EduCamps INC
Software Architecture Document

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1. Introduction

1.1 Document Overview

This document describes the architecture of EduCamp_Loading Website.
It describes:

- A general description of the website
- The functional structure of the website
- The technical structure of the website
- The tools used to build the website
- The technologies used to build the website

1.2 Scope

The purpose of this document is to describe the structure and the functionalities of the website, all the tools and technologies used for constructing the website.

2. Functional Structure

2.1 Layout Planning

In every page, we have a navigation bar directing the users to other main sections of the website, and a footer with our contact information at the end of every page. Each page also has a login option for users to login or sign up.

2.1.1 Home

The Home page contains introductions of the company and brief descriptions of other main sections. Each description comes with a link to the corresponding page. This page also contains a map with all the locations of camps the company provides.

2.1.2 Schedule and Registration

The Schedule and Registration page lists all the camps with their pictures and descriptions. The descriptions include session, start and end date, price, and activities. Each camp links to a registration page, which contains a form for parent to complete in order to register. After completing the form, a payment page shows up for parent to pay the camping fee.

2.1.3 Catalog

The Catalog page lists all the items the company sells that are related to the camping program. Parents can buy things on the website for their children. The page has a shopping cart to record the things user selected, and a pay now button that leads to the payment page.

2.1.4 Forum & Memory

The Forum page provides a platform for parents and even people not registered to give suggestions and reviews. It is a place for communication and improvement. The first part of the page is a display of all the history reviews. The second half of the page is a form for users to post his or her own reviews. The page also linked to a memory gallery, which contains photos of children in the camps.

2.1.5 Visualization

The Visualization page shows the statistics of past enrollments of each camp. It is used for the advertisement of the company. The expanding size of each camp embodies the growth of the company and attracts more parents to register camps for their children.

2.1.6 Activities

The Activities page lists somes examples of the activities each camp has. Computer-based activities section provides links to the actual computer games that users can play on the website. The robotics sections provides links to each product's detailed specification.

2.2 Standard Operational Methods

The purpose of the website is to set up a bridge between the company and parents. Parents who are the first time visit the website can sign up for an account. Then they can login by their usernames and passwords. After logging in they can register the camps for their children. Each user has his or her own personal page, which has the information about the camps that their children went to.

2.2.1 Registration discount

A parent can get 10% discount on camp registration fee for every child after the first child. It encourages parents to send more than one child to the camp.

2.2.2 Shopping discount

Once a parent has registered camps for his or her children, he or she can get 15% discount of the total price in the shopping page.

