Creating a Database-Powered Web Service to Preserve Biodiversity in Hawaii

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This project outlines the creation of a database and accompanying Application Programming Interface (API) for assisting with local and statewide conservation efforts. The API aims to improve the ease of accessing information regarding Hawaii's indigenous and endemic flora. This has the possible affect of improving the survival rate and interest in conservation for these species, as seen through the API's permeation into the conservation community as a resource. The PHP: Hypertext Preprocessor language alongside the Laravel framework were chosen to comprise the primary API query framework due to their robust and scalable natures. Data is queried from a SQL/Sequel Server that contains standardized and sanitized data from the Integrated Taxonomic Information System. This project aims to improve the ease of accessing information regarding Hawaii's indigenous and endemic flora. Further opportunities include expanding the API to include fauna in addition to flora, as well as open sourcing the API for direct manipulation by conservation groups. This is the first web service of its kind, and there is enormous potential to expand the service to become the primary consolidated resource for standardized native and invasive flora and fauna data across Hawaii. In its most basic form, the API can query mass amounts of data related to native and invasive flora in Hawaii, and is scalable to accept open source contributions. Such a resource fosters the creation of incredible educational and conservational tools, promoting the importance of conserving endemic species in Hawaii.

Awards Won: