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: B

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Question

Suppose you are a project manager of a software company. Your company got a big software project to develop for a poultry and frozen food company. Project is to automate their company with an ERP (Enterprise Resource Planning).

Now you are planning to start the project to develop it successfully with good quality.

1. Describe from your point of view how you can state the term quality?
2. Measuring what you can say the software you developed assured quality or not and how?
3. Is it possible to assure top quality for every quality attributes? Define your answer.
4. According to your plan the software you are developing will be tested by whom?

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

Answer: Our Software is Enterprise Resource Planning or **ERP** based software which use to manage day-to-day business activities on *Poultry and Frozen food*. From our point of view as a Project Management team we need to focus on some characteristics which are Accounting, managing Projects, CRM (Customer Relationship Management), Manufacturing, Human Resources, Supply Chain, Data Servicing, E-Commerce and many other state terms.

As our main goal is to manage say-to-day business activities, so we are focusing on some of the terms which must be needed for poultry and frozen foods. Which are Managing Projects, CRM, Accountings, Manufacturing, and Data Servicing.

On **Manufacturing** Sectors, we need to stay updated on work Orders. And depending on the orders Schedule will be declared. Focusing on accepting Orders, we have to have a look to the capacity of Manufacture warehouse or other Resources. As per the schedule has been confirmed The Process of Manufacturing should be focused on. The Fastest Process will produce more product or more output.

Then Let's explain about **Accountings. There** should be a proper Budget, the priority Level of Budgeting will be very High. After Ensuring The budget the costing will be budget friendly. Managing Cost will be very necessary. Need to take proper backup for facing any kind of pandemic. And there must should be fixed assets.

If we say about **Managing Projects**, Then the level of planning resources will be high prioritized. The

Costing of project should be depended based on the budget of Accountings. The costing of project will also be based on the time will be spend on that project. There will be an another section which is called time and expense. The time spending on a project must be proportional to the Expenses. There will be Units of Performances.

Then it comes to **CRM** which is customer Relationship Management, Here the communication with customers should be very reliable, smooth and fast. The Service should be prioritized very well. The Sales and marketing Department sector will be included on this sector. And there always should be Call Center Support. And fast response to every FAQ.

As this software is for poultry and Frozen food related business association, we must need to be focused on the **Supply chain** management system. That is why we focused on the Manufacturing part very badly. The details of each and every transaction or any order will be monetarized with a unique technology called Block chain. Where we have to focus on the trust issues, that is why strongest algorithm will be applied for managing the trust issues.

And Finally The data servicing Where the responsibilities of customer, supplier and employees will be focused on. Based on the suppliers we have to

take orders from the customers, invalid data must be ignored. The status of availability of products must be strong and valid.

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

Answer: We have to develop a software for a poultry and frozen food company. In food company the quality of product is the main priority.

For measuring a software, we have to focus on the quality first. Because I already mentioned that in food company the quality of product is the main priority.

Below are some examples of test metrics and methods for measuring the important aspects of software quality. Efficient measuring and testing of your software for quality is the only way to maximize the chances of releasing high-quality software in today's fast-paced development environments.

Measuring things to identify software quality:

1. Sales and distribution.
2. Quality control.
3. Production.

4. Account.
5. Purchase.
6. Inventory.
7. System administration.
8. Compliance management.
9. Payroll.
10. Reports.

Sales and distribution:

- Comprehensive customer management
- Client accomplice jobs
- Commission specialists and dealers
- Salespeople the executives
- Various value records
- Deals plans and deals bill of materials
- Fare the executives
- The executive's data framework reports
- Various request, conveyance, receipt types with manual/auto numbering
- Recording of the sales cycle from inquiry to payment and return

Quality control:

- Internal Quality Control
- Outward Quality Control
- In-Process Quality Control
- Forthcoming Inspection

Production:

- Exhaustive customer the board
- Deals schemes and deals BOM
- Fare the board
- MIS reports
- Recording of the business cycle from inquiry to installment and return
- Customer accomplice jobs
- Commission specialists and representatives

- Salespeople the board
- Various value records
- Numerous orders, conveyance, receipt types with manual/auto numbering

Account:

- Design of the chart of record
- Limitless number of record gatherings
- Numerous voucher types with auto/manual numbering
- Predefined narration passage
- Drill down office
- Trading information from external sources like dominate sheets and so on
- Graphical interface for check printing
- Bank pay in slip age for check the executives
- Bill settlement for payment and receipt against bills and their interest figuring
- Bank and ledger compromise
- Various vouchers, accounts, and reports printing

Purchase:

- Exhaustive vendor management
- Configurable price format for purchase archives
- Configurable terms and conditions
- No rehashed information sections
- Numerous orders, products receipt, invoice types with auto/manual numbering
- Every one of the means of the purchase cycle are covered
- Quotation examination
- Vendor analysis
- Following of forthcoming purchase reports

Inventory:

- Supports batch, discrete, specially made, and made to stock sorts of production
- Staggered bill of materials
- Various BOM variants upheld
- Empowers process routing
- Definition of production plans
- Material necessity arranging dependent on the business request and production plan

- Production orders created on the basis of BOM and process routing
- Manual, Forward, and Backward planning of production dependent on process routing
- Issue of crude materials and pressing materials against orders
- Completed merchandise receipt against production request
- Result and scrap following during production
- Production costing methods

System administration:

- Job permission can be defined Company-wise, User-wise, Transaction-wise and
- Date-wise
- Gives features to maintain various bookkeeping periods, change worker/mail
- settings and add company information

Compliance management:

- Vat reports including computation and various structures
- Excise reports for traders and manufacturers
- Fare reports for packing declaration and authentication

Payroll:

- Leave Register
- Participation Register
- Pay slips
- Payroll Register
- Segment insightful Salary Register
- Installment Failure Report
- Installment Transaction Report

Reports:

- Record Report
- Bill-wise Ledger Report
- Cash Book
- Petty Cash Book
- Bank Book
- Day Book

- Voucher Register
- Month to month Ledger Summary
- Asset report
- Segment Reporting Bank Reconciliation Report
- Maturing Analysis
- Group Summary
- Trial Balance
- Profit and Loss Statement
- Sales Register
- Purchase Register
- Late Receivables
- Late Payables
- Cash-Flow observing
- Anticipated receipts
- Anticipated installments

so, if we want to get good software, we must follow this standard quality. Other than the board strategies for products since products might be frozen food so particularly conveyance with great frozen innovation should require great concern albeit that does not depend on programming execution. Keeping up Quality for products is vital for ERP execution associations as each Company is running towards automation. On the off chance that minimum those work measuring has been performed well by the product which we have built up that guaranteed the quality of the product except if any of the prerequisite whenever neglected to perform then the created programming doesn't guarantee its quality.

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

Answer: I think for a poultry and frozen food company it is possible to assure top quality for every quality attributes.

Software Quality Attributes are: Correctness, Reliability, Adequacy, Usability, Reusability, Robustness, Maintainability, Readability, Extensibility, Testability, Efficiency, Portability.

My ranking would be the following for poultry and frozen food company:

1. Reliability: Measure if the product is reliable enough to sustain in any condition. Should give consistently correct results.

Product reliability is measured in terms of working of the project under different working environments and different conditions.

2.Usability: This can be measured in terms of ease of use. The application should be user-friendly. Should be easy to learn. Navigation should be simple.

The system must be:

Easy to use for input preparation, operation, and interpretation of the output.

Provide consistent user interface standards or conventions with our other frequently used systems.

Easy for new or infrequent users to learn to use the system.

3.Maintainability: Different versions of the product should be easy to maintain. For development it should be easy to add code to the existing system, should be easy to upgrade for new features and new technologies from time to time.

Maintenance should be cost-effective and easy. The system is easy to maintain and correcting defects or making a change in the software.

4.Reusability: Software reuse is a good cost-efficient and time-saving development way. Different code library classes should be generic enough to use easily in different application modules. Dividing the application into different modules so that modules can be reused across the application.

Rest of the quality attributes are important, but for the poultry and frozen food company can ensure top quality without them.

My ranking would be the following:

1. Robustness: It is a common phenomenon that a task needs to be carried out in a stipulated period of time. It will expensive for this software.
2. Scalability: Scalability testing lets you determine how your application scales with increasing workload. It requires extra man power that will cost high.
3. Efficiency: If above attributes works perfectly then the efficiency will better automatically. So no need to waste extra resources.
4. Portability: Portability testing refers to the testing with ease of moving one product or software from one environment to another. It will expensive.

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

Answer: Everyone should have certified in software testing, because it improves efficiency and communication because everyone uses the same software testing language and principles. It depends on the process and the associated stakeholders of the project(s). In the IT industry, large companies have a team with responsibilities to evaluate the developed software in context of the given requirements. Moreover, developers also conduct testing which is called Unit Testing. Software testing should be done by everyone involved in the software development process, not just full time software testers.

The following professionals are involved in testing a software:

- Software Tester
- Software Developer
- Project Lead/Manager
- QA Analysts
- QA Test
- Test Analysts
- Test Engineers
- Engineers In Test
- Test Managers
- Performance Testers
- Usability Testers
- Software Quality Assurance
- Agile Development
- DevOps
- Every professional involved in Agile Development

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