

GatorCommunities Project Proposal

Cover Sheet

Project Title: GatorCommunities - Clubs and Activities Hub

Team Name: Uncengineer

Team Members and Roles:

- Jacob Hoppenstedt - Team Lead / Project Manager
- Javier Martinez - System Architect
- Simar Kheptal - Scrum Master
- Mazin Saleh - Front End Developer
- Abraham Banos - Back End Developer

Advisor: Professor Ashish Aggarwal (Email: ashishjuit@ufl.edu)

Date of Submission: January 30th, 2026

Abstract

University campuses offer a wide range of clubs and events, yet many students struggle to discover opportunities that align with their interests and schedules. Information about activities is often fragmented across flyers, social media, and informal channels, leading to low participation and missed engagement opportunities.

This project proposes the development of a campus activity discovery and recommendation platform that connects students to relevant clubs and events through intelligent matching. The system emphasizes front-facing club profiles, regularly updated event listings, and a recommendation engine that dynamically suggests opportunities based on student behavior and inferred interests. Rather than focusing on building social communities, the platform prioritizes visibility, discoverability, and reducing friction for participation.

The project will be developed as an independent web platform with a focus on user experience, scalable backend design, and a prototype recommendation system. The final deliverable will be a functional prototype demonstrating personalized discovery and improved access to campus activities.

Table of Contents

1. Cover Sheet
2. Abstract
3. Table of Contents
4. Copy of Team Contract
5. Introduction and Motivation
6. Literature Survey
7. Proposed Work
8. Product Backlog
9. Project Plan
10. References
11. Advisor Signature

Team Contract

A team contract provides several benefits, including increased collaboration, clear expectations, improved communications, conflict resolution, stronger team cohesion, and a sense of shared responsibility and accountability. Explicitly outlining how team members should work together, defining roles, and establishing guidelines for behavior and decision-making ultimately lead to better team performance and productivity.

This activity aligns with Unit Objective #4: "Establish clear expectations, roles, responsibilities, and communication guidelines among team members to ensure effective collaboration and the successful completion of the project."

This assignment aligns with the overall course objectives by developing students' skills in planning, organization, and professional communication. Creating a project proposal and team contract fosters critical thinking, teamwork, and project management abilities, which are essential for the successful completion of engineering or design projects. It also prepares students to effectively articulate ideas, set clear goals, and collaborate efficiently, supporting the broader goal of applying technical knowledge in real-world contexts.

Team Contract Components

Overall Objectives

Objective	Create a collaborative and integrated community tab for students to easily discover different opportunities such as club events or research around campus.
Project Goal	Provide a campus community messaging board similar to Slack/Discord which integrates into the Canvas environment.
Unit Objective Alignment	Successfully establish clear expectations, roles, responsibilities, and communication guidelines among team members to ensure effective collaboration and the successful completion of the project.

Individual Role and Responsibilities

Role	Team Member	Responsibilities
Team Lead	Jacob Hoppenstedt	Overall project oversight, final decision-making, ensuring

Role	Team Member	Responsibilities
		deadlines are met, and primary communication with advisor/stakeholders.
System Architect	j.martinez3@ufl.edu	Designing the overall technical framework and database schema to ensure seamless component integration. Establishing the project's tech stack and overseeing the Software Configuration Management Protocol to maintain code consistency.
Scrum Master	Simar K	Ensures Scrum practices are being followed and accounted for during development.
Front End Developer	mazinsameersaleh@gmail.com	Developing the user interface, ensuring a positive user experience, and implementing design specifications.

Role	Team Member	Responsibilities
Back End Developer	Abraham Banos	Developing the server-side logic, managing the database, and ensuring system security and performance.

Values and Agreement Statements

These statements define comfortable working parameters for everyone.

