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Missoula Community/Children's Theater - Tour Logistics

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The Problem and Solution

Tour Logistics is an original web-based software solution designed to speed up planning tours for The Missoula Community/Childrens Theater. Previously, the tour marketing department would plan these tours by hand, and with the help of their outdated and clunky database management system "Sunburst." Our solution "Tour Logistics", a Laravel web application, aimed to replace their currently utilized planning methods as well as saving them time and money. A group of programmers of which I was a part of, "The Curtain Call Coders", made it our priority to create such an application.

Our Team / Clients

Our team, "The Curtain Call Coders", was composed of 4 undergraduate seniors and 1 graduate student. Our team's members and roles are outlined in the table below.

| Name | Role(s) |
|-------------------|--------------------------------------------------|
| Addison Boyer | Database Engineer / Cybersecurity Coordinator |
| Treyton Edinger | Front-end Coordinator |
| Patrick McGill | Project Manager / Gantt Manager |
| Holden Tarver | Back-end Coordinator |
| Lee Curran (grad) | Quality Assurance Coordinator |

Our main client was Jonna Michelson, Tour Marketing Director at MCT. We also worked with tour marketing staff members Dory Lerew, and Shelby Art. Our team held bi-

weekly meetings with our clients where we discussed many facets of the project, and various obstacles we needed to overcome.

The Process

The first half of the project consisted of strictly planning and gathering of requirements. This portion of the project was the first half of the course. During this time, we as a team created documentation including but not limited to the following; team charter, project charter, SRS (software requirements specification), user interface specifications, etc. Throughout these documents we outlined team rules and values, project scope, and the various specifications we gathered from our client throughout our meetings. By the end of the first semester we had a well-developed plan to begin implementation in the spring.

The second half of the project consisted of implementation and testing. During this time the team worked together to develop the web application using the PHP framework Laravel. The team put in 100+ hours each developing this software solution. After implementation, we tested our software using integration testing and code review (a method of reviewing code internally). Other testing that we performed included usability testing, where we walked clients through a series of scenarios and observed how they reacted to these instructions. As we only had a total of 3 clients we also performed non-end user software reviews as well. After approximately 2 semesters of this class and working closely with our clients we developed the following solution.

Final Product

The final version of our web application can be found online at www.tourslogistics.com and is made up of many interfaces.

The Interfaces

Database: Our web application pulls data from a completely original database that was designed by our team. Initially we had planned to use an existing data storage and pull from an API into our application. However, we learned that the data we needed would not be there and we were forced to create our own database. This was mainly my job and took quite a bit of work. Once the database was built and seeded with data we were able to start building the login interface.

Login: The first component of our web application is a register and/or login interface. Users can navigate to our site and fill out a simple form with their name, email, and password to gain access to tourslogistics.com. The login interface uses a hashed password for added security.

Presenters: This interface allows MCT administrators to easily search for a presenter and/or add a new presenter to the database. Also, they can attach a contact to an existing presenter, so their information will show up when searched for.

Requests: This interface allows MCT administrators to easily view all requests for residency. In other words, they will be able to see all presenters that are requesting an MCT show as well as the dates they are requesting.

Tour Teams: This interface allows MCT to view all the Tour Teams that will be in a specific season. They can add, delete, and modify existing tour teams from this page. Also, they will be able to add new shows.

Seasons: This interface is the most important of all the interfaces for MCT's tour planning purposes. This interface combines Tour Teams with requests to display a grid of Tour Teams on the x axis and weeks on the y axis. Then MCT administrators can add a presenter to the intersection to book them for a show during this week.

My Experience

In general, this research project was a great learning opportunity. It taught me many things about the software development process and working within a team. It was a great experience to work within a small team and with real world clients to learn how to communicate effectively. In the end we produced a product that is hopeful to be used by MCT at a future date. However, it is clear the application is in its initial stages and still needs work. We have documented our work so that more developers can continue the project in the future.

Being a part of the Davidson Honors College has been an amazing experience. I have gained many interpersonal skills and have a passion to give back to the community through service and volunteer activities. I truly believe that the DHC and UM have prepared me for the job market and/or continuing education.