**6.2 Technologies in Use**

**6.2.1 Programming Languages**

**6.2.1.1 Server-side**

**6.2.1.1.1 PHP**

PHP is the main server-side language that will be handling business logic and SQL database queries. PHP was chosen due to the syntax similarities of other major Object-Oriented programming languages, allowing for a quicker learning experience.

**6.2.1.2 Client Side**

**6.2.1.2.1 JavaScript**

JavaScript a multi-paradigm scripting language that is supported and natively embedded by all major browsers including Internet Explorer, Firefox, Safari and Chrome. It is mainly used for dynamic client side manipulation of the DOM and allows for a dynamic browsing experience.

**6.2.1.2.2 jQuery**

jQuery is essentially a JavaScript script library that allows programmers to write less lines of code in order to perform the same functionality in the native JavaScript environment. It allows for quick DOM manipulation with very few lines of code, animations, client side validation, form input handling and quick Ajax calls.

**6.2.1.2.3 HTML (Hyper Text Markup Language)**

HTML is the primary markup language used to create web layout and provide structure to web content. Of course, it is also natively supported in every major web browser.

**6.2.1.2.4 CSS (Cascading Style Sheet)**

CSS is used primarily for styling purposes that is supported by all major browsers with some detailed exceptions in portability. The essence of CSS is to separate styling from the markup language, such as HTML.

**6.2.2 IDEs**

**6.2.2.1 PhpStorm 10**

PhpStorm is a powerful IDE provided by JetBrains that is integrated with an extensive Git support system and provides direct database management without the use of any other third party application.

**6.2.3 Database Management System**

**6.2.3.1 MySQL**

MySQL is an open-source database management system that provides more than enough features required to for the scope of the web application. It also provides InnoDB storage engine access which supports transactions, enabling to undo database query commits. (See 6.2.4.1)

**6.2.4 Web Server**

**6.2.4.1 XAMPP (v1.8.1)**

XAMPP 1.8.1 is a free open-source, cross-platform web server solution package which includes Apache HTTP Server, MySQL and PHP functionalities.

**6.2.5 Source Code Revision Management**

**6.2.5.1 GitHub**

GitHub is a popular source code revision management system that allows for developers to clone source code repositories and provide a non-destructive means of working in isolation from the original repository. In turn, this provides a better overview of which developer is working on which portion of the code, thereby providing a flexible version control workflow.

**6.2.6 Deployment Software**

**6.2.6.1 DeployHQ**

DeployHQ is an online service that allows automatic and manual deployment of sources code from any type of repository service such as GitHub. It is used to automatically deploy source code directly to the main hosting server from a selected GitHub branch of your choice in a seamless manner. The service is installed via a webhook service, integrated within GitHub and source code deployment occurs upon a commit done in the master branch. It also provides rollback options.

**6.2.7 Team Collaboration**

**6.2.7.1 Trello**

Trello is a free team collaboration tool that organizes task into board spaces. It provides an overview of what tasks need to be done, tracks due dates and assigns tasks to collaborators. It also provides a mobile app version which allows to push notifications to users’ mobile when the project board was updated, allowing collaborators to respond to tasks accordingly.

**6.2.8 Framework**

**6.2.8.1 Yii**

Yii is a highly extensible, open source framework designed for web applications and is based on an MVC architecture. It shortens development time with the use of Gii, an incorporated tool that quickly creates on-the-fly templates for models, controllers, forms, modules, extensions and CRUD control actions and views. This allows developers to minimize repetitive tasks and enforces the MVC architecture according to Yii’s specifications. It also comes with a pre-built web template to allow unfamiliar developers to get a quick start in learning how to properly create models, views and controllers.