

Designing an app for SJSU clubs and organizations for better event planning and execution

A Project

Presented to

The Faculty of the Graduate Program in Human Factors/Ergonomics

San José State University

In Partial Fulfillment

Of the Requirements for the Degree

Master of Science

By

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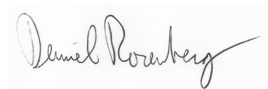
April 2023

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A handwritten signature in black ink that reads "Daniel Rosenberg". The signature is written in a cursive style with a long horizontal stroke at the end.

Daniel Rosenberg 05/01/2023

Abstract

This project follows the complete UCD (user-centered design) lifecycle to identify user frustrations and propose design solutions for a mobile application aimed at student club leaders. User interviews were conducted to gain insight into common tasks performed by student club leaders and areas where their current process could be improved with an application. Based on the information gathered in the interviews, a problem statement, user persona, and design requirements were defined. A high-fidelity prototype was developed and tested with a formative usability assessment, which identified areas for improvement. The findings suggest that the proposed app design can potentially improve the overall user experience of student club leaders. However, due to time constraints, multiple rounds of testing and iterations were not conducted, and future rounds of iterative testing are needed to validate whether these changes effectively solve the usability issues and make this app market-ready.

Acknowledgments

I sincerely thank Professor Daniel Rosenberg for his invaluable guidance and constructive feedback throughout this project. His expertise in interaction design and generous investment of time was instrumental to its completion. I am also grateful to the SJSU Club leaders who generously shared their time and valuable insights, enabling me to design an app that addresses their specific challenges. Additionally, I would like to acknowledge the unwavering support and creative input provided by my girlfriend, Sarah. Thank you.

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Chapter 1

Introduction

San Jose State University (SJSU) is a large institution in California with over 400 active clubs and student organizations. These organizations host various events and activities throughout the academic year, making the event planning process a crucial aspect of their operations. In light of this, the purpose of this study was to explore the event planning process and the pain points experienced by SJSU club leaders in this regard.

To achieve this objective, a qualitative research approach was adopted, involving semi-structured interviews with SJSU club leaders. The data collected were analyzed using thematic analysis to identify common themes and pain points faced by club leaders. These themes were used to develop an app design that aimed to address the pain points and assist club leaders in the event planning process.

The proposed app design underwent a formative usability test to validate its design and functionality. The test aimed to assess the app's usability, user experience, and effectiveness in addressing the identified pain points. Results from the testing showed positive feedback from the participants, indicating the potential usefulness of the app in improving the event planning process for SJSU club leaders.

This report provides an in-depth exploration of the event planning process for SJSU club leaders, highlighting the challenges they face and the potential solutions that the proposed app design offers. The report further outlines the methodology used, data analysis process, and the results obtained from the formative usability testing process. The insights provided in this report could inform future efforts aimed at improving the event planning process for student organizations at SJSU.

Chapter 2

User-Centric Design Process

The development of the proposed app design for SJSU club leaders followed a rigorous user-centered design (UCD) process. UCD is a design philosophy that prioritizes users' needs and goals throughout the design cycle. The process involves four key phases: user research, requirements gathering, design, and evaluation.

During the first phase of the UCD process, semi-structured user interviews were conducted to understand the pain points experienced by SJSU club leaders while recruiting and managing volunteers for the events they conduct on campus. After conducting the interviews, I understood that 1 out of 5 organizations recruit volunteers and most of the problems club leaders face are while brainstorming and planning the events. This phase allowed for a comprehensive exploration of the context of use, uncovering the nuances of the planning process and revealing pain points that were previously unknown.

The study's second phase involved synthesizing data gathered during the user research phase. This was done by analyzing and synthesizing the data into user personas, user stories, and a conceptual model. The purpose of this phase was to define user goals and design requirements for the project. By creating user personas and user stories, I was able to identify the most important features and functionalities for the application. The conceptual model helped to provide a visual representation of the overall design structure.

The synthesis of user requirements served as a guide for the design phase of the project, where different UX design ideas were explored. This was achieved by creating paper sketches and high-fidelity prototypes to test different design ideas. The UX design phase was critical in ensuring that the final product met the needs of the target users and provided an optimal user experience.

In the final phase of the UCD process, formative testing of the high-fidelity prototype was conducted with target users to evaluate the design's usability and effectiveness in addressing the identified pain points. The feedback received from the usability testing sessions was used to refine the design and ensure that it met the target user and business goals with a high level of usability.

Chapter 3

Phase 1: Requirement Gathering

To develop an effective app to assist SJSU club leaders in planning and organizing events on campus, it was necessary to gain a comprehensive understanding of the challenges and pain points encountered by these leaders during the event planning process. Therefore, a series of semi-structured interviews were conducted to elicit valuable insights into the goals, processes, expectations, and challenges faced by SJSU club leaders during the event planning and execution phases.

User Interviews

The semi-structured interviews were designed to understand the needs and experiences of SJSU club leaders in the context of event planning. Through these interviews, I gained deeper insights into their mindset and the difficulties they face during the planning and execution of events. This information helped identify key issues and opportunities for improvement, which informed the design of the app. The interviews were crucial for developing a persona and designing a digital solution to assist club leaders in event planning and execution.

Method

Participants

Discovery interviews were conducted with presidents and other leaders of SJSU clubs and organizations. To recruit participants, their names and emails were obtained from the SJSU Sammy app, which provided a comprehensive list of all the clubs and organizations at SJSU. 80+ individuals were contacted, resulting in 12 responses and 5 participants.

Inclusion Criteria

The participants for the discovery interviews were selected based on certain inclusion criteria. To be eligible for participation, the participants had to be above the age of 18 and currently hold a leadership position in their respective club or organization at San Jose State University. Additionally, they were required to have experience in organizing and conducting events for their club or organization.

Exclusion Criteria

To ensure the accuracy and relevance of the information gathered, some participants were excluded from the discovery interview process. Those who did not meet the inclusion criteria, such as being under the age of 18 or having no experience in organizing or conducting events for their club or organization, were excluded from participation.

Recruitment

In recruiting participants for the study, a personalized email was sent to potential participants containing a screening questionnaire. This was done to ensure that the participants met the inclusion criteria and their responses would be relevant to the research objectives. Participants who passed the screening criteria were invited to participate in the study. From the pool of 12 individuals who responded, 8 participants agreed to take part, of which 5 were deemed to be suitable for the study. The screening questionnaire used during the recruitment process can be found in **Appendix A**.

Material

The following materials were used for the interview:

- **Google Forms** - To create and send screener questions to all the participants.

- **Macbook Pro 15'** - To conduct online interviews and keep a record of all the participants along with their feedback.
- **Notion** - Note-taking software used to keep a list of questions to ask the qualifying participants and synthesize their responses.
- **Zoom** - Software used to conduct online interviews and record audio and video for analysis purposes.
- **Google Sheets** - Online spreadsheet used to manage a list of all the qualifying participants and their email information available to all SJSU students.

Participant Confidentiality

Ensuring participant confidentiality is of utmost importance to maintain ethical standards in research. To uphold this, participants were informed about the confidentiality of their responses and how their inputs will only be used for the purpose of designing the application at the beginning of the interview session.

Procedure

A total of five participants, all above the age of 18 and holding leadership positions in one or more SJSU clubs or organizations, were interviewed using a semi-structured approach. The interviews, which lasted between 30-45 minutes, focused on exploring pain points related to planning, executing, and hiring volunteers for events. Prior to the interview, participants were informed of the audio and video recording and provided their consent. The interviews were conducted remotely using Zoom.

Appendix B contains the test plan used in the study.

Interview Results

The data obtained from the interviews of the 5 participants were analyzed to identify common themes and patterns in their event planning and execution processes. It was observed that most clubs and organizations follow a similar approach for brainstorming ideas, involving all officers and decision-making through voting. The identified common patterns and pain points experienced by the club leaders have discussed below:

Commonalities in typical work

- **Brainstorming:** All clubs conducted idea generation sessions where they invited all officers to participate. These sessions were either held in person or online.
- **Voting:** Voting was a common method used by all clubs to select the best event idea from the ones generated during the brainstorming session. In some cases, it was necessary to reach a unanimous agreement on the event idea to proceed with it.
- **Inclusive Participation:** All clubs encouraged inclusive participation, where officers were empowered to share their thoughts, critique ideas, and offer suggestions.
- **Dividing duties:** After the event idea was finalized, clubs assigned duties to the relevant officers. This was done to ensure a smooth event planning process and timely execution.
- **Planning and Execution:** All clubs planned and executed events well in advance. Officers were expected to be present on campus 1-2 hours before the start of the event to quickly review their duties and ensure that everything was in order.

Common Pain Points

- **Impractical ideas:** The leaders reported facing issues with too many ideas that were not practical, feasible to execute, or totally out of budget.
- **Inconsistent note-taking:** The club leaders also pointed out that there was no standard way to take notes during the brainstorming sessions, leading to confusion and potential loss of valuable ideas.
- **Lack of progress tracking:** Another issue mentioned by the leaders was the absence of a way to track progress effectively, except for calling the concerned officer for an update.
- **Difficulty in communication:** The leaders reported difficulties in reaching out to other officers, leading to delays in planning and executing events.

Chapter 4

Phase 2: Requirement Synthesis

The user interviews provided valuable insights to identify the core problem to focus on during the design phase. To define the user goals and design requirements, a user persona, user stories, and a conceptual model were developed.

Persona

The collected interview data was analyzed to identify commonalities in the activities and challenges faced by the student officers during the planning and execution phases. Based on these insights, a user persona was developed to represent the target users and their goals. The persona helped in understanding the users' needs and challenges and served as a reference point throughout the design process. The persona is mentioned below in Fig. 1.

Figure 1:

Image showing the persona, their bio, motivations, and pain points.

John Williams



Bio:

John is a president of one of the student clubs at SJSU. He plans for most of the events his club conducts on campus for other students and wants to plan and execute events effectively.

Age: 22

Role: Club President

Primary Need:

- An efficient way to plan, organize and execute event ideas along with a tracking of progress.

Motivations:

- Wants to make an impact on students' lives.
- Wants to gain experience to add on his resume.

Pain Points:

- Club members are not on the same page all the time.
- No standard way to brainstorm on the events.
- People do not show up.
- Less reach of the planned events resulting in low turn-up rate.

User Journey

Following the creation of the persona, the user journey for John was thoughtfully mapped out based on the data collected from the user interviews process. A user journey is a step-by-step depiction of a user's interaction with a product or service, highlighting their experience at each stage. The screenshots presented below provide a detailed extrapolation account of John's thoughts, feelings, and actions during the various stages of the event planning and execution cycle.

Table 1:

Common User Journey during Brainstorming for the event.




Journey Stage >		Brainstorming for the event			
Sub-Stages	Deciding to plan an event	Bringing Officers together	Taking suggestions from other officers, finalizing a date, and making sure officers are available on the day	Voting on the Event	Checking the Budget
Feeling	Motivated	Exhausted	Frustrated	Relaxed	Nervous
					
Thinking	Its been a while, we should conduct an event for SJSU students to add an impact.	I don't know who is available at what time. I need to check with them	Why everyone is just throwing suggestions without thinking through?	Lets ask everyone to choose one event out of all the ideas we just discussed	Do we have enough budget for this event?
Doing (Web)		Requesting all officers to put their availability on the calendar.	Noting down all the ideas on google docs		Checking budget google sheets
Doing (Mobile)					
Brand Touch points		Allow officers to add their availability on the app	Allowing the user to take notes on the app itself	Allow the user to raise a poll between members	(Optional) Allow a group to have a budget assigned

Table 1.1:

Image shows the User Journey during the planning and follow-up stages.













Journey Stage >	Planning the event			Following up on the plan		
Sub-Stages	Bringing officers together	Discussing the activities, and dividing bigger activities into smaller chunks	Assigning tasks to officers	Connecting with officers to take progress reports	Helping officers who need assistance or answers	Assuring the quality of work
Feeling	Exhausted	Creative	Satisfied	Nervous	Motivated	Positive / Annoyed
						 
Thinking	Some are coming late, some are not showing up.	This is going to be fun.	I am glad, things are planned out now. I hope everyone does their tasks on time.	Why is this task lacking behind? I should check with the officer.	I am glad, I could provide the help on time and prevent further delays	I am glad the work is going great. Dang! This output is not up-to-mark
Doing (Web)	Checking schedule on the calendar app and creating a meeting	Using google docs to write down everything	Using google docs to keep a note of assigned tasks and officers	Writing updates on google doc		Writing on google sheets
Doing (Mobile)					Calling other leaders to get some guidance or to find resources to help	
Brand Touch points	Allowing app to suggest best time when all officers are available	Allow the user to make checklist	Allow user to assign checklist items to individual users	Let app show the progress of individual threads		

Table 1.2:

Table shows the User Journey during the execution and post-event stage.

Journey Stage >	Executing the Event						Post Event
Sub-Stages	Making sure all assigned officers are available	Calling and reminding officers who didn't reach on time	Assigning execution work/ Following up on assigned work	Checking the progress of the event	Addressing any issues (if occurred during the event)	Closing the event	Inviting Team for a team-bonding
Feeling	Excited	Annoyed	Stressed	Uncomfortable	Tired	Contentment and Satisfaction	Peace
							
Thinking	Is everyone here?	Why they are not here still? Now I have to call and check where they are and if they are even coming or not.	Who can handle this task well? Is there anyone who wants to learn? I might have to pair up.	Is everything going smooth? Let's check with all the officers.	How to solve this now? Let me ask someone with experience.	Thank god! Things went smooth and event was a success.	Let's enjoy this time and connect with other officers.
Doing (Web)			Checking google docs and assigning tasks				
Doing (Mobile)		Calling officers and asking when they will reach on venue			Calling and arranging required resources		
Brand Touch points		App lets the user call other officers in just a tap	App lets the user assign tasks on execution day to other officers				

User Stories

The interviews conducted produced valuable insights which were translated into user stories, a key component of the Agile development process. User stories comprise a brief yet informative set of statements that convey the end-user's objectives and the rationale behind them. These serve as simplified descriptions of the project's requirements and provide a framework for the final deliverable's development. These user stories are mentioned below in Table 1.

Table 2:

User Stories

As a	Club president	I want to	Plan different types of events like resume workshop, social	So I can	add value to my club members
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			gathering, guest speaker etc. for my club		
As a	Club president	I want to	maintain a list of officers who are working on the events	So I can	keep a track of who is working on what and contact them at any point
As a	club president	I want to	track funds available for the event	So I can	better utilize the funds for the right purpose
As a	club president	I want to	market the event properly	So I can	get better turn out rate on the day of the event
As a	club president	I want to	Collect weekly report from my team	So I can	Know where other officers are working and what they are upto
As a	club president	I want to	have a place for other officers to suggest ideas	So I can	have a collective list of ideas to discuss further
As a	club president	I want to	have a feature for everyone to vote	So I can	finalize on which idea to go ahead with for the event
As a	club president	I want to	have a feature create and assign tasks to different officers (multiple)	So I can	keep a track of work getting finished on time
As a	club president	I want to	have a feature to let everyone know the status of the event	So I can	make sure everyone is on the same page
As a	club president	I want to	have a feature where officers can update the status of the task assigned	So I can	can know about the status of the assigned tasks
As a	club president	I want to	create a team for the event	So I can	add all the accountable officers to the group and keep all the communications in one place
As a	club president	I want to	create a group for my club	So I can	add all the members of the team
As a	club president	I want to	Add members and description of the group	So I can	share basic details about the club and add officers to it
As a	club president	I want to	have a checklist to follow	So I can	keep a track of items that I need to work on
As a	club president	I want to	have an availability feature	So I can	know which officer is available at what time during the next month
As a	club president	I want to	have a feature to post the calendar for the club in advance	So I can	let everyone know which event is scheduled at what time
As a	club president	I want to	plan an outing with other team members for a get together	So I can	keep my team stay together and connect with them at

					personal level
As a	club president	I want to	contact other officers on their desired mode of communication	So I can	reach them in one tap and chat with them
As a	club president	I want to	see a master list of activities with a progress bar	So I can	keep a track of what activities are lacking behind
As a	club president	I want to	make people accountable for the work they are assigned	So I can	be assured people are taking responsibility and fulfilling it on time
As a	club president	I want to	initiate a poll during the meeting	So I can	ask for votes spontaneously
As a	club president	I want to	make officers show up on time	So I can	execute events without finding replacements for the tasks
As a	club president	I want to	create a my profile	So I can	create my club and add events to it for further planning

Conceptual Model

The Semantic IxD method was used to extract the actions and objects identified through the user stories in order to develop a conceptual model that serves as the design's grammar. This step is crucial in achieving optimal usability by matching the user's mental model. Consistency and simplicity are key aspects of UX design, as users should be able to navigate the product with ease and minimal cognitive load. To ensure these goals are met, I created the Object-Action, Object-Attribute, feature list, and feature-prioritization matrices. These matrices serve as the foundation for the subsequent stages of the design ideation process, as outlined in Tables 2 to 5.

