

ISTM 631: IS Design & Develop Project

Prototype and Report

DREAM TEAM DYNAMICS

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Group 15 (602) Team Members:

Vinitha Chukkala

Saniya Farahath

Yash Katariya

Sumeet Nazare

Manisha Rao

A. Background

1. Team Overview

Our team, Dream Team Dynamics, consists of 5 graduate students each obtaining a master's degree in Management Information Systems. The team has various skills in engineering, computer science, information systems, systems development and design, cooking, smart grocery shopping, quick tire changing, binge watching to mention a few. Apart from completing homework and hunting for jobs, we travel over the weekends, have house parties, or just enjoy some time off.

This team was formed with the intention of completing projects together for ISTM 631. However, our mission has a larger scope and expands beyond meeting deliverables. Our mission is to get to know each other, work together, exercise our skills in User Research, Information Systems Design, and Development, and develop high-quality end-products that meet the project deliverables and user expectations. Below is more information about each member:

1. Manisha

Manisha is the team member in charge of hyping up the team and reducing tensions if any were to rise. She is also in charge of adding the 'if any' in most interview questions that do not have them already. Her background includes a bachelor's degree in Computer Science and a minor in Harry Potter literature. Manisha spends her free time working out, reading, watching The Office, and getting surprised that some of the show is not exaggerated as bosses can be ridiculously bad. She is looking forward to working with her team for ISTM 631.

2. Saniya

Saniya is the devil's advocate of the team, she tries to provide helpful critique and then lighten the mood with lame jokes. Her background is in computer science, she worked for a few years before deciding to switch careers to a lion tamer for her love of cats and danger while pursuing her master's degree in Management Information Systems. She hopes to get a job in a large software company where she can work on technical challenges and eventually make her way toward product management (on the off chance that the lion-tamer career falls through). She enjoys visiting new places, trying out new food, and perfecting telekinesis.

3. Vinitha

Vinitha is the creative mind in the team who loves to throw out random ideas and alternatives for each of the tasks and realizes that most of them are moonshots. She completed her bachelor's degree in Computer Science Engineering and wants to build a career in product management. In between classes, assignments, projects, part-time work, and house chores (which never end), she finds time for herself to paint and bake. She has a very strong opinion that sitting by the beach is always better than hiking in the mountains. She is excited about the ISTM 631 project and how the team comes together to build something that aligns with the Aggie Core Values.

4. Sumeet

Sumeet is the research person on the team who tries to identify relevant information/reports that could help provide more context to the team's work or sometimes further confuse the team members. He has completed his bachelor's degree in Information & Technology and got several opportunities to mess around with critical projects at big

organizations. In his free time, Sumeet enjoys exploring new music and learning more about the artist and their stories around their music creation. He looks forward to working with his team on the class project.

5. Yash

Yash dons many hats from brainstorming an idea to critiquing the design but importantly bringing clarity or simplifying things for the team. He holds a bachelor's degree in Information Technology and has extensive screen time experience (Gaming & Binging counts, right?). After trekking the Himalayas, Bungy Jumping, River Rafting, and Paragliding, this adrenaline junkie is constantly looking out for his next big adventure and feels that ISTM 631 may very well qualify as one.

2. Background of Draft

The first vague idea the team agreed upon is a web application that serves as a platform to post about upcoming events, aligned with Aggie Core Values. After our user research, the team had an in-person brainstorming session in one of the classes. One team member's initial idea was of a leadership events-only based web application, where students have a platform to search and register for events that helped to improve their resumes to help them work on their leadership Aggie core values. The rest of the team found the idea interesting and agreed to implement it.

Later, as the team pondered more about it and spoke to other classmates, it was discovered that maybe such a platform was common across different groups, and it was mutually decided to have a second brainstorming session to think of other ideas. Some other suggestions such as a social media platform and learning platform were discussed, and ultimately another team member suggested why to limit ourselves to one core value. We did see in our research that users found leadership and excellence important and they were open to trying out different events. A third

team member then suggested the idea of categorizing events by core values and thus the final idea was settled on as all members vocally expressed their approval.

The subsequent meetings were done virtually over Zoom. The team met for about 2-3 hours twice a week and 1 hour just before the agreed-upon deliverable submission to carry out the finishing touches. During the meetings, the requirements were understood in detail and team members volunteered to take up tasks they felt were within their expertise. For example, Vinitha took up the prototype creation after the team provided inputs due to her familiarity with the prototyping tool, and Manisha volunteered to write about the team background and user research summary because she is confident in her concise writing skills. Yash took up a considerable portion of the Scenarios, User Stories and What's Missing sections based on his solid understanding of users and application design. Some tasks, such as the persona creation and documenting discoveries were done by all members through collaboration tools such as Google Docs and Canva, which allow multiple members to work on the same document. Other tasks such as interviewing students, scenario writing, and story writing were done as individual contributions, but were equally divided among all the members.

