Howdy Orgs - *Find Your Aggiemates and More !*

Team Members

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- **What is exactly the function of your tool? That is, what will it do?**

Howdy Ags is a tailored platform for exploring student clubs and organizations at Texas A&M University based on interests. The app/web prototype will:

- Scrape and consolidate information about clubs and organizations from the "Get Involved" TAMU website.
- Recommend clubs and organizations with detailed tags and categories to help users find groups that match their interests.
- Display key information such as club descriptions, contact details, and how to get involved.
- Use a responsive design so that the information is easily accessible on both web and mobile platforms.

- **Why would we need such a tool and who would you expect to use it and benefit from it?**

Need: Currently, information about clubs and organizations at TAMU is dispersed across multiple platforms, making it challenging for students to discover and engage with groups that align with their interests. A centralized platform would simplify this discovery process, ensuring students can easily find and join relevant groups.

Target Users:

- Students: To explore and join clubs that match their academic, social, and professional interests, enhancing their university experience.
- Club Leaders: To promote their organizations and reach a broader audience within the university.
- University Administrators: To monitor and support student engagement in extracurricular activities.
- New Students: To quickly find communities and activities as they integrate into university life.

- **Does this kind of tool already exist? If similar tools exist, how is your tool different from them? Would people care about the difference? How hard is it to build such a tool? What is the challenge?**

Existing Tools: While TAMU maintains a comprehensive "Get Involved" website listing various clubs and organizations, no single tool provides a filtered and personalized approach to exploring these opportunities based on student-specific interests. How Howdy Ags Differs:

- **Comprehensive Aggregation:** Integrates data from TAMU's "Get Involved" portal into a unified platform, allowing for enhanced searchability and personalized filtering based on user interests.
- **Advanced Filtering:** Utilizes advanced algorithms to categorize and tag organizations based on activities, academic focus, and personal interests, making it easier for users to find matches.
- **User-Centric Design:** Provides a tailored interface that allows users to set preferences and receive recommendations, improving the user experience significantly over navigating a standard list.

Challenges:

- **Data Integration:** Efficiently integrating and updating data from TAMU’s existing system, which requires handling a dynamic dataset where clubs and organizations frequently update their information.

- **Personalization Engine:** Developing a sophisticated system to match student interests with club offerings, which involves complex algorithm design and implementation.
- **User Adoption:** Ensuring that the platform is intuitive and meets the needs of a diverse student body, prompting regular use and engagement.
- **Maintenance and Scalability:** Keeping the platform adaptable to changes in the source data and scalable to accommodate an increasing number of users and data points.

❖ **How do you plan to build it? You should mention the data you will use and the core algorithm that you will implement.**

Data Collection:
- Develop web scrapers to extract detailed information about clubs and organizations from TAMU's "Get Involved" website.
- Where available, integrate official APIs to supplement and enrich the scraped data.

Data Processing:
- Utilize custom algorithms to categorize and tag each club or organization based on keywords and activities mentioned in their descriptions.
- Implement text analysis techniques to further refine categorization and improve the matching accuracy based on user interests.

User Interface:
- Build a responsive React front-end with advanced filters for personalized club and organization recommendations.

❖ **What existing resources can you use?**
- **Web Scraping Libraries:** BeautifulSoup, Scrapy for extracting detailed information from the TAMU "Get Involved" website, focusing on clubs and organizations.
- **LLM Services:** OpenAI's API (or similar) for advanced text extraction and context understanding, essential for categorizing organizational data based on activities and interests.
- **Frameworks:** React for the front-end to create an engaging and intuitive user interface; Node.js or Python (Flask/Django) for the backend to manage data flow and user interactions.
- **Existing Data Sources:** The TAMU "Get Involved" website, which provides comprehensive listings of clubs and organizations at the university.

❖ **How will you demonstrate the usefulness of your tool?**
- Develop a working prototype that displays comprehensive information about clubs and organizations from the TAMU "Get Involved" website.
- Host user testing sessions with a diverse group of TAMU students to gather feedback on usability and the effectiveness of the filtering and recommendation systems.
- Compare the efficiency and user satisfaction of finding relevant clubs and organizations using Howdy Ags versus manually searching through the "Get Involved" website.

❖ **A rough timeline to show when you expect to finish what. List a couple of milestones.**

Weeks 1–2: Finalize requirements, design for club aggregation, assign roles, and set up development environments.
Weeks 3–4: Develop web scrapers and initial data collection modules for extracting information from the "Get Involved" website. Begin prototyping the back-end data pipeline focused on data normalization and categorization.
Week 5: Integrate text analysis and tagging algorithms, designed to categorize and filter clubs and organizations based on user-defined interests.
Week 6: Develop and integrate the front-end user interface, optimized for ease of use and personalized user experiences.
Week 7: Conduct integration testing and initiate user testing sessions with a diverse group of TAMU students.
Week 8: Refine the prototype based on user feedback and prepare the final demonstration, showcasing the platform's capabilities to connect students with relevant clubs and organizations.