

# Program Review Information System Management (PRISM)



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## Background

The Program Review Subcommittee (PRS) reviews degree programs at CSULA on a regular basis. The original process involved collaboration and coordination manually over e-mail, but the goal of PRISM is to provide a system that automates the review process and streamlines collaboration workflow.

## Challenges

### Asynchronous Functionality

The variety of asynchronicity schemes utilized in JavaScript made certain tasks difficult. Knowing how to use callbacks, Promises, async/await, and RxJS Observables were necessary to understanding how PRISM operates across the entire stack.

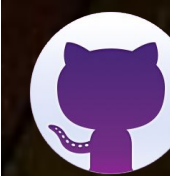
### Database Design

Designing a NoSQL database is very different from designing a MySQL database, particularly in determining whether to use references to foreign objects or to embed the objects within a single model.

## Source Code



prism-api



prism-frontend

### PrimeNG UI library

Initially, an Angular UI library, PrimeNG, was chosen for use on the frontend. It eventually became clear that it was too unstable for use in production, and the project was converted to use Twitter Bootstrap. This change came after a significant portion of the PRISM frontend had already been implemented using PrimeNG.

### Performance

Latency is always present for HTTP requests and database queries. Limiting these requests and queries without limiting functionality was a consistent concern for the frontend and backend portions of PRISM.

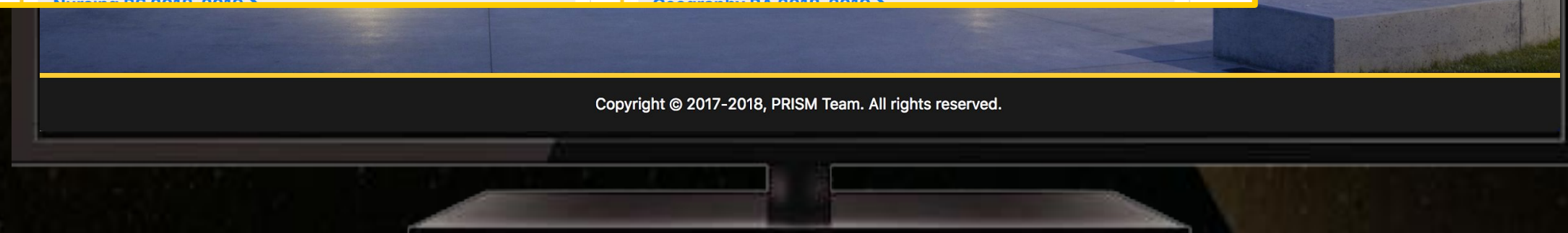
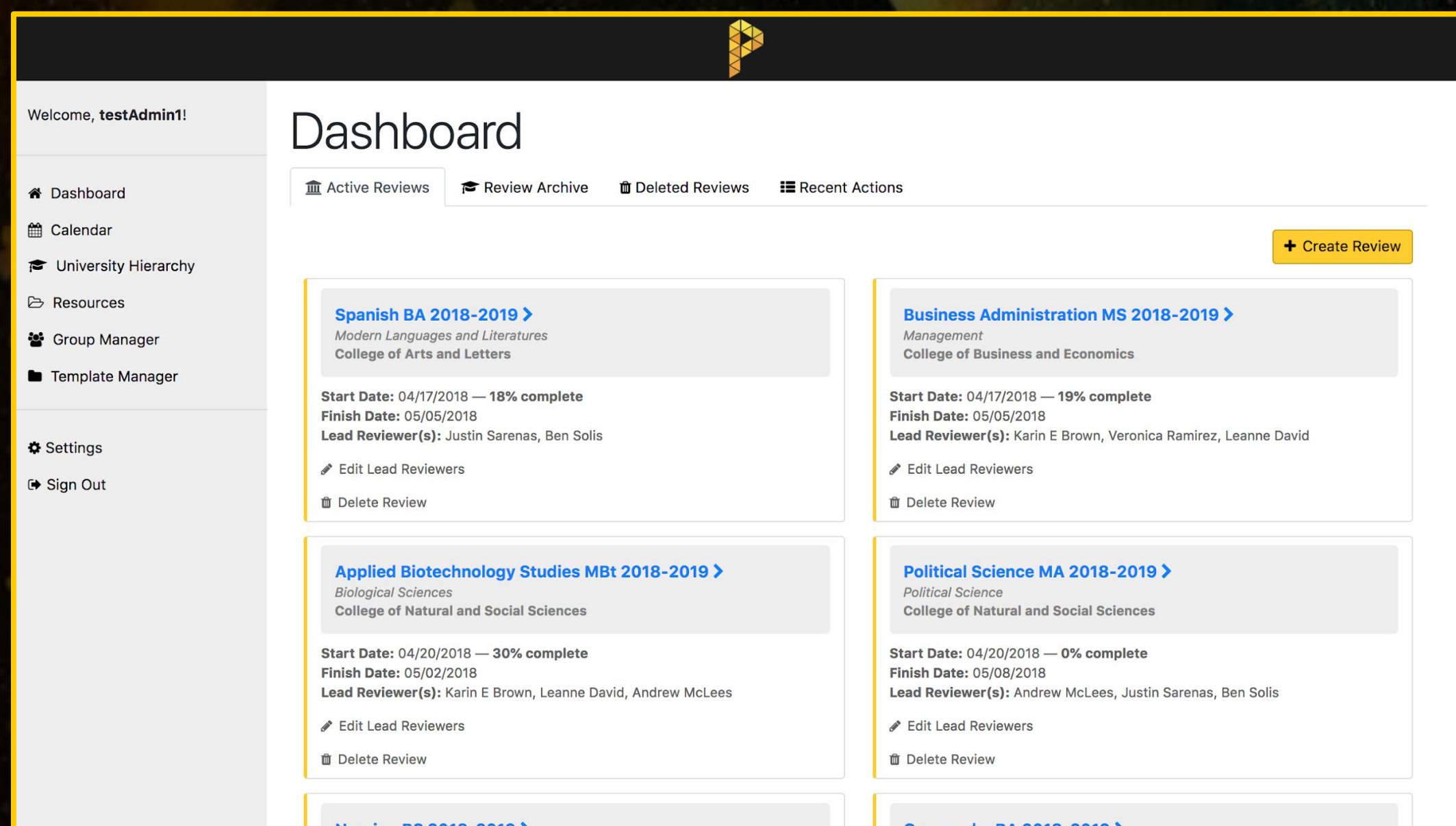
## Technologies