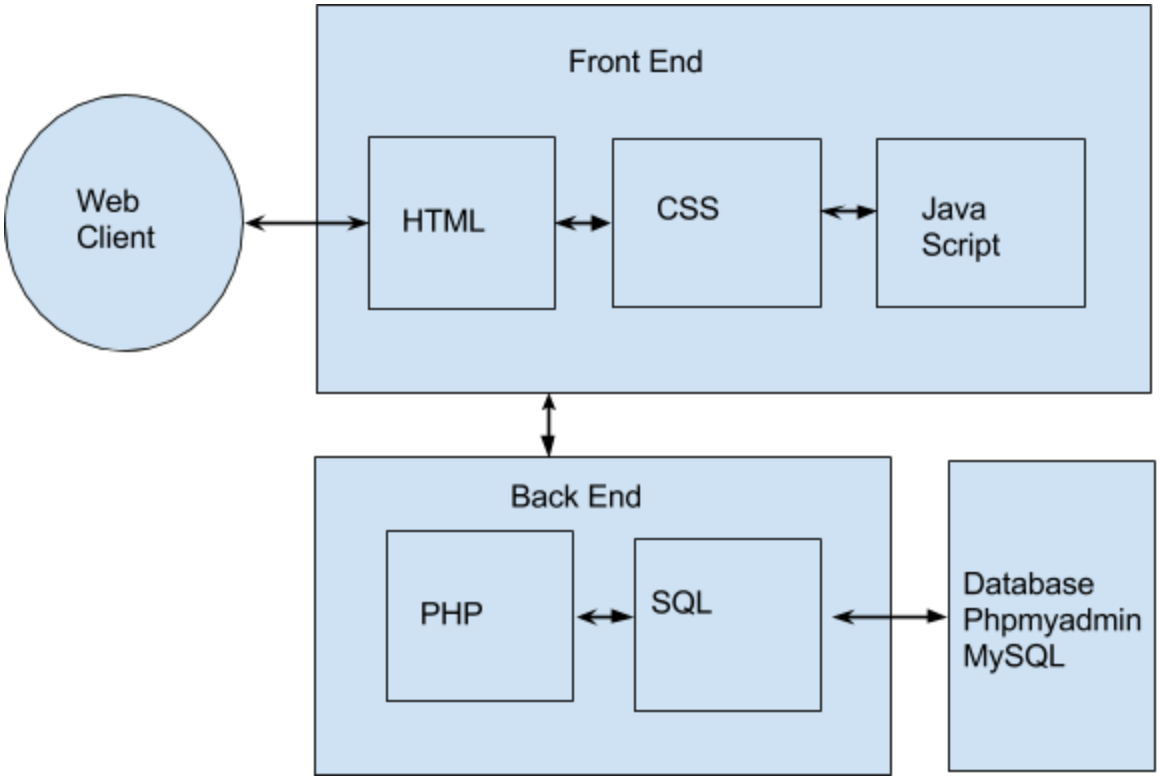
2.2.3 Other advertising

Visualization and activities page also attracts parents to register camps for children.

3. Technical Structure

3.1 Technical Structure Diagram

The front end and back end refers to the separation of concerns between the presentation layer and the data access layer. Html defines the structure of the webpage while the CSS styles the html structure. The javascript handles the display of statistics and the map, and the PHP handles post/get requests from the front end to the back end. SQL is used to manage the database that stores all the information of the website.



3.2 Front End

In the front end (client-side development), we use HTML, CSS and Javascript to provide a user friendly interface.

3.2.1 HTML (HyperText Markup Language)

HTML is used for creating web pages and web applications. It is basically about the web contents. It describes the structure of Web pages using markup. Tags label contents in pieces like heading and paragraph. Browser use tags to render the content of the page.

3.2.2 CSS (Cascading Style Sheets)

CSS is used for describing the presentation of a document written in a markup language. It mostly set the visual the visual style of web pages.

3.2.3 JavaScript/jQuery

Javascript is an event-based programming language that is used to transform a static html page into a dynamic interface. We also used the Document Object Model (DOM), provided by the HTML standard, to manipulate our web pages in response to events, etc. We also use the jQuery, which is a lightweight Javascript library, to display our graph.

3.3 Back End

The back end of the website consists a server, an application, and a database. It builds and maintains the technology that powers those components together, and enables the user-facing side of the website to even exist in the first place

3.3.1 PHP (Hypertext Preprocessor)

PHP is a server-side scripting language, and a tool for making dynamic and interactive web pages. Since PHP can contain text, HTML, CSS, Javascript and PHP, most of our files are PHP files. It generates dynamic page content, collects data, modifies database and control user-access.

3.3.2 MySQL

We use MySQL as the database system on the web runs on a server. In additional, we combined PHP with MySQL to create our login, registration, etc.

4. Tools

4.1 Dreamweaver

We use Adobe Dreamweaver as an IDE for html and css files. It provides a split view with half page and half codes, which allows us to dynamically see the change of the website while revising the code. After completing the code in Dreamweaver, we upload the files to Codeanywhere for testing.

4.2 Bootstrap

We use Bootstrap in both frontend and backend. In front-end, it includes HTML and CSS based design templates for forms, buttons, navigations, image carousels, etc. In back-end, it comes with several Javascript components in the form of jQuery. We use Bootstrap's grid system for the layout of nearly all of our web pages.

4.3 Codeanywhere

We use Codeanywhere as the cross-platform cloud IDE. It can instantly write, edit, collaborate and run web development projects from a web browser. We can test, share and update all the codes in this platform. It also provides a database for us to store all the informations about the website such as users, selling items, and camps.

4.4 PhpMyAdmin

phpMyAdmin is a source tool written in PHP to handle the administration of MySQL with the use of a web browser. It is provided by Codeanywhere platform. We perform a lot of tasks such as creating, modifying or deleting databases, tables, fields or rows; executing SQL statements; or manage users and permissions.

4.5 CanvasJS

CanvasJS provides a simple and intuitive Charting API in JavaScript. We use this technology to create our chart in the visualization page.