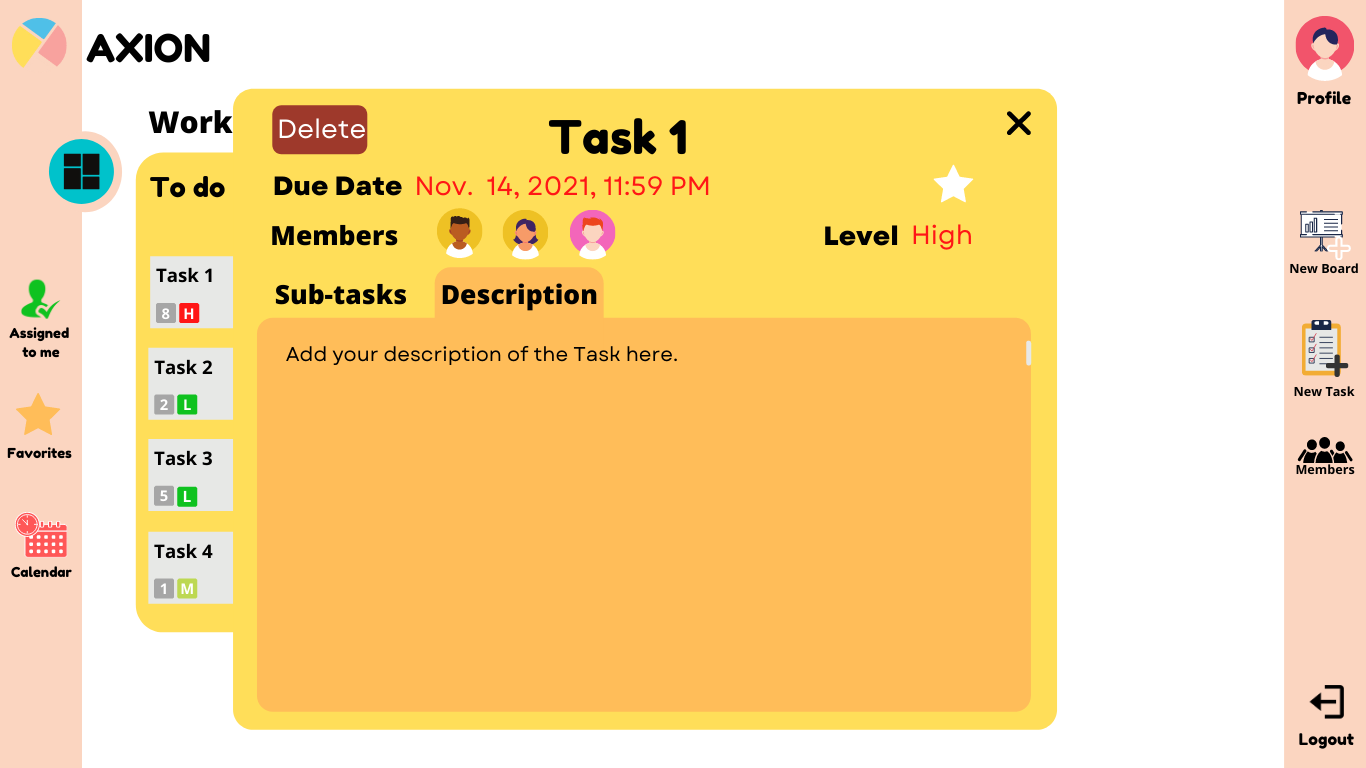
****

On the middle icon at the right, pink bar, it creates a task along with its details: task name, due date, level (which determines how high or low the importance of the task is), and members that can be invited. Pressing on the ‘Create’ button will instruct the application to create the task along with its details.