Object-Action Matrix

The Object-Action (OA) matrix is a useful tool in UX design for mapping out the different functionalities of a product or service. It is a table that lists all the possible objects within the product, and all the actions that can be performed on each of them. This helps to identify which actions are relevant to each object, and vice versa, and to create a consistent and user-friendly interface. I have

designed the OA matrix for the app being developed, which is outlined in table 2 below. The OA matrix will help ensure that the app's functions are organized and easy to navigate for users.

Table 3:

Object-Action Matrix

O-A Matrix						
Action\Objects	User	Club	Event	Board	Task	Notes
Create	X	X	X	X	X	X
Update	X	X	X	X	X	X
Delete	X	X	X	X	X	X
Raise Poll	X					
Contact	X	X	X	X		
Set/ Update Reminder	X		X		X	

Object-Attribute Table

The Object-Attribute Table is a tool to analyze and understand the relationship between the objects (O) and their attributes (A). The table presented below shows all the objects and their attributes that I found relevant for the app design.

Table 4:

Object-Attribute Table

Attribute List				
User	Club	Event	Board	Task

SJSU Email	Admin_Email	Associated_Club_Name	Associated_Event_Name	Associated_Event_Name
Password	Club_Name	Event_Name	Board_Title	Task_Title
Name	Logo	Date	Assigned users	Description
Phone	Description	Type	Progress	Assigned Members
	Point of Contact	Point of Contact		Due
		Members		
		Progress		

Feature List

A feature list in app design is a document or a table that specifies the features and functionalities that an app will have. The table shows an extensive list of all the features that were discovered and requested during the discovery phase. All the features are mentioned in the table 4 below along with their corresponding user-story. It also mentions the features that are considered out of scope for this project.

Table 5:

Feature List

Feature List		
Related User Story #	Feature to	Feature Group
US 23	Create self profile with contact details	Creation
US 12	Create Club profile (with description)	
US 13	Assign officers to the club	
US 6	let club members add their ideas on the board	Brainstorming
US 7	vote for the event idea they want to conduct	
US 3	know funds available for the event	

US 1	Create an Event	Planning
US 2	Assign a team to the event	
US 8	Create and Assign main tasks to the officers	
US 10	Let officers add their sub tasks	
US 9	See status of all the planned items for the event	Preparation
US 10	let officers update their sub-tasks	
US 18	Contact officers	Execution
US 2	Assign tasks to people	
-	Archive the Event	Post Event
US 14	Self Notes / Checklist	Other Features
US 15	Availability of the officers added to the club	
US 18	contact other officers in few taps (Call, email, instant message)	
US 7	Raise a poll at any given point of time	
	Collaborative Task List (From Multiple Clubs)	

Table 6:*Out of Scope Features*

Out of Scope Features		
Related User Story #	Feature	Reason
US 4	Marketing	Out of scope
US 16	Post events on the SJSU calendar	Would be difficult to get access
US 17	plan a get together with other team members	Can be offline or the voting feature can be used
US 20	Make people accountable	Needs gamification and deep research

US 22	Make officers show up on time	Factor Out of control (or needs gamification)
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Prioritization Matrix

A prioritization matrix is a tool used in UX design to help make decisions about which features or design elements to focus on. The matrix is typically presented as a grid, with one axis representing the frequency of use, while the other axis gauges the number of users who will interact with them. The table below shows the prioritization matrix for the app design.

Table 7:

Prioritization Matrix

Prioritization Matrix		
	By Many	By Few
Frequent	let club members add their ideas on the board	Create an Event
	vote for the event idea they want to conduct	Assign a team to the event
	Let officers add their sub tasks	Create and Assign main tasks to the officers
	let officers update their sub-tasks	See status of all the planned items for the event
	Contact officers	Raise a poll at any given point of time
	Self Notes / Checklist	
	View list of assigned tasks	
Rare	Create self profile with contact details	Create Club profile (with description)
		Assign officers to the club
		know funds available for the event
		Archive the Event

Chapter 5

Phase 3: Design

Building upon the conceptual model, low-fidelity wireframes were initially developed to provide a rough visual depiction of the app's structure and layout. Following this, the information architecture of the primary screens was further refined, and the low-fidelity sketches were converted into detailed wireframes. To give the app its final polished look, a high-fidelity visual design was created using the Figma UX tool.

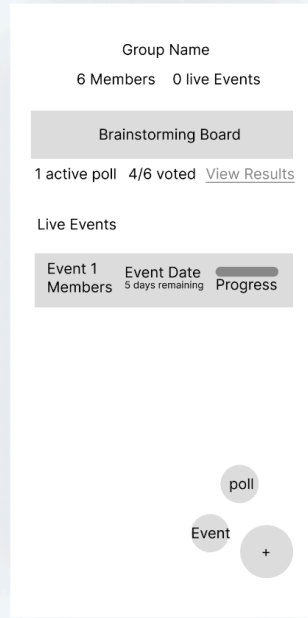
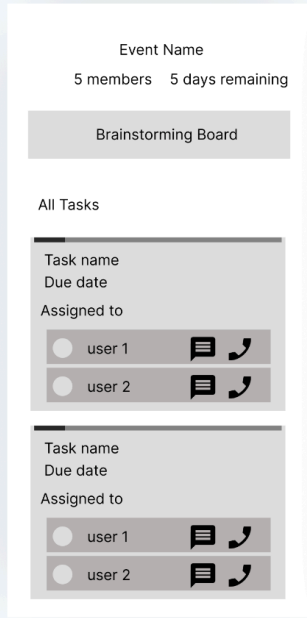
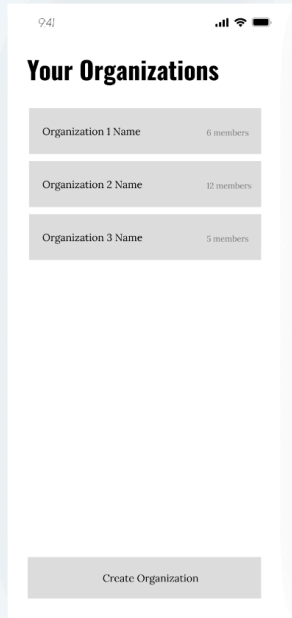
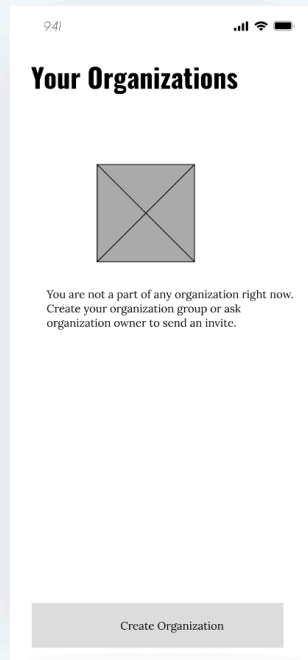
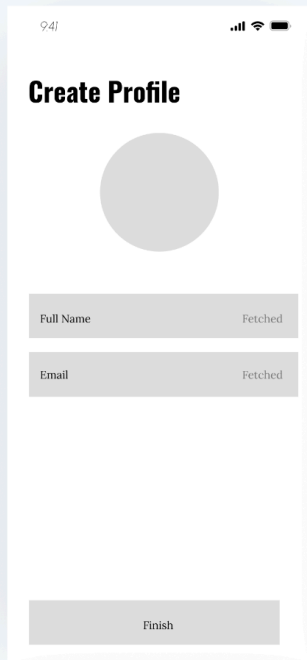
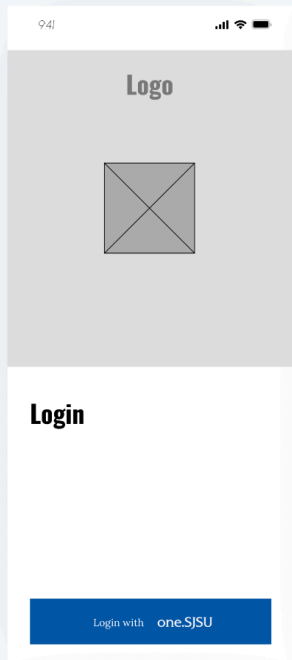
To ensure that the design met user requirements and expectations, different tasks and features were incorporated into the visual designs based on the prioritization matrix described in previous chapter 4, with careful consideration given to the overall user experience. The resulting design was then transformed into an interactive prototype and later tested with the users during the usability testing phase.

Low-Fidelity Wireframes

During the design phase of the UX design process, several low-fidelity wireframes were designed to explore different ideas and concepts. These wireframes were intentionally rough and basic, allowing maximum creative freedom in exploring different design solutions to solve the key user problem identified in the research phase.

Figure 2:

Low-fidelity wireframes that were created to explore various design ideas

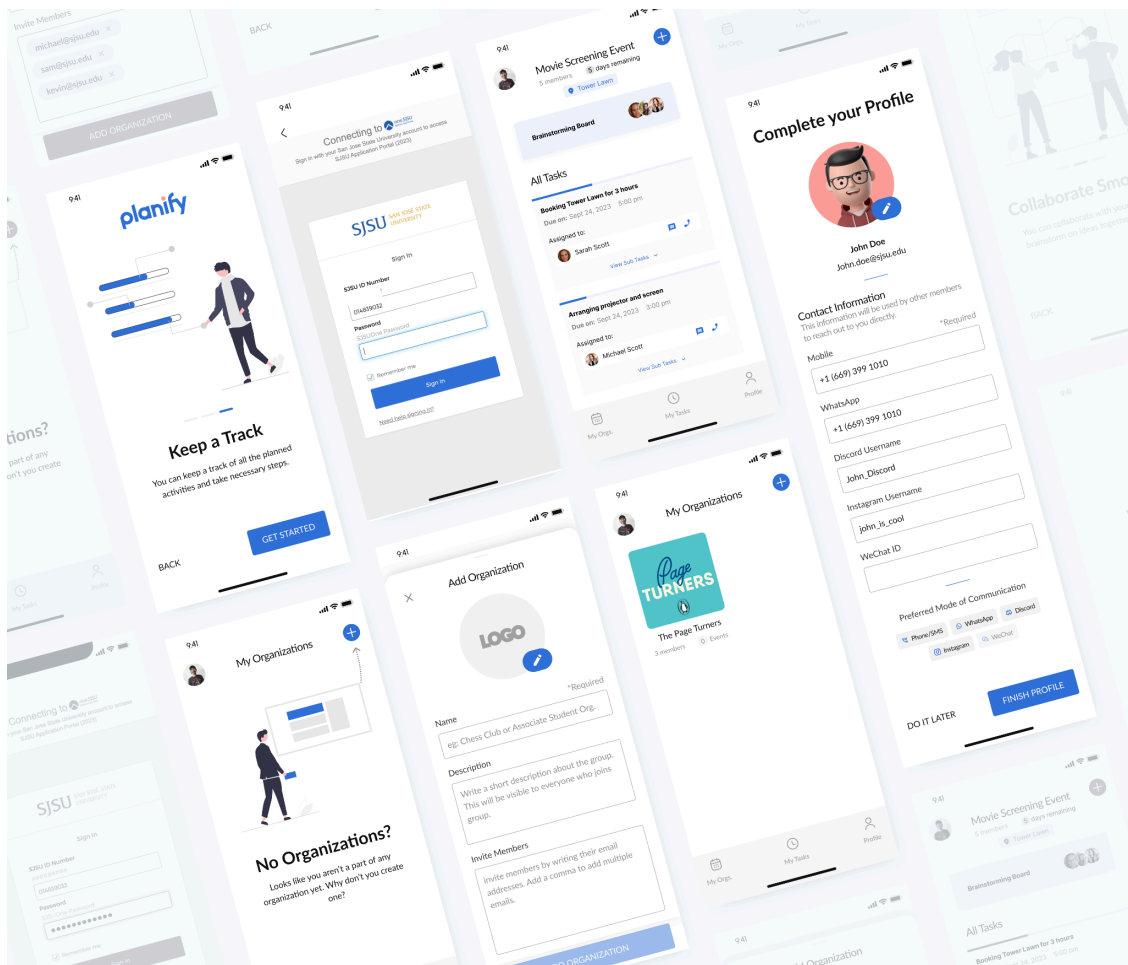


Mid-Fidelity Prototype

After low-fidelity wireframes, a mid-fidelity prototype was created. A mid-fidelity prototype is a digital prototype that is more detailed and polished than low-fidelity wireframes but still lacks some of the refined visual design elements of a high-fidelity prototype. They allow designers to test and validate their design decisions before investing too much time and resources in the final design.

Figure 3:

Mid-fidelity designs were generated to evaluate the viability of the idea and to verify the seamless functionality of the prototype



High-Fidelity Prototype

Once the mid-fidelity prototypes were finalized, the next step was to create a pixel-perfect visual design and a functional prototype. The visual design phase involved finalizing the color scheme, typography, iconography, and other design elements to create a cohesive and visually appealing design. The functional prototype was created to test the usability and functionality of the design. This prototype was interactive, allowing users to navigate through the app and test its features. The prototype can be accessed at this link:

<https://www.figma.com/file/xdbIJHAQsrem3ir0v1Li1p/ISE-298?node-id=258%3A5860&t=fn5kiW30ZFqI8>

[IM9-1](#)

Below are screenshots of the visual design that was tested for its usability.