B. Specifying Requirements

1. User Research Summary

Our user research included conducting interviews with students from Texas A&M University who were involved in at least one club/organization or who signed up and attended at least one event per semester hosted by the university or any of its affiliated organizations. We discovered that participants face problems in correlating events with aggie-core values. Participant Mrs. Puff said, “I haven’t really found any events/workshops related to the Aggie core values”. Next, we found out that participants want events that help in their professional development. Users leveraged their participation in these events/workshops for their resume-building. We also found out that the two most common aggie core values that participants resonated with were Excellence and Leadership. Participant Flighty Floo supported this sentiment in her interview and said, “I want to pursue my Ph.D. in the future and I want to be the best in whatever I do”.

Further, we discovered that participants have too many sources of information and lose track of events. This was one of the pain points of the users. As the participant, Mrs. Puff mentioned, “I gather most of my information about activities on Campus through my email”. However, the biggest challenge and pain point of this medium was how scattered the information is. The team concluded that one of the pain points is details being cluttered and scattered, which makes it difficult to track users’ interest and participation in these events.

We discovered that a goal for the participants was to have a one-stop application for all events and information overload. Few participants hoped to receive information related to events they cared about in one place. Participant Lordy Lord said, “sorting through the emails and finding information about events I am interested in takes time”. This was another pain point and the goal was to try to find an easier way to find events. Another goal we discovered was that participants

desired to receive preference-based event information. Participant Spongebob said, “I get a bunch of emails about a bunch of things, but something like a reminder notification for things I really like, like the gallery event at MSC would be preferred”.

We observed that most of our participants were comfortable using and accessing technology that is common today (emails, social networking mobile, and web applications, connecting to the Wi-Fi, creating hotspots, etc.). They considered themselves quick to learn new technologies and preferred free applications over paid ones. Participants were also most likely to use resources on campus or from their dorms or apartments. Both environments usually always had fast and easy access to the internet.

We noticed that a few participants preferred the use of social media applications over official channels of communication. This was unexpected as we thought that students used Instagram to keep up with their friends and family rather than student organizations.

Additionally, one of the unconscious biases that we discovered is that people are pretty outgoing. Irrespective of their classification - graduate students or final-year undergraduates, they still want to participate in events. We assumed that as graduation comes close, students lose interest in organizations due to burnout. We saw that students who have a genuine interest in an organization will make time or overcome obstacles to attend its events.

2. Persona

Based on the user research, we developed the following use persona for our primary user:



SALLY THE STUDENT

Age: 22
Location: College Station, TX
Education: Bachelors in Finance
Occupation: Student (Senior)

Typical Day
Sally attends classes, catches up on readings and homework. She meets her friends or gets coffee to stay energetic. Sally also enjoys playing games online and participating in university events with her friends. She checks her emails multiple times a day to stay on top of things

Goals
1. One stop application for event information
2. Preference based event notification
3. Event participation for profile building

Pain Points
1. Scattered Information
2. Information Overload (Too many emails!)
3. Missing out on important announcements
4. Can't find events aligning with core values

Personality
Social | Career Driven | Organized

Sally is a career-driven aggie who is empathic and wishes to have a lasting impact on the people around her.

Interests
  

Quote: "I align the most with Leadership and Excellence Aggie Core Values"

3. Scenarios

1. Sally, a senior student majoring in Finance at Texas A&M University, wants to find out about any upcoming campus events and participate in one. She knows there are events planned by different organizations and departments and wants to find out the one that is interesting and fits her schedule. She is a little overwhelmed and confused by the amount of information and different resources available to find out about events.

2. Sally, a senior student majoring in Finance at Texas A&M University, wants to find out which event aligns with the values that are important to her - excellence and leadership. She wants to have the ability to filter events by value. Sally feels frustrated that this information is not clearly available to her.
3. Sally, a senior student majoring in Finance at Texas A&M University found an event that sounds interesting. She wants to know the time, location, and deadline to sign up for it to check whether her schedule will allow her to fully commit to it. She feels confused because does not know how to quickly get to this information or who to contact.
4. Sally, a senior student majoring in Finance at Texas A&M University wants to be assured that her sign-up was successful and would like the sign-up screen to reflect the same as soon as she completes the action of signing up. Sally doesn't want to go through the embarrassment of showing up for the event, only to learn that her registration didn't go through successfully due to situations beyond her control such as system crashes or database glitches, etc. hence she seeks to have a successful sign-up confirmation to be shown on the screen and/or an email sent to her about the same.
5. Sally, a senior student majoring in Finance at Texas A&M University wants to know after signing up for the event whether she can modify her registration to cancel, reschedule or add more guests to the event. She feels uncertain as to if she can bring her sister along and is worried about any impromptu work requests from home or part-time work which might prompt her to cancel or reschedule the event. She seeks to be able to modify her sign-ups after initial registrations.
6. Sally, a senior student majoring in Finance at Texas A&M University wants to be reminded through a notification so that she remembers to attend the event she registered

