Development of MongoDB Application

Front-end Development

This application developed using Node JS framework. This is a framework which is based upon plain JavaScript. Before discussing about the font-end of the application, let’s get to know about the technical users that exists in the society. We can categorize technical people into 3 categories and they are listed below.

People who have less technical knowledge.

People who have average technical knowledge.

People who have high technical knowledge.

Let’s explore facts about each technical group. People with less technical people are digitally literate people who use digital devices such as smart phones to complete some their daily/non-daily activities such as browsing the web, streaming music/videos online, replying emails etc. Average technical personnels have more technical knowledge in comparison to people with less technical knowledge. They are also digitally literate who perform tasks such as word processing, spreadsheet processing, slide processing, using simple database management systems such as Micorosoft Office Access etc. Highly technical people are digitally literate as averagely technical people but they perform advanced tasks such as software development, writing SQL/NOSQL queries to manipulate data, writing scripts to automate tasks etc. So highly technical people are capable of handling command line interfaces and graphical user interfaces of database management systems while averagely technical users capable of only handling graphical user interfaces of databases. People with less technical capabilities are not capable of handling either command line interfaces or graphical user interfaces of databases.

This applies to the Nexart enterprise as well. Nexart web application can be accessed by the user categorizes that are mentioned in the above paragraph. As for instance circuit programmers, administrators and floor staff represents highly technical, averagely technical and less technical people accordingly. In some cases people who have less technical capabilities need to store data in the database to process a task such as monthly payroll. So they need to interact with MongoDB database indirectly in order to process the payroll. This is where the font-end of the web application comes into play. This gives the privilege to the less technical people to interact with the database. Before developing the front-end wire frames were sketched out and they are demonstrated below. In the next chapter theses wireframes are brought back to life.

Graphical User Interface

In order develop the graphical user interfaces html and bootstrap technologies are used and the developed graphical user interface illustrated below.

Graphical User Interfaces does not complete the whole development phase of the application. Frontend of the application needs to communicate with the databases to perform all crud operations. Back-end of the application connects the front-end to the database. The next segment chapter discusses about the development of back-end.

Back-end Development

The back-end of the application is developed using JavaScript. Scripts that are related to back-end is shown below.

The server javascript file is the main script of this application. Functionality of the scripts of webpages relies upon the server javascript file. In this manner backend development comes into a whole. The functionality of the system is evaluated in the next chapter.

Testing

Without system testing and bug fixing, the whole development phase do not get completed. The application cannot be hosted online unless the testing phase is completed. So the development team requested the quality assurance engineer to evaluate the system thoroughly. For starters he tested the crud functionality of the products in the application by inserting values and triggering events such as clicks in admin product management page. The results of the crud functionality are given below.

In this manner the QA tested crud operations for other collections as well. In addition he conducted unit and integration testing for all the scripts in the application. Since the testing phase has already compelted, the nexart web application is ready to be deployed online. Even though the system is fully developed, maintenance should be carried out to address the the technical issues that are about occur in the future. The effectivity of the implemented data engineering pipeline is evaluated in the next segment.