Figure 4:

Onboarding Screens

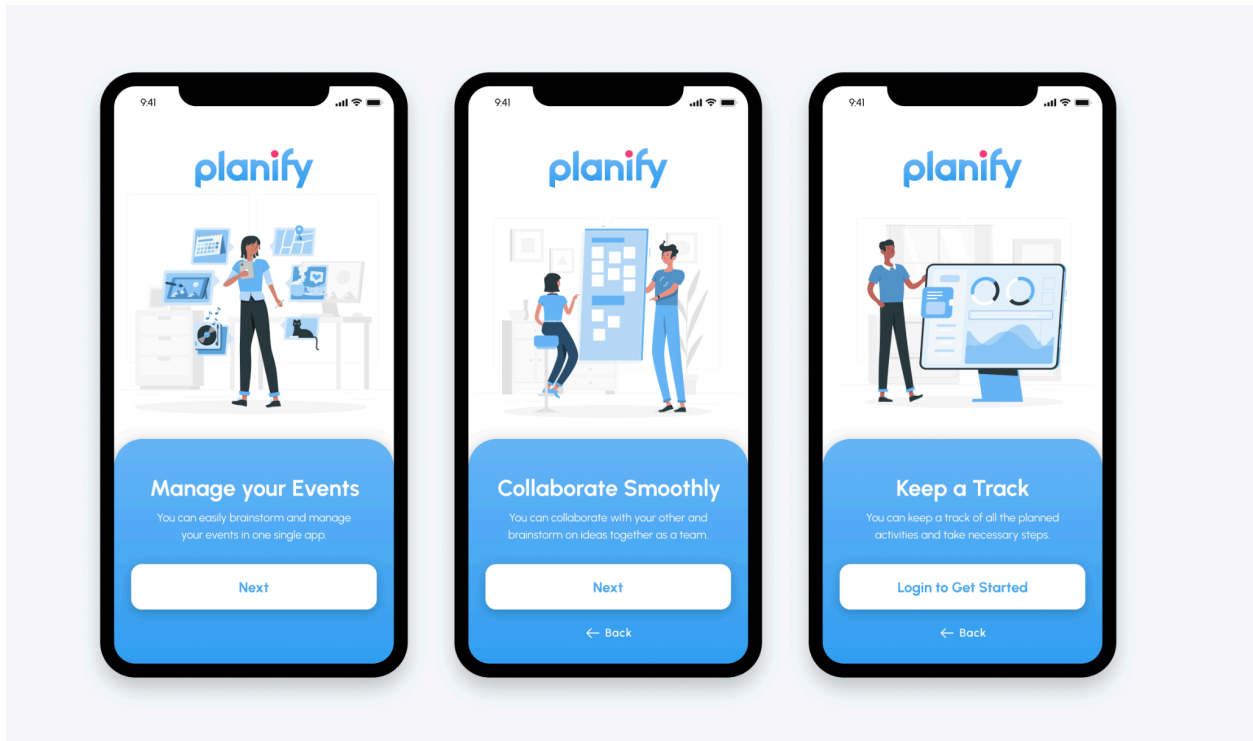


Figure 5:

Adding your organization on the app

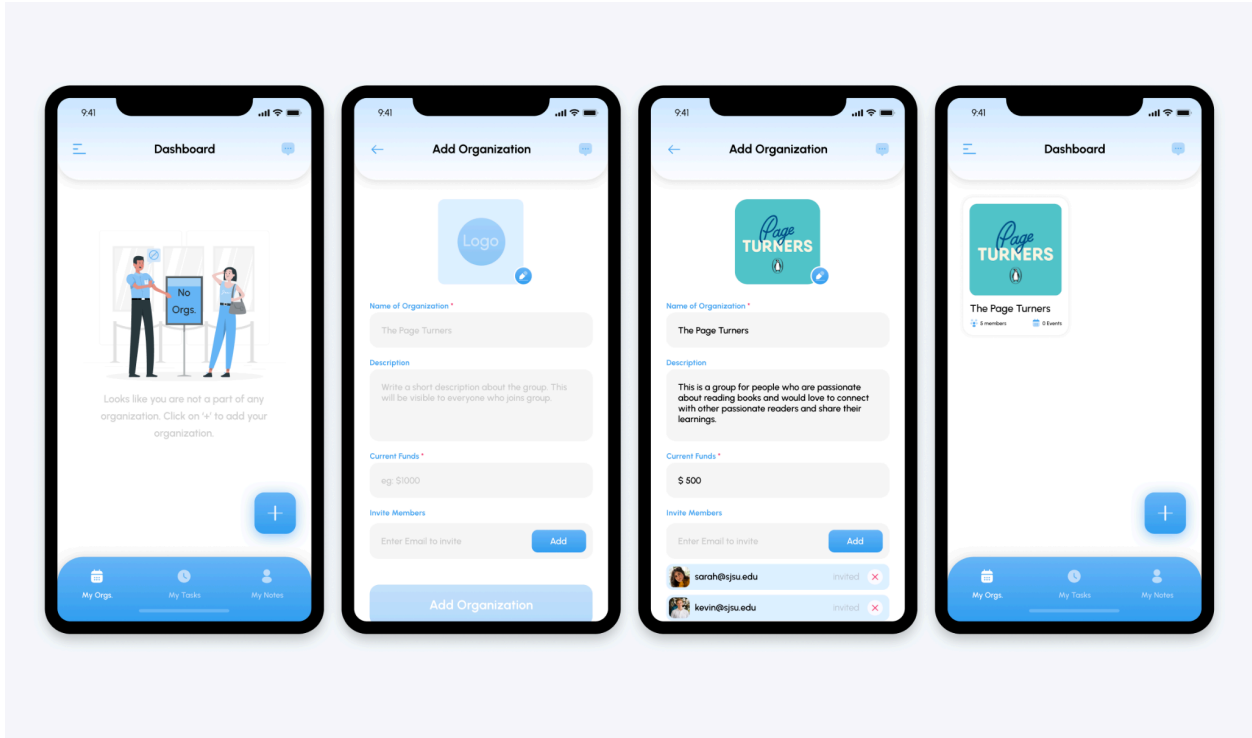


Figure 6:

Screens to add ideas to the brainstorming board of your club

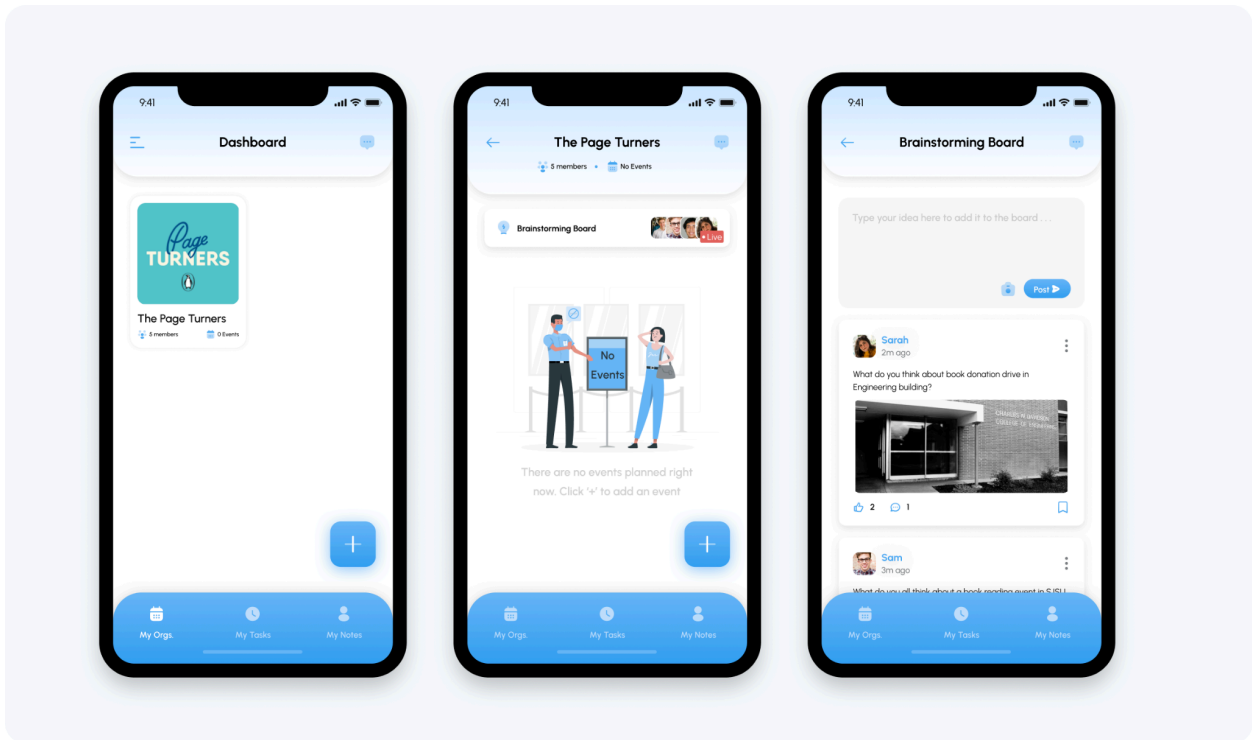


Figure 7:

Screens to create a poll among club officers

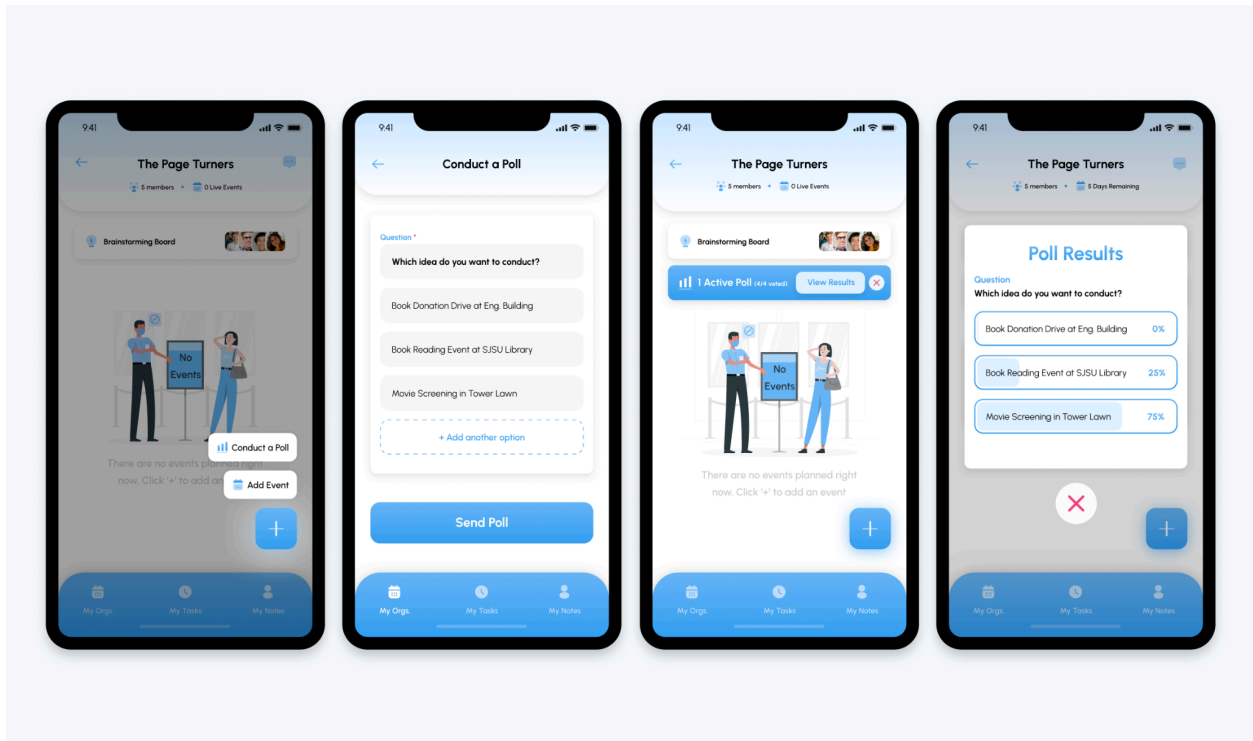


Figure 8:

