Problem Statement – 1:

You are a manager at a large MNC. You and your team have been working closely with a client to develop their product. Through this project you have developed a good business relationship and friendship with the client. On the eve of the product release, your team notifies you about a major bug in the code that had been overlooked before. Your client asks you if the product is defect free.

Keeping in mind personal, business & professional ethics, how would you tackle this situation as a manager? Brainstorm ideas which would lead to a defect free product release without jeopardizing the good relationship with your client. Make use of ethical frameworks and principles in your answer.

Being the manager at a large MNC and having a good business relationship and friendship with my client, the principles we would follow if there is a major bug in the code would be the principles of the Utilitarianism ethical framework because it is one of the most common approaches to making ethical decisions, especially decisions with consequences that concern large groups of people, in part because it instructs us to weigh the different amounts of good and bad that will be produced by our actions. This conforms to our feeling that some good and some bad will necessarily be the result of our actions and that the best action will be that which provides the best or does the least harm, or, to put it another way, produces the greatest balance of good over harm. Ethical environmental action, then, is the one that produces the greatest good and does the least harm for all who have affected corporations, the community, and the environment.

Tackling the Situation:

Bugs are divided into levels based on Severity. They are divided into Level -1 (Low), Level 2 (Minor), Level 3 (Major), and Level 4 (Critical).

If the bug is of severity level -1 or level-2, i.e., lower and minor defects in the product then it wouldn't affect much even if the product is deployed. In this case-> would discuss the situation with the client and release the product and fix the bug.

The problem is according to the plan and release of the final version.

But if the bug is of severity level-3 or level-4, i.e., Major and Critical defects in the product then it may affect the product considerably if deployed. In this case-> would begin with an apology and be transparent and would describe the problem to the client. But this doesn't solve the problem since it may affect the client's business and schedules so would discuss the business ethics and personal ethics- action plan for recovery of the bug and would fix the bug within a fixed duration with a proper roadmap.

This would lead to a defect free product release without jeopardizing the good relationship with the client.

Problem Statement – 2:

In line with the four pillars of DevOps – Collaboration, Tools, Scaling and Affinity, your team has to come up with innovative solutions to tackle social issues such as child safety for example (each team is free to choose their own topic based on social issues). This will be done using techniques such as Crazy 4s and S.C.A.M.P.E.R. You are then required to provide a list of tools for an end-to-end technical solution for the best idea you generated. You are also required to provide information regarding scaling in terms of teams, Infrastructure, workload, organization and complexity.

Crazy 4s:

1) Open a new text editing document.

2) Set a timer for four minutes.

3) In these four minutes each participant is required to come up with four rough ideas as solutions for the problem. You can note your ideas down as small points instead of entire sentences.

4) At the end of four minutes, you are required to discuss your ideas with your teammates to come up with the best possible solution.

NOTE: This can be extended to Crazy 6s or Crazy 8s with six minutes for six ideas or eight minutes for eight ideas depending on team size.

S.C.A.M.P.E.R:

In order to further improve your ideas ideated using Crazy 4s, use this technique. Answer these following questions as a team to improve your idea.

Substitute: What can I substitute to make an improvement?

Combine: What ideas, features, processes, or components can I combine?

Adapt: What processes, features, or components should I adapt?

Modify: What can I make larger or make smaller?

Put to another use: What else can it be used for? Who else could use it?

Eliminate: What would happen if I removed a feature or part of it?

Reverse/rearrange: How can we rearrange the current status for an improved solution? What would happen by reversing the process?

Issue: Global Warming
Crazy 4s:

- Adopting an electric option as compared to a fossil fuel or an exhaustive gas option in vehicular models.
- Reduction of CFC emissions from appliances such as ACs.
- Avoiding indiscriminate dumping of waste from various sources and help segregate and handle them efficiently.
- Filter out harmful emissions from major industries such that only the less detrimental and unavoidable substances reach the atmosphere.

S.C.A.M.P.E.R:

S - Substitution of fossil fuels with renewable sources of energy is a considerably viable option. C - CFC emissions and waste emissions from factories could use a similar tool to help curb the effects of such compounds on the atmosphere.

A - Every individual adapting waste segregation is a major step towards controlling global warming.

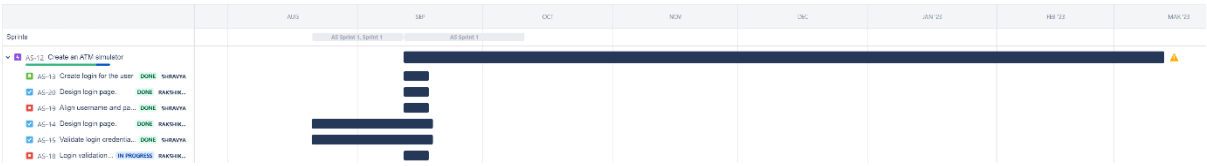
M - Electric vehicles made available in a larger scale to the general public will help in the long run. P - Electric options in general can not only be applicable to vehicles but also to almost any other entity which uses non-renewable sources of energy.

E - It would not work efficiently.

R - If we reverse the actions that we have already taken towards the control of global warming, the resulting state would be one that is alarming and much worse than any of the previous states.

Problem Statement – 3:

For your SE projects, convert your software architecture into a business roadmap and devise a Service strategy by including service value definition, business case development, service assets, market analysis and service provider types.



Service Strategy: Four “Ps” of strategy- perspective, position, plan and pattern, each of which represents a different way to approach your service strategy

Service value definition: An objective or subjective benefit appreciated exclusively by the beneficiary from a service. The major benefits for the customers are the reduced waiting in the banks to do any transactions along with security.

Business case development:

Project Name: ATM Simulator

Client: Customers using services provided by the bank.

Executive Summary: This system will provide for secure authenticated connections between users and the bank servers. The whole process will be automated right from password validation to transaction completion. ATM Simulator will enable two important features of an ATM, reduction of human error in the banking system and the possibility of 24-hour personal banking. The card details and PIN database will be a secure module that will not be open to routine maintenance, the only possibility of access to this database will be through queries raised from an ATM simulator in the presence of a valid bank account.

Mission statement: Our project is a python-based project which uses MySQL as the backend framework, which mainly aims to digitalize services provided by the bank. This project has been developed with the intention of automating the customer transaction tasks.

Product/ service: This system will provide for secure authenticated connections between users and the bank servers. The whole process will be automated right from password validation to transaction completion.

A service asset: Any resource or capability that could contribute to the delivery of a service. The software must be user-friendly and easy to use. Account details must be secured.

Market analysis: The global ATM market size reached USD 20.18 billion in 2020 and is expected to expand at a compound annual growth rate (CAGR) of 4.9% from 2021 to 2028.

Automated teller machines (ATMs) offer a reliable easy interface for cash withdrawal and features such as ease of fund transfer, withdrawal, deposit, and 24x7 availability of cash. With advancements in technology, customers seek secure, faster, more convenient, and reliable means of accessing cash, favouring the widespread adoption of ATMs globally. Furthermore, improved security measures, including biometric and one-time password authentication systems to prevent fraud, and the advent of Smart ATMs for users with special needs contribute to market growth. The increase in demand for automation in the banking sector in several developed and emerging countries is also expected to fuel the demand for ATMs.

The