1. **Respectful Communication:** We agree to listen actively, treat all team members with respect, and communicate openly, honestly, and constructively, especially when providing feedback.
2. **Shared Responsibility:** We agree to take ownership of our assigned tasks, meet deadlines, and proactively offer help to other team members when our tasks are complete or when they are facing difficulties.
3. **Preparedness for Meetings:** We agree to arrive at all meetings on time, having completed all preparatory work, and ready to contribute to the discussion.

Software Configuration Management Protocol

This protocol is used to track, control, and manage changes made to the software system to ensure consistency and quality of all modifications, management of merge conflicts, and version control.

Element	Protocol Details
Version Control System	Git
Repository Location	https://github.com/JacobHoppenstedt/CanvasCommunities (Final to be provided by advisor)*
Branching Strategy	Feature Branching
Commit Message Standard	Type of Change, Brief name pertaining to change. Short description of changes
Merge Conflict Resolution	Conflicts must be resolved by the team member responsible for the merge. The team member who created the conflicting code must be consulted if necessary.
Code Review	All feature branches require at least one peer review before merging to main

Meeting Day/Times (Internal Team Meetings)

Day	Frequency	Location
Jan 19, 2026 1:00 PM	Weekly	Discord
Jan 26, 2026 1:00 PM	Weekly	Discord

Meeting Dates/Times With Advisor

Everyone is required to lead/facilitate at least one meeting with the advisor; everyone must be present for all meetings with your advisor.

Frequency	Date/Time	Facilitator	Calendar Event Link
Weekly	Jan 20, 2026 5:00 PM	jacobhopenstedt@u...	Zoom Link
Weekly	Jan 27, 2026 5:00 PM	jacobhopenstedt@u...	Zoom Link
Weekly	Feb 3, 2026 5:00 PM	jacobhopenstedt@u...	Zoom Link
Weekly	Feb 10, 2026 5:00 PM	jacobhopenstedt@u...	Zoom Link

Communication

Platform	Purpose	Expected Response Time
Discord	Primary form of communication: Discussions, questions, urgent updates, and general team chat.	Within 2 hours during business hours (9 AM - 5 PM).
Google Drive / Outlook email	Google Drive for organizing formal documentation and sharing files. Email for advisor communication.	Within 24 hours.
Jira	Managing and delegating tasks	Within 1 week during business hours (9 AM - 5 PM).

Conflict Resolution Protocol

How the team will solve problems.

1. **Immediate Peer Discussion:** The individuals involved in the conflict will first attempt to resolve the issue themselves through direct, respectful conversation.
2. **Involve the Team Lead/Scrum Master:** If step 1 fails, the issue is escalated to the Team Lead and/or Scrum Master to mediate and guide the discussion toward a resolution.

3. **Team Vote/Consensus:** If mediation fails, the issue will be presented to the entire team, and a final decision will be made by consensus or, if necessary, a majority vote.


Consequences

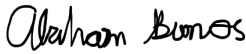



The following consequences will occur if a team member violates the agreement:

1. **Verbal Warning:** For the first violation, the Team Lead (or another designated team member) will issue a private verbal warning, clarifying the violation and reiterating the contract terms.
2. **Written Documentation:** For the second violation, the Team Lead will document the incident in writing and share it with the team member.
3. **Formal Escalation:** For the third violation, the team will formally discuss the issue and may choose to involve the course instructor/advisor, which could result in a negative impact on the team member's grade or removal from project responsibilities.

Signatures

By signing below, each team member agrees to uphold the terms and conditions outlined in this Team Contract.

Team Member (Printed Name)	Signature	Date
j.martinez3@ufl.edu		Jan 19, 2026

Team Member (Printed Name)	Signature	Date
Abraham Banos		Jan 20, 2026
Simar K		Jan 20, 2026
mazinsameersaleh@gmail.com		Jan 20, 2026
Jacob Hoppenstedt		Jan 20, 2026

Introduction and Motivation

Problem Statement

Despite the abundance of clubs and campus events, many students struggle to find activities that genuinely interest them. Existing systems often rely on static lists, manual searching, or self-selected tags, which do not effectively capture evolving student preferences. As a result, students frequently miss opportunities they would otherwise attend, and clubs struggle to reach their intended audience.