Screens to create an event

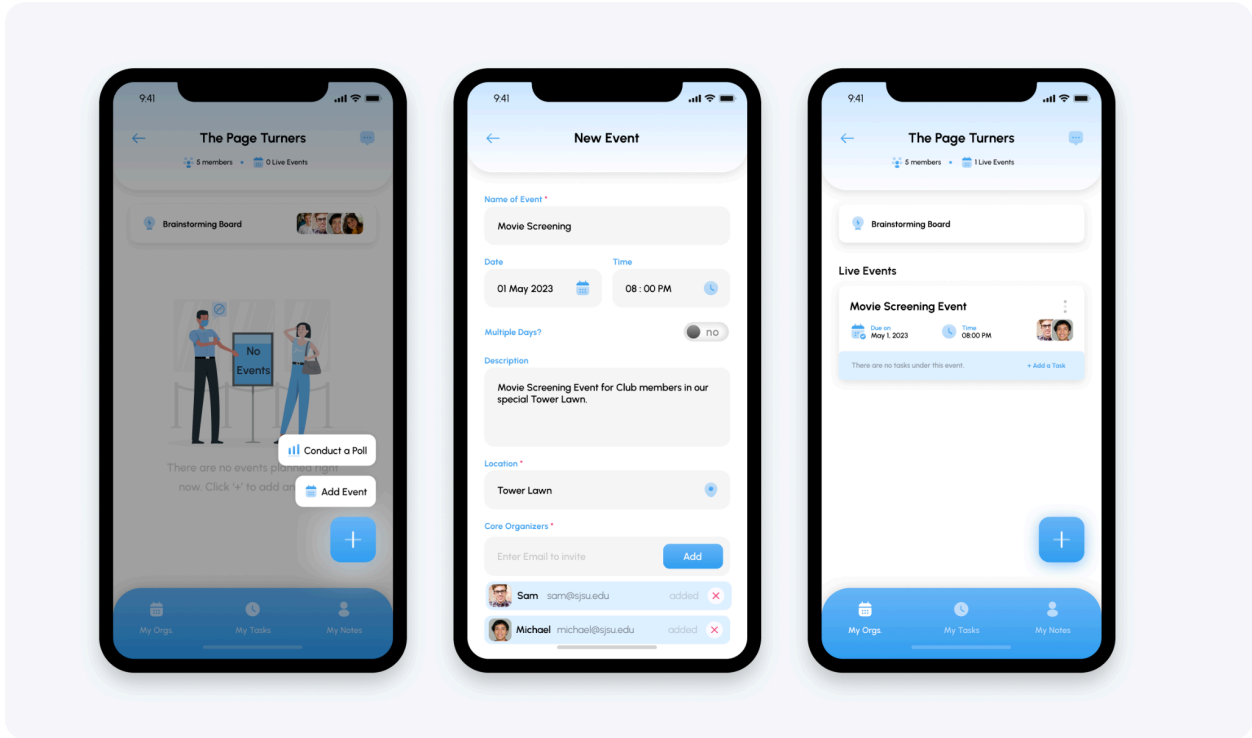


Figure 9:
Screens to add a task and assigning it to an officer

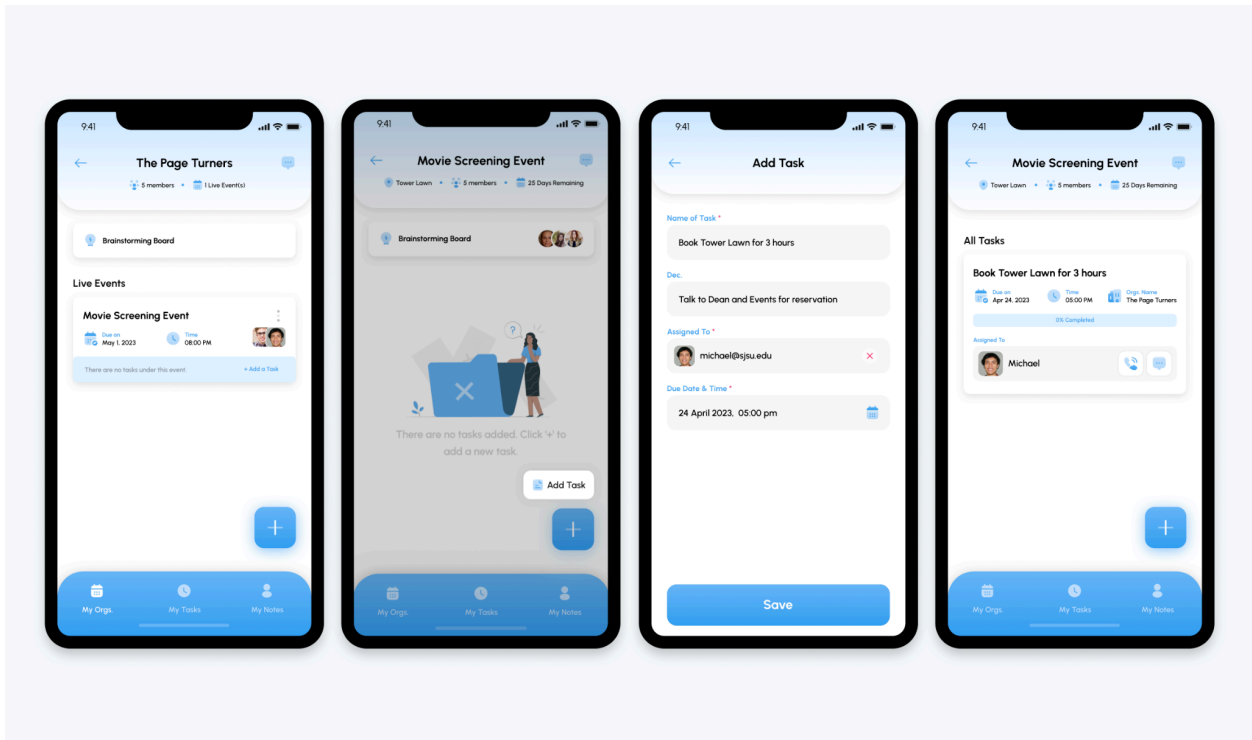
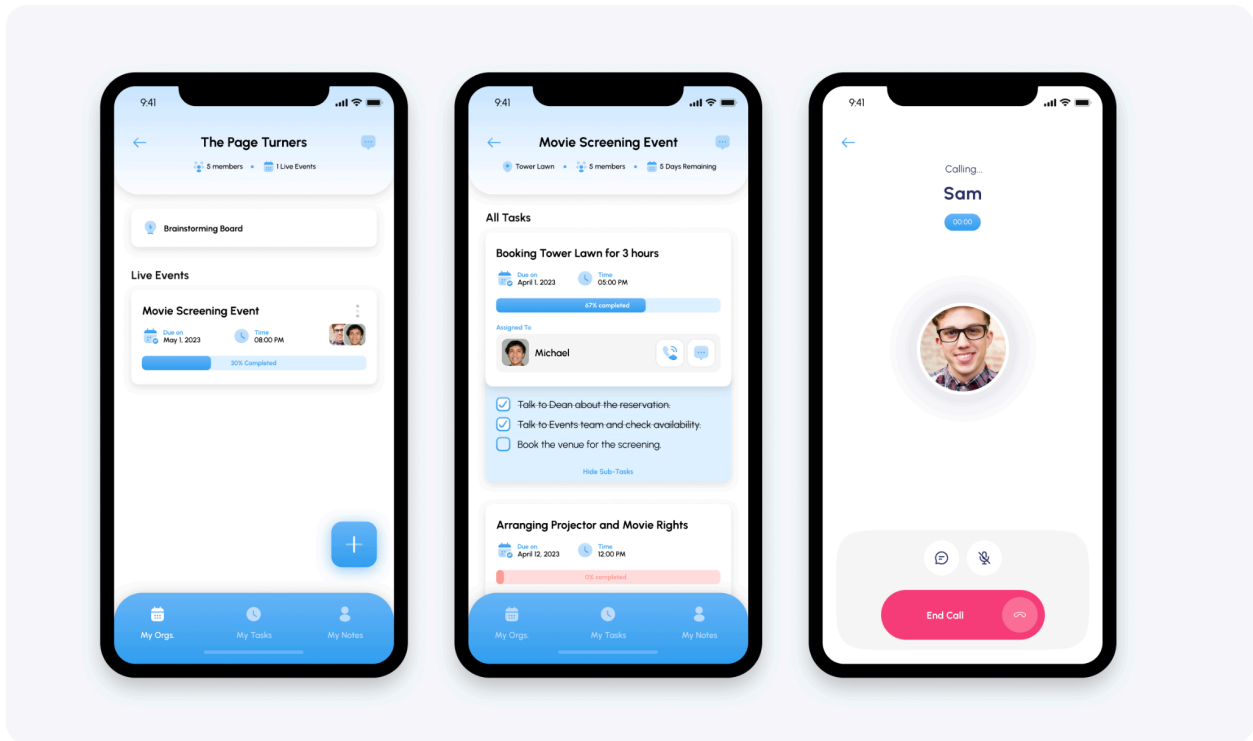
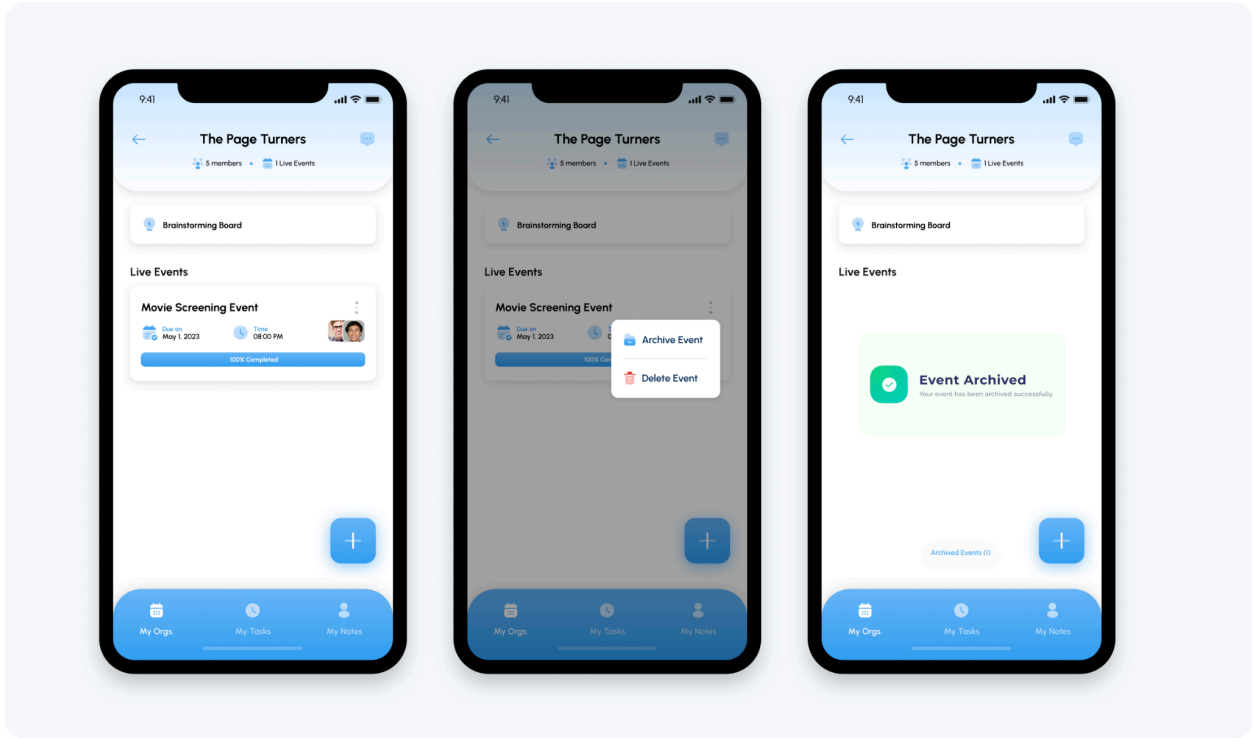


Figure 10:

Screens showing viewing the status of assigned tasks and calling the concerned officer

**Figure 11:**

Screens showing archiving a completed event



Chapter 6

Phase 4: Usability Testing

Usability testing is an essential step in the design process to ensure that the interface meets the user's expectations and requirements. In this study, a formative usability test was conducted on the high-fidelity prototype with 8 student leaders who are currently in a leadership position or have held a leadership position in the past. The main objective was to observe if the interface design was able to solve the desired problem and whether users were able to complete the given tasks without any issues.

The testing sessions lasted for 35-45 minutes and consisted of seven tasks, followed by an exploration of the prototype and subjective rating. While quantitative usability metrics such as success rate and completion time were recorded, my primary focus was on qualitative data such as user behavior and feedback. This helped me identify any issues users faced while performing tasks and provided insights into how to improve the interface.

Constructive feedback was received from most of the participants, which helped to refine the interface design further. The findings from this testing phase have been valuable in shaping the final design of our app.

Method

Participants

The study targeted SJSU club leaders and individuals with past experience in planning and executing student events. Eight participants who met the inclusion criteria were selected to take part in the usability sessions.

Inclusion Criteria

The inclusion criteria for participants stipulated that they must have been 18 years of age or older and have held a student leadership position at some point in their past. Current San Jose State University students in leadership positions in one or more clubs were given priority for recruitment.

Exclusion Criteria

The exclusion criteria for the study were participants who were under 18 years of age and individuals who had minimal experience in planning and organizing student club events.

Recruitment

To ensure the selection of suitable participants, an online screener survey was utilized to gather data on the potential candidates. The screener survey, provided in **Appendix C**, was designed to ensure that only eligible participants were recruited for the study. Individuals who passed the screener survey were then contacted to schedule a video call for the usability testing session.

Materials

The following materials were used for the usability testing sessions:

- **Gmail** - Gmail was utilized as an email service to invite potential participants to complete the screener survey.
- **Google Forms** - Google Forms was used as a tool to design and to distribute the screener survey.
- **Notion** - Notion was used as an app to capture and maintain notes during the usability testing session.
- **Zoom** - Zoom was utilized as an online video conferencing tool to facilitate remote communication with the participants.

- **Macbook Pro 15'** - A MacBook Pro laptop was used to conduct the usability testing sessions over Zoom.
- **Figma** - Figma, a design and prototyping software, was used to create and test the design, and the Figma prototype link was shared with the participants for the test.
- **Microsoft Excel** - Microsoft Excel was used as spreadsheet software to analyze the feedback and data obtained during the testing sessions.

Participant Confidentiality

To ensure the confidentiality for the participants, a San Jose University consent form was provided to the participant, which can be found in **Appendix D**. Additionally, participants were informed verbally before commencing the usability test that their responses would only be used for research purposes, and no personal data would be shared with any third party.

Procedure

The usability testing procedure involved conducting 30-45 minutes remote sessions with 8 participants who met the inclusion criteria. Participants were first provided with the SJSU consent form to sign before the test. The sessions were scheduled at the participant's convenience. Before starting the test, participants were verbally informed about the confidentiality and structure of the test. They were also told to be open and frank about their feedback and that the test's purpose was to judge the prototype and not their skills.

During the test, participants were given a Figma link to access the prototype. The Figma link contained 7 different task flows that the participants needed to complete. Before beginning each task,

participants were given a scenario to help them get into the appropriate state of mind. Usability test plan can be found in **Appendix E**.

After each task, the participant was asked subjective follow-up questions. Objective measures were recorded to quantify how easily the participants could complete the task, while the subjective questions were asked after each task aimed to gain insight into their experience and user feelings during the task.

After all the tasks were completed, participants were asked general feedback questions to understand their overall impression of the prototype. The session was wrapped up with a thank you message for giving their time, and compensation was transferred to their Venmo account immediately. The feedback and the data was collected in the format shown in **Appendix F**. The collected data was later analyzed using Microsoft Excel to gain insights and improve the prototype.

The usability metrics like Satisfaction, Intuitiveness, Effectiveness, Efficiency (ToT), Future Use and Net Promoter Score (NPS) were carefully recorded and analyzed to provide a comprehensive understanding of the participants' experience. These metrics for each task flow encompassed both objective and subjective measures. The objective measures included completion time and success rate on each task, whereas the subjective measures focused on the participants' satisfaction level, perceived difficulty, and overall satisfaction with the task. Additionally, the analysis also considered behavioral measures, such as verbal comments expressing frustration, confusion, or any other relevant feedback provided by the participants during the test. All these metrics helped in drawing insightful conclusions about the usability of the prototype design and identifying areas that required further improvement.

Usability Test Results

During the usability testing, all participants were able to successfully complete each task with a 100% success rate. This is mainly attributed to the prototype being designed focusing on the optimal user flow, along with well-organized navigation tabs. Participants provided ongoing feedback, discussing their experiences and any confusion encountered while interacting with the prototype. This continuous feedback resulted in longer task completion times, rendering completion times an unhelpful metric for evaluation. Overall, the testing was formative in nature and provided valuable insights for improving the user experience.

Table 8:

Table showing summary of all the tasks completed

Task	Task Completion	Avg. Difficulty Level	Avg. Confidence Level
Task 1: Log in to the app, create your organization, and add your officers	100%	4.8	4.7
Task 2: Add an idea to your organization's brainstorming board	100%	4.0	4.5
Task 3: Create a poll in the organization to vote for the best idea	100%	3.6	3.3
Task 4: Create an event for your organization and add two officers to the event team	100%	4.9	4.9
Task 5: Create a task in the event and assign it to one officer	100%	4.4	4.3

Task 6: Check the progress on the task and call the officer who is lagging behind in completing the task	100%	4.8	5.0
Task 7: Archive the completed event	100%	5.0	4.8
Average	100%	4.5	4.5

Discussion

Upon analyzing the results of the usability testing, it is evident that users were able to complete all the tasks with a 100% success rate. This was perhaps because of the limited scope and functionality of the prototyping tool. The average difficulty level ratings for each task varied, with Task 3 being the most difficult (rating of 3.6) and Task 7 being the easiest (rating of 5.0). The average difficulty level rating for all tasks was 4.5, indicating that the tasks, in general, were not too difficult to complete.

It is important to note that the difficulty level ratings are subjective and may differ based on individual user skills and familiarity with the patterns used in the app's interface. However, the results indicate that the app's design is user-friendly and intuitive, with users able to complete tasks with ease.

Future iterations of the app should consider the task difficulty level ratings and aim to balance them to create a more consistent and manageable user experience. This could be achieved through iterative testing and feedback from users, as well as considering best practices in user experience design.

Task 1: Log in to the app, create your organization, and add your officers

The participants were given a scenario where they are the president of a book reading group and are asked to log in to PLANIFY using a pre-filled email and password. They are then instructed to create an organization called 'The Page Turners' and add their officers to it using email addresses. This task assesses the participant's ability to navigate the app's interface and perform essential tasks such as creating an organization and adding members.

Feedback:

User feedback was collected during the usability testing session, which indicated that most participants were able to navigate through onboarding, login, and organization creation screens with ease. However, two participants reported difficulty understanding the use of the '+' button. Additionally, one participant suggested replacing the fade transition effect between screens with a slide animation to reduce confusion. Two participants also reported confusion when adding officers to the organization, as the label on the officers' name was displayed as 'Invited,' which led them to believe that the invitation had already been sent without creating the organization. These findings suggest that certain interface elements may require clarification or redesign to improve user experience.

User-Quotes:

"Didn't understand what '+' was until I clicked there to explore it."

"Empty state image was clear but the text was a bit difficult to read."

"Overall it was a smooth experience. This is exactly how I expect on any application that I install."

Ratings:

Difficulty Level: 4.8 / 5.0

Confidence Level: 4.7 / 5.0

Design Improvements:

Design improvements have been identified based on user feedback and observation during the testing sessions. To enhance the app's usability for first-time users, modifications will be made to the empty state vectors to improve their clarity and visibility. The 'plus' button will also be redesigned to make it more intuitive and less confusing for users. Additionally, based on user confusion during the task of adding officers to an organization, the 'invited' label will be removed from the officers' row in the organization creation page. These changes are expected to improve the overall user experience of the app.

Task 2: Add an idea to your organization's brainstorming board

In this task, the participant is asked to add an idea to their group's brainstorming board. The scenario provided is that the participant is in a meeting with their fellow officers and they want to plan some events. The goal of this task is to test the ease of adding ideas to the brainstorming board and the overall usability of the feature. The task also aims to gather subjective feedback from the participant regarding the experience of using the feature.

During the usability testing, all participants were able to locate the brainstorming board feature within the organization screen. However, 5 out of 8 users provided feedback indicating they expected a whiteboard-like interface where they could manipulate virtual sticky notes. Although not a significant issue for users, the current design of the brainstorming board was perceived more like a social feed. Users appreciated the 'like' and 'comment' features but desired a layout similar to a sticky note board with the ability to pin or attach their Pinterest board. Additionally, two users were confused about the 'Live' sign on the board tile, which gave the impression of an ongoing group conference call. As a result,

the brainstorming board feature will be improved to address the users' feedback and provide a more intuitive and coherent experience.

