ASSIGNMENT (one)

SOFTWARE ENGINEERING

Identify 3 examples of software failures in Ghana and 3 examples of software failures in the world.

Software failure

A failure that occurs when the user perceives that the software has ceased to deliver the expected result with respect to the specification input values. The user may need to identify the severity of the levels of failures such as catastrophic, critical, major or minor, depending on their impact on the systems.

Examples of software failures in the world

1. Cyber Attack on Nuclear Power Plan
   In October 2016, the head of an international nuclear energy consortium declared that disruption at a nuclear power plant during the last several years was caused due to a 'Cyber Attack'. Yukiya Amano, head of the International Atomic Energy Agency (IAEA) didn't drill the matter much in detail, but did alter on the potential attacks in the future.

2. Apple pulls iOS 8 update
   In September 2014, Apple faced an embarrassment after it had to pull out its new iOS software update only after a few hours of its release. This was post complaining from iPhone users about calls getting blocked post the upgrade. The tech giant pulled out the update after a storm of complaints on Twitter, Apple user chatrooms. The update further disabled the feature where people could unlock their phones with fingerprints.

3. Yahoo reports breach
   Amongst the most recent data breaches, on September 22, 2016, Yahoo confirmed a data breach that exposed about 500 million credentials that date back to four years. It is being considered amongst the largest credential leaks of 2016. The company believes that this was a state-sponsored breach, where an individual on behalf of a government executed the entire hack. It further urged users to change their passwords and security questions. As a relief for the users, Yahoo stated that sensitive financial data like bank accounts and passwords was not stolen as part of the breach.

Examples of software failures in Ghana

1. Vodafone compensate customers
   Customers of Vodafone Enterprise will by the end of this month be compensated with a discount on their bills as part of Vodafone Ghana's measures to compensate majority of its customers who got affected during its network failure on 3 June this year.

In a statement available to Biztechafrica this morning, it was noted that Vodafone has identified an electrical surge as the cause of its outage which resulted in 6 boards in 3 of its routers not responding correctly.

2. Relationship difficulties between the owners of the service – leading to service outage. MM products are often delivered by consortia of mobile operator(s), bank(s) agent network manager(s) and agents. These consortia are often serviced by third party software vendors whose support is critical for systems changes. Any significant relationship difficulty within this consortium could result in service unavailability to a client or to all clients.

3. Old Biometric Voters ID
   n the view of the expects, the cost of frequent replacement of failing parts and renewal of warranties through third-parties was comparable to the acquisition of a brand-new system with full service and warranties. In effect the amount of money spent on refurbishing part and renewing warranties could be used to acquire a brand-new system that is robust, modern and durable user friendly with full functionality and warranties.

Assignment (two)
Software engineering

The “myths” noted above are slowly fading as the years pass, but other are taking their place. Identify 2 “new” myths under any of the categories (customer, developer and management).

Explain each myth as detailed as possible.

- **Definition of myth.**
  Myth was the product of man's emotion and imagination, acted upon by his surroundings. By Wiktionary.

  Two myths under customer.

  A customer is an individual or business that purchases another company's goods or services. Customers are important because they drive revenues; without them, businesses have nothing to offer. By Investopedia.

  1. A SATISFIED CUSTOMER IS A LOYAL CUSTOMER
  2. SOLVING THE PROBLEM RESULTS IN CUSTOMER SATISFACTION

Two myths under developer.

The **developers** are responsible for supporting their apps and making sure they work well for you

1. Custom software development support is expensive
2. Release of the product = end of the project

Two myth under management.

Management is the activity to ensure the effective interaction of people, and the manager is the one who does it.

1. Management involve telling people what to do.
2. Management is orderly and practicable.

Explain each myth as detailed as possible

Myth under customer

1. A SATISFIED CUSTOMER IS A LOYAL CUSTOMER

Push your customer service agents to not only meet expectations, but exceed them. Pay close attention to top-tier customers who achieve the highest levels of satisfaction, and identify the tipping point where service goes from good to great. Perhaps it's when they discover an alternate billing plan or find out about a deal they didn't specifically call to inquire about. Strive to hit that sweet spot with as many calls as possible, going a step beyond problem resolution to achieve lasting customer loyalty.

Focusing on the right areas in your customer service systems will help you achieve the brand loyalty you're really after. You want to achieve a high, sustainable number of customers in the top tier of satisfaction. Abolish old-school approaches and "time-tested" techniques when the numbers don't support their

effectiveness. Keep your focus on the right metrics to get your customer satisfaction results where you really want them.