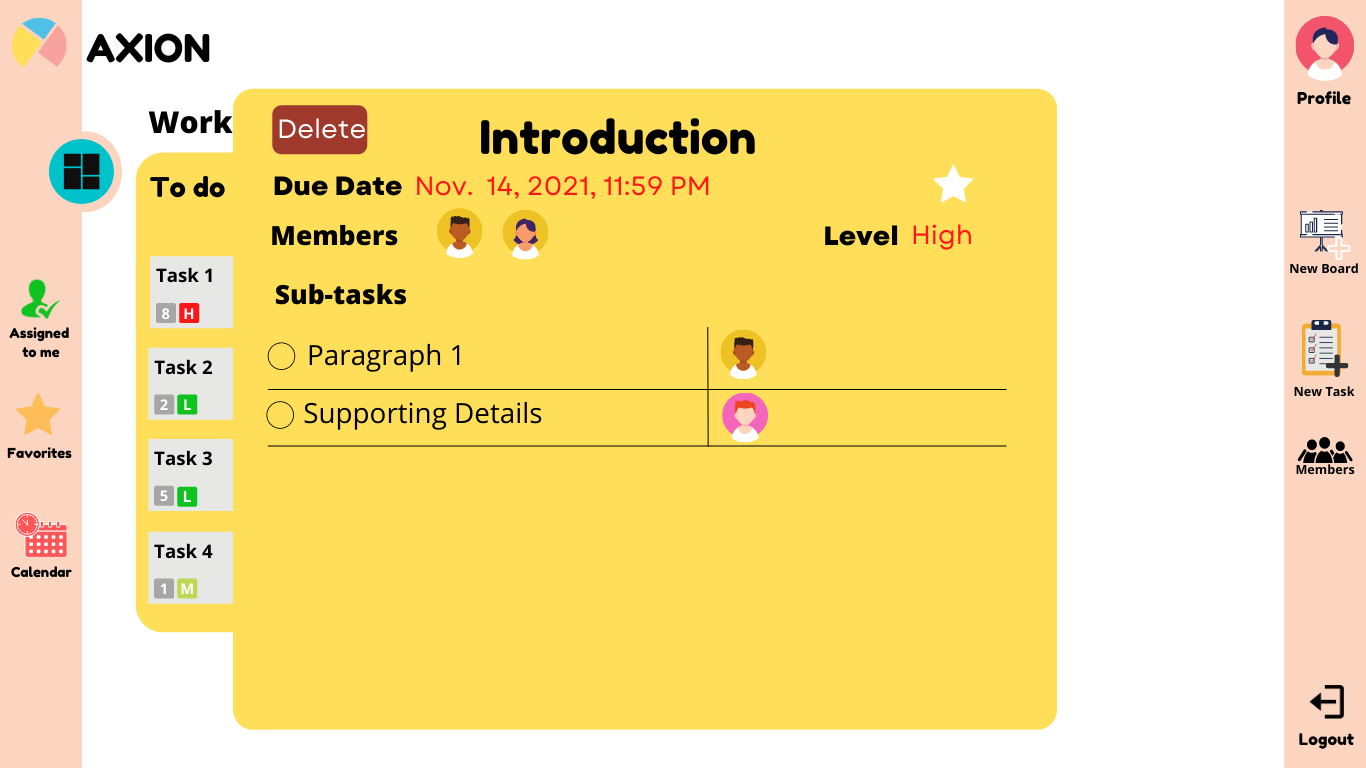
****

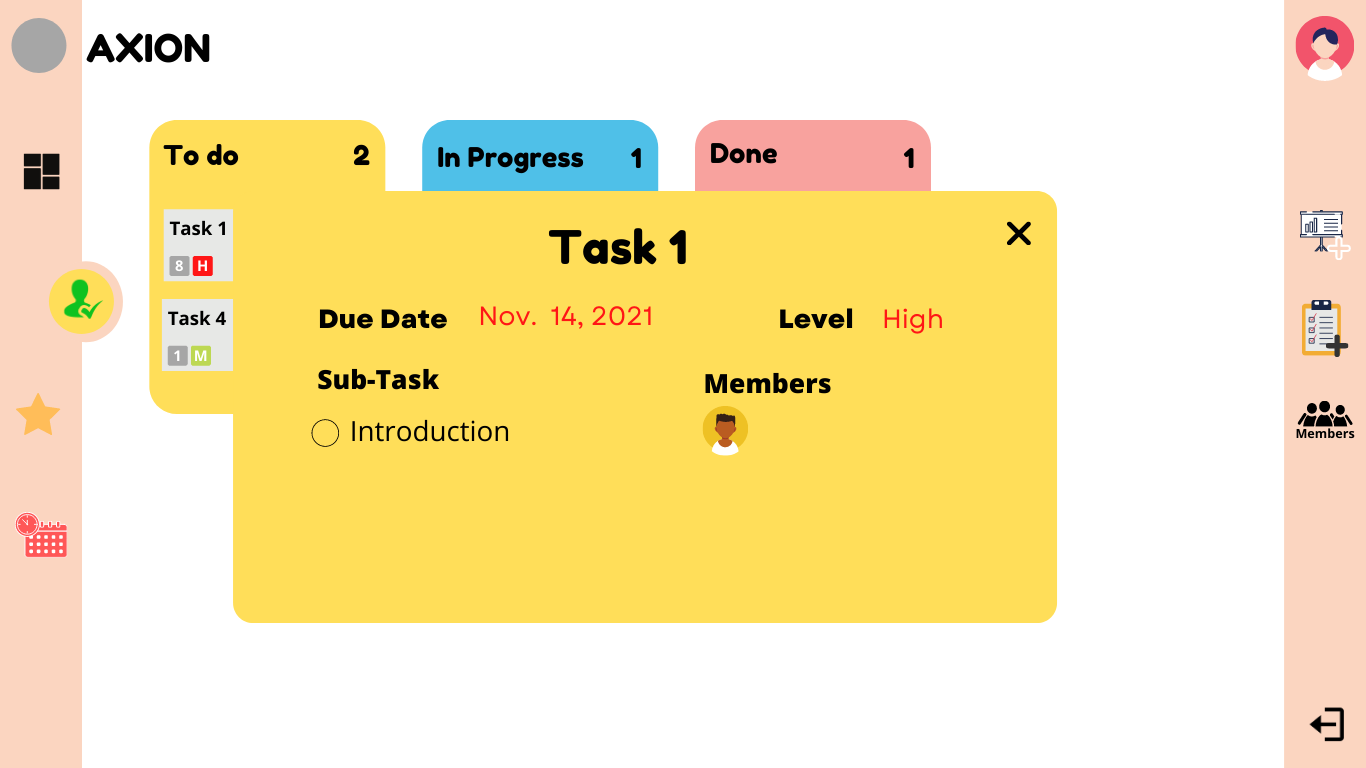
This yellow component will appear after pressing a task. It shows the task name, which is currently ‘Task 1’, the due date, members that are invited, the level or the priority level, the subtasks and the members that are assigned to each. The white star at the top right enables users to mark the task as a favorite. Clicking on the ‘Delete’ button at the top left will remove the task.

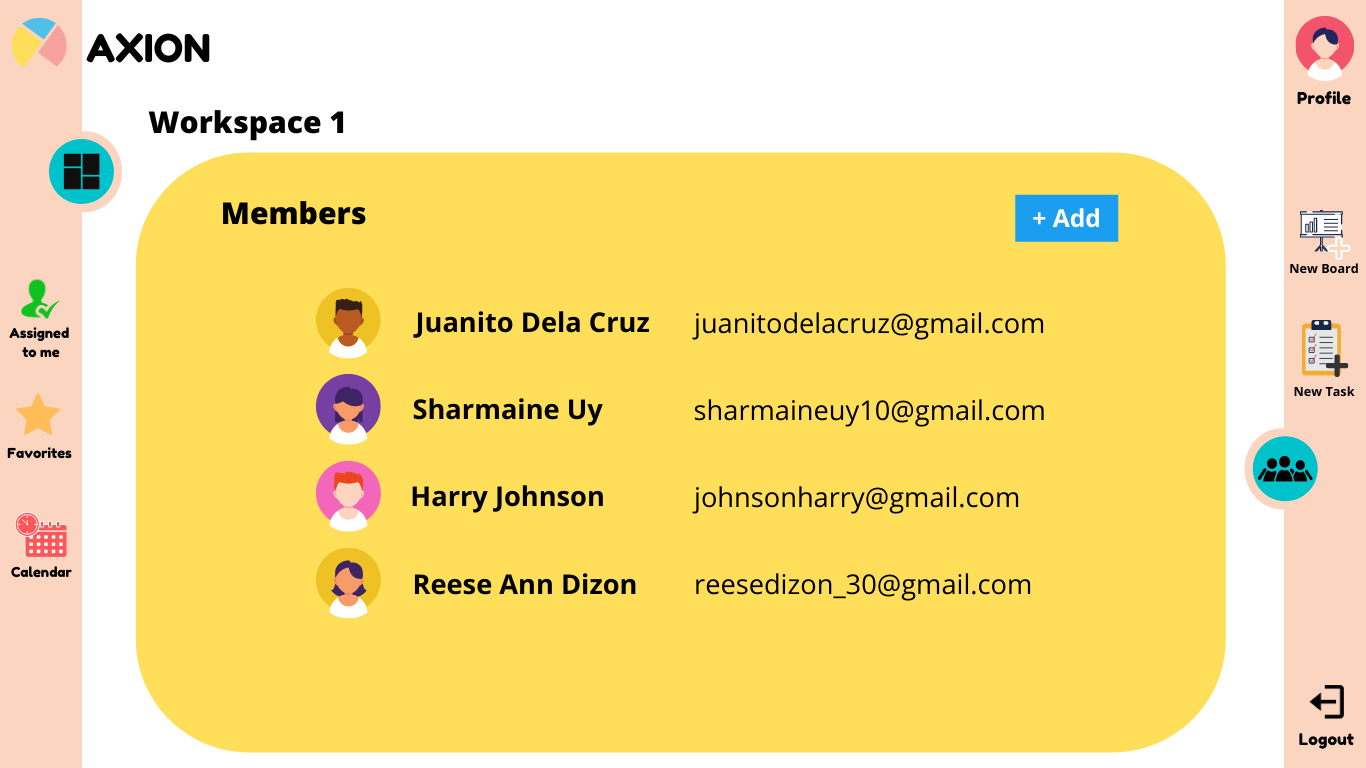
****

****

As for this screen, the description area can be used to note specific details about a certain task or subtask. So that is when users want to know something about a task, they will be able to relearn the task.