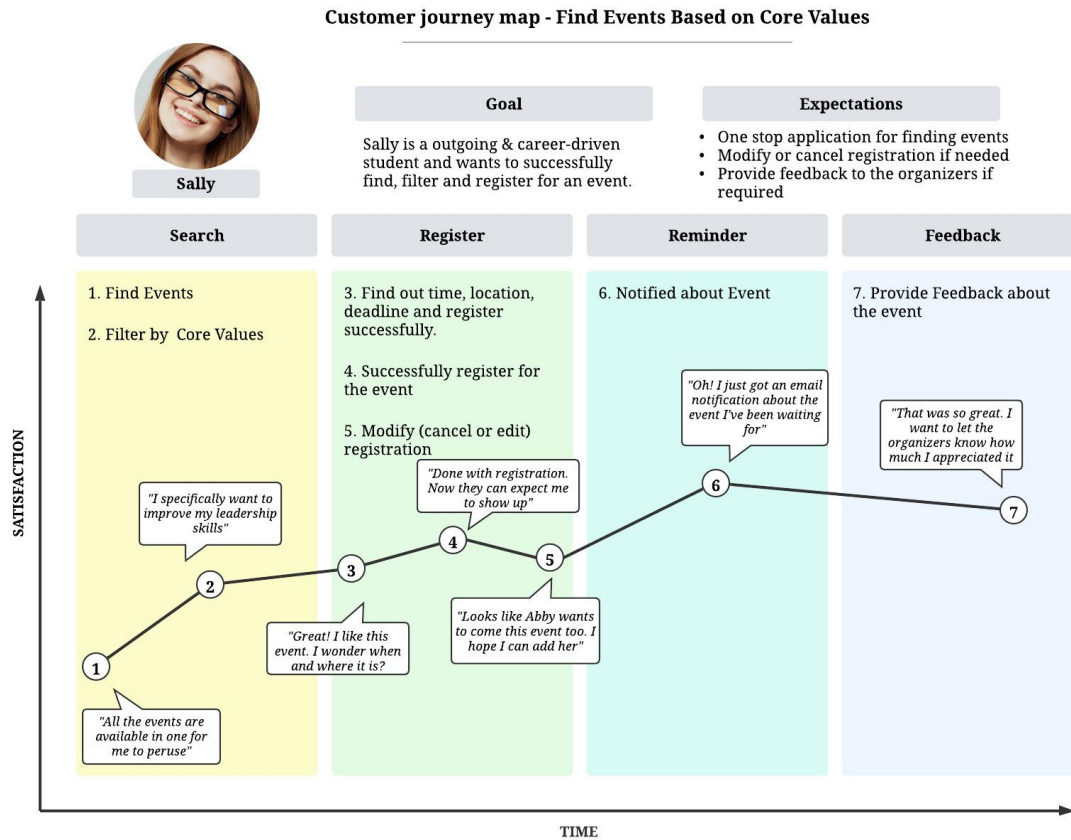
for. She is worried she will get busy with assignments and her social life and miss the event unintentionally.

7. Sally, a senior student majoring in Finance at Texas A&M University attended the event and would like to share feedback with the organizers but doesn't have an idea of the right way to do so. She feels that her feedback could really benefit the authorities to improve the experience. She seeks to be able to put down feedback for events that she attends if she wants to.

4. Journey Map

The journey map was created using our persona, Sally, who wanted to look for events based on certain Aggie core values. The goals and expectations are retrieved from the user persona that we created based on our user research. She uses the filter to find events that align with values important to her, finds an interesting event, and registers for it. Up till the point of registration, Sally's satisfaction level which is depicted by the y-axis is on an upward trajectory. The next part of the journey includes modifying her registration to include a guest, her sister Abby (an aggie too). The satisfaction level goes down slightly because of the unexpected change in plans. She and her sister then get notified by the notification feature of the application, which causes a spike in her satisfaction level. She then attends the events, enjoys them, and wishes to let the organizers know about her appreciation. She does this using the feedback feature present in the application. It is to be noted that Sally's satisfaction level is still high even though the graph shows that it dips, this is because the previous spike is due to the reminder and after the event, her satisfaction returns to a base level. The phases of her journey can be divided into the search, register (includes modification), reminder, and feedback. The journey is measured against time as the x-axis and satisfaction level as the y-axis. The whole journey can take anywhere from a

couple of hours to a few months depending on when she registers for an event and the actual date of the event.