2. SOLVING THE PROBLEM RESULTS IN CUSTOMER SATISFACTION.

There's a prevailing belief that customers whose issues are resolved have higher satisfaction rates. While this seems like a sound assumption, resolution may not rank as high as you'd initially assume. While the happiest customers do have their problem resolved in their first call, less than 70 percent of customers who fall in the next satisfaction ranking achieved closure in one call. Other factors play a major role in satisfaction as well, such as listening skills and agent knowledge.

Coach your customer service agents in all of the areas that contribute to customer satisfaction, not only problem resolution. Make sure your agents understand there are many other factors that come into play, including empathy, understanding and a confident, comprehensive knowledge base. Customers can hang up from a call feeling good about their experience even if the problem persists, simply because the agent they spoke with was sympathetic and offered understandable background information on the issue.

Two myths under developer.

1. Custom software development support is expensive

You may think that commercial software support is cheaper, but in many cases, custom software maintenance is cheaper and simpler.

If you find a good developer it is actually quite straightforward, because, bear in mind that this way you have direct communication with the people who are working on your solution. The team that developed a solution can provide maintenance and support more effectively, compared to the customer service team that's in charge of support for commercial software solutions.

Some maintenance and update costs may occur, you should know this from the beginning. These costs are essential if you want to have a solution that's always updated and in line with the latest developments.

2. Release of the product = end of the project

   It would've been great if that were the case, but unfortunately, it is just another myth. Software products are evolving rapidly. In many ways, software solutions are like living organisms, they have lifecycles (SDLC) and are always changing. After the initial release, end-users can ask for improved features and new functions and those in charge of software maintenance should ensure that everything runs smoothly. Good software requires constant care!

Two myth under management.

1. Management involve telling people what to do.

   Mullane says that while people like to have a goal in mind and appreciate it when their managers provide a framework for setting priorities and picking strategic projects, few react well to commands.

   Sometimes, barking orders and expecting them to be followed is imperative, says Mullane. However, "management is much more about influence than about orders."

2. Management is orderly and practicable.

   Most processes and tasks that managers oversee are not simple straight line paths, says Mullane. He likens them to a bowl of pasta filled with "loop-backs and unexpected twists and turns."

   Mullane admits that, for many, unexpected turns lead to chaos. "But neat, step-by-step processes are rare and, worse, often not appropriate," he says.

   He adds that business leaders gather information as they go and adjust their plans accordingly. "Good managers certainly strive for structure, but they also allow for flexibility knowing that no one model fits all situations," Mullane says.

ASSIGNMENT (Three)
CSD 5.5
Software engineering

Explain the 4W's and 1h in software development.

4W

The 4W designed to provide key information regarding which organizations (Who) are carrying out which activities (What) in which locations (Where) in Which period (When). This information is essential to cluster coordinators and organizations to coordinate their activities effectivity, reach their targets on a timely manner and ensure that humanitarian needs are met without gaps or duplication.

Application of the first W – ''What"

What do the users do? What are the objectives they have to achieve? You have to understand their tasks all in all and also the assignments that relate to the software testing or framework that you're planning.

Application of the second W 'Why'

The task team may ask 'Why' questions to get a more granular comprehension of the problem and look to clarify triggers or drivers that may have added to the problem.

Application of the fourth W "Who"

Who are the users? What are their characteristics? What learning and experience do they convey to their tasks? Are there any other groups of users? Assuming this is the case, what separates them from one another, and which client bunches are generally vital? The subject of whose desires to meet dependably emerge

Application of the fifth W "Where"

By asking 'Where' questions, the project team can improve the handle of the source(s) of the problem.

1H

The 1H is what the project team can ask how to addresses the 5W's.

Assignment (four)

CSD5.5

Software development

Identify the various documents delivered at each design process

1. System Source Code and Documentation
2. Documented Implementation Project Closeout
3. Complete Detailed Requirements, Design & Specifications
4. System Defect Resolution Reports
5. Deployment Bill of Materials (for each implementation Phase)
6. Deployment Plans
7. Release Readiness Evaluations and Reports
8. Training Manuals, Guides and Materials
9. Training Plan
10. Documented System Test Results
11. Detailed Test Plans
12. System Maintenance, Support and Transition Plan
13. Data Conversion, Synchronization, and Reporting
14. System Implementation Plan
15. System Architecture and Technical Design
16. Develop Interface Specifications and Design Document
17. Develop Data Conversion Plan
18. Requirements Traceability Plan
19. Master Testing Strategy
20. System Implementation Strategy
21. System Design and Development Strategy
22. Project Initiation and Management Plan