



American International University-Bangladesh (AIUB)

Department of Computer Science
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Assignment Title

Assignment on Test Strategy

Subject: Software Quality & Testing **Section:** A

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1. Describe from your point of view how you can state the term quality?

Our software is based on ERP (Enterprise Resource Planning) and is used to manage poultry and frozen food businesses. So, in my opinion, we need to focus on which characters are essential in an ERP program. Then, depending on those features, we'll be able to assess term quality. Enterprise resource planning (ERP) is a management and integration technique used by businesses to manage and integrate the various aspects of their operations. Many ERP software systems are beneficial to businesses because they assist them in implementing resource planning by unifying all of the operations required to manage their businesses into a single system. The ERP is designed to support and integrate almost every functional area of a business process such as procurement of goods and services, sale and distribution, finance, accountings, human resource, manufacturing, production planning, logistics & warehouse management. As it's a poultry and frozen food company management software our main focus will be on the production, finance, sales & distribution and warehouse.

- **Production planning**

ERP software for the poultry and frozen food business, above all else, energizes great certainty in terms of improved quality control. It not only helps poultry and frozen food business obtain a competitive advantage, but it also encourages them to keep their businesses successful. The quality of the products begins with the product that will be fed to the hens and finishes with the product that is supplied to the stores. Between these two key processes, it's critical to keep track of the smaller details like hatching, food quality, and so forth. ERP software is vital for the poultry and frozen food industries since acquiring this edge is so important in today's poultry development.

- **Sales & Distribution**

Established supplier connections are critical because they ensure that the underlying ingredients are of the highest quality and that deviation limits are adhered to. To maintain effective inventory management of goods, an ERP system keeps track of essential papers and audits for vendors, automates operations, and ensures supplies are handled properly. The ERP software will manage to keep the records of the distributed products. Also, the alignment of the distributed products will be in the measure. Overall, the supply chain will be easily controlled by the ERP software

- **Finance**

The poultry industry, like any other business, relies on correct financial management at various phases of acquisition and sale to stay on course. The ERP Software-assisted operation allows for perfect control over the money that enters the firm and the profit it generates in order to grow in the enterprise. The ability to quickly review all statistics also aids in better planning for the days ahead. It might have an impact on one's plans for growing operations or shrinking them to a

manageable size for greater profitability. It can genuinely assist him in making the most of his labor resources, as well as his supportive facilities and services. In the poultry and frozen food industries.

- **Warehouse management**

The ERP software-controlled method ensures that every aspiring entrepreneur loses very little money owing to stock perishing. Inventory management ERP enables this by allowing for micro-level data management at each stage of the process. Inventory keeps track of the stock feed supplement, stock availability, and stock movement between supply chains. Temperature control and poultry schedule management, timely stock dispatch, infection control, and other issues that affect output. ERP is in charge of all work not just in the warehouse but also in the refrigerated area. A conveyor line is used to transport products from the packing department to the storage facility. Placing packaged goods, searching for them, and transporting them from the warehouse. Stacking robots automate poultry farm warehouse automation to the discharge zone for final shipping.

2. Measuring what you can say the software you developed assured quality or not and how?

For a poultry and Frozen company Software project Based Business Quality Assurance is Most Important Task. From Purchase to Sells & Distribution Everything Needs to perform well. For Measuring the quality, we need to look few things like How a Poultry and Frozen Food Company works. There are some steps like: Receiving poultry & Slaughtering, Cleaning & Evisceration, Processing & Preparation, Packaging & Shipping.

For Assuring the quality we need to look all those steps:

Purchasing

- users can track Purchase Orders.
- From one comprehensive purchasing order entry application.
- Customer backorders and special orders are immediately filled upon receipt for improved customer service.
- The dock scheduler allows users to schedule receipts for a specific day.
- Users can track containers, and the carrier, and view the estimated time of departure and arrival of every shipment.
- Access to full tracking to assess Vendor Performance.
- Make one click navigation from order to receipt.
- Support Vendor Contracts, Landed Costs, Direct Delivery orders, Return as well as Rejected Return Orders.

Shipping

- Prior to loading the finished product on trucks, trailers are inspected to ensure they are functioning correctly, and are properly cooled and cleaned.
- Once a shipment load is completed, the trailer is sealed with a tamper-evident seal.
- Retail products are usually delivered to a retailer's warehouse the day after leaving the production plant.

Inventory Management

- Inventory Management is a fully integrated inventory control system designed to maximize ROI and effectively and efficiently handle all inventory related processes.
- Customer can track order commitments and shipments, inventory adjustments purchase orders and receipts, open work orders and WIP, and build kits.

Product Quality

- Product Quality application is completely integrated with Inventory, Purchasing, and Manufacturing.
- The Product Quality application allows you to establish and track an unlimited number of user defined tests and group tests for specific industry requirements.
- Capture QC results via mobile devices.
- Refrain processing – receipts/shipment/production, if QC fails.
- Assure a high-level of product quality offering continuous, sampling as well as double sampling.