****

****

****

Four members are seen to be invited and added to the workspace.

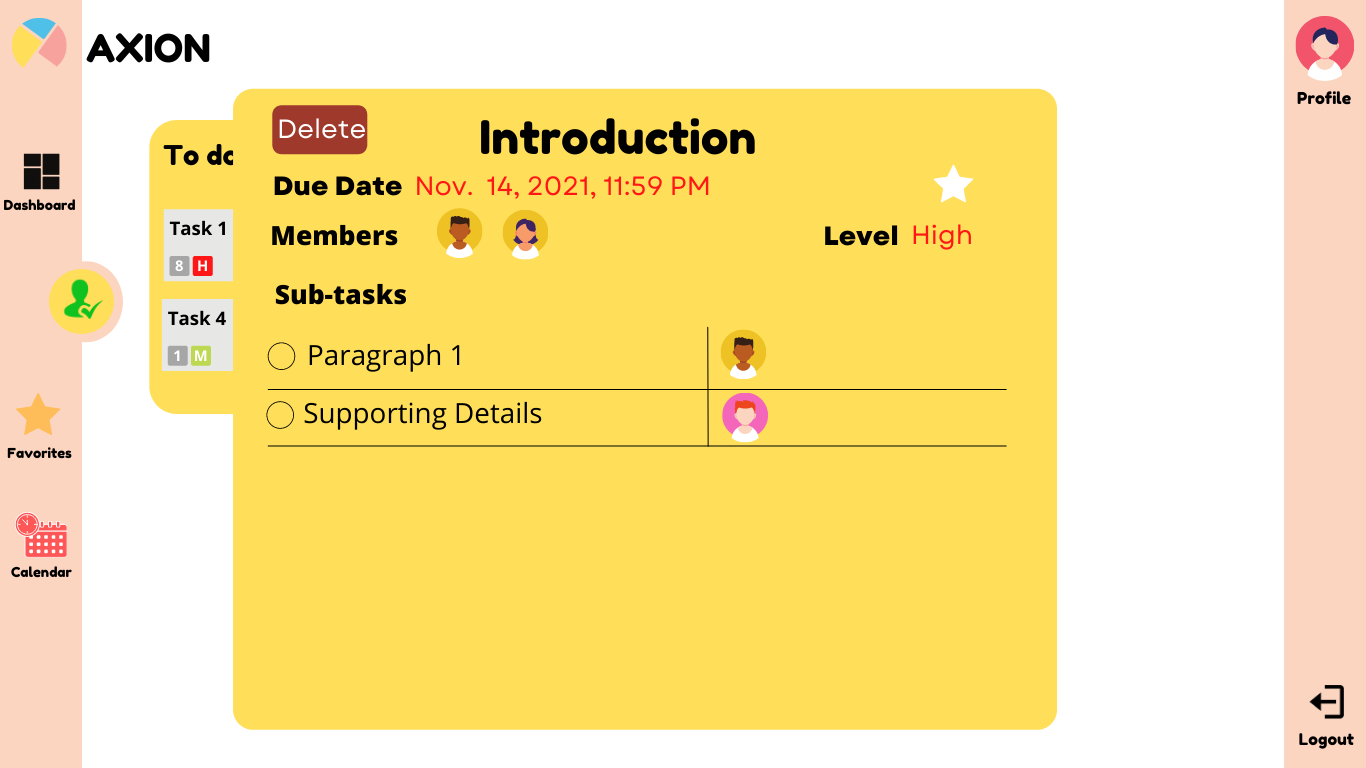
****

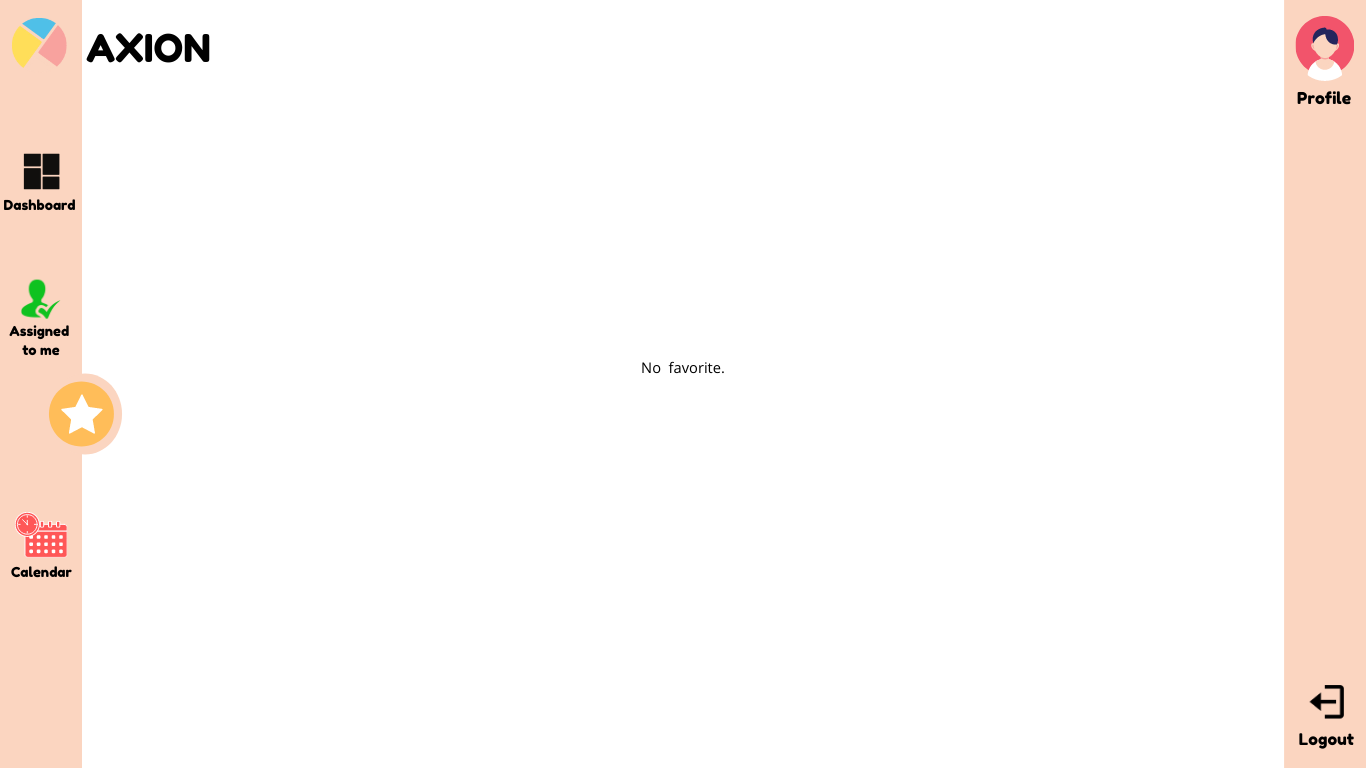
This is what a workspace can look like if there are tasks that are not yet worked on (To do), tasks that are currently being worked on (In Progress), and tasks that are finished (Done).

