

Clava

Team 11

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Project Title: Clava

Project Statement

At this time, most college clubs and organizations do not have a centralized system in which general information, member data, and funds are managed. Instead, most use some combination of Google Suite, Boiler Link, and other tools such as SquareSpace or Wix. This directly impacts their ability to effectively operate by increasing the amount of time it takes to complete basic tasks, such as granting individual permissions or providing reimbursements.

Specifically, the areas where these existing systems fall short is the decentralization of information and overall difficult user interface. Separating member data, financials, upcoming events, board documentation, and other important aspects of administration makes accessing and understanding the general state of the organization difficult. Beyond that, the Purdue-specific utility BoilerLink is especially hard-to-use, with commonly needed tools such as APFs and Proposals being hidden behind many unintuitive menus.

Clava will provide college organizations with a suite of tools to manage their members, expenses, and documentation. The user interface will be designed with the clubs in mind, with feedback directly pulled from Purdue organizations like the Boiler Book Club. Due to all of these tools being centralized, tasks like managing member permissions for documentation and finances will be streamlined, and organizational information will be much easier to view.

Project Objectives

The overall project objectives are to:

- Provide a centralized administrative experience for club organizers
- Offer simple, intuitive tools that replace generic or hard-to-use existing applications

These objectives will be achieved by developing modularized software utilities that help simplify the management process for college organizations. These tools will be extensible, easily customizable, and both centralize the organization's data as well as present it in an easy-to-use, intuitive interface. They will possess common functionality shared by other platforms, but will aggregate them into one central hub that doesn't share the steep learning curve platforms like BoilerLink have.

For example, the majority of student organizations use generic tools like Google Sheets to manage their data and members. This user base is easily extractable as Sheets is an extremely comprehensive application that was not specifically designed to be used as a member database. Switching to Clava will benefit the organization by providing more complex features not easily accessible through the aforementioned tools, such as creating categories, roles, and managing site-wide permissions for things like documentation. To view all of the planned features, please see Project Deliverables.

This design will be implemented through a web application using ReactJS and TypeScript. Doing so additionally allows Clava to be easily extensible to interested parties. The backend will use ExpressJS and MongoDB to manage our databases as well as any integrations with other platforms (Google, Discord, etc).

Stakeholders

Robert C Dickerson
College Organizations

Project Deliverables

We will deliver a front-end written in React and TypeScript. The initial landing page for the user will present a menu of modules they can access. Each of these modules will redirect to its own dedicated web page which will host that module's functionality. As necessary, these modules will connect to a back-end service written in ExpressJS which will manage integrations with other services and maintain databases of members, documentation, and events in MongoDB.

Module development will take place in both front-end and back-end services.

The provided modules will be:

- An in-depth member management system with functionality for assigning permissions to specific members and groups of members
- A documentation hub that allows documents to be sorted by folders and filters, with Google Doc integration to allow automatic permission management based on the member system
- A financial hub to allow easy access to club financials in varying locations, as well as generating expense/income reports and hosting a invoice -> reimbursement process

Some additional modules that will be created, time allowing:

- Integration with a Password Manager such as DashLane to allow specific users access to specific platforms and passwords that are property of the organization
- Direct Integration with BoilerLink to simplify and increase user-friendliness of the APF and Proposal form submissions
- Integration with Discord to allow organizations to create bots that have access to the information stored on the web application