American International University-Bangladesh (AIUB)

Department of Computer Science

Faculty of Science &Technology (FST)

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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?

Answer:

As our software is ERP (Enterprise Resource Planning) based software and it's a poultry and frozen food company management software. So, from my point of view is we have to concentrate on which characters is required in an ERP software. Then we will able to check term quality based on those characteristics. ERP means a big software where we see Production, Distribution, Accounting, Procurement, Human Resource, Corporate Performance and Governance, Customer Services, Sale, Business Intelligence, E-commence, Enterprise Asset Management and many others state terms. As it's a poultry and frozen food company management software our main focus will be on the Production, Distribution and Sales, because our main goal of the software is to control those three things in proper way.

In production there may need to be proper control and plan on:

- Amount of the available products;
- Alignment of those available product;
- Structure of those available products;
- Asynchronous control of the generated production orders;
- Integration with scales, labeling items, automatons, industrial identity or brand identity, item information and brand vision information and identifying systems;
- Support to companies with production processes;
- Production support to item processing centers;
- Standard manufacturing cost estimate and actual cost comparison showing deviations;
- Cost management in different modalities: fifo, lifo, expiration date;
- Reading of barcodes or RFID codes;
- Comprehensive quality management;
- Definition of control plans and critical points Hazard analysis and critical control points;

In distribution there may need to be proper control and plan on:

- Amount of the distributed products;
- Alignment of those distributed product;
- Structure of those distributed products;
- Environmental management;
- Registration and control of all plant maintenance operations;
- Definition of the product adapted to each subsector: perishable, non-perishable, fresh, frozen products, etc. ;
- Management of import files;
- Management of located warehouses;

- Management of different types of warehouse: cold, dry, frozen;
- Integration with RFID systems and voice picking;
- Palletized product control;
- Stock management in own and / or subcontracted warehouses;
- Integration with purchasing centers;
- Management of vehicles, license plates, tares and maximum load;

In sales there may need to be proper control and plan on:

- Definition of the system with linear prices, escalations, discounts, offers, gifts.
- Commercial templates for clients.
- Control and monitoring of commercial margins.
- Customer risk control.
- Coding and adapted labeling.
- EDI integration with distribution chains.
- Trading operations.
- Integration with points of sale (POS).
- Self-sale and pre-sale management.
- Commercial mobility.
- Electronic invoicing to clients.
- Cooperative management.
- Partner management: supplies, product collection and distribution to markets.

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

Answer:

Software based business of any poultry and frozen food Company especially in any food company, ‘quality’ is the most important factor. Measuring the software on the mentioned production, distribution and sales must be performed well.

List of measuring things to identify software quality:

- Accounting :
  - Configuration of chart of account
  - Unlimited number of account groups
  - Multiple voucher types with auto/manual numbering
  - Predefined narration entry
  - Drill down facility
  - Exporting data from external sources like excel sheets etc.
  - Graphical interface for cheque printing

- Bank pay In slip generation for cheque management
- Bill settlement for payment and receipt against bills and their interest calculation
- Bank and ledger reconciliation
- Multiple voucher, accounts and reports printing

- Purchase :
  - Comprehensive vendor management
  - Configurable price template for purchase documents
  - Configurable terms and conditions
  - No repeated data entry
  - Multiple order, goods receipt, invoice types with auto/manual numbering
  - All the steps of the purchase cycle are covered
  - Quotation comparison
  - Vendor analysis
  - Tracking of pending purchase documents
- Inventory
  - Supports batch, discrete, made to order and made to stock types of production
  - Multi-level bill of materials
  - Multiple BOM variants supported
  - Enables process routing
  - Formulation of production plans
  - Material requirement planning based on sales order and production plan
  - Production orders generated on the basis of BOM and process routing
  - Manual, Forward and Backward scheduling of production based on process routing
  - Issue of raw materials and packing materials against orders
  - Finished goods receipt against production order
  - By product and scrap tracking during production
  - Production costing methods
- Production:
  - Comprehensive customer management
  - Recording of the sales cycle from inquiry to payment and return
  - Customer partner roles
  - Commission agents and brokers
  - Sales representatives management
  - Multiple price lists
  - Sales schemes and sales BOM
  - Export management
  - MIS reports
  - Multiple order, delivery, invoice types with manual / auto numbering
- Sales & Distribution:
  - Comprehensive customer management
  - Recording of the sales cycle from inquiry to payment and return