****

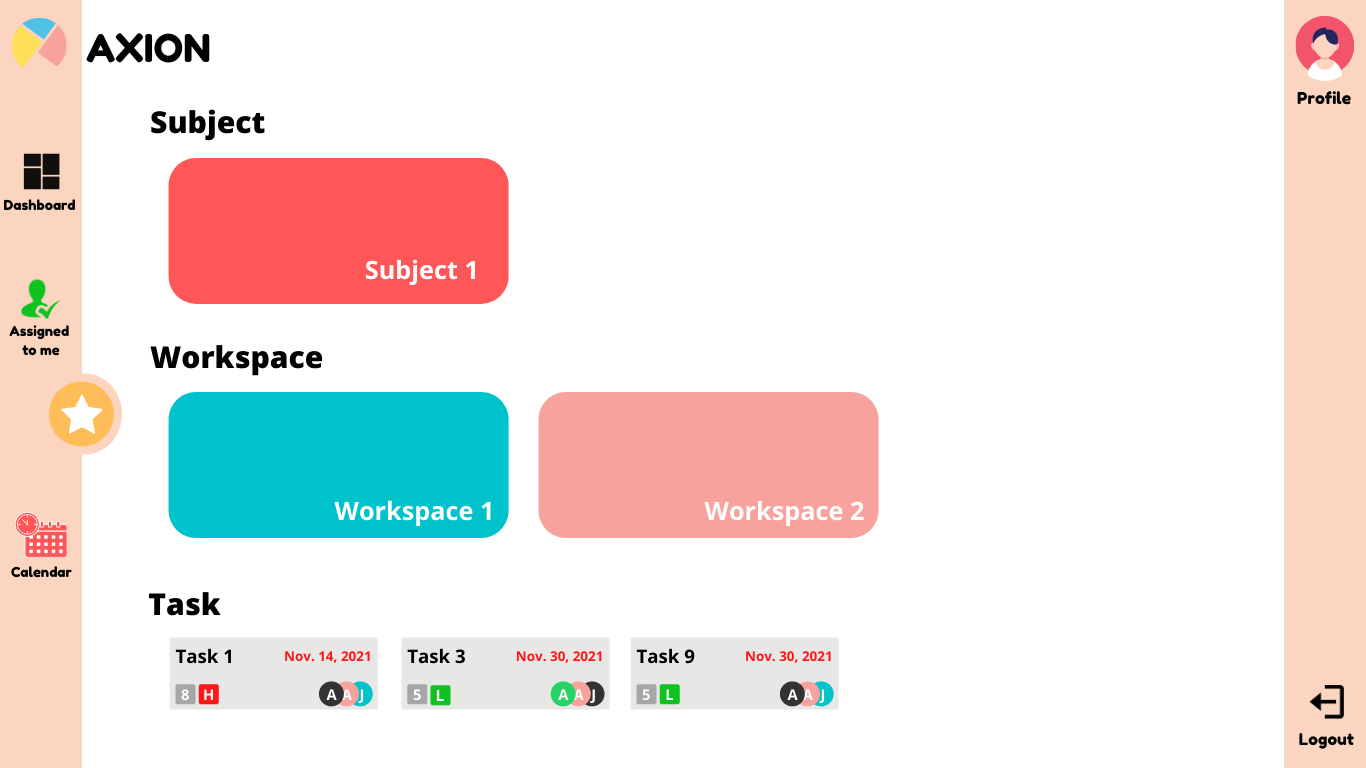
As seen on the left, blue bar, the ‘Assigned to Me’, which has been pressed, shows only the tasks that are assigned only to the certain user. As of now, the user does not have any tasks that are specifically assigned to him or her.

****

****

****

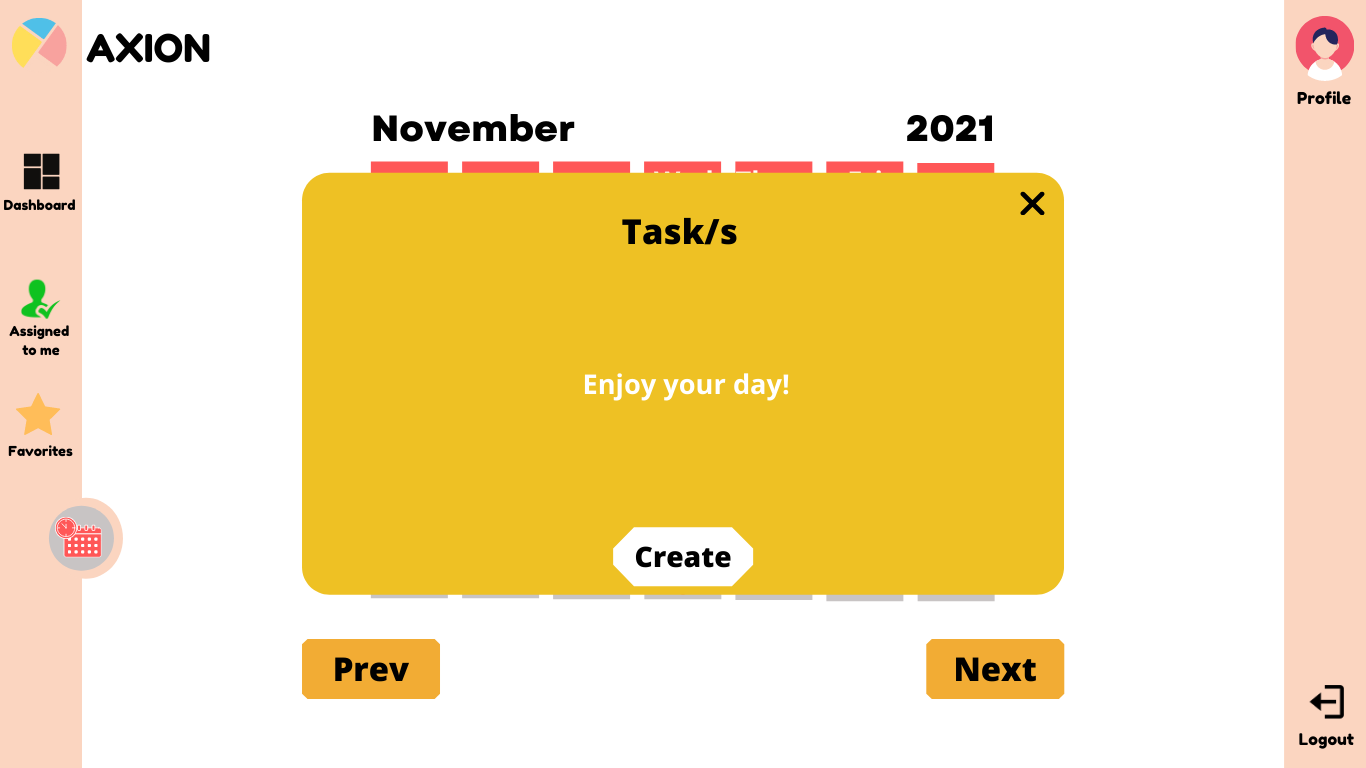
As for the favorites section, this is where the user can see the sections, tasks, or other similar structures that he or she has marked. It has a bookmarks manager which separates structures, despite not being seen on the screen beside “No favorites.”