User-Quotes:

"I was a bit confused because the brainstorming board looks like social media feed."

"Brainstorming board doesn't look like brainstorming board"

Ratings:

Difficulty Level: 4.0 / 5.0

Confidence Level: 4.5 / 5.0

Design Improvements:

After gathering feedback from users, the brainstorming board will be redesigned to resemble a whiteboard with sticky notes that users can add and propose ideas. The new design will include the ability for users to attach images to the sticky notes to make it more user-friendly. To avoid confusion, the "Live" label on the board will be removed, and only the profile pictures of people live on the board will be displayed.

Task 3: Create a poll in the organization to vote for the best idea

This task required the participant to create a voting poll within their organization using the PLANIFY app. The scenario given to the participant is that their team has multiple ideas for an event to host on campus, and they need to create a poll for the team to vote on between the given ideas. The participant is required to use the app to create the poll which will be shared automatically with all the officers, and view the results once the voting is completed. This task aims to test the usability and effectiveness of the app's feature to create polls and its ease of use for the participants.

Feedback:

During the usability test, users encountered confusion while creating a poll. Specifically, 5 out of 8 users faced difficulty in locating the 'Create Poll' feature and mistakenly looked for it inside the brainstorming board. This may have been caused by unclear instructions during the test, which prompted users to assume that the poll feature was located within the brainstorming board. Some users suggested that if the task was more straightforward, such as simply creating a poll, they would have searched for the feature in its original location.

User-Quotes:

"Task description made them expect the voting option to be inside brainstorming board"

" Clicking Plus button shows two options however, the placeholder text just talks about adding the event"

"I felt the task description was confusing a bit"

"I looked for voting inside brainstorming board because of the details explained in the task"

Ratings:

Difficulty Level: 3.6 / 5.0

Confidence Level: 3.3 / 5.0

Design Improvements:

To address the confusion that arose during the usability test, the "Create Poll" feature will remain in its current location. However, the parent button, which currently displays only a plus sign (+), will be changed to "+ Create" to make it more intuitive and easy to find the "Create Poll" feature.

Additionally, one-time help text would also be shown to the new users, that will help them locate the feature in the future.

Task 4: Create an event for your organization and add two officers to the event team

In this task, the participants were asked to imagine that their team had finalized a movie screening event in the tower lawn. They were then instructed to create an event on the app and assign Michael and Sam to the event team. Once completed, the participants were asked follow-up questions regarding the ease of the process and any difficulties they encountered during the task. The data collected from this task provided insight into the app's event creation and team assignment functionalities.

Feedback:

During the usability testing, users were able to locate the "Create Event" option within the same menu as "Create Poll," as they were placed under the same "+" button. 2 users noted the font size in some areas as being too small to read easily.

User-Quotes:

"Font size at some places was small"

Ratings:

Difficulty Level: 4.9 / 5.0

Confidence Level: 4.9 / 5.0

Design Improvements:

The font size will be increased to a minimum of 12 px throughout the designs to improve legibility.

Task 5: Create a task in the event and assign it to one officer

This task required participants to create a task and assign it to a team member. Participants were asked to imagine that they had finalized the details of the event and needed to book the tower lawn for three hours. They were instructed to create a task with the given description and assign it to Michael in the app. The aim of this task was to test the usability of the task creation and assignment feature of the app.

Feedback:

All participants were able to successfully complete the task. However, three users were confused by the presence of an additional brainstorming board within the events page. This not only appeared redundant, but also distracted users from the main task. Two users pointed out that a success message should be displayed after creating and assigning a task to one of the officers. Furthermore, the font size on one of the call-to-action buttons appeared to be too small, making it difficult to read.

User-Quotes:

“For a second looking at the brainstorming board, I was like, am I still in the organization page or did I move to Events page.”

“Text and CTA is not readable.”

“I am not sure if I successfully created the task for the officer. Task just ended there.”

Ratings:**Difficulty Level:** 4.4 / 5.0**Confidence Level:** 4.3 / 5.0**Design Improvements:**

To enhance the user experience, a success toast message will be added after the completion of any action on the app to provide users with immediate feedback on the success of their actions.

Additionally, the minimum font size will be standardized to 12 px across the entire design to ensure that all text is legible. Furthermore, the redundant brainstorming board in the Events page will be removed, as it has caused confusion and distraction for users during task completion.

Task 6: Check the progress on the task and call the officer who is lagging behind in completing the task

The aim of this task was to test the app's ability to display the progress of assigned tasks and the ease of communication between team members. Participants were instructed to imagine they were part of a team organizing a movie screening event, and were asked to use the app to check the status of the tasks they assigned \ to other team members. They were also asked to call the officer who was lagging behind.

Feedback:

This task indicated a low level of difficulty, as no participant showed signs of confusion during the task. However, one user noted that the icons used for global and personal chat created confusion for them. Another user provided feedback regarding the need for a breadcrumb-like feature, which would allow users to understand their location within the app's navigation hierarchy at all times.

User-Quotes:

"If there was a way to know how deep you are going inside the UI"

"Global chat and personal chat icons are same that created confusion"

Ratings:

Difficulty Level: 4.8 / 5.0

Confidence Level: 5.0 / 5.0

Design Improvements:

To avoid confusion between global and personal chats, the icons will be modified to make them more distinguishable.

Task 7: Archive the completed event

This task aimed to test the usability of archiving an event feature in the app. The participant was asked to archive a completed event in the app. The goal of this task was to evaluate how easily the participant could locate and use the feature to archive the completed event.

Feedback:

During the usability test, users successfully located the 'Archive' feature in the Kebab (three dot) menu as expected. However, two users expressed that the three dot menu was not prominent enough. One user provided feedback to improve the placement of archived events, while another suggested implementing an auto-archive feature that would automatically archive an event once it has ended. These suggestions can be considered for future improvements to enhance the user experience of the app.

User-Quotes:

“Events should auto-archive, isn't it?”

“Can you move the archived events link next to the title? That's where I expected it to be”

Ratings:

Difficulty Level: 5.0 / 5.0

Confidence Level: 4.8 / 5.0

Design Improvements:

As part of the design enhancement, the visibility of the three-dot menu icon will be improved to ensure a better user experience.

Free Play: Explore all the screens

The Free Play session allowed participants to freely explore all screens of the application, after completing the assigned tasks. Participants were given a 3-5 minute time frame to navigate through the entire design and provide feedback on their overall experience. Participants pointed out missing features, identified issues, and offered suggestions for useful new features. Subsequently, a set of five rating scale questions were presented to gauge their satisfaction levels and the intuitiveness of the application.

Major issues:

Major findings during the free play session included inconsistencies in the use of terminology, such as the word 'group' instead of 'organization' in some instances. Additionally, users suggested using

the term 'create a poll' instead of 'conduct a poll'. Consistency in terminology was the only major issue found during the free play session.

Feature Requests:

In terms of feature requests, several users provided valuable feedback by suggesting new features for future iterations of the prototype. Some of the suggested features are listed below:

- **Pinning important groups and events:** Users can mark important groups and events for quick access.
- **Sending polls to specific people:** Users can send polls to specific members of the organization.
- **Expense Management:** Users can manage expenses related to the organization and its events.
- **Complexity and priority for the tasks and sub tasks:** Users can prioritize tasks and subtasks based on complexity and priority level.
- **Auto-Archive events:** Events are automatically archived once they are over.
- **App extension to the club members:** Club members can stay up to date on upcoming events through the app extension.
- **Adding sorting and filtering features:** Users can sort and filter ideas on the brainstorming board.
- **Color coded brainstorming board:** Users can visually organize ideas on the brainstorming board with different colors.
- **Commenting with images:** Users can reply to ideas on the brainstorming board with images.

- **Group video and audio calling:** Users can conduct remote meetings through group video and audio calling.
- **Officer role management:** Users can manage officer roles within the organization.

Scale Questions:

The participants were asked to rate different aspects of the application using a five-point scale, where 1 represented the lowest rating and 5 represented the highest. The ratings and questions asked were as follows:

Table 9:

Table showing average user rating on scale questions

Question	Average User Rating
How satisfied were you with the functionalities covered in the app?	4.4 / 5
How intuitive did you find this app?	4.5 / 5
How well does this app facilitate brainstorming?	3.9 / 5
How likely are you to use this app in the future?	4.5 / 5
How likely are you to recommend this app?	4.9 / 5

Chapter 7

Final Design

During the usability tests, users were observed, and their actions and thoughts were carefully noted. Their feedback on the tasks was also taken into consideration. As a result, several usability and design issues were identified. To address these issues and improve the overall design, several changes were made to the prototype. These changes were based on a combination of user feedback and best practices in UX design. The following sections details the improvements made to the prototype in response to the feedback received during the usability tests.

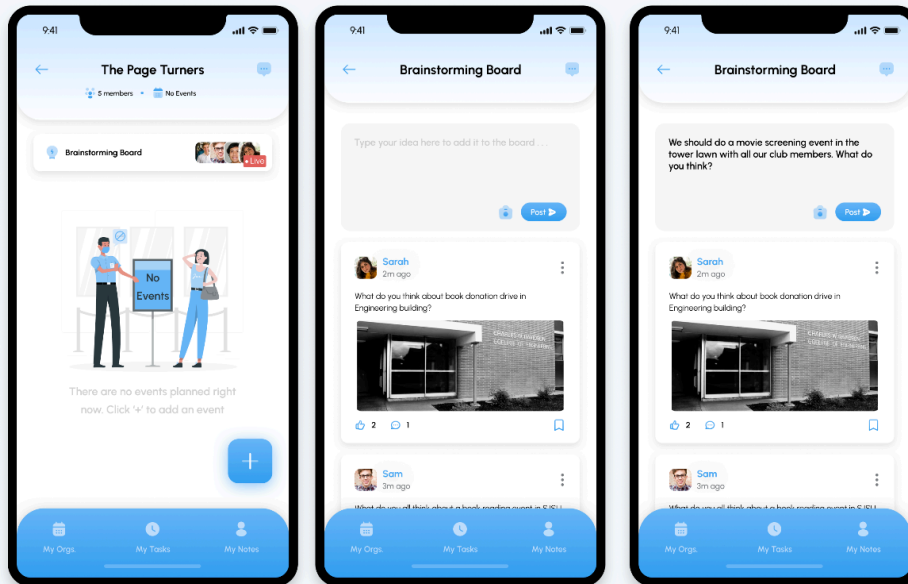
Major Improvement 1: Redesigned Brainstorming Board and Enhanced Tile Design

During the usability tests, it was discovered that 5 out of 8 users found the brainstorming board to be confusing, as it resembled a social feed page. As a result, a comprehensive redesign was undertaken to make the board more intuitive, user-friendly, and engaging. In the new design, users can create multiple boards, add sticky notes, write text, draw, add images, and attach their Pinterest boards. While the new design has improved usability, additional testing will be required to ensure optimal functionality and experience. This redesign will also incorporate a requested feature of color coding the ideas on the board. Users can use different via colored sticky notes. Furthermore, to reduce confusion, the brainstorming board has been removed from the events screen, and each group will now have a single brainstorming board.

Figure 12:

Image showing before and after changing the brainstorming board design

Before



After

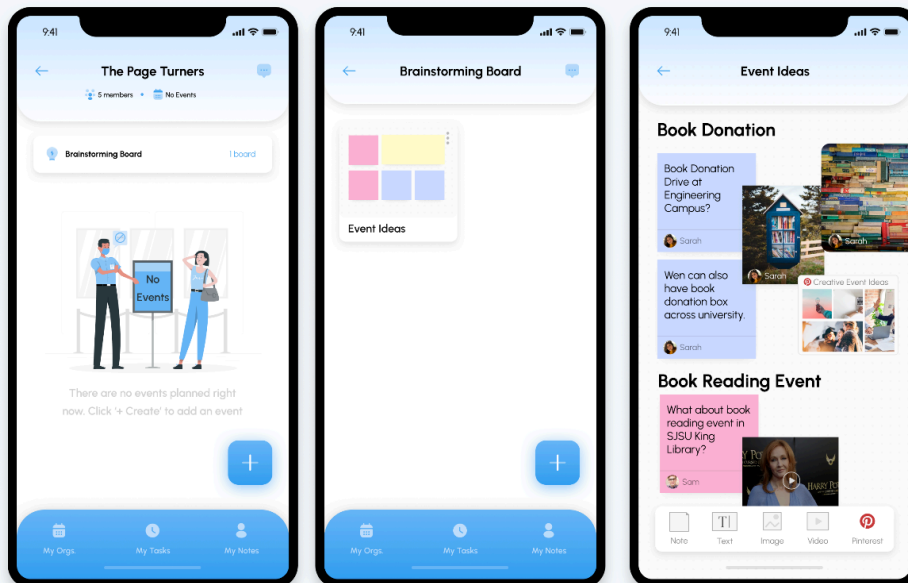
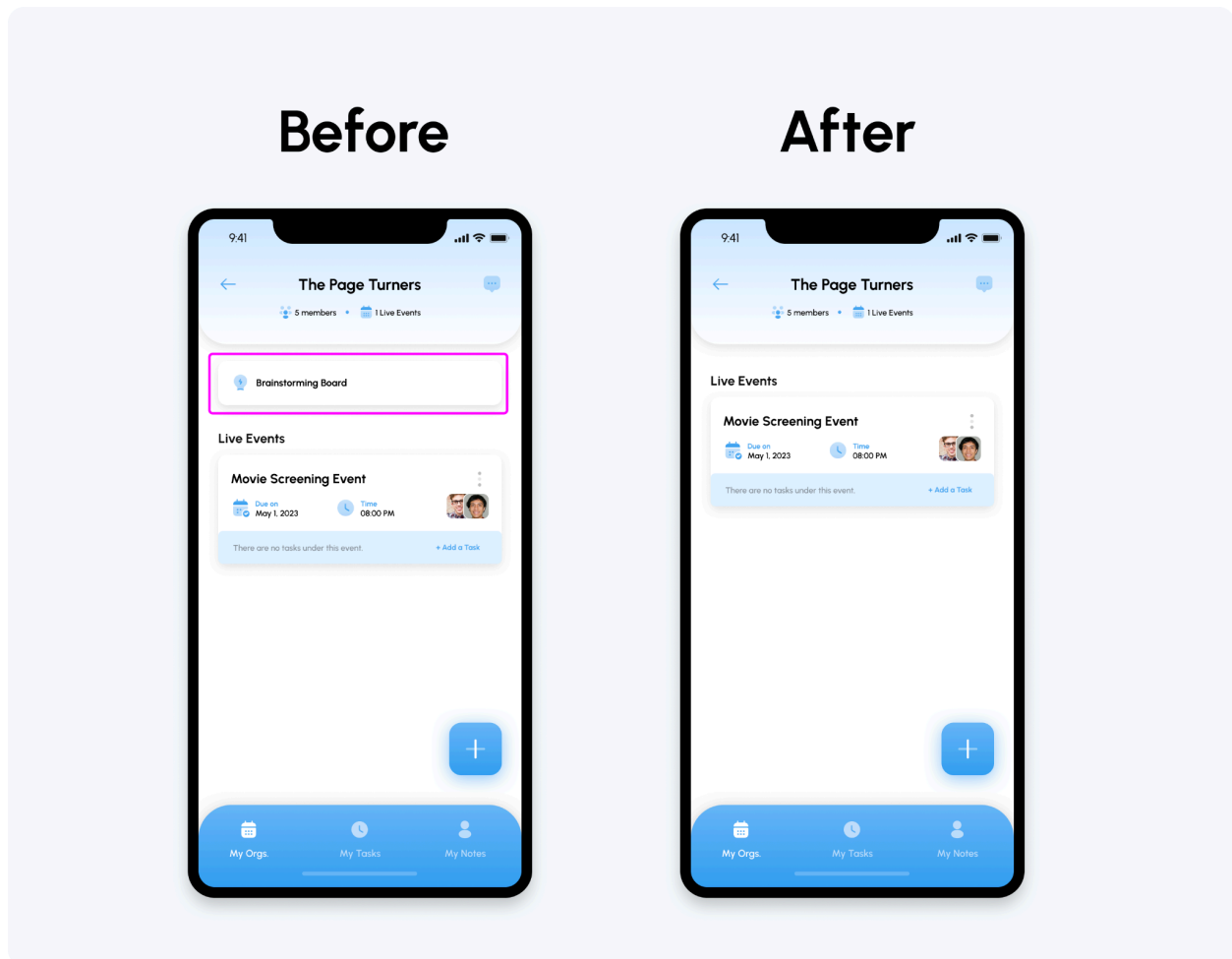


