

# CMU Spring Carnival

## Executive Summary

### **Community Partner**

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### **Student Consulting Team**

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## **Background**

Carnegie Mellon University (CMU) Spring Carnival is an annual three-day event of rides, robots, races, music and comedy, engineering feats at Booth and reunions with friends old and new. Spring Carnival is an opportunity for students, alumni, faculty, staff and the Pittsburgh community to come together for fun and entertainment. The Spring Carnival Committee (SCC) is responsible for organizing the event.

One major Carnival tradition is Booth, in which student organizations build themed one- and two-story buildings. Created by an information systems project team several years ago, Binder is a web-based Ruby on Rails application that allows the SCC to manage all components of Booth. Binder is used to track organizations and participants, certifications and waivers, booth progress and checkpoints, and tools and inventory.

## **Project Description**

### **Project Opportunity**

Binder has been an effective application for the SCC to manage Booth, but there are several technical areas that could be improved. For example, the SCC deletes/drops the database each year, reverts to a default database, and manually updates inventory counts. This wastes time and can cause problems when counts are wrong or when people fail to return equipment at the end of Carnival. Binder could also be improved from a user interface perspective, including separating organization status types, linking to a person's profile from their name, and changing the dashboards and navigation bar for different types of users.

### **Project Vision**

We worked with the SCC to update Binder in order to address the highest-priority problems that they were facing. Our main goal was to make the database persistent between years, and to ensure creating and seeding records would be easy to accomplish for a nontechnical SCC chairs in future years. We also planned to implement several minor, yet important updates, including modifications to the navigation bar, dashboards, and the application architecture.

## Project Outcomes

As mentioned, our primary goal was to create a mechanism to enable data persistence between years of Carnival in order to keep a record of outstanding charges and historical transactions. To achieve this, we changed the design paradigm to implement active fields and filtering for all tables and created a wizard in which SCC administrators can populate the database's active records at the beginning of each Carnival season. We also created documentation detailing our decisions, and considerations to inform next year's SCC board and consulting team. In addition to this major feature, our team also made several minor improvements to Binder, mostly in the form of front-end enhancements to the dashboards and navigation for each type of Binder user - admins, SCC members, participants, and booth chairs - to reduce redundancy and increase functional efficiency.

## Project Deliverables

The GitHub repository for the Spring Carnival Binder app includes our team's enhancements, and revisions to the application. In addition, we created documentation in Github Markdown and Google Drive to help the next SCC chairs and consulting team understand the use, functionality and architecture of our changes.

## Recommendations

Our team recommends documenting older processes in Binder so that understanding the code base and onboarding a new team of students is easier. Additionally, to make sure that any new features do not impede the existing functionality, our team recommends placing greater emphasis on testing. We also recommend training all technical leads on the SCC board on the inner workings of Binder so that they can troubleshoot it when necessary. Lastly, we suggest identifying and involving Binder's technical stakeholders, in addition to the SCC chairs, early on to ensure easy project handoff and carryover between years as SCC chairs change.

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## Student Consulting Team

**Ameeshi Goel** served as client-relationship manager. She is a fourth-year student, graduating in May 2019 with a major in Information Systems and minors in Business and Human-Computer Interaction. She is looking forward to working at the intersection of technology, design and social impact at a startup this summer.

**Siri Tembunkiart** served as quality assurance manager. He is a third-year student, graduating in May 2020 with a double major in Information Systems and Linguistics. He will be interning at Microsoft this summer and is looking forward to traveling the world to create culturally-conscious technology solutions.

**Lorraine Zhang** served as project manager. She is graduating from Information Systems in December 2019 with minors in Business and Human-Computer Interaction. She was an APM intern at Google X and will be a TPM intern at Facebook this summer. She is interested in product management and diversity in tech.