****

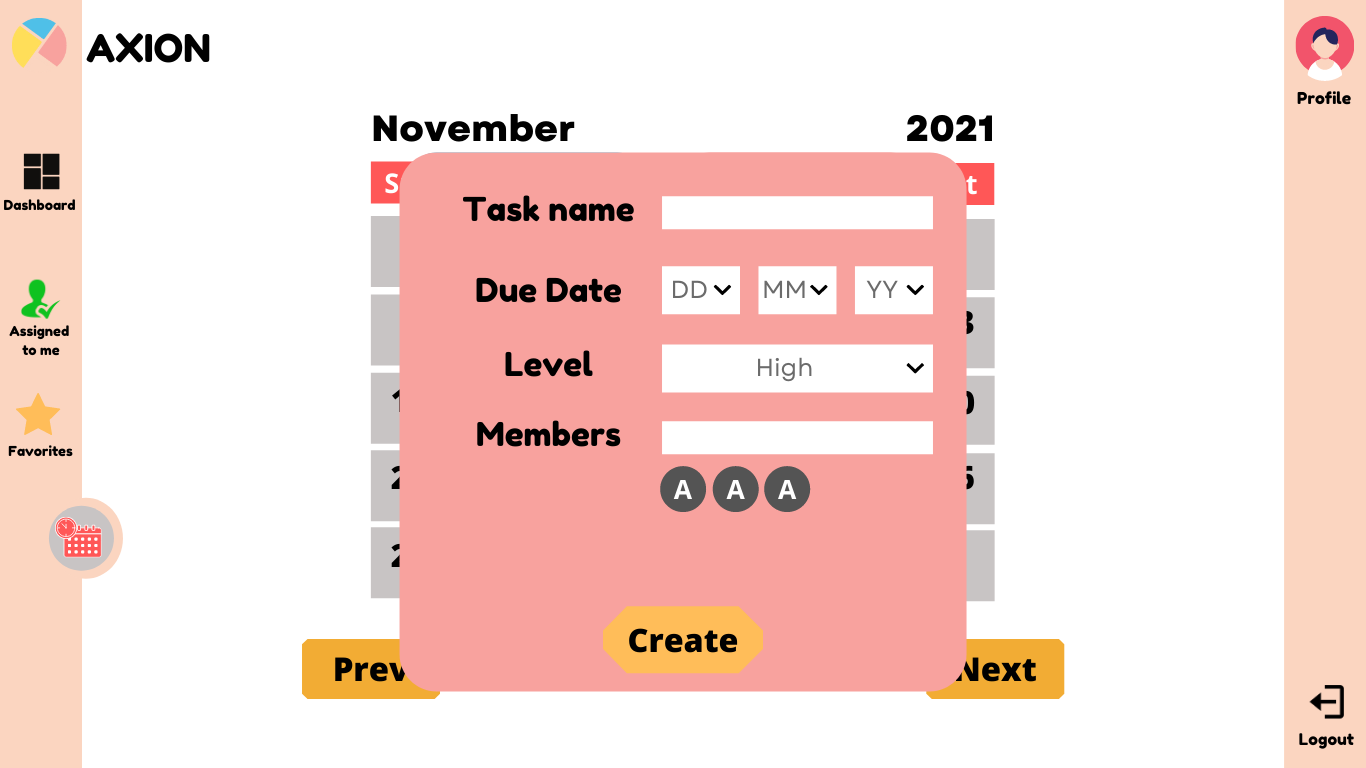
This is what the favorites section would look like if it has content or marked structures in it.

