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CS 3083

November 11, 2020

KeySwitch is a web-based database service that is similar to PCPartPicker but is geared toward mechanical keyboards. Users can create accounts where they can make their lists that outline their build, or in other words, the parts of their keyboard. Ideally, during account creation, the frontend will hash the inputted password. In the future, account creation will require an email tied to the account to send a code to verify and complete the account creation. Two-factor authentications will also be required to login an

Builds will be composed of the keyboard name, the layout of their keyboard, the material of the plate, the switches used, the stabilizers used, the keycap set used, and the lube used. While creating the list, users will add parts to the list by pressing a link to start selecting parts to add to the list. The link will redirect to another page that shows every different item for the specific part and when they select to add the part, they will be redirected back to the main page where their list will be updated with the selected part. Users can add small descriptions to describe their build; once an item for every part has been selected, the user can then press the submit button to add their build into the database. Users can view other people’s lists as by default the lists will be public and can leave comments on the lists. In the future, lists will be able to become private and there will be options to be able to share the lists with others or favorite other people’s list to save them for the future.

The front-end I made is a simplified version of this description. Account creation and the comment system is not shown. Users can create a list and on the main page by using the dynamic drop-down menu (it runs PostreSQL queries to create the drop-down menu) and selecting the parts for their build. After pressing the submit button, it inserts a row into the “list” and “build” tables. Users can press the links on the top of the page to read more about the specific parts.

One limitation of this system is that users can only select options for parts that already exist in the tables. A change I would like to have implemented would be allowing users to add custom parts to the past. I would like users to also be able to sign up as a designer and have the ability to add the keyboard or keycap they designed into the respective tables. In the future, users should be also be given specific roles when creating their accounts to limit their access or functionalities. Currently, in the front-end, connection to the database is made through one database account. This limitation should be changed so that when creating an account, users should be given a specific role. For example, admins of KeySwitch would be allowed read and write access to the database while normal consumers can only have read access unless if they are a trusted and verified designer.