WEB701

Assignment 2.2

Hannah Wilson

13030830

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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.

# Prototype Comparisons

## Register, Login, Profile:

### Vue Register:

A picture containing text

Description automatically generated

Timeline

Description automatically generated with low confidence

### Angular Register:

Text

Description automatically generated

### Vue Login:

Text

Description automatically generatedText

Description automatically generated with medium confidence

### Angular Login:

Text

Description automatically generated with medium confidence

### Vue Profile:

Graphical user interface, text, application, email

Description automatically generated

### Angular Profile:

Graphical user interface, text, application, email

Description automatically generated

### Comparison:

The Vue framework seems to be sort of all inclusive in how it sets up each view. Each different function is carried out in its own file along with the styling, service calling, and carrying out of error checking. Because of the folder size of the Vue framework is a lot smaller however file sizes are comparatively larger when compared to the Angular Framework.

Graphical user interface, application

Description automatically generated -Vue File Layout.

The Angular framework however has a separate folder for each function that then contains the html and CSS files instead of everything being in one file like with Vue. This means the file sizes are a lot smaller and code is easier to keep track of so is less confusing and easier to locate certain parts of code.

Graphical user interface, application

Description automatically generated

* Angular File Layout

## Token Service:

### Vue Token Service: Angular Token Service:

### Text Description automatically generated

Text, timeline

Description automatically generated with medium confidence

### Comparison:

The token service for Angular seems a lot more rigorous and robust compared with the Vue token service. Angular has a Token service for allocating, saving, checking token and checking user which seems a lot more secure.

## Interactive Elements:

### Vue Register Page

Graphical user interface

Description automatically generated

Timeline

Description automatically generated with low confidenceA picture containing text

Description automatically generated

### Angular Login Page:

A picture containing table

Description automatically generated

Graphical user interface

Description automatically generated

### Comparison:

Vue uses an all-inclusive format when coding pages/views, so all html and styling is done in the same file as all the functionalities. Whereas with Angular all styling an html is carried out in separate files and is much tidier and easier to manage.

# Conclusion: Recommended Framework

# References

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