5. User Stories

1. As a user, I want to filter events on campus so that I can find events that align with aggie values.
2. As a user, I want to modify my event registrations so that I can accommodate any changes in my plan or schedule.
3. As a user, I want to cancel my event registrations so that I can accommodate any changes in my plan or schedule.
4. As a user, I want to find the event time and location so that I can show up at the right time and place for it.
5. As a user, I want to sign up for an event so that my participation is documented and I can effectively participate in the event.
6. As a user, I want to add plus ones (or more) for an event so that I can bring them along.
7. As a user, I want to learn about any event instructions beforehand (such as clear bag policy, no food/water, etc.) so that I am aware of the prerequisites and can plan accordingly.
8. As a user, I want to receive visual confirmation that my registration has been successful so that I know my registration went through without any issues.
9. As a user, I want to receive reminder notifications about the event so that I can plan accordingly and remember to show up for the event on time.
10. As a user, I want to provide feedback for the event I attended so that I can acknowledge the organizers' efforts or help them improve the experience for future events.

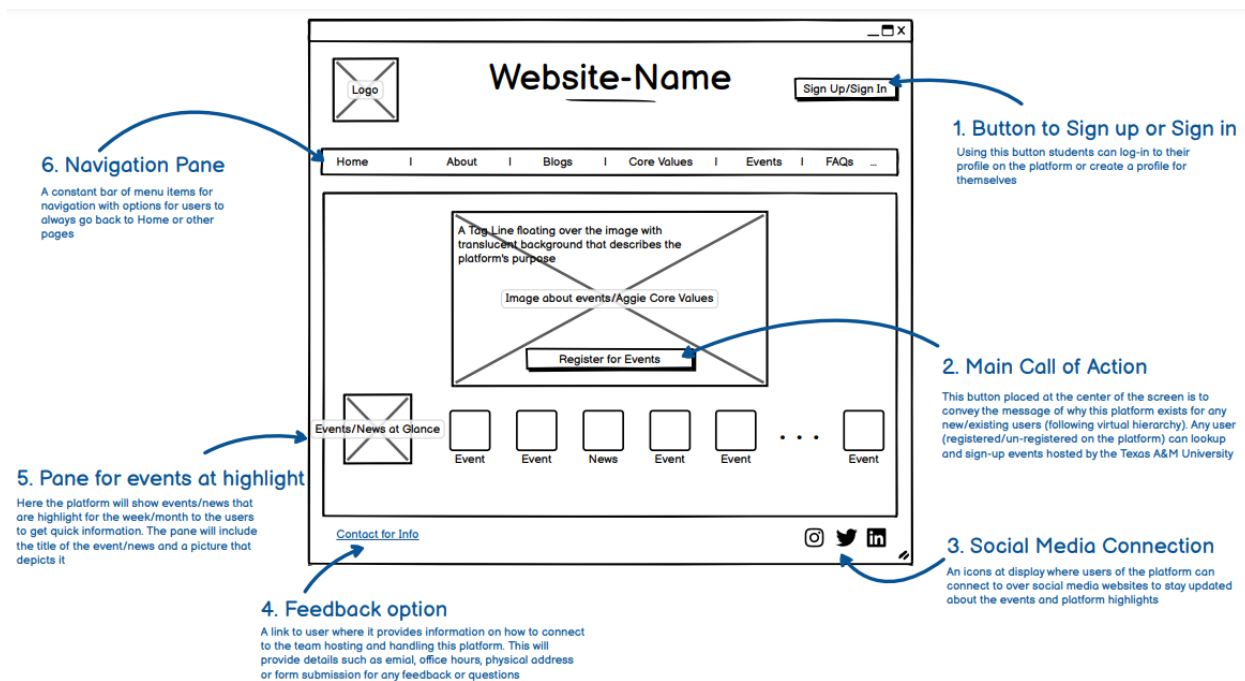
C. Making Designs

1. Prototype Pages

The team designed prototype pages using balsamiq.com. The following three screenshots are designed for the web application based on our user research and the design concepts learned in the readings (such as Nielsen's Heuristics principles, and Krug's Don't Make me Think book).

1.1 Homepage:

Below is the proposed landing page or homepage for the web application for all users:



a) Functional Summary of Homepage:

The **website name** which is currently undecided is placed in the center with the largest font to ensure the user knows they are on this website. The **TAMU logo** is just beside the name of the

website to associate this website with the institution. On the far right of the logo is the **sign-in/sign-up button**, as this location is consistent across all websites and is the de facto standard. Once the user clicks on the sign-in/sign-up button, a pop-up window shows up to allow them to sign in or register as a new user.