The core problem is not a lack of activities, but the lack of effective discovery and recommendation mechanisms that connect students to relevant opportunities at the right time.

Proposed Solution

This project aims to design and implement a campus activity discovery platform that intelligently pairs students with clubs and events they are most likely to attend. The system focuses on:

- Maintaining clear, front-facing club profiles
- Ensuring events and announcements are consistently updated
- Providing students with a personalized feed of recommended clubs and events

Rather than building a full community or messaging platform, the project prioritizes visibility, recommendation, and ease of access. The system will infer student interests through interaction data and use these signals to surface relevant opportunities.

Importance and Impact

- Increases student engagement and participation in campus life
- Helps clubs reach students who are genuinely interested
- Reduces information fragmentation across multiple platforms
- Demonstrates applied software engineering and recommendation system design in a real-world context

Literature Survey

Source 1: GatorConnect

<https://orgs.studentinvolvement.ufl.edu/>

GatorConnect is essentially the University of Florida's official online platform built to help students become involved in student organizations as well as for organizations to showcase themselves to obtain prospective members. The system addresses the primary challenge of having a centralized place of all information related to different types of official extracurricular activities within UF by providing a single hub where students can browse organizations and view upcoming events. By doing this GatorConnect works to reduce information fragmentation and make it easier for students to participate in campus life.

Going into how GatorConnect operates, the platform itself mainly relies on structured listings, manual searches, and some filter mechanisms. This essentially means that clubs have an established method for getting their organization published on the platform and that students can search for organizations by name, keyword, or category, and browse events using date ranges and event types. The organizations maintain their own profiles and are responsible for posting events and updates. While this approach works to centralize information, the discovery of clubs for students is largely driven by user initiative and explicit searches rather than personalized recommendations.

Meaning despite its usefulness as a centralized directory, GatorConnect has some limitations that showcase opportunities for improvement. Essentially the platform places a workload on students to actively search, filter, and browse through a large volume of

organizations and events. This makes their discovery of organizations static as it offers limited personalization and little proactive surfacing of relevant opportunities. Additionally, the student user experience is oriented around basic listings rather than dynamic engagement, which can make it difficult for students to uncover organizations aligned with evolving interests or recent activity.

These limitations directly inform the design of our proposed product. While GatorConnect successfully centralizes campus involvement data, our product will work to enhance discovery by incorporating an AI recommendation system that proactively suggests clubs and events based on user behavior and inferred interests. Thus, rather than relying solely on manual tags and keyword searches, our product's system emphasizes personalized feeds and adaptive recommendations. By addressing this gap in the personalization and discoverability present in GatorConnect, our product will improve student engagement and create a more intuitive pathway for involvement in campus life.

Source 2: The Netflix Recommender System: Algorithms, Business Value, and Innovation

https://ailab-ua.github.io/courses/resources/netflix_recommender_system_tmis_2015.pdf

Modern digital media platforms rely on recommendation systems to reduce user effort and improve content discovery, particularly in environments with a large volume of available options, which relates to UF's vast number of organizations. Media streaming services such as Netflix, Hulu, and HBO Max face a similar challenge to campus involvement platforms which is that users are shown thousands of possible options which makes manual browsing or filtering

inefficient and often discouraging. When initially introduced, streaming platforms often relied heavily on genre-based filters and static categories, which required users to actively search for content and often resulted in poor engagement and decision fatigue.

To address this problem, streaming services adopted recommendation systems based on collaborative filtering and user behavior modeling. Rather than requiring users to manually navigate content categories, these systems build user profiles by collecting both explicit and implicit feedback. This explicit feedback, for example, could have included selecting a small number of preferred titles when first making an account, while implicit feedback could be gathered through the user's viewing history, watch duration, search behavior, and interaction patterns. Using this data, the system identifies similarities between users and content, enabling it to recommend movies or shows that a user is likely to enjoy, even before the user actively searches for them.

