**DETERMINE THE FUNCTIONAL AND NON-FUNCTIONAL REQUIREMENTS. MAKE ASSUMPTIONS IF NECESSARY**

**Functional Requirements:**

1. Administrators can add and manage repair experts to the system.
2. Customers can sign up for support services.
3. Customers can submit and manage problem tickets through the Best Appliance website.
4. Customers are notified by email or SMS when a repair expert is on their way.
5. Customers can complete satisfaction surveys.
6. The system automatically bills the customer’s credit card on an annual basis.
7. The system automatically assigns the best suited repair expert.
8. The system automatically emails a survey link to customers when their ticket is completed.
9. Repair experts are notified by SMS when they have been assigned to a new ticket.
10. Repair experts can retrieve and update the ticket information they are assigned to using their phone.
11. Repair experts can access and update the knowledge database using their phone.

Assumptions: The administrator verifies the credential of each repair expert. The Best Appliance website is intuitive, and costumers are comfortable using the internet to submit problem tickets. Costumers and repair experts keep their information up to date. The repair experts will find the knowledge database useful and will actively contribute to it. Costumers like to provide feedback after their service.

**Non-Functional Requirements:**

1. The ticket assignment algorithm evolves to accurately match problem tickets with the appropriate appliance specialists, with up-to-date information and in real time.
2. The system seamlessly and quickly integrates with constant changes in the ticket assignment algorithm without affecting other parts of the system.
3. The system must immediately route assigned tickets to repair experts.
4. The system must immediately handle ticket routing failures by reassigning the ticket to a new expert until the routing is successful.
5. The system must keep track of each ticket status until its completion and ensure that each ticket is processed through all the steps in the order the tickets are submitted.
6. The system must have a backup mechanism in place to recover from crashes or inadvertent events.
7. The Best Appliance front-end website must always be running and accessible to customers.
8. The system must adapt to continuous increase of customers and traffic.
9. The system must protect sensitive customer data like name, address, and credit card information.

Assumptions: The automatic ticket assignment is a highly complex task and because of that it relies on adaptative algorithms that change overtime, such as machine learning or something similar. The system can adapt to the changes in the automatic ticket assignment algorithm without disruptions. The immediate routing of assigned tickets is a priority to provide the best costumer service. The risk of ticket routing failure is high. Keeping track of the ticket’s status and data back-ups prevents the ticket losses. The Best Appliance website traffic will continue to increase.