The **navigation pane** is a feature of the website that will remain static on almost all pages. It contains the following menu items -

- ‘Home’ and ‘About’ are buttons that users can click as a button and be navigated to the respective pages.
- ‘Blogs’ is a button that the user can click and be navigated to the respective page. This will be an informational page containing user experiences or more information about a past event posted by either a student or an organization.
- ‘Core Values’ that the user can click to open a dropdown menu of the six Aggie core values and learn more about them. It will have suggested events for the core value selected for users who want to experience and get exposure in that area.
- ‘Contact’ is a button that the user can click and be navigated to the respective page. This will be an informational page that offers little to no interaction. The most a user could do would be to click on emails or phone numbers that will allow the user to compose an email or start a phone call (if allowed by the browser and user).
- ‘FAQs’ is a button that the user can click and be navigated to the respective page. This will also be an informational page that offers little to no interaction. The most a user could do would be to click on links such as emails or phone numbers or external links redirecting them to pages containing more event information or information corresponding to the organization hosting the event.

The majority of the real estate on the homepage is occupied by the main call of action button on a carousel. It features different photos of events from previous years, where photos of students who have given their consent are seen participating in events to entice the user. The photos are in carousel mode and there is a **‘Register for Events’** button at the bottom of it, which will take the user to the events page.

The **‘Events at a Glance’** section contains events that are scheduled for the month. Each event contains a related picture and the event name below it. Each is clickable and will take the user to the page of that event for more information and the ability to register. We would like to make the picture zoom in a bit when it is hovered over to show that it is clickable.

The footer contains the **‘contact for info’** link, which is in the form of a clickable link. The user can use this link to contact the team responsible for developing and hosting the website. On clicking this link, the user is taken to another page that has an email address, office address, office timings, and a form with a message box for providing any feedback or asking any questions. On the right of the footer, there are **social media icons** that the user can click to find the website’s social media handles. Instagram, Twitter, and LinkedIn are the ones provided as they are some of the most popular ones. The logo icons are used for this so that they are instantly recognizable to the users.

b) Design Rationalization of Homepage:

We wanted the home page to have some static elements that could give the user a sense of reliance on the website. Our header and footer are static through most pages of the website. The **website name** and Texas A&M **logo** on the header can be used by the user to return to the home page whenever they want. It acts as an easy exit and allows the user to abandon an action or start

over which aligns with the user control and freedom heuristic. The sign-in and account logo present on the far right corner of the page also hopes to mimic common website design. The intention of this space is to give the user the impression of having a section or a space dedicated to their account and profile. From here they can find out more about their interactions with the application such as past registrations, account information, etc. We hope that these common website design patterns help the user understand the website and get accustomed to it quickly. The footer has logos of the **website's social media accounts** and the logos were used as external links as these logos represent popular and well-known social media platforms that are easily recognizable by most users. These are small-sized logos as they are not the most important aspects of the website but can still catch the user's attention as they are recognizable logos.

The navigation pane contains the main menus that the user is likely to interact with. This feature hopes to give the user a sense of the breadth of the website and its main capabilities and uses. Users can use these as a 'portal' to move to different parts of the website.

We added a carousel containing different **images** of the events in the center of the home page to catch the user's attention. We hope these pictures help portray the fun involved in these activities and act as encouragement for users to sign up for events. The button to register for events is placed over these images and in the center to make it easier for users to register when looking at the carousel. This hopes to act as a call to action button that invites the user to register for events. We have a few events displayed under the carousel to give the user a small preview of the upcoming events and entice them to register for one of them or look at all the events available.

