**CASE STUDY - FRANCHISE MANAGEMENT SYSTEM**

**Project Overview:**

FABO Laundry Services, a major laundry company, wanted to simplify how they manage their franchises. So, they needed a robust system to handle all the details. This system would keep track of franchise locations and their employees efficiently. It would control who can access what in the system based on their roles. Additionally, it would enable customers to interact with products, add items to their carts, and make payments smoothly. The system would also manage support requests and send out emails for communication purposes. To ensure quick data processing and a smooth user experience, we utilized JavaScript and jQuery filters to optimize data retrieval on the client side.

**Requirement and Analysis:**

In the beginning, we figured out what FABO Laundry Services needed for their new franchise management system. We talked to lots of people involved with FABO Laundry Services to understand exactly what they wanted the system to do. We held meetings, asked questions, and even sent out surveys to get all the details. This included talking to franchise owners, employees, and customers to make sure we got the whole picture.

**Design:**

Once we knew what FABO Laundry Services needed, we started making plans for how the system would work. We drew diagrams, designed how the different parts of the system would look, and figured out how everything would fit together. This helped us make sure the system would do what it needed to do and look good while doing it.

**High-Level Design:**

We sketched out the big picture of the franchise management system. This included deciding what features it would have, like user accounts, managing franchises, keeping track of products, and handling support requests. We also picked the technologies we'd use for building the system.

**Low-Level Design:**

In the low-level design phase, we delved into the specifics of how each part of the franchise management system would work. This included designing the database structure, mapping out data flow with flowcharts, and creating entity-relationship (ER) diagrams to show how different pieces of data were related. These visual aids served as detailed blueprints for the development team to follow during implementation.

**Coding:**

For the front end, we used HTML, CSS, Bootstrap, and JavaScript to make the web pages look good and work smoothly. HTML gave the structure, CSS made it look nice, Bootstrap helped it work well on different devices, and JavaScript made it interactive.

For the back end, we used Java with J2ee(Eclipse IDE), Spring framework, REST APIs, Hibernate, and MySQL database(MySQL Workbench). Java helped manage the back end of the system, Spring framework made development easier, REST APIs allowed different parts of the system to talk to each other, Hibernate helped store and retrieve data efficiently, and MySQL kept all the data safe and organized. This combination of technologies ensured the system worked reliably and could handle all the information needed for managing franchises effectively.

**Testing:**

After building each part of the system, we tested it to make sure it worked correctly. We did this by manually checking every feature and function to ensure they behaved as expected. This involved going through the system step by step, clicking on buttons, entering data, and verifying that everything worked smoothly. Manual testing allowed us to identify any issues or bugs and fix them before the system was deployed. It ensured that the system was user-friendly, reliable, and met the needs of FABO Laundry Services.

**Deployment:**

After completing testing, the next step was launching the system. We deployed it on servers, making it accessible over the internet. By hosting it on AWS (Amazon Web Services), we ensured easy access for FABO Laundry Services to use the system and efficiently manage their franchises.

**Maintenance:**

Even after we launched the system, our job wasn't done. We continued to check on it regularly to make sure it was running smoothly. We fixed any problems that came up and made improvements to the system to make it even better. This way, FABO Laundry Services could rely on the system to help them manage their franchises effectively for a long time.