... and over 300 npm packages

## Workflow

- Consists of a side menu that is accessible on all authorized pages in the system that turns to a hamburger menu on smaller screens.
- Dashboard** includes quick access to active reviews, review archive, and user action logs upon login.
- Calendar** contains events that store all agendas and meeting minutes.
- University Hierarchy** lists the current active programs found in CSULA with their next review date.
- Resources** holds all available files for users to download and/or upload at any given time.
- Group Management** handles all access control for internal users.
- Settings** is where users can update their information and/or password.
- External Upload** is a separate and public page where external reviewers are invited by an administrator to upload their reports for a given active review.
- Email Notifications** are sent to users involved in changes for a review, deadline reminders, calendar events, uploads and approval of certain documents.
- Majority of adding, deleting, and manipulating data was done using modals for simplicity and easy flow.



## Reviews

- Acyclic graph that reflects the current status of individual documents for a review.
  - A **blue** tile indicates a document is ready to be worked on
  - A **green** tile indicates a document is finalized and can no longer be edited
  - A **gray** tile indicates a document needs its prerequisites completed first to be worked on
- Email notifications
- Individual versioned documents consist of multiple revisions
- Allow creation of miscellaneous documents
- Completion estimates for the entire graph
- Comment support for a particular revision
- Automatic templating
- Access control for deans, department heads, and PRS members
- Send invites to external reviewers to upload their reports

## Future Improvements

- Add a real-time in-browser document editor utilizing WebSockets
- Review graph customization
- Upgrade to Express 5 when it is out of alpha for HTTP/2
- Allow attaching multiple documents to Calendar events
- Implement more sorting and filtering functions for data tables
- Customizable email notifications for various documents and comments
- Allow replies and discussions for previous comments

