

Proposal for Samurai Builder

Samurai Builder is a web application that allows users to create, customize, and share cartoon samurai characters.

Features / Functionality

Samurai Builder is composed of a single core feature, plus several supplementary features designed to support that core.

Core Feature

The core of Samurai Builder is a character creation & customization feature. Users can create create a samurai character consisting of the following traits:

- The samurai's name
- A biography of the samurai
- The samurai's hairstyle
- The samurai's face
- The pattern on the samurai's kimono

Supplementary Features

Users can edit these features on a customization page, and save the current trait set of their samurai. The set of a user's samurai traits are saved on the server and keyed to that specific user. The user can return and continue customizing again in the future, picking up where they left off before.

In order to tie the samurai character to a given user, Samurai Builder has a user management system. Users can create password-locked accounts. These accounts are only tied to their usernames (no email address or other personal information) so account recovery is not possible. Once a user has created their account, they receive a personal webpage on Samurai Builder where they can showcase the samurai they have created. This webpage can be seen by any website visitor, regardless of whether that visitor is logged in to a Samurai Builder account.

Lastly, website visitors can view the samurai that have been created on a search page. By default, this page will display all samurai on the site, but visitors can filter the existing samurai by specifying the values of certain traits they are interested in.

Data Source

The data set of Samurai Builder consists of user profiles. For each user profile, the following data is stored:

- The user's username
- The user's password
- The traits for the user's samurai, as listed above:
 - The samurai's name
 - A biography of the samurai
 - The samurai's hairstyle
 - The samurai's face
 - The pattern on the samurai's kimono

This data will be entirely user-generated.

Prior to our presentation, we will create a set of approximately 10 accounts with customized Samurai so that the features of the site can be demonstrated.

During the demonstration, we will create a new account, customize the samurai for that account, and show how the newly-created user interacts with all the features of Samurai Builder.

Platform

On the back-end, Samurai Builder will run on a MEN stack:

- We will use Node.js to execute server-side logic
- We will use ExpressJS in Node.js as our web application framework
- We will use MongoDB as our data store

On the front-end, Samurai Builder will use:

- Static HTML pages, populated by front-end JavaScript calls to the server after loading
- Bootstrap
- JavaScript

This platform allows both of us to build both the front-end and back-end using a language we are familiar with (JavaScript), and gives us the ability to easily iterate on our designs.

Systems and Software Tools

Our website will be built using MVC architecture. An Express controller will process requests from the user and call functions written using Node.

The behavior of the character customizer will be written using the P5.js library.

UI elements for the static HTML site will be created with Bootstrap. UI elements in the character customizer will be created with Aseprite or implemented directly in P5.js.

Example Images



Figure 1. Example expression (no hair)



Figure 2. Example expression with an example hairstyle



Figure 3. Kimono example. Each Kimono will be customizable by pattern and colors



Figure 4. Example of one type of pattern, customizable by the player