Sales

- Manages Customer, Prospect, And Sales Person Information.
- Generates Invoices, pick list, packing slips, bill of lading and Certificate of Analysis.
- Define Contract, Sales Templates and terms of payment.
- Sales Analysis application measures sales volumes, costs, and quantity usage, highlighting seasonal or recurring trends in your business.
- For tighter credit control, sales forecasting software provides detailed analysis of credits and returns to help you target problem areas.

Processing

- After slaughter, birds enter a process where their feathers are removed. This is necessary in order to prepare the bird for processing.
- If chicken feet are considered a delicacy in Asian countries, and feathers are rendered and used as protein in some animal feed.

Cost Analysis

- Calculate cost of products based upon inventory evaluation methods.
- Perform What If cost analysis.
- Capture actual cost of production.

- Analyze expected vs actual costs.
- Being a Cost Analysis Software, it makes decisions on prices of end items to assure profitability.

Warehouse Management

- Billing features allow a company to outsource elements of its distribution, warehousing, and fulfillment services and bill customers for receiving, shipping.
- The customer web portal, customers know exactly where every piece of their inventory is at all times.
- Warehouse Management System users leverage the same interface for all transaction processing.

Also, we can Measure Quality by using quality attributes. Quality Attributes are:

Functionality - The system should work correctly.

Performance - Performance describes the quality of interactions between a user and a system the system should be able to work in any condition. This is one of the important quality attributes. The system's response time should be fast. Unsatisfactory or slow performance leads to negative user experience and threats to system security.

Usability - The system should be easy to use. Efficient usage, Intuitive understanding and Low perceived workload.

Security - Security requirements defend the software from unauthorized access to sensitive data. Only an admin can change certain information. The system should be secure to avoid hackers and loss of data.

Flexibility - Adaptable to other products with which it needs interaction. The system should adapt to changes without affecting other features. Software must follow standard quality management methods of products because products may be frozen food so specially delivery with good frozen technology must be needed good concern although that's not based on software performance.

3. Is it possible to assure top quality for every quality attributes? Define your answer.

Let's start with a basic understanding of what quality is.

Quality alludes to how great something is compared to other comparative things. In other words, its degree of greatness. When utilized to portray individuals, it alludes to an unmistakable characteristic or trait that they have. In this sense, able to too utilize the term for things.

Software quality assurance (SQA) is a process which assures that all program building forms, strategies, exercises and work things are checked and comply against the characterized guidelines.

SQA joins all computer program improvement forms beginning from characterizing prerequisites to coding until discharge. Its prime objective is to guarantee quality.

Quality attributes describe remotely obvious properties of a package and the desires for that system's operation. Quality traits characterize how well a framework ought to perform a few activities. These -capabilities of the framework are now and then called quality necessities.

Software Quality Attributes are:

>>Correctness,	>>Maintainability,
>> Reliability,	>> Readability,
>>Adequacy,	>> Extensibility,
>>Learnability,	>> Testability,
>> Robustness,	>> Efficiency.

Now. Is it possible to assure top quality for every quality attributes?

Yes, it can be conceivable to guarantee top quality for each attribute. For this, there needs to be a wide run of testing. The development team must put collaborative endeavors within the whole quality traits to create a top quality end product. The blunders ought to be settled by the most punctual within the improvement phase. User and specialized documentation ought to be made. The standard methods must be taken after the advancement of the code. The program ought to have ceaseless peer-reviews and quality checks from time to time.

So, my opinion is Yes, it is possible to assure top quality for each quality properties since the testing group is included in each quality trait. They make beyond any doubt the framework is working legitimately and it is bug-free.

4. According to your plan the software you are developing will be tested by whom?

Software testing can be done by dedicated software testers. Moreover, involved in the software development team anyone can do the testing. Associated with software development team QA Analysts, Test Engineers, QA Test, Test Analysts, Software Testers, SQA, Quality Assurance, Engineers in Test, Developers, Test Managers, Business Analysts, Performance Testers, Usability Testers and every professional involved in Agile Development, Software Quality Assurance, DevOps, Continuous Delivery – plus many, many more. Development team working together so increase a lot of work efficiency. Quality assurance analysts use tools and resources to complete the testing phase to ensure the software products are produced without bugs and other detectable software issues. Quality assurance testing has ensured the best quality product for the customer. QA use simple technique Ensures that software and product can be used very easily for the customer and better experience. Test engineers are responsible for designing and implementing the tests that ensure the quality and the functionality of a product. They are involved in testing program design, troubleshooting errors and They stay connected until the work is done. As a software tester, will be

involved in the quality assurance stage of software development and deployment. Software tester conduct automated and manual tests to make sure that the software you have created is suitable for the purpose. If any bug and problem in product removed it before deployed the user. Unit testing results in the creation of higher quality application code speed up the up the development process. Developers do unit testing through test automation. Software Tester Manager manages lead everyone on the software testing team. Test managers are responsible for the planning, coordination, and control of various test activities. Tester manager plays an important role of software team. The Test Manager takes full responsibility for the project's success. Business analyst is usually most involved with Functional Testing, Regression Testing, and Usability testing. The idea of DevOps is to make the developer think in line with testers and constantly check the code for potential errors.