Research into recommender systems showcases that this approach significantly improves user engagement and satisfaction. By surfacing relevant content proactively, recommendation systems reduce the cognitive burden placed on users and increase the likelihood of discovery and general use of the platform. Netflix's recommendation framework, for example, was designed not only to improve personalization but also to retain users by continuously adapting recommendations as preferences evolve over time. The effectiveness of these systems lies in their ability to learn incrementally and dynamically, responding to new user actions and adjusting recommendations accordingly.

For our vision of the product the recommendation-based approach is directly applicable to campus involvement platforms such as GatorConnect, where discovery currently relies on

manual search, filtering, and browsing through extensive lists of organizations and events.

Similar to early media platforms, this model can be tedious and time consuming, particularly for new students who may not know what keywords or categories to search for. Thus, our product adopts the principles from collaborative filtering and personalized recommendation systems to improve discovery of student organizations and campus events. By learning from initial user preferences and ongoing interaction behavior, the system would work to proactively suggest relevant opportunities, reducing friction and making campus engagement more intuitive and accessible. Thus, this approach addresses the limitations of static filtering systems and supports sustained student involvement through personalized, adaptive recommendations.

Source 3: The National Survey of Student Engagement (NSSE)

https://en.wikipedia.org/wiki/National_Survey_of_Student_Engagement

Research on student engagement consistently highlights the importance of involvement in extracurricular activities, organizations, and campus events as a key factor in student success, retention, and overall satisfaction. Mr. Kuh defines student engagement as the time and effort students devote to educationally purposeful activities, both inside and outside the classroom. Their research demonstrates that students who are actively involved in campus organizations are more likely to develop leadership skills, build social connections, and persist academically.

Despite the recognized benefits of student involvement, Mr. Kuh and other higher education researchers speak about how the access to engagement opportunities often remains uneven. One contributing factor is the difficulty students face in discovering organizations and

activities that align with their interests, particularly at large universities with hundreds of clubs and events. Information about opportunities is often fragmented across multiple platforms, requiring students to actively seek out involvement rather than being guided toward relevant options. This creates barriers for new students, transfer students, and those unfamiliar with campus culture.

The research emphasizes that institutions must move beyond simply providing information and instead focus on facilitating meaningful connections between students and opportunities. Effective engagement systems should reduce friction, personalize discovery, and support students in navigating the breadth of available options. Mr. Kuh argues that intentional design of engagement tools can significantly influence participation rates and student outcomes.

These findings directly motivate the development of our proposed platform. While existing systems like GatorConnect centralize information, they still rely heavily on manual exploration and user driven discovery. By applying personalized recommendation strategies to campus engagement, our product works to address the documented challenges in student involvement research by proactively connecting students with organizations and events aligned with their interests. This approach aligns with established engagement theory while leveraging modern technology to improve accessibility and participation.

Proposed Work

Target Users

- Students: Discover, follow, and RSVP to clubs and events
- Club Officers: Manage public club profiles and post events or announcements

Core Features

- Public club profiles with descriptions, tags, and upcoming events
- Event creation and management for verified club officers
- Student discovery feed and searchable event calendar
- Recommendation engine that surfaces relevant clubs and events
- Role-based access control for students and officers

Recommendation System

A key technical component of the project is the recommendation engine. The system will explore collaborative filtering and hybrid approaches to infer student interests based on:

- Viewed clubs and events
- Follow and RSVP behavior
- Interaction frequency and recency

This approach reduces reliance on manually assigned tags and allows recommendations to adapt as student interests evolve.

Technologies

- Frontend: React or Next.js, Tailwind CSS, Figma
- Backend: Node.js with Express or Python FastAPI
- Database: PostgreSQL
- Version Control: GitHub

Optional Integration

A late-stage sprint may explore limited integration with an external platform (e.g., chat or workspace linking) to demonstrate extensibility. This integration is exploratory and not required for core project success.