Figure 13:

Before and after removing redundant brainstorming board from events



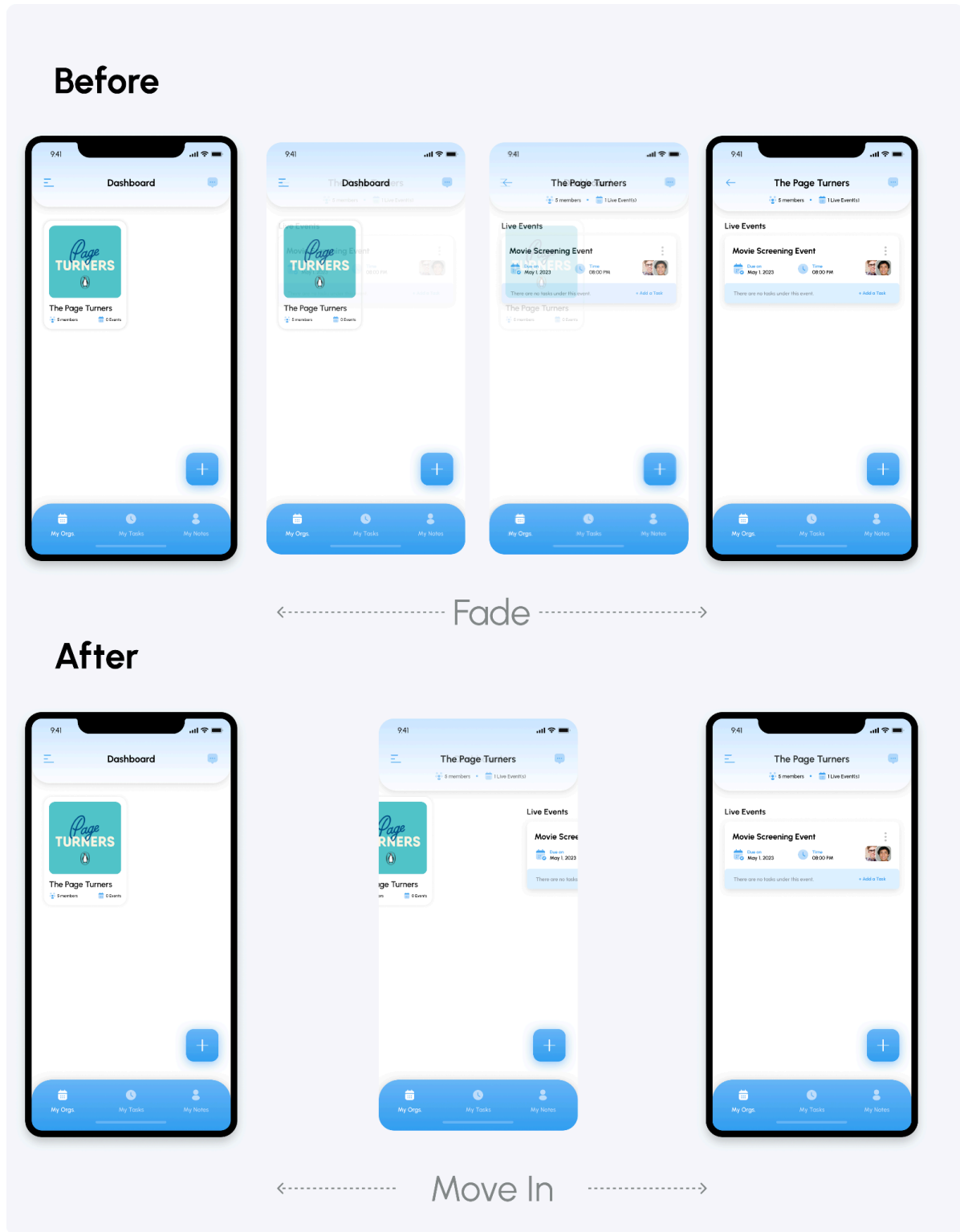
Major Improvement 2: Improved transition animations for better user understanding

In the previous design, users found it difficult to understand when they were moving from one level to another, as the fade animation did not provide a strong enough visual cue. To address this, a new 'move-in' animation has been added to the improved prototype. This animation not only enhances the visual appeal of the design but also helps users in understanding that they are moving deeper into the design levels. Similarly, a 'move-out' transition has been added to help users understand when they are

moving out of the design levels. These improvements will provide a better user experience for navigating through the prototype.

Figure 14:

Before and after changing screen transition effect



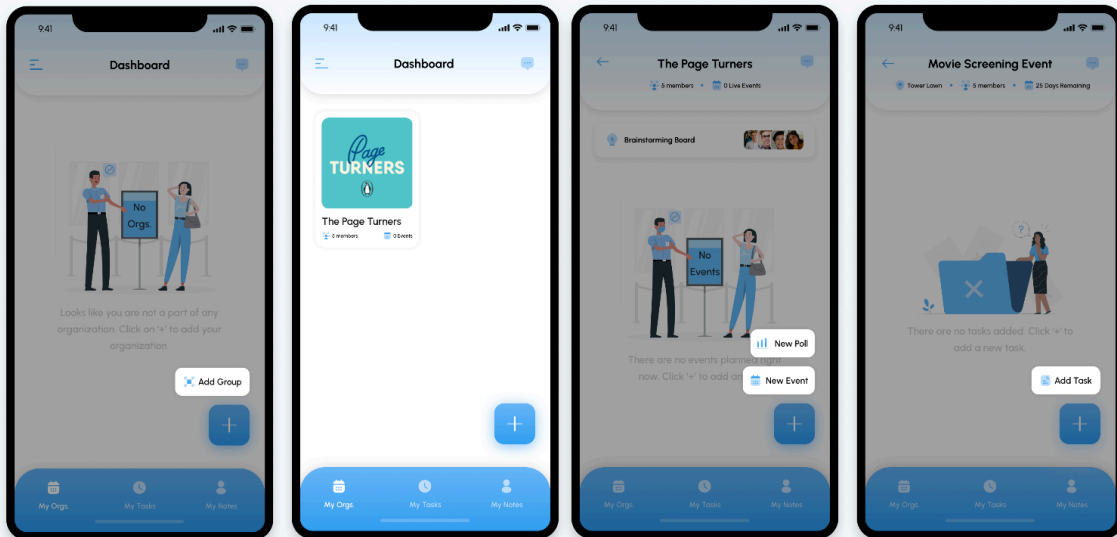
Major Improvement 3: Redesigned '+' button and added introductory text

During usability testing, several users found the '+' button confusing and were unaware that it was used for creating new items. While some users eventually learned how to use the button, it was decided to redesign the button as 'Create' and add a one-time introductory text to assist first-time users in understanding its function. Moreover, all new actions were made consistent throughout the entire application design.

Figure 15:

Before and after making '+' button and sub-items consistent.

Before



After

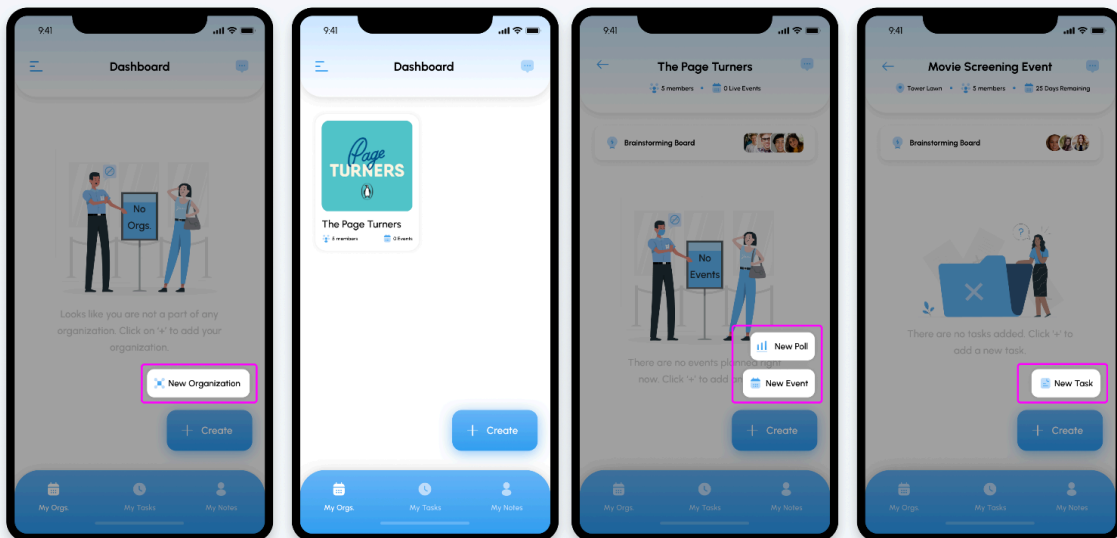
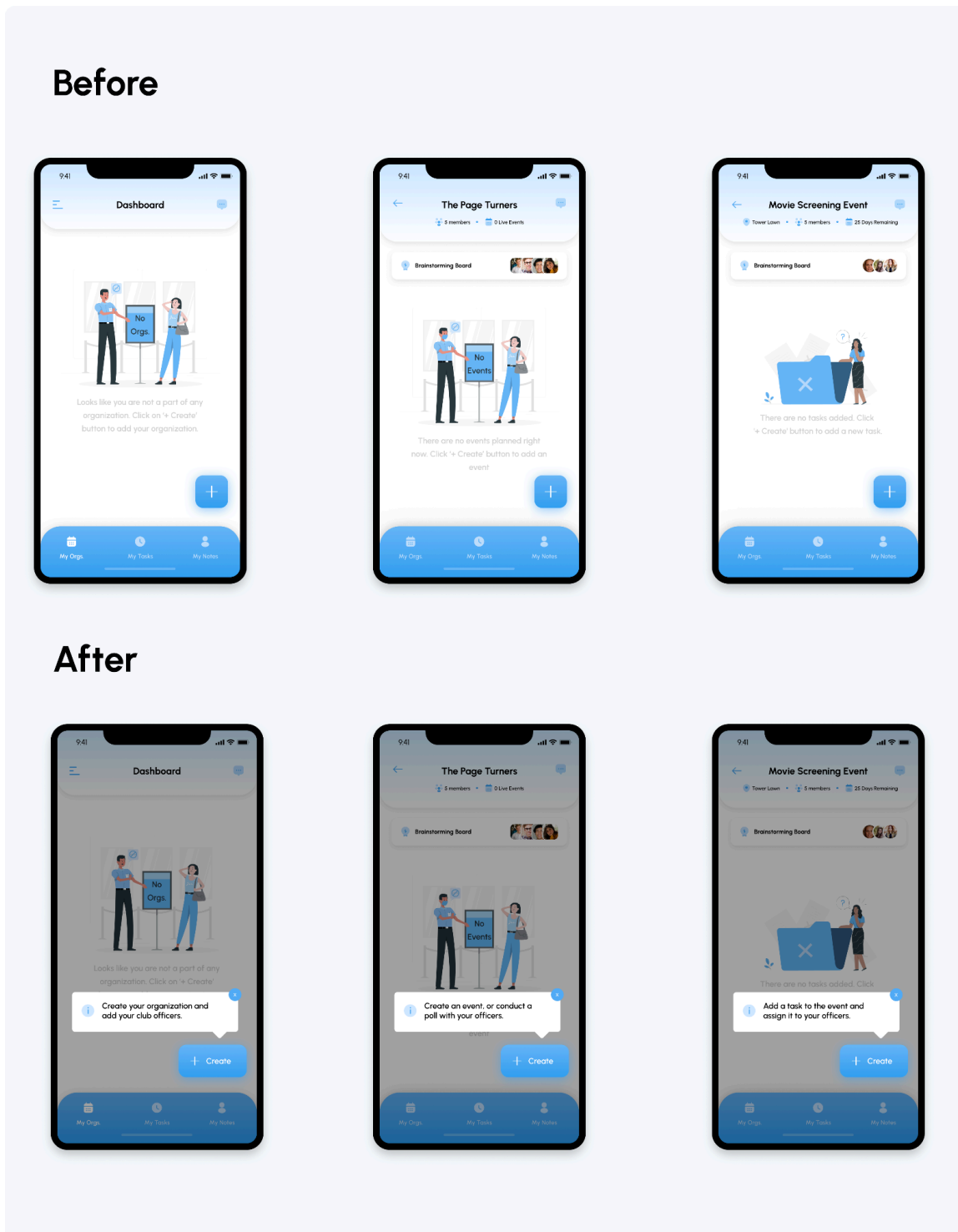


Figure 16:

Before and after adding a one-time introduction help-text for the 'Create' button.



Minor Improvement 1: Improved iconography, font size and empty-state vectors and their descriptions.

Two minor improvements were made to the design. The first one focused on enhancing the iconography, font size, and empty-state vectors to improve the user experience. A few users experienced confusion with the direct chat icon and global chat box icon. Additionally, the three-dot menu icon on the events tile was made more visible. Some of the text sizes were also increased to improve readability. The second improvement was the addition of a success toast message that appears after completion of every action such as creating a group, event, or task. This improvement was made in response to feedback from several users who experienced minor confusion about whether their actions were successfully completed or not.