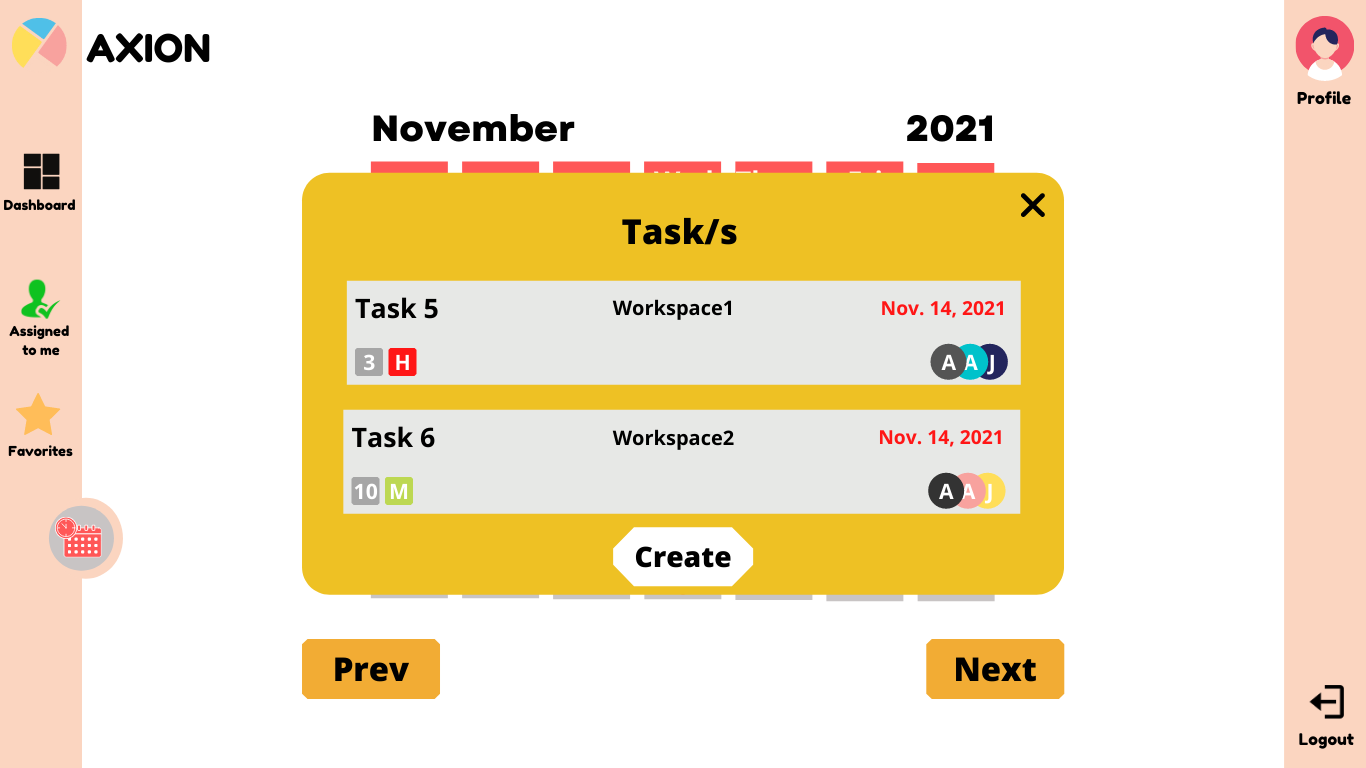
****

Axion has a calendar view which shows the schedule of tasks in a certain month, as shown on the screen above. The red dots on specific dates indicate that there is a task or more that is scheduled on that particular date. The ‘Prev’ and ‘Next’ button lets users move the current month towards the next or backwards.

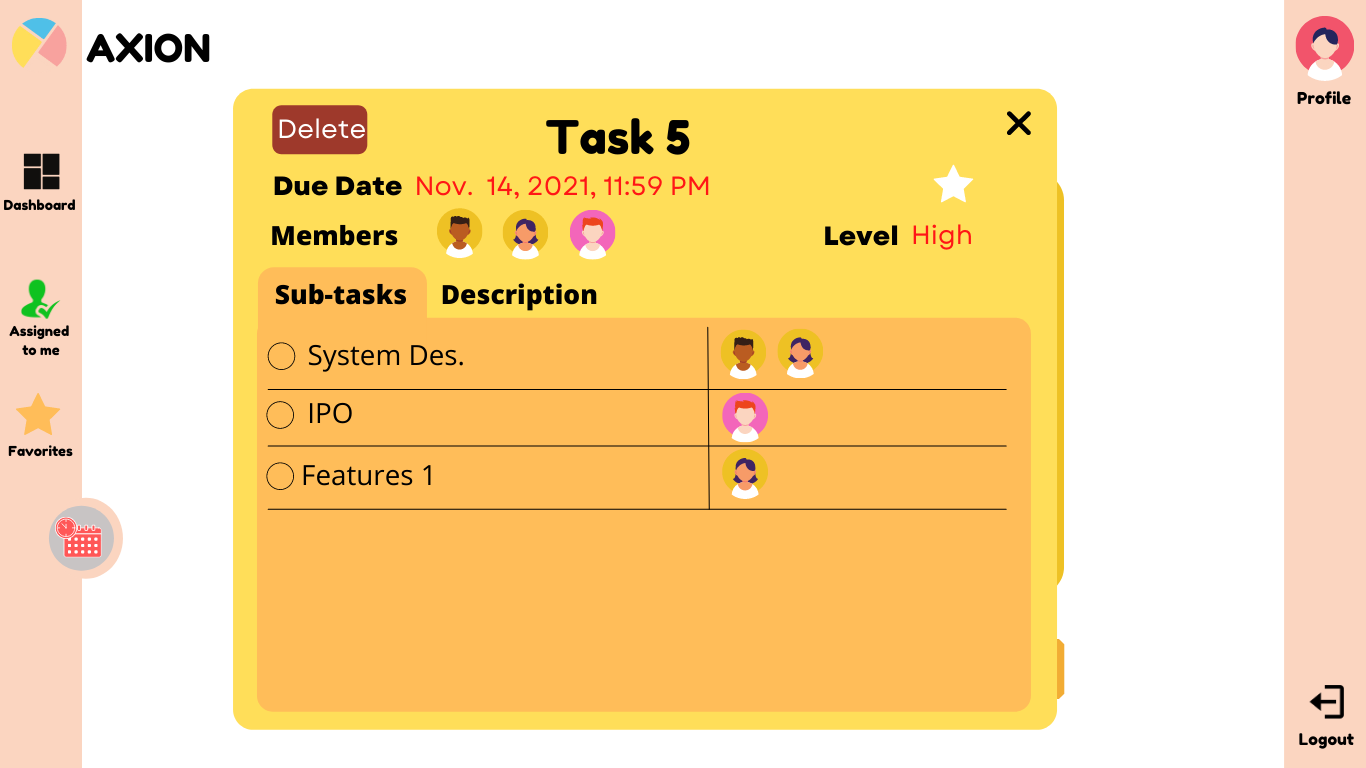
****

After clicking a certain day that has no red dot, a yellow box will appear, showing any tasks that are being set on that day. As seen on this design, it shows a message ‘Enjoy your day!’ which pertains that as of that day, there are no tasks being set. Therefore, Axion intends to greet the user, pointing out that the day could be a chance for users to take a break or do other things besides non-academic related tasks.