- Customer partner roles
- Commission agents and brokers
- Sales representatives management
- Multiple price lists
- Sales schemes and sales bill of materials
- Export management
- Management information system reports
- Multiple order, delivery, invoice types with manual / auto numbering

- Quality Control:
  - Inward Quality Control
  - Outward Quality Control
  - In-Process Quality Control
  - Pending Inspection
- System Administration:
  - Role permission can be defined Company-wise, User-wise, Transaction-wise and Date-wise
  - Provides features to maintain multiple accounting periods, change server/mail settings and add company information
- Compliance Management:
  - VAT reports including computation and various forms
  - Excise reports for traders and manufacturers
  - Export reports for packing declaration and certificate
- Payroll:
  - Leave Register
  - Attendance Register
  - Pay slips
  - Payroll Register
  - Component wise Salary Register
  - Payment Failure Report
  - Payment Transection Report
- Reports
  - Ledger Report
  - Bill-wise Ledger Report
  - Cash Book
  - Petty Cash Book
  - Bank Book
  - Day Book
  - Voucher Register
  - Monthly Ledger Summary
  - Balance Sheet
  - Segment Reporting

- Bank Reconciliation Report
- Ageing Analysis
- Group Summary
- Trial Balance
- Profit & Loss Statement
- Sales Register
- Purchase Register
- Overdue Receivables
- Overdue Payables
- Cash-Flow monitoring
- Expected receipts
- Expected payments

Then the software must consider high quality because it cannot be correcting errors after shipping the products to customer. Not only that correction after shipping consumes more money and affect for company creditability. As well organizations cannot lose customers due to those kinds of problems. Overcome problems like the software must follow standard quality management methods of products because products may be frozen food so specially delivery with good frozen technology must be need good concern although that's not based on software performance. Maintaining Quality for product is very important for ERP implementation organizations as every Company is running towards automation. If minimum those work measuring have been performed well by the software which we have developed that assured the quality of the software unless any of the requirement if failed to perform then the developed software does not assured it's quality .

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

Answer:

I think however that in the case of a poultry and frozen food Company, the **most critical** qualities are the ones that **impact the end user** and that is possible to assure top quality for every quality attributes.

My ranking would be the following:

1. **Security** (and reliability). As a user, I want the system to be secure so that I am confident using it. But security is not visible *as-is*, and need to be reflected in the usability. If there is an outage, the best to regain confidence of the customer is IMO to be transparent with what happened.

2. **Usability**. As a user, I want the feel at ease with the system. I don't need something fancy, but something usable, which provide the feature that make me feel comfortable with it. Usability also relate to the overall impression of security, e.g. the email that I receive to confirm a registration can give me a better or worse impression of the system, or the way my credit card is shown (usually only the last digit), etc. all these usability details can increase my trust in the system.
3. **Availability**. As a user, if the software is down or there is instability, I get a really bad impression. Make sure you can degrade the quality of service and at least have a nice page indicating scheduled maintenance or service saturation.
4. **Performance** (and response time). Performance would come only then. I don't want to have to wait excessively, but as long as I get a feedback about what's going on, I can wait a bit.

The other qualities are important for the poultry and frozen food company Software. But Software could ultimately be successful even without them.

My ranking would be the following:

1. **Scalability**. Retro-fitting scalability afterward is hard. It's then important to have an architecture that can scale if the business is going well. Would be too bad to miss a business opportunity because of a poor architecture.
2. **Robustness**. Your system needs to be robust if you don't want that your hotline gets overwhelmed by angry customer calls. 24/7 support can generate important costs.
3. **Operability** (and manageability). It can be expensive to keep a system up and running if it requires lots of administrative maintenance. It's then interesting to keep the administration costs down.
4. **Maintainability**. Of course, nice to have to keep the development cost downs in face of changing requirements.

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

Answer:

Software testing should be done by everyone involved in the software development process, not just full-time software testers.

Professionals who test software include

- 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

When everyone is certified in software testing, it improves efficiency and communication because everyone uses the same software testing language and principles.