

GEEKS
SOLUTIONS

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Case Study:

eCommerce Web-Application

Background:

Clients deals with the selling all sorts of products on online market. As the client was already using the eCommerce application to fulfil needs, but the platform for the same was not reliable enough as it was developed in WordPress, so revamp of the application was needed in the requirement.

Requirements:

The primary requirement for this project was –

1. The application should be able to process the user requests fluently.
2. The application should be able to search through the large data sets.
3. The application should be able to process the transactions effortlessly.
4. The application queries in the backend should not get stuck (sleeping/ slow queries) while processing the orders and transactions, and so on.

Technologies used:

In the todays market there are a lot of options available to develop the eCommerce application – from ‘drag and drop’ to ‘nested development structures’ like the giants we already have in the market. Choosing the appropriate development structure was mandatory as one mistake in the transaction or workflow could cost a lot for both ends.

So, our developers have come up with the solution which balances both – Latest reliable frameworks and to manage complex transactions.

The application platform was PHP based, with the help of Laravel PHP framework handling the backend structure with complex dataset and VueJS in the frontend dealing with the user inputs and passing data to the backend.

Server architecture –

1. AWS Cloud

Frontend –

1. VueJS

Backend –

1. Laravel (PHP Framework)

Webserver –

1. Apache

Database –

1. MySQL

Workflow:

Backend –

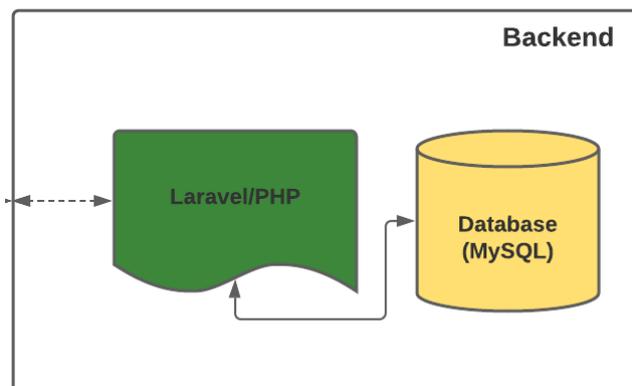


Diagram explanation –

Backend uses Laravel (PHP) to handle all the API requests incoming from the user (Front end - VueJS).

The application is using the MySQL for the storage and Apache Webserver to handle the client requests. Both are highly optimized w.r.t. the performance and high data load by our technical team.

Frontend –

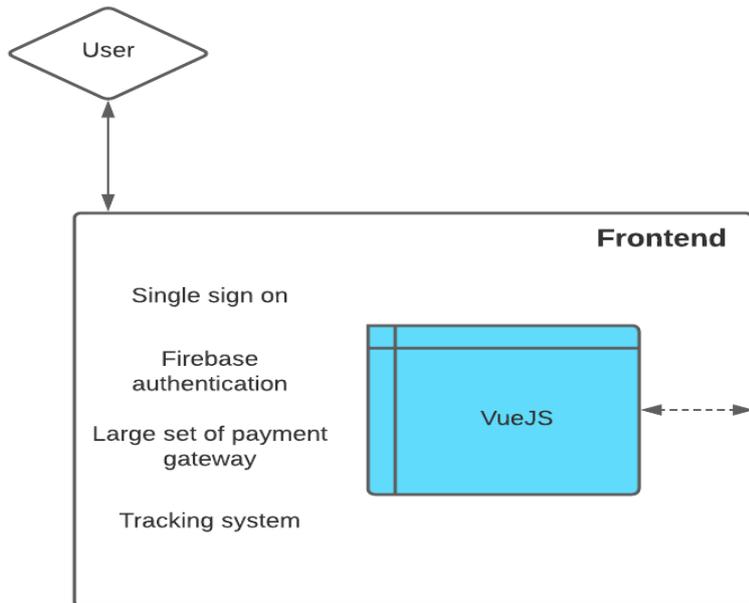


Diagram explanation –

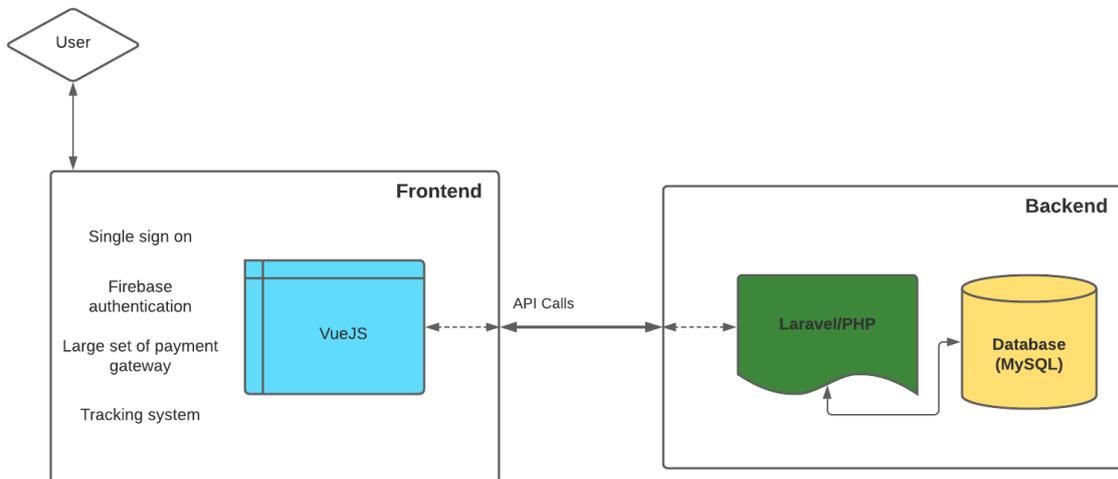
We have implemented the frontend with the help of VueJS a JavaScript framework, where framework handles all the user inputs with the help of in/out API calls to PHP backend.

Our Approach:

Client's requirement was thoroughly evaluated and various components in the requirement were explored in depth to get a best possible architecture for optimum benefit. However, the primary focus was on to prevent transaction from getting declined whether it is the payment transaction or navigation on the frontend. As we had to provide the seamless experience for the user while he is active on the website for any purpose.

Second main concern was query processing, as it plays major role while delivering the expected outcome. So, with the help of our Server Management team, we were successful to hurdle this difficult situation by optimizing the database and webserver to prevent sleeping/ slow queries and webserver to handle thousands of requests.

Frontend & Backend in action –



The application was optimized in a way that it prevents the deadlock state from occurring in most of the scenarios. The deadlock is the main concern while dealing with the eCommerce application as it could lead to breaking the system. We have also implemented the Load Balancer to prevent the server from crashing as the load gets equally distributed to set of available servers.

Benefits:

1. The application uses Firebase authentication system which also helps for SSO.
2. User gets to search products from the large data sets, that client already have.
3. User can track the shipment status whether its order status or delivery tracking.
4. User gets to select payment method from multiple available payment gateways.

For more information and queries, feel free to contact us. We are available at info@geekssolutions.in

Thank you!