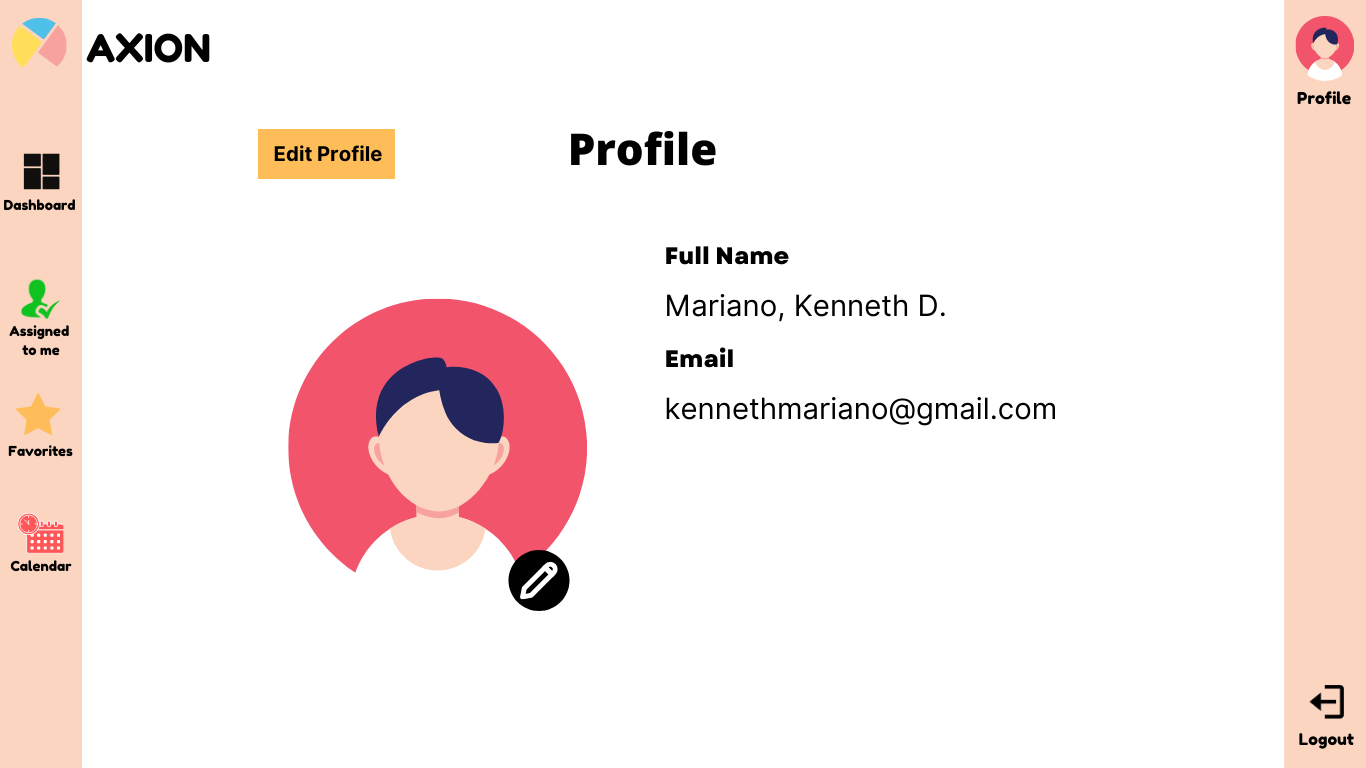
****

****

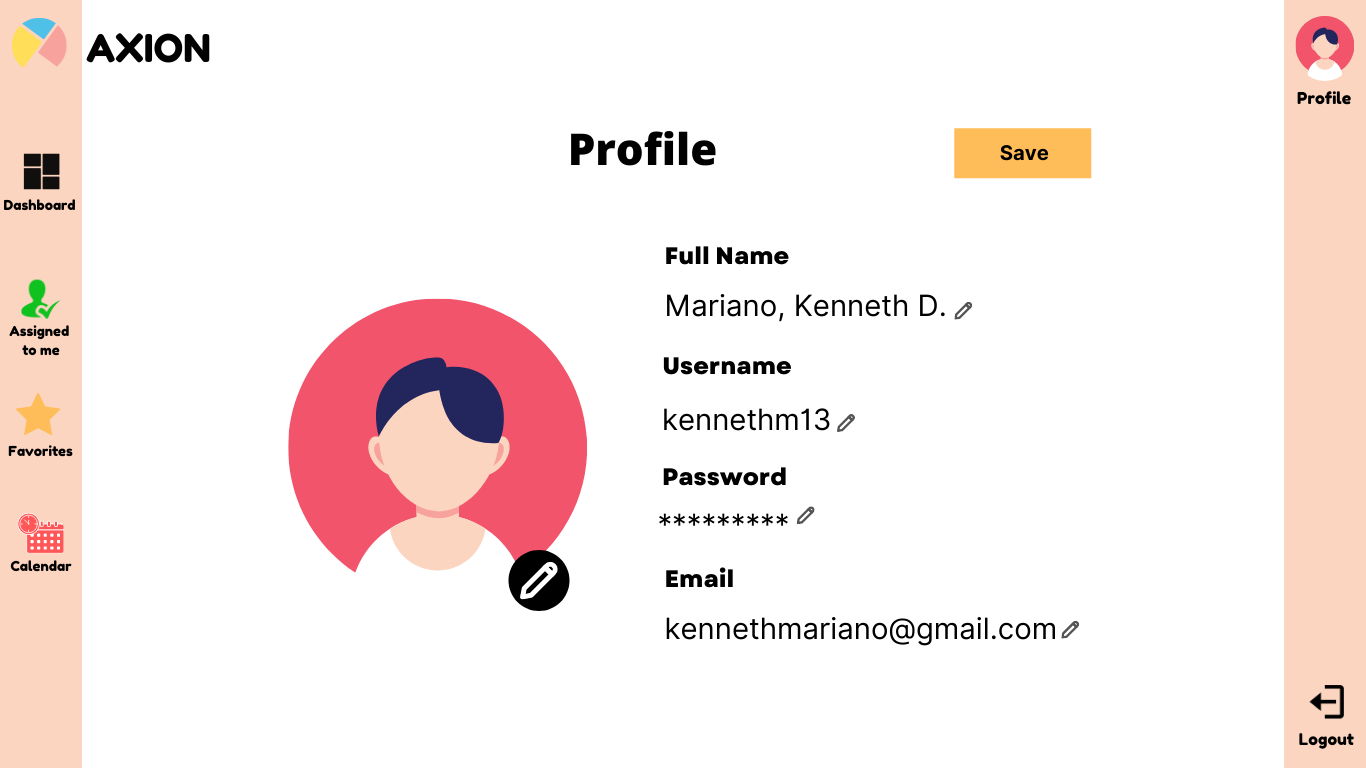
As shown on the screen above, this is an example of what a certain day would look like with a red dot or tasks.

****

Tasks pinned in that day can be pressed and opened.

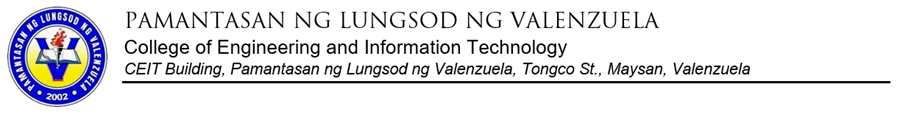
****

This shows the profile interface which can be clicked on the top right picture along with the word, ‘Profile’. Certain details such as the full name and the email can be seen besides the picture of the user. There is also a yellow button that says, ‘Edit Profile’, which enables users to modify certain credentials of their account.

****

By clicking the ‘Edit Profile’, users can be able to modify some account details by clicking on the small pencil icon right after every detail. Once the user is done editing, they can save the new details, which will update their data within the database.

**FORM 1**

****

**Form 1: RESEARCH/CAPSTONE TITLE PROPOSAL FORM**

*Please write legibly and in BLOCK LETTERS.*

No title alteration allowed after approval of this document.