Figure 17:

Before and after improving font size

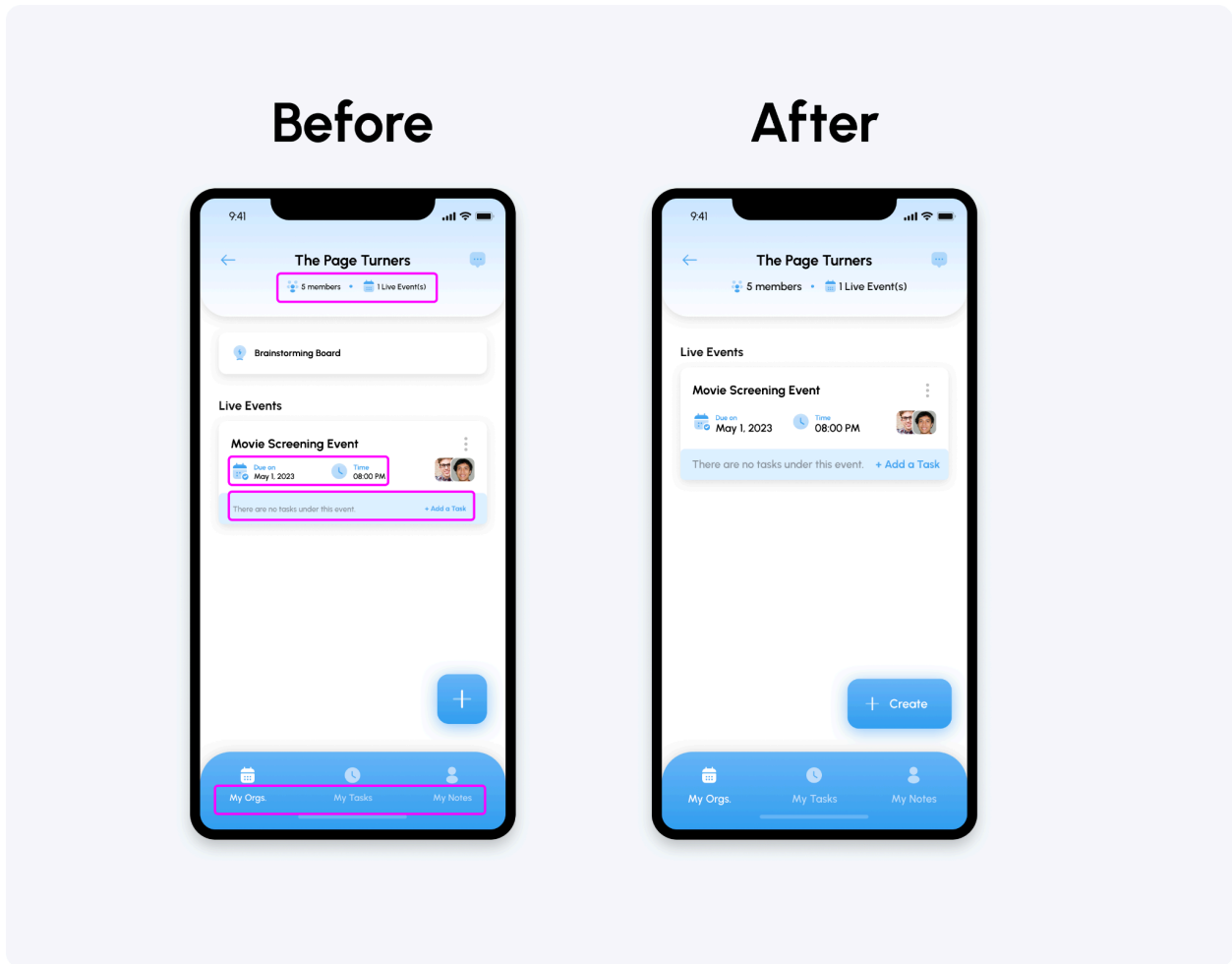


Figure 18:

Before and after adding a toast message after every success action

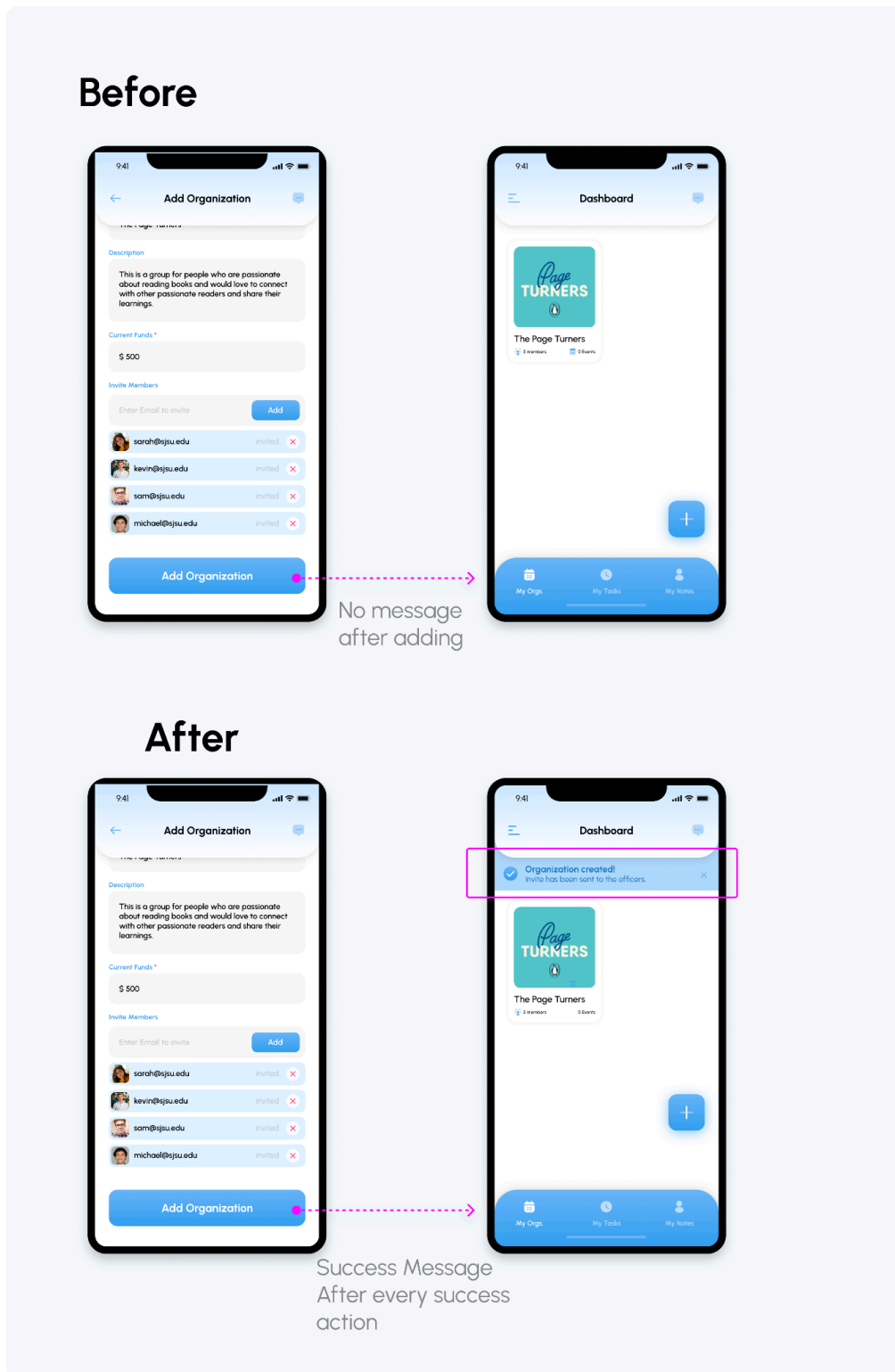


Figure 19:

Before and after improving iconography

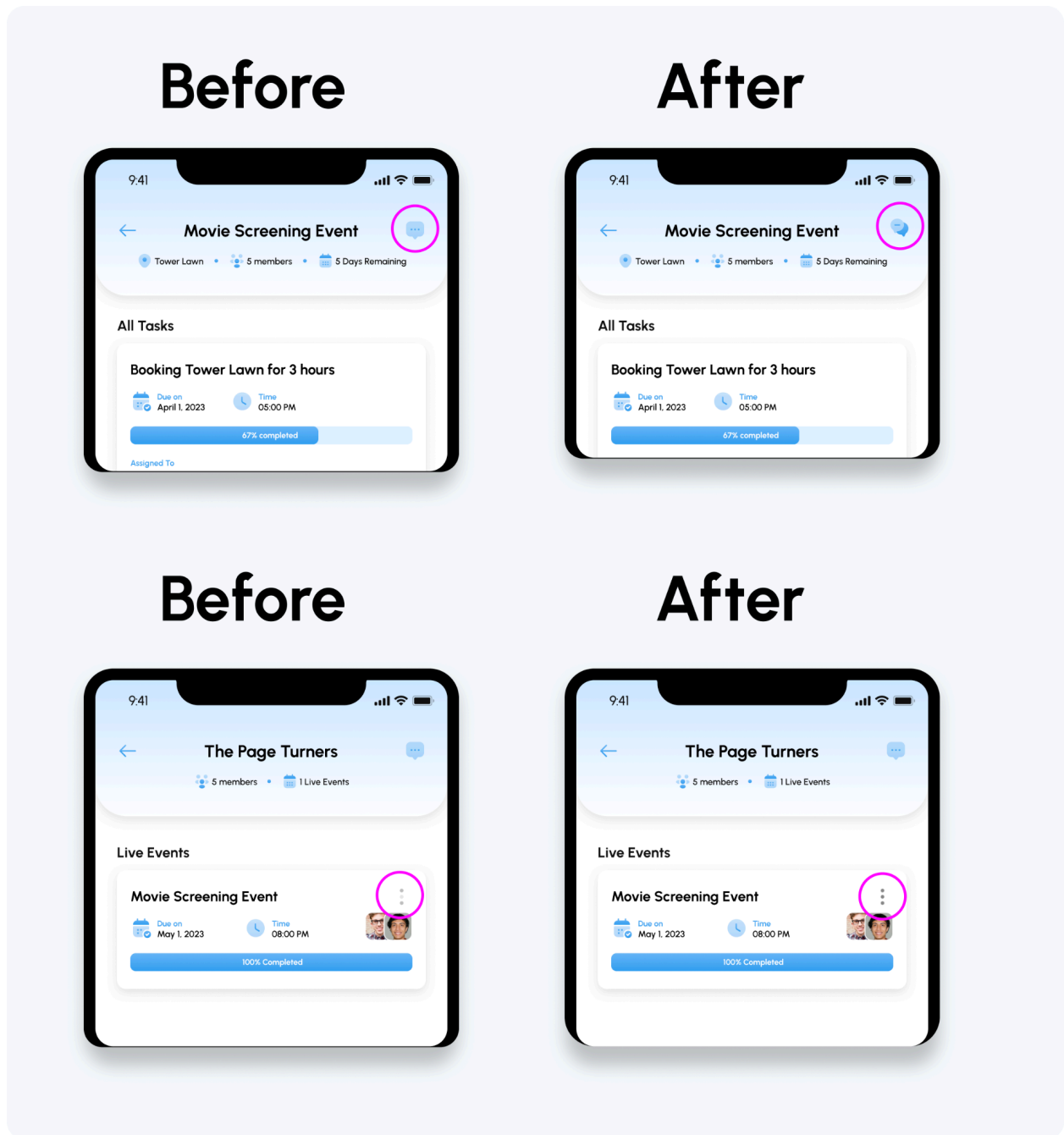
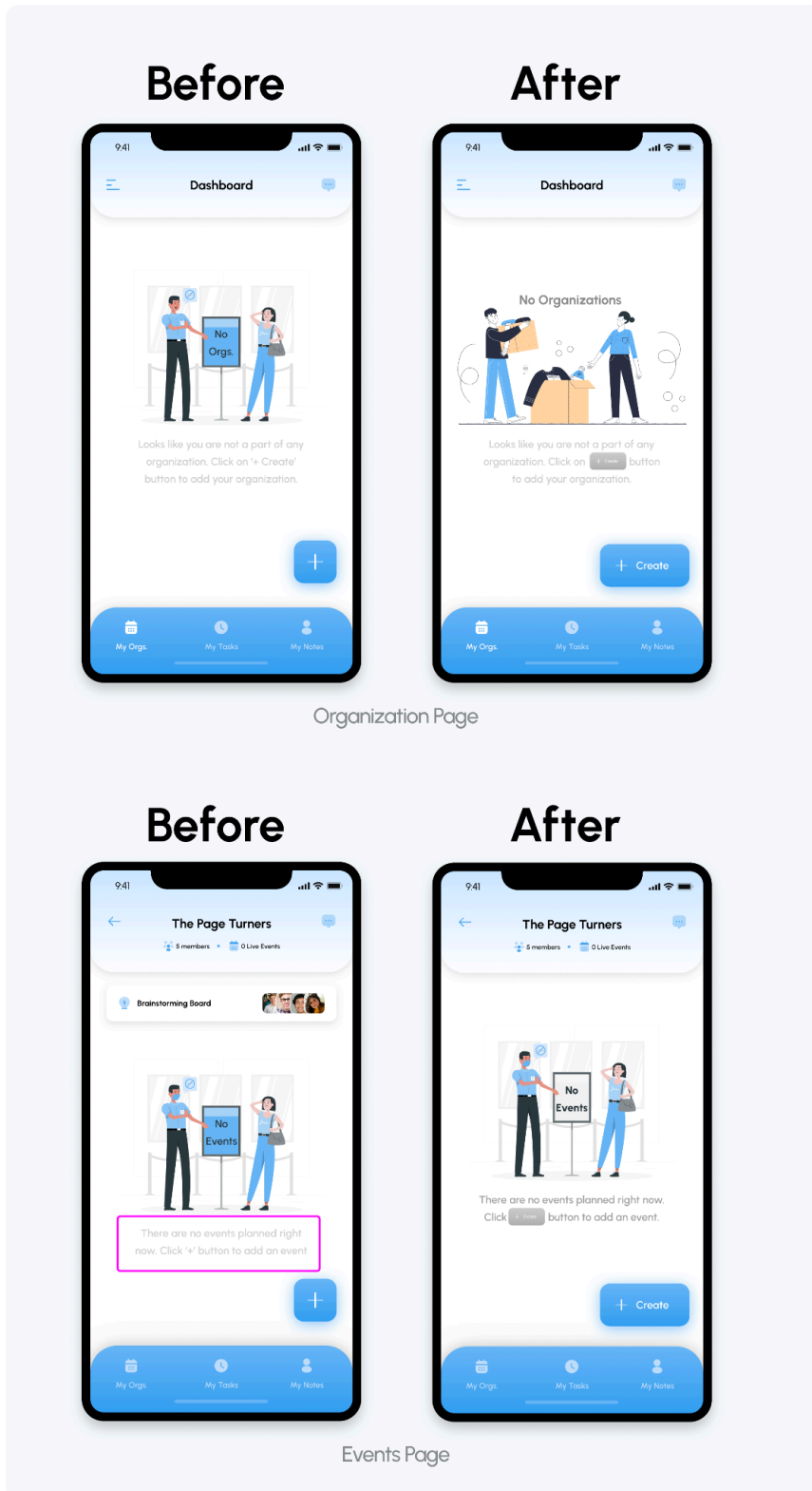


Figure 20:

Before and after improving vectors and placeholder text



Chapter 8

Discussion

Limitations

A major limitation of this study was that the time constraints did not allow multiple rounds of testing and iterations. While the single round of usability testing provided valuable insights, it is important to note that iteration is a crucial part of a user-centric design process. Incorporating the findings from each round of testing and continuously testing the usability of designs ensures that user goals are consistently met. Therefore, it would have been ideal to conduct additional rounds of usability tests to improve the design further.

Furthermore, while the usability tests were conducted on a high-fidelity prototype, the software limitations prevented the prototype from behaving like a real application. This resulted in some confusion among users when providing feedback, such as the keyboard not appearing after tapping the text field. Therefore, it would be highly beneficial for future research to create a higher-level prototype with all the interactions using prototyping tools such as Protopie or Axure RP to simulate a more realistic user experience.

One of the most significant findings in this study was the structure of the brainstorming board. Most of the users confused the brainstorming board with a general social media feed page. The board was entirely redesigned with new features such as sticky notes, images, videos, and Pinterest boards. While these features were based on ideas suggested by participants, the significant change to the board structure requires extensive retesting of each feature to ensure that they meet user needs and are easy to use.

In conclusion, while this study has provided valuable insights into the design of the proposed app, more iterations of usability testing are needed to further refine the design and ensure that it meets all user needs. By incorporating the findings from additional rounds of testing and creating a more realistic high-level prototype, the app can be developed to a point where it can be launched in the market with confidence that it meets the needs of users.

Conclusion

In conclusion, this project has followed the complete UCD lifecycle to identify user pain points and provide design solutions to address them. The user interviews conducted at the beginning of the project provided valuable insights into the needs and frustrations of student club leaders, which informed the development of a clear problem statement, user persona, and design requirements. Through formative usability testing of the proposed app design, several high-level issues were identified, which were addressed in subsequent iterations. However, as the design is an iterative process, further rounds of testing and refinement will be necessary to ensure that the final design truly meets the needs of users and delivers an optimal user experience. By continuing to prioritize user feedback and conducting additional usability testing, the design can be refined and improved to better serve the needs of student club leaders.