Product Backlog

High Priority

1. User Profile & Interest Selection

- **Description:** Let users select interests, hobbies, and academic areas during first login.
- **Why:** Forms the foundation for the recommendation system.
- **Responsible:** Javi, Simar

2. Personalized Recommendation Engine

- **Description:** Recommend clubs and communities based on selected interests.
- **Why:** Core differentiator from manual browsing / filters.
- **Responsible:** Abe, Mazin

3. Explore Communities Page

- **Description:** Display a list/grid of student organizations with basic info (name, description, tags, member count).
- **Why:** Allows discovery beyond recommendations.
- **Responsible:** Simar, Jacob

4. Community Profile Pages

- **Description:** Dedicated pages for each organization showing description, events, announcements, and membership status.
- **Why:** Central hub for community information.
- **Responsible:** Mazin, Javi

5. Join / Leave Community Functionality

- **Description:** Users can join or leave organizations.
- **Why:** Enables engagement tracking and personalization.
- **Responsible:** Abe

Medium Priority

7. Events Calendar View

- **Description:** Calendar showing upcoming events by joined communities.
- **Why:** Helps students stay informed and involved.
- **Responsible:** Abe, Mazin

8. Event RSVP System

- **Description:** Users can RSVP to events and see RSVP status.
- **Why:** Encourages attendance and engagement.
- **Responsible:** Jacob, Javi

9. Announcements Feed

- **Description:** Display announcements from joined organizations.
- **Why:** Improves communication between clubs and members.
- **Responsible:** Simar, Mazin

10. Search & Filter Communities

- **Description:** Search by name and filter by tags/categories.
- **Why:** Provides an alternative to recommendations.
- **Responsible:** Javi, Abe

11. User Authentication

- **Description:** Allow users to log in using UF credentials.
- **Why:** Platform for UF students only.
- **Responsible:** Jacob, Abe

Low Priority

11. Adaptive Recommendation Updates

- **Description:** Improve recommendations based on user behavior (joins, RSVPs, views).
- **Why:** Mimics streaming service style personalization.
- **Responsible:** Mazin, Jacob

12. “Recommended for You” Notifications

- **Description:** Notify users when a new club or event matches their interests.
- **Why:** Proactive engagement.
- **Responsible:** Abe, Javi

13. Community Media Gallery

- **Description:** Allow organizations to upload photos/media.
- **Why:** Improves visibility and appeal.
- **Responsible:** Simar, Javi

14. Admin / Organization Management Tools

- **Description:** Allow club officers to manage events, announcements, and members.
- **Why:** Supports long term scalability.

- **Responsible:** Abe, Mazin

Project & Team Responsibilities

15. UI/UX Refinement Based on Wireframes

- **Description:** Iterate on layout and flow based on Figma designs.
- **Responsible:** Entire Team

16. System Testing & Bug Fixes

- **Description:** Functional and usability testing before demos.
- **Responsible:** Entire Team

17. Documentation & Final Presentation Prep

- **Description:** Technical documentation and demo preparation.
- **Responsible:** Entire Team

Project Plan

- **Week 1–2:** Requirements finalization, wireframes, system architecture
- **Week 3–4:** Backend setup, database schema, authentication
- **Week 5–6:** Frontend MVP for club profiles and events
- **Week 7–8:** Student discovery feed and RSVP functionality
- **Week 9:** Recommendation system prototype
- **Week 10:** System integration and testing
- **Week 11:** Optional integration sprint
- **Week 12:** Final testing, documentation, and presentation

GitHub URL: <https://github.com/JacobHoppenstedt/CanvasCommunities>

References

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Advisor Signature

I approve of this project proposal.



01/30/2026

Ashish Aggarwal
Instructional Associate Professor
Department of Engineering Education
Department of Computer & Information Sciences & Engineering

Herbert Wertheim College of Engineering
MALA 4236 | University of Florida
ashishjuit@ufl.edu | (352) 871-1096 | www.ashishjuit.com