**Name of students:**

*Add additional rows, if needed.*

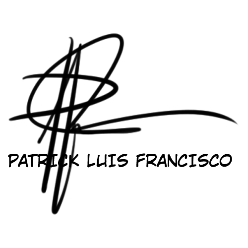
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Last name | Given name | Middle name | Student no. |
| 1 | CLARIN\_\_\_\_\_ | MART YAZEN MIKHAIL | \_\_\_\_\_\_\_\_\_\_\_\_\_ | 19-0358\_\_\_ |
| 2 | HERRERA\_\_\_ | CHARLES MAVERICK | \_\_\_\_\_\_\_\_\_\_\_\_\_ | 19-0715\_\_\_ |
| 3 | MATIMTIM\_\_\_ | EL JOHN\_\_\_\_\_\_\_\_\_ | SARMAGO\_\_\_\_ | 18-0216\_\_\_ |
| 4 | ROCHE\_\_\_\_\_ | JOANNE RAZELLE\_ | LEGASPI\_\_\_\_\_ | 19-1512\_\_\_ |

**Title submission statement:**

This is to formally propose our undergraduate research entitled,

Development and Evaluation of Axion: A Web-Based Academic Task Management Tool for College Students

**Department recognition:**

We hereby confirm that the information provided in this document were checked and verified against the facts presented by the parties involved.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

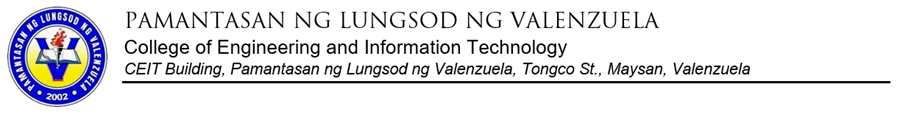
Technical Adviser Research Project Adviser

*(Signature over printed name/Date) (Signature over printed name/Date)*

*Form 1: Research/Capstone Title Proposal Form*

*PLV-CEIT v4.0 04302021*

**FORM 2**

****

**Form 2: RESEARCH/CAPSTONE ADVISER ACKNOWLEDGMENT FORM**

*Please write legibly and in BLOCK LETTERS.*

*If the group will have multiple advisers other than the research project adviser, accomplish form individually, per adviser.*

**Nomination statement:**

We respectfully nominate (Mr./Ms./Ms./Engr./Dr.) PATRICK LUIS M. FRANCISCO of the Department of INFORMATION TECHNOLOGY as our undergraduate research adviser for the duration of our research project.

1. CLARIN, MART YAZEN MIKHAIL

2. HERRERA, CHARLES MAVERICK\_

3. MATIMTIM, EL JOHN S. \_\_\_\_\_\_\_\_\_

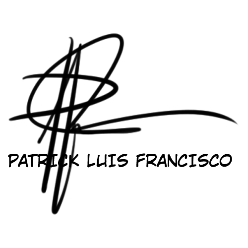
4. ROCHE, JOANNE RAZELLE L. \_

*(Signature over printed name)*

**Acceptance statement:**

This is to inform you that I formally accept and I am willing to serve as the undergraduate technical adviser of the above-mentioned students:

And I am aware, as their technical adviser, of the following duties and responsibilities:

1. Guide the students from the preparation of a research proposal until submission of final manuscript;
2. Assist the students in case of revision/s in the manuscript;
3. Instruct and guide the students during the data gathering period, as well as check their results and findings;
4. Ensure that the written manuscript and article adheres to the institutional format; and,
5. ****Confirm and certify that all research requirements are submitted to the College of Engineering and Information Technology.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(Signature over printed name/Date)*

**Department recognition:**

I hereby confirm that the information provided in this document were checked and verified against the facts presented by the parties involved.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Research Project Adviser

*(Signature over printed name/Date)*

*Form 2: Research/Capstone Adviser Acknowledgment Form*

*PLV-CEIT v3.0 04302021*

**FORM 3**

Text

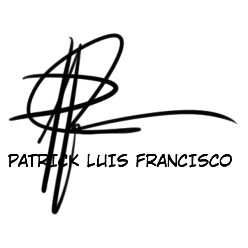
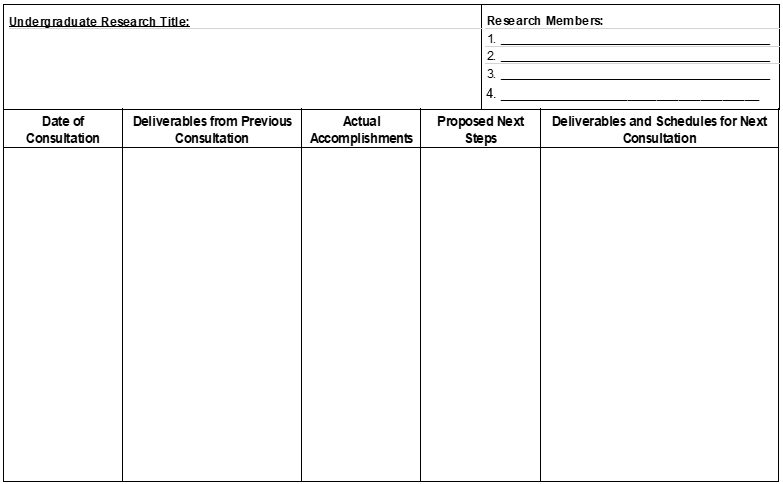
Description automatically generated

No. V8\_3-9

**Form 3: RESEARCH/CAPSTONE CONSULTATION RECORD**

No. V8-3

*Please write legibly and in BLOCK LETTERS.*



Chapter 1 & 2

11/25/21

11/09/21

Chapter 1 & 2

Revised title, re-finalize chapter 1, and re-finalize chapter 2

Revise title and chapter 2 to re-finalize chapter 1, and other parts.

Chapter 1

& 2

ROCHE, JOANNE RAZELLE L.

MATIMTIM, EL JOHN S.

CLARIN, MART YAZEN MIKHAIL

HERRERA, CHARLES MAVERICK

Title

Finish the chapter 2 to re-finalize chapter 1 and other parts of research.

N/A

*To the students:* Always bring previous Consultation Record during your consultation hours with the technical adviser. Students should accomplish this form.

*To the technical adviser:* Kindly implement a “No previous Consultation Record, no Consultation policy”.

Use another sheet if necessary. Please write clearly and legibly on this document. All Consultation Records shall be compiled and will be part of the Appendix of your final manuscript.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Faculty Technical Adviser

*(Signature over printed name/Date)*

**FORM 4**

Text

Description automatically generated

**Form 4: RESEARCH/CAPSTONE PROGRESS MONITORING FORM**

*Please write legibly on all spaces provided.*

Students/Members:

1. CLARIN, MART YAZEN MIKHAIL

2. HERRERA, CHARLES MAVERICK\_

3. MATIMTIM, EL JOHN S. \_\_\_\_\_\_\_\_\_

4. ROCHE, JOANNE RAZELLE L. \_

Date Submitted: \_\_December 30, 2021\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Covered week/s: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Undergraduate Research/Capstone Project Title: Development and Evaluation of Axion: A Web-Based Academic Task Management Tool for College Students\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Progress/Activities done:

(Use additional sheets, if necessary)

Finalization of title, re-finalization of chapter 1, re finalization of chapter 2, forms and other parts.

*Form 4: Research/Capstone Progress Monitoring Form*

*PLV-CEIT v2 04302021*