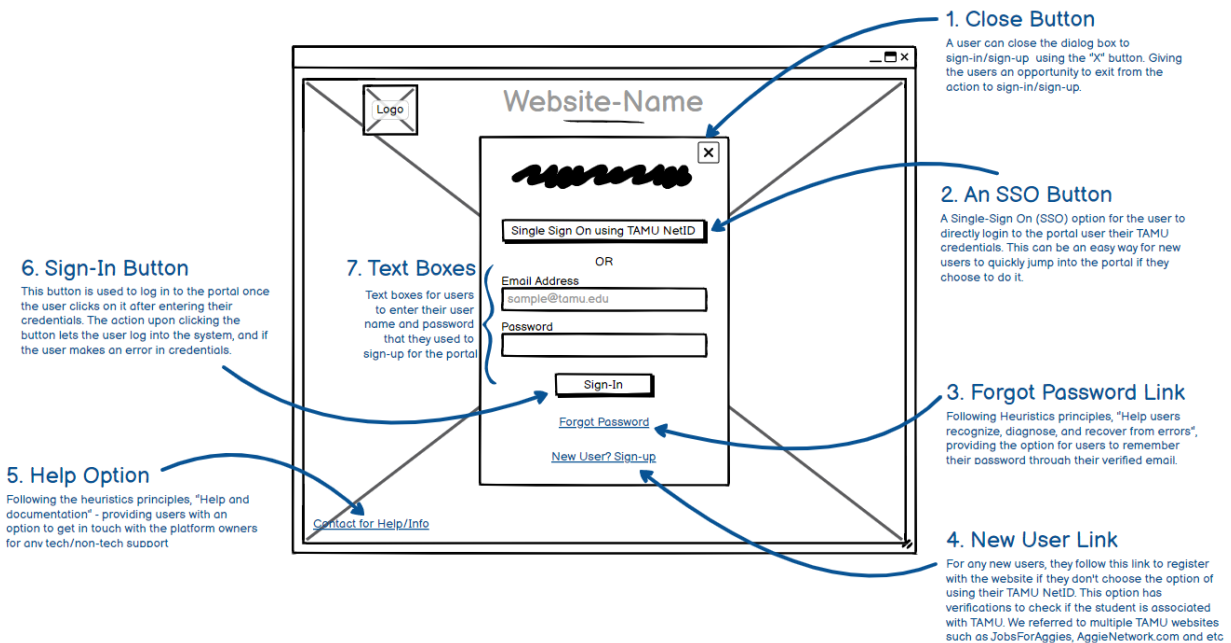
c) What's Missing

The functionality and information presented on the About, FAQs, Contact, Core Values, and Blogs: The information presented on pages such as About, FAQs, Contact, Core Values, and Blogs can provide users with valuable insights into the company's history, values, and mission. For this assignment, we have only created low-fidelity prototypes outlining essential design elements, hence not elaborating on drop-downs or the information under each of the aforementioned options.

The carousel on the home page and event images: Carousels are an effective way to showcase important information and draw users' attention to specific events or promotions. While the prototype may provide a basic idea of the website's layout and functionality, it is not able to fully capture the visual motion or dynamic content. This being the initial prototype, we have mainly focused our efforts on static aspects.

1.2 Sign-Up/Sign-In Page:

Below is a sign-up/sign-in page for the web application. After successful login, users can view their profile, look up and register for the events:



a) Functional Summary

This **sign-in button** will redirect to a new web page that has a similar header design as in the home page. We have a '**Contact for help/Info**' link in the footer on the left-hand corner that the users can use in case of any other issues during the sign-in or sign-up process. This page will have a **pop-up modal** window containing a couple of input boxes for the user to enter their username and password. The intention of the pop-up window is to ensure that the user understands that the purpose of this page is only to create an account/log in to the account.

The '**Forgot password**' and a '**New user? Sign Up**' options are clickable links because most websites including other Texas A&M websites such as the Howdy portal maintain the clickable

link design for account options. These redirect to different web pages. For Forgot Password, a web page opens for users to verify using their registered email/phone number. Similarly for the New User link, a new webpage opens for users to verify their association with TAMU through email or number. By following a similar design, we hope it makes these account option functionalities obvious to the user, even if they are visiting our website for the first time.

b) Design Rationalization

The sign-in/sign-up is a pop-up that emerges when the user wants to login-in to their accounts or sign-up to the portal. The **SSO (Single-Sign-On) button** is the focus of the pop-up here because users want the users to use their existing mode (i.e., TAMU NetID) of logging into the portal. We placed it at the center top to show the significance of this element on the page to gain the attention of the user. As this provides trust to the user and lets the user know that it is associated with the TAMU network of websites – it increases the reliability of the portal and also decreases the function to perform a redundant activity of logging in using credentials again and again.

At the same, we researched multiple other TAMU network websites such as – MyMays, JobsForAggies The Association of Former Students websites (the URLs of these websites can be found in the Citations section) to maintain consistency and standardization (using the Heuristic Principles) of the TAMU websites. So, we also provided an option to use credentials to log in. Again, the **text boxes** for taking input of Email Addresses & Passwords are placed in the center – seeking the attention of the user. We also provided the users an example of the **format of the email ID** we are expecting from the users in faded gray color. It is done to draw attention in a subtle way, and also follow the heuristics principle of “Error prevention” by reminding the user that only TAMU email address is accepted.

