Team 10–BoilerHouse
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Problem Statement
Boilerlink is currently the sole website for finding clubs at Purdue, yet a lot of important features are missing. Boilerlink does not have a suggested club feature, sets of filters for searching, an application system built into the website, a conflict schedule, a rating/review system, or an active notification system. We wish to incorporate these features with a polished UI to make finding clubs more available and easier for all Purdue students.

Background Information
BoilerHouse is targeted towards all Purdue students, whether they are looking for clubs to join, are already part of a club and are open to exploring new clubs, or are officers who want to effectively manage a club that they already manage. BoilerHouse can also be targeted towards faculty and staff members, who wish to see what students are up to, and potentially sponsor clubs that they are interested in.

The main application that is similar to our planned work is Boilerlink, the current club system at Purdue. Boilerlink provides students with a full list of clubs available at Purdue, along with any upcoming callouts or meetings that they may have. Boilerlink also provides a brief description about what each club is about, as well as contact information for club officers and social media links for each club. Boilerlink also has a simple filtering system to find clubs based on their category. Our goal is to create a new application with additional functionality that is better tailored to students' interests while promoting easy accessibility.

Some limitations with Boilerlink currently include not being able to filter throughout several clubs, match clubs based on interests, not being able to connect with other peers and/or faculty, as well as not receiving important notifications at any time. BoilerHouse effectively incorporates features that address these limitations by adding filters in many forms, utilizing machine learning on users' interests to recommend

clubs, creating a messaging platform on–app to establish connections, and including a notification system that alerts when changes are made in any specific club.

Functional Requirements

User accounts
1. As a user, I want to be able to register as a student account
2. As a user, I want to be able to register as an administrative account
3. As a user, I want to be able to log into and manage my account
4. As a user, I want to be able to reset my password if I forgot it

User Profile
5. As a user, I want to be able to add information to a profile page consisting of a name, graduation year, bio, major, and various other personal information
6. As a user, I want to be able to change/delete information to a profile page consisting of a name, graduation year, bio, major, and various other personal information
7. As a user, I want to be able to upload a profile picture
8. As a user, I want to be able to change and delete a profile picture
9. As a user, I want to be able to input the times of the week in which I am free
10. As a user, I want to be able to set my interests
11. As a user, I want to be able to update, edit, or delete my interests
12. As a user with an administrative account, I want to be able to manage and delete other accounts, including setting a user as a club officer
13. As a user with club officer permissions, I want to be able to set roles for other club officers
14. As a user with club officer permissions, I want to be able to set meeting times whenever possible for my club and give required permissions for meetings if needed.

Clubs
15. As a user, I want to be able to see a complete list of available clubs
16. As a user, I want to be able to see club overviews that display information about its members (what majors members are in, member interests)
17. As a user, I want to be able to get recommendations for clubs that match my interests
18. As a user, I want to be able to apply to create a club
19. As a user, I want to be able to join/apply to a club
20. As a user, I want to be able to search through clubs with filtering
21. As a user with an administrative account, I want to be able to view club applications
22. As a user with an administrative account, I want to be able to accept/delete club applications

23. As a user, I want to be able to filter clubs by what major they are catered to
24. As a user, I want to filter by club dues
25. As a user, I want to filter by relative club size
26. As a user, I want to filter by the culture of clubs
27. As a user, I want to filter by when I am free
28. As a user, I want to filter by the amount of time I am willing to commit every week
29. As a user, I want to be able to apply to receive an officer role in a club
30. As a user who has an officer role in a club, I want to be able to send out notifications to club members through email
31. As a user who has an officer role in a club, I want to be able to set the culture, time commitment, tags, targeted audience, and other detailed information
32. As a user who has an officer role in a club, I want to be able to edit/delete the culture, time commitment, tags, targeted audience, and other detailed information
33. As a user who has an officer role in a club, I want to be able to create meetings on a schedule
34. As a user who has an officer role in a club, I want to be able to update meetings on schedules
35. As a user who has an officer role in a club, I want to be able to delete meetings on schedules
36. As a user, I want to be able to have a calendar view showing my upcoming meetings
37. As a user, I want to be able to freely add new meetings into the calendar view
38. As a user, I want to be able to freely edit and delete meetings in the calendar view
39. As a user who has an officer role in a club, I want to be able to set default contacts for clubs
40. As a user who has an officer role in a club, I want to be able to keep track of what members have paid dues
41. As a user who has an officer role, I want to be able to upload images, files, and other media to my club description page
42. As a user regardless of an officer role, I want to be able to message other members and admins of clubs through the platform
43. As a user, I want to be able to write a rating for any club I am a part of
44. As a user, I want to be able to read other people's ratings of different clubs
45. As a user, I want to be able to be able to see other students who have similar interests as me
46. As a user, I want to be able to look at clubs that other similar interest students are a part of
47. As a user, I want to subscribe to notifications from a club without joining yet

48. As a user, I want to receive notifications for important and upcoming meetings
49. As a user, I want to receive notifications for due dates (i.e club dues)
50. As a user, I want to receive notifications for new messages
51. As a user, I want to receive notifications for joining a club

Additional Stories

52. If time allows, as a user with admin status, I want to be able to restrict access to or kick students out of my club
53. If time allows, as a user, I want to be able to register/login with my Google account
54. If time allows, as a user, I want to be able to register/login using my Purdue credentials
55. If time allows, as a user who has an officer role in a club, I want to be able to record attendance, if needed, for that club
56. If time allows, as a user, I want to be able to scan a QR code that will check me into a club meeting
57. If time allows, as a user, I want to be able to receive notifications from new clubs that match my interests
58. If time allows, as a user who has an officer role in a club, I want to be able to send out notifications to club members through SMS
59. If time allows, as a user, I want to be able to block other users so they can't message me
60. If time allows, as a user, I want to be able to receive a similarity rating between me and clubs
61. If time allows, as a professor or faculty member, I want to be able to browse a list of clubs, and be able to sponsor those I am interested in
62. If time allows, as a user, I would like to be able to have a privacy setting which prevents others from seeing my major and interests
63. If time allows, as a user, I want to receive notifications for new connections with other peers

Non-Functional Requirements

● Security: With its own login system, BoilerHouse will need to store credentials for users in a secure database, and we need to be able to get a response from the database fairly quickly (within 300ms).

● Usability: Boiler House needs to be user friendly for all users, both club admins and those looking to join. The color scheme will fit Purdue and the UI will be implemented

so everyone can have access to all the features of the application with ease. We will be using React to implement our front-end.

- Scalability: The application will be designed to allow Purdue students and possibly faculty to use, and be able to support up 1,000 concurrent users or requests. Our databases also need to be structured in a way such that they can store the information for up to thousands of users, and still be able to return queries in a reasonable time (within 500ms)

- Accessibility: If time allows, we want to ensure that our UI design accommodates those that are colorblind or those with impaired vision. In addition, if time allows, we want to make our application accessible for different language barriers.