Curacao Case Study

Finance Platform

Market Place

CURACAO®

They had a portal updated with poor security, old technologies not matching the company's new standard, and low scalability. The site needed a redesign and recoding from ground up.

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With curacao finance, when you open an account at CURACAO, you will have an opportunity to establish your credit history, nationwide. Your credit with Curacao will help you finance an auto or home loan, or aid in a student loan for you or your family and so much more. CURACAO offers low interest rates and easy payments.

The Challenge

- Improve security
- Add scalability
- Re-code all the site

Curacao had a payment portal, with it's respective administrator site, updated with poor security. Also it was developed with technologies not matching the company's new standard. The architecture of the servers, including databases design, was implemented without scalability in mind. This is the reason why the site needed a redesign and recoding from ground up. The incompatible technologies led to a new site development project instead of an improvement.

Requirements

- Replicate all the functionality of the previous site.
- Replicate all the designs of the previous site.
- Replicate all the functionality for the administrator site.
- Design a new database.
- Implement better security and PCI compliance on the site.
- Design and implement a new architecture for the servers where the site will be hosted.

The user stories were made based on an audit performed to the live site. A preliminar new design of the database was made to reflect the user stories made, as well as a new architecture of the servers for development-test environments and for production environment. Three servers were provided to implement the development and testing environments. It was installed Nginx on two of them, and Percona database in the third one.

The firsts sprints of the development were focused on the payments portal and a final redesign of the database. The framework used was CodeIgniter. Authorize.NET was the payment gateway used in the site, as well as Redis to handle the cache. Following the scrum methodology, each week a meeting of progress took place. During the final sprints of the payments portal, the administrator site was started, as well as the implementation of the production environment.

The production environment included 3 servers divided into several virtual machines using Proxmox. Among the VMs on two of the servers were included one to handle Redis, one for the monitoring with Zabbix, two with Percona database with a master-master connection. The third server was used to implement a Load Balancer as well as a Firewall.
During the sprints of the administrator site, a redesign of the payments site was made by request of the client to a more user friendly experience. The unit testing was made and the site was deployed in the production servers in a staging environment for the final tests.

Technologies

Database, web design and structure, asynchronous technologies for DOM, backend logic and tools and web services:

- MySQL 14.14

- HTML5
- Bootstrap 3
- CSS3

- jQuery
- JWT
- JSON
- AJAX

- Codeigniter 3.1.0
- PHP 7
- Node.js
- Redis

- Authorize.net
- SmartFocus

Results

Curacao now has a new site with more options for scalability, security and better user experience as well as performance. Their services now can be delivered with improvements that their clients will appreciate, since security, speed and naveagtion are three very important aspects for every customer.

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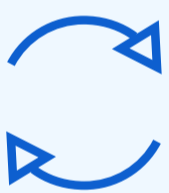
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