



CMPS4131: Software Engineering
Group #4

Berthing Scheduling Application

Technical Document

Demo #1

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The Berthing Scheduling application from its inception is a project that we believe would be best suited as a web based application. Our team came to this conclusion due to many factors. One of the main reasons for our decision was the availability of several of the tools that we have been using and are contemplating incorporating in the final iteration of our application. Another reason we decide to use tools like php, html, css, JavaScript or related framework was simply because they are tools that the team is familiar with and have used in the past. Using these tools, we believe, would make our development much easier.

PHP



PHP stands for Hypertext Preprocessor. It's an open source, server-side, scripting language used for the development of web applications and is a language that is widely used in the development of Web Application. In 1994 Danish-Canadian programmer Ramus Lerdorf created PHP. Our application will require user authentication, perform crud operations on our database and display information dynamically. For this reason, PHP was one of our languages of choice.

Laravel



In keeping with our development timeline and goals and keeping in line with PHP as the backbone of our application the Laravel PHP framework will be used as well. Laravel after its introduction in 2011, has become the most popular free, open-source PHP framework in the world. Laravel can handle complex web applications securely, at a considerably faster pace when compared to other PHP frameworks. Laravel simplifies the development process by easing common tasks such as routing, sessions, caching, and authentication.

HTML/Bootstrap/CSS Composer/CSS



The foundation of a web application is taken care off by HTML and styling by CSS. It is an inescapable fact the boot of these two elements will be intertwined with our PHP framework in order to have an attractive and aesthetically pleasing product. Several tools like boots are available for use in web application development. Bootstrap is being used in our project in order to use several of the tools that have been developed. Unless there is something unique that is require Bootstrap will be utilized.

JavaScript/AJAX



JavaScript/AJAX will be used to add additional functionality to our application. Case in point, listeners will be employed and constantly listening. For instance, when as vessel is being loaded and unloaded a delay could be logged by one of the parties responsible for doing so. As this delay is logged immediate notification must be issued to the relevant parties to resolve such an issue as quickly as possible. Apart from this one specific example JavaScript, amongst, other things will be used for validation on the front end of the berthing application.

Mysql/PHPMyadmin



The application being built for the Berthing application will rely heavily on a database for many things. User's credentials, username and roles will be stored in the database. Additionally, ship's information (arrival, departure, name, status, etc) along with workers schedules, logs of delays and

notifications are being store in the database for the efficient running of our application. Mysql has been selected as our database of choice. Along with phpMyAdmin the management of the data used in the testing of our application should be fairly efficient.