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Appendix

Appendix A - Recruitment Screener for Interviews

1. Name of your club/organization:

a. <text input> Accept

2. What is your leadership position:

a. <text Input> Accept

3. Are you a current SJSU Student:

a. Yes Accept

b. No Reject

4. Did your organization conduct an event (online or in person) in last 2 years?

a. Yes Accept

b. No Reject

c. Not Sure Reject

5. Did your organization help recruit volunteers to help with the event?

a. Yes Accept

b. No Accept

c. Not Sure Accept

Appendix B – Test Plan for User Interview

Script

Hello, thank you for joining this call / coming for the meeting. I am really grateful for your help. My name is Piyush and I am currently pursuing my Masters in Human Factors.

Thank you again for joining. Let me quickly give you a brief of the session. Today, I'll be asking you few questions to understand how you manage the club and how you divide work when it comes to organizing events. There are no right or wrong answers. This session is not about judging you, your club, or any of your activities. This session is just to understand how amazing leaders like you manage such big clubs and conduct events. Whatever you will share will be ****confidential**** and would be used only by me.

Test Plan

Consent to Record the Session

1. Just so I do not miss out any critical information that you might share, will it be okay if I record this session?

Background Questions

1. Can you tell me a little bit about yourself? (Like your Education, Work Experience, Club Managing Experience)

Main Questions

1. What does your organization do?
2. Do you conduct events? if yes, then what type of events.
3. What's your process of conducting these events?
4. How do you brainstorm for the events?

5. How do you plan for your events?
6. Do you recruit volunteers?
 - a. What is your process of recruiting?
 - b. How do you divide duties between volunteers?
7. Do you face any problems while you are planning for the events?
8. Do you use any software?
9. How do you execute your plans?
10. Can you tell me the steps you go through to execute your plans?
11. What are the problems that you face during the execution?
12. Do you use any tools to manage events?
13. Once your event is over, what do you do?
14. How do you keep your team together? How do they reward volunteers.

Open-Ended Questions

1. As a club coordinator, what are the most common problems do you face?
2. Ask if they can give any artifacts / documents/ Screenshots etc. they use to manage all this.
3. Can you recommend someone else you know from different club or organization who would be a right fir for the interview?

Appendix C - Screener for Usability Tests

Introduction:

Thank you for showing interest in this usability study.

The objective of this questionnaire is to determine if you are eligible to participate in this study or not. This questionnaire will take less than 5 minutes to complete. Thank you for your time and participation.

Background:

Hi! I am Piyush Modi. I am a graduate student pursuing MS in Human Factors/Ergonomics at San Jose State University. I conducted interviews with some amazing club leaders like yourself last month and tried to understand some pain points that you face while planning and organizing events within your club/group.

Keeping those pain points in mind, I have designed an application that can potentially help you plan, tracking, organizing, and executing events better.

The findings of this study will be summarized and presented as a technical report at the end of the capstone project. If you have any questions about the study, feel free to email me at:

piyush.modi@sjsu.edu.

Questionnaire:

1. How old are you?
 - a. < 18 years Reject
 - b. 18 - 23 years Accept
 - c. 24-28 years Accept
 - d. 28+ years Accept
2. Which club(s) are you a part of?

a. <Text Input> Accept

3. How many events does your club organize in 1 year?

a. Less than 2 Reject

b. 2-4 Accept

c. 5-7 Accept

d. 8-10 Accept

e. 10+ Accept

4. How many events have you participated as a core planning member?

a. Less than 2 Reject

b. 2-3 Accept

c. 4-5 Accept

d. 6-7 Accept

e. 7+ Accept

5. How many events have you lead?

a. Less than 2 Accept

b. 2-3 Accept

c. 4-5 Accept

d. 6-7 Accept

e. 7+ Accept

Appendix D – Consent Form



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REQUEST FOR YOUR PARTICIPATION IN RESEARCH

TITLE OF THE STUDY

A mobile app designed to improve and help with brainstorming, planning, and execute SJSU events.

NAME OF THE RESEARCHER

Student: Piyush Modi, San José State University Graduate Student
Faculty Supervisor: Daniel Rosenberg, San Jose State University

PURPOSE

The purpose of this study is to test the usability of an event management application. During this study, the participant will evaluate the usability of a digital prototype of a mobile application designed to help participants brainstorm, plan and execute the events better for their clubs and organizations.

PROCEDURES

The research will be carried out either virtually through Zoom or in-person at the ISE Usability lab, located in the engineering building on the SJSU campus. Participants will receive a link to the prototype and will be requested to engage with it. They will be assigned specific tasks and asked to provide feedback on features and functionalities. If the session is conducted online via Zoom, participants will be required to share their screen and interact with the prototype through a link. The session is expected to last for 60 minutes, and audio, video, and screen recordings will be captured for analytical purposes.

POTENTIAL RISKS

There are no risks to participants in this study.

POTENTIAL BENEFITS

By participating in this study, participants will make a valuable contribution to research that aims to enhance the skills of club leaders like themselves in the areas of ideation, planning, and execution of events. The proposed application is intended to serve as a tool to facilitate the entire process of event planning and implementation. Successful implementation of the design is expected to lead to a reduction in the overall time required for the planning and execution of events, as well as to expedite the ideation phase of event planning.

COMPENSATION

Participants will get \$5 Venmo for participating in this study.

CONFIDENTIALITY

We will keep all information collected in this study private and use it only for analysis. We won't reveal anyone's personal information at any time. Once



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the study is finished, we will delete all participant data, and no names will be linked to any responses. Any audio or video recordings will be used only for analysis and deleted afterward.

PARTICIPANT RIGHTS

Your participation in this study is completely voluntary. You can refuse to participate in the entire study or any part of the study without any negative effect on your relations with San Jose State University or with the student investigator. You also have the right to skip any question you do not wish to answer. This consent form is not a contract. It is a written explanation of what will happen during the study if you decide to participate. You will not waive any rights if you choose not to participate, and there is no penalty for stopping your participation in the study.

QUESTIONS OR PROBLEMS

You are encouraged to ask questions at any time during this study.

- For further information about the study, please contact Piyush Modi at (669) 388 1079 or via email at piyush.modi@sjsu.edu.
- Complaints about the research may be presented to Dr. Anil Kumar at (408) 924 7850 or via email at anil.kumar@sjsu.edu.
- For questions about participants' rights or if you feel you have been harmed in any way by your participation in this study, please contact Dr. Richard MocarSKI, Associate Vice President for Research, San Jose State University, at (408)924-2479 or irb@sjsu.edu.

SIGNATURES

Your signature indicates that you voluntarily agree to be a part of the study, that the details of the study have been explained to you, that you have been given time to read this document, and that your questions have been answered. You will receive a copy of this consent form for your records.

Participant Signature

Participant's Name (printed)

Participant's Signature

Date

Researcher Statement

I certify that the participant has been given adequate time to learn about the study and ask questions. It is my opinion that the participant understands his/her rights and the purpose, risks, benefits, and procedures of the research and has voluntarily agreed to participate.

Signature of Person Obtaining Informed consent

Date

Appendix E - Test Plan for Usability Test

Script

Hello, and a warm welcome to you. My name is Piyush, and I'm thrilled to have you here with me today. I'm a master's student at San Jose State University, and for my culminating project, I've designed an app to help SJSU Club leaders to brainstorm, plan, and execute events on campus.

Today, I'll be conducting a usability test on the app, and I'm excited to hear your feedback on its functionality and design. During the session, I'll be recording your audio/video and interactions with the prototype. This recording is solely for research purposes, and I'll ensure that it remains confidential, secure, and inaccessible to anyone other than myself and my faculty advisor. It will be deleted after the analysis. The data you will enter into the app will be provided by me. You will not enter your own personal information.

Please note that your participation in this session is completely voluntary, and you are free to stop the recording or the session itself at any time if you feel uncomfortable. I value your input and feedback, and I encourage you to share your thoughts openly and honestly. Before we begin, if you have any questions or concerns, please don't hesitate to ask, and I'll be more than happy to address them.

Once again, thank you for your time, and I'm looking forward to an informative and fruitful session.

Test Plan

Task 1: Login, create an organization and add your officers

Moderator: Let's imagine you are the president of a book reading group called "The Page Turners."

<p>You got to know that there is an app that can help you plan events better with your officers. Please go ahead, use the app PLANIFY. Login with email: john@sjsu.edu and password: test123. Create an organization 'The Page Turners' and add your officers to the organization. Email for officers are: michael@sjsu.edu, sam@sjsu.edu, kevin@sjsu.edu, and sarah@sjsu.edu.</p>	
<p>Task: Creating an organization and adding other officers to the group.</p>	<p>Did the user complete the task? Yes, With assistance, No</p> <p>Performance: Completed in _____ seconds</p> <p>Behavioral Observation: Confused, Needed help,</p> <p>User Suggestion:</p> <p>Other Responses:</p>
<p>Q. Did you find anything confusing during the task?</p>	
<p>Q. Do you have any suggestions to improve this flow?</p>	
<p>Q. Rate on a scale of 1-5:</p> <p>How easy or difficult was this task for you? 1 being difficult 5 being easiest</p> <p>How confident were you about completing the task? 1 being least confident 5 being extremely confident</p>	<p>— Why did you give this rating?</p> <p>— Why did you give this rating?</p>

Task 2: Add ideas in brainstorming board for your organization

<p>Moderator: Imagine you are in a meeting with your other officers and want to plan for some events. Go ahead and add few ideas to your group's brainstorming board.</p>	
<p>Task: Adding ideas in brainstorming board</p>	<p>Did the user complete the task? Yes, With assistance, No</p> <p>Performance: Completed in _____ seconds</p> <p>Behavioral Observation: Confused, Needed help,</p> <p>User Suggestion:</p> <p>Other Responses:</p>
<p>Q. Did you find anything confusing during the task?</p>	
<p>Q. Do you have any suggestions to improve this flow?</p>	
<p>Q. Rate on a scale of 1-5:</p> <p>How easy or difficult was this task for you? 1 being difficult 5 being easiest</p> <p>How confident were you about completing the task? 1 being least confident 5 being extremely confident</p>	<p>— Why did you give this rating?</p> <p>— Why did you give this rating?</p>

Task 3: Create an Event and assign 2 (Michael, Sam) team members to the event

Moderator: Imagine you and your team has finalized a movie screening event in the tower lawn on May 01, 2023 at 8:00 pm. Go ahead, and create an event on the app and assign Michael and Sam to

the event team.	
Task: Adding event to the organization	<p>Did the user complete the task? Yes, With assistance, No</p> <p>Performance: Completed in _____ seconds</p> <p>Behavioral Observation: Confused, Needed help,</p> <p>User Suggestion:</p> <p>Other Responses:</p>
Q. Did you find anything confusing during the task?	
Q. Do you have any suggestions to improve this flow?	
<p>Q. Rate on a scale of 1-5:</p> <p>How easy or difficult was this task for you? 1 being difficult 5 being easiest</p> <p>How confident were you about completing the task? 1 being least confident 5 being extremely confident</p>	<p>— Why did you give this rating?</p> <p>— Why did you give this rating?</p>

Task 4: Start a voting poll with other officers in your organization

Moderator: Imagine your team has multiple ideas for the event that you should host on campus. Go

<p>ahead and create a poll for your team to vote on between the following three ideas:</p> <ol style="list-style-type: none"> 1. Book Reading Event at King Library 2. Movie Screening Event at Tower Lawn 3. Book Donation Drive at Engineering Building 	
<p>Task: Start a voting poll with other officers</p>	<p>Did the user complete the task? Yes, With assistance, No</p> <p>Performance: Completed in _____ seconds</p> <p>Behavioral Observation: Confused, Needed help,</p> <p>User Suggestion:</p> <p>Other Responses:</p>
<p>Q. Did you find anything confusing during the task?</p>	
<p>Q. Do you have any suggestions to improve this flow?</p>	
<p>Q. Rate on a scale of 1-5:</p> <p>How easy or difficult was this task for you? 1 being difficult 5 being easiest</p> <p>How confident were you about completing the task? 1 being least confident 5 being extremely confident</p>	<p>— Why did you give this rating?</p> <p>— Why did you give this rating?</p>

Task 5: Check the status of different activities happening for the event and call the officer who is lacking behind

Moderator: Imagine your Movie Screening event is all planned and other officers are assigned their duties. Go on the app to check the status of the activities and call the officer who has not shown any progress.

Task: Check status of different activities and call the officer who is lacking behind

Did the user complete the task?

Yes,
With assistance,
No

Performance:

Completed in _____ seconds

Behavioral Observation:

Confused,
Needed help,

User Suggestion:

Other Responses:

Q. Did you find anything confusing during the task?

Q. Do you have any suggestions to improve this flow?

Q. Rate on a scale of 1-5:

How easy or difficult was this task for you?
1 being difficult 5 being easiest

How confident were you about completing the task?
1 being least confident 5 being extremely confident

— Why did you give this rating?

— Why did you give this rating?

Task 6: Create a task in an event and assign it to an officer

Moderator: Imagine you have decided what activities you need to do to properly execute the event. Go ahead, and create a task "Rent a projector from king library". in the event and assign it to the Sarah.

<p>Task: Adding the task in an event and assigning to an officer</p>	<p>Did the user complete the task? Yes, With assistance, No</p> <p>Performance: Completed in _____ seconds</p> <p>Behavioral Observation: Confused, Needed help,</p> <p>User Suggestion:</p> <p>Other Responses:</p>
<p>Q. Did you find anything confusing during the task?</p>	
<p>Q. Do you have any suggestions to improve this flow?</p>	
<p>Q. Rate on a scale of 1-5:</p> <p>How easy or difficult was this task for you? 1 being difficult 5 being easiest</p> <p>How confident were you about completing the task? 1 being least confident 5 being extremely confident</p>	<p>— Why did you give this rating?</p> <p>— Why did you give this rating?</p>

Task 7: Archive an event	
Moderator: Imagine you successfully conducted the movie screening event and don't need it on the app anymore. Go ahead and archive the event.	
Task: Archive the event	<p>Did the user complete the task? Yes, With assistance, No</p> <p>Performance: Completed in _____ seconds</p> <p>Behavioral Observation: Confused, Needed help,</p> <p>User Suggestion:</p> <p>Other Responses:</p>
Q. Did you find anything confusing during the task?	
Q. Do you have any suggestions to improve this flow?	
<p>Q. Rate on a scale of 1-5:</p> <p>How easy or difficult was this task for you? 1 being difficult 5 being easiest</p> <p>How confident were you about completing the task? 1 being least confident 5 being extremely confident</p>	<p>— Why did you give this rating?</p> <p>— Why did you give this rating?</p>

Debrief

Thank you for sharing your thoughts about the event planning application. I have few questions that I would like to ask before we call this session off.

1. How would you rate the overall design and layout of the app? Why?
2. How well did the app address the needs of SJSU club leaders in brainstorming, planning, and executing events on campus?
3. On a scale of 1-5, how satisfied were you with the functionality of the app?
4. How intuitive did you find the app to be? (1-5 rating)
5. How helpful was the app in speeding up the brainstorming process for event planning? (1-5 rating)
6. Were there any aspects of the app that were particularly challenging or confusing?
7. How well do you think the app addresses the needs of SJSU club leaders in brainstorming, planning, and executing events on campus?
8. Do you think the app is missing any features or functionalities?
9. How does the app compare to other event-planning tools that you have used in the past?
10. Is there anything else that you would like to add or any suggestions you may have for improving the app?
11. How likely are you to use this app in your future event planning? (1-5 rating)
12. How likely are you to recommend this app to other SJSU clubs (1-5 rating)

Thank you for answering all the questions. I really appreciate your time, and please feel free to contact me if you have questions or comments.

The student researcher will compensate the participant with \$5 Venmo at the end of the session.

Appendix F - Data Collection Form

Task	Completed? (Y/N)	Completion Time	Observations	Confidence Rating	Difficulty Rating	Participant's Comments	Suggested Improvements	Additional Notes
1								
2								
3								
4								
5								
6								
Debrief	Notes							