Further, the **Sign-in button** is placed right below the credential text boxes – it follows the affordance design principle, like any standard button, and has the simple, clear text of “Sign-in” to let the users know what the action the button will perform. For the “**Forgot Password,**” we used a link format because this will take users to a new page for sending verifications and resetting the password. Similarly, the “**New User**” is also in link format since there will be a form and a new page associated with users to register for the portal. The new user link is placed at the bottom of the dialog box, as this seems to be the last action that any user might want to take on the page, once the user reviews the dialog boxes and sees if they don't have a registration.

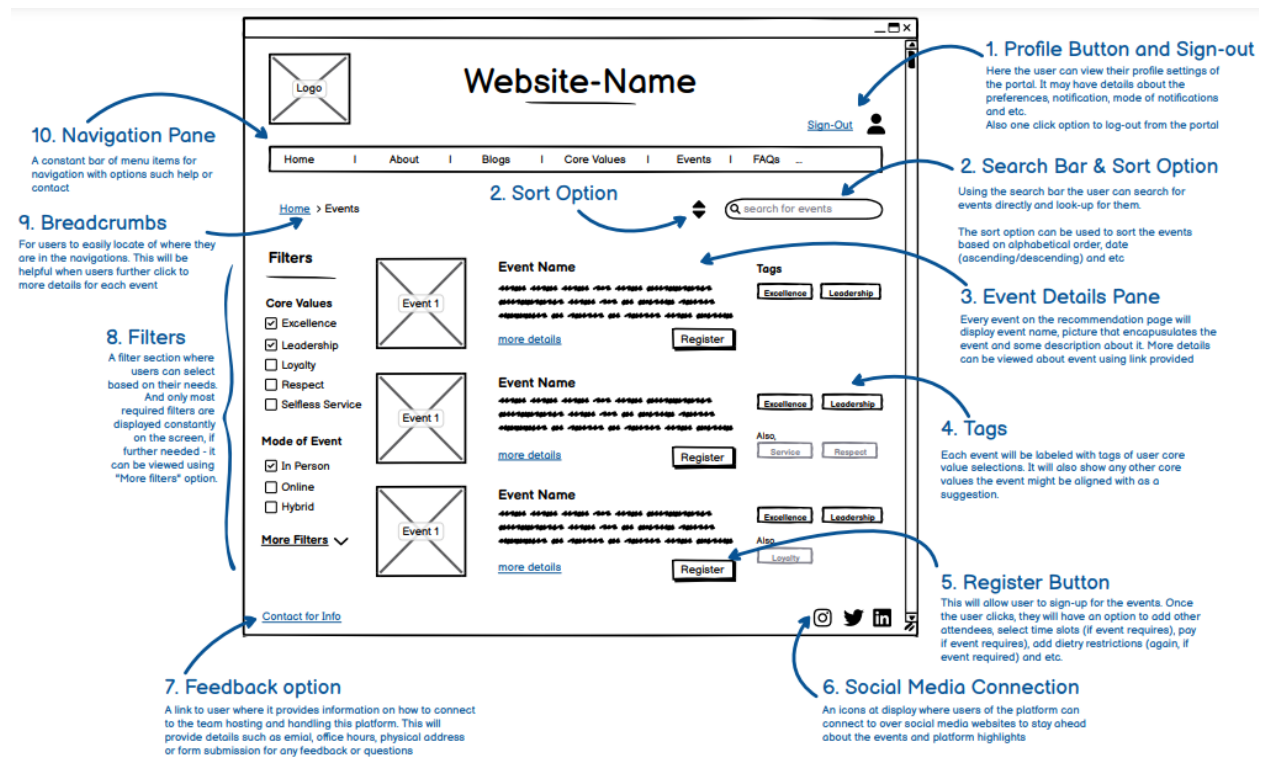
Finally, we also wanted users to always have a “**Contact for Help**” option, we used the link format again for the same reasons as above mentioned, since it will open up a new page for users to get in touch with the users. For the users to close/exit from the sign-in/sign-up action, we provided an “**X button**” on the top right corner of the dialog box. It follows the affordance principle and is at the size of any other “**exit**” option that is available across the web and software application – using the standardization principles of design heuristics.

c) What's Missing

Sign-Up/Sign-In Pop-up: When the user clicks on the Sign-up/Sign-In button in the prototype 1, the Sign-Up/Sign-In dialogue box will pop up for the user to enter the relevant details. The popping-up of the dialogue box isn't captured.

1.3 Event Browsing & Registration:

The following page displays all events that users can register for and gain experience in Aggie Core Values. Below we have captured an instance where the user selects two core values - Excellence and Leadership, which align with our user persona:



a) Functional Summary:

The website name, navigation, and profile remain constant on every page, including the event registration page. **Breadcrumbs** are included in the form of clickable text to let the user go back up the hierarchy. On the right side of the page, there is a **search bar** with the prompt 'search for events' to let the user enter any keywords and the search bar will suggest completion phrases based on the event name and event description. There is an option to **sort** the results in ascending or descending order with the help of the two arrows next to the search bar. There is a check-box

form of **filter** on the left side of the page to allow users to filter. The two most common types of filters are always visible and other filters can be made visible by clicking on 'more filters'. The **events** are displayed with a small photo of whatever the posting organization would like to put, followed by the name of the event in a larger font for better hierarchical organization. There's a brief description of the event, followed by a clickable text link for more details. The **registration button** shows depth animation when the user hovers over it and leads the user to the registration page for that specific event. Under **tags**, the core values used to filter are highlighted with bold text, and other core values also associated with that event are shown with a normal, lighter-colored font. The **footer** seen on the page is constant and consistent with every other page on the website, it includes the contact for info and social media page links.

b) Design Rationalization:

The event list page has multiple elements that help users browse, select, and register for events based on their interests. Since we built it for our main user persona, who aligns herself with excellence and leadership and is an outgoing person, we captured the same aspects in the prototype. Starting from the top, for users to view their profile, there is an icon that resembles the standard **user profile icon** for them to click on. We placed it at the top right corner of the page, just below the website, to show that the items at display in the main body of the website will be linked to the user profile. It is in a similar position to where the "Sign-In/Sign-Out" button was displayed when not logged in. Replacing it with the user profile icon helps the user recognize that they are in their profile and that any activity performed from now on can be managed in their profile. We also added the **sign-out button** just next to the profile option; this is done so that all relevant profile activities can be managed from one single corner. We also leveraged general web application design to maintain consistency.

The main body of the page has elements that give users the ability to browse through several events. The **filters** are placed on the left side of the page, with two commonly used filters always on display and advanced filters that can be viewed via expansion. We did so because we wanted to maintain the minimalistic design heuristics. We used checkboxes for the two filters shown so that users could select all their preferences. The **advanced filters** may have round buttons, range buttons, or toggle bars, depending on the filter's needs. The main event list section has a **picture** of the event that best describes or represents the event. We placed the **text and event name** of the event on display on the right of the pane, following the rules of visual hierarchy. As we wanted to avoid clutter so that we can draw the attention of users to what is important, the page will show only 1-2 lines about the event, date/time, and mode of the event on the front, any further information can be viewed using the "more details" option. The **register button** is at the bottom of each event description; it uses any general button artifacts to have affordance for the user. We used the simple text "register" to let the user know what action it would take.

Furthermore, the **tags** are critical to this page because they show the users which AGGIE core values they can experience through the event. We used a bold and focused outlined box for each tagged core value that users select from the filters to draw the user's attention and to indicate that only relevant events are shown. Also, we included any other core value in the gray-toned tag that may be associated with the event, but since the user did not select the core value, it is not in focus. If the user does not select any core value from the filter, all the relevant core values associated with the event will be displayed with a bold and outlined box.

The **breadcrumbs** used here are reflective for users to move back to the page and also know where they are in their navigation. This is essentially useful when users go into specific event pages and other areas. It is placed on the left side of the page following other web pages on the

internet. Similar to other pages, we kept the **navigation pane**, **contact info link**, and **social media icons** with the **website logo** and **name** constant to show trust to users and let them know they are at the same website—following Krug’s concepts about the purpose of navigation.

c) What’s Missing

'More information' functionality to expand the details available on events: While a brief description of an event may be sufficient to pique a user's interest, they often require more information to make a decision regarding an event. The ability to expand on event details, such as event schedule, speaker information, or location details, can provide users with a better understanding of the event and increase their likelihood of attending. We will elaborate on the content of each design element in the later versions of the prototype and are not able to show it in this prototype.

The backend functionality for event registration, modification, or cancellation: This functionality is crucial for event management, as it allows the company to effectively communicate with participants, manage event capacity, and make necessary adjustments to the event schedule. While the prototype may provide a basic understanding of the registration process, it does not capture the back-end functionality required to manage registrations, modifications, or cancellations, which is reserved for advanced versions of the website.

D. Appendices

References

1. MyMays <https://mymays.tamu.edu/v2/>
2. JobsForAggies <https://jobsforaggies-tamu-csm.symplicity.com/students>
3. “The Association of Former Students of Texas a&M.” *The Association of Former Students of Texas a&M*, 27 Mar. 2023, www.aggienetwork.com.
4. “10 Usability Heuristics for User Interface Design.” *Nielsen Norman Group*, 15 Nov. 2020, www.nngroup.com/articles/ten-usability-heuristics.
5. Krug, Steve author. (2014). Don't make me think, revised: a common sense approach to Web usability. [Berkeley, Calif.]: New Riders,