WEB701

Assignment 2.2

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# Web Frameworks:

A web framework is a type of software framework used in the development of web applications. A web framework uses web services, web resources and web APIs for creating these web applications. These frameworks deliver a standard way if building and deploying web apps and aim to automate the building of web apps by providing libraries for database access, templates for front end, and session management. The majority of frameworks in use now promote code reuse and target dynamic web applications and must operate according to the architectural rules of browsers and protocols such as HTTP (Wikipedia, 2021) . These frameworks are also made to support the construction of web apps based on a single programming language for example, JavaScript, typescript, angular, Vue, CakePHP to name a few. These such languages are usually built for the purpose of the specific task such as content management or for portal tools.

AS well as different types of framework offered by different companies, there are also three different framework architectures; MVC (push-based), Component Based (pull-based), and Three-Tier Organisation.

MVC or Model View Controller architecture follows the push-based pattern and separates the data and business models from the user interface. This modularizes code and encourages code reuse as well as allowing for multiple interfaces to be utilized. Instead of using different pages, MVC uses different views in displaying and presenting information, and each view has its own corresponding controller.

Component/Push-Based architecture use a view layer that then ‘pulls’ results from controllers as needed. This means that multiple controllers can be corresponded to a single view.

Three-Tier Organization apps are structured around three ‘layers’, data layer, business layer, and presentation layer. The data layer contains the database and all data, the business layer contains the logic of the application and handles transactions between the data and presentation layers, and the presentation layer contains the user interface and hands user input to the business layer.

There are two ways for a framework to function, either server side, or client side. Server-Side applications operate by requiring a page to refresh in order to show changes to data but allow almost any language to be used and more computing power to be applied. Client-Side (otherwise known as single-page applications) applications are limited to only a few languages but allow web pages to be updated in chunks instead of requiring a full refresh so that they feel more like a cohesive application (Wikipedia, 2021).

For the purpose of this development scenario, I will be using two client-side frameworks Angular, and Vue, as well as a JavaScript + Mongo dB framework for the backend of the application. These frameworks will incorporate a JWT authentication sand authorisation service for the login/logout/register functions, as well as authorisation for admin and moderators.

# Framework Evaluation: Vue

# Framework Evaluation: Angular

# Conclusion: Recommended Framework

# References

Wikipedia. (2021, 06). *Web framework*. Retrieved from Wikipedia: https://en.wikipedia.org/w/index.php?title=Web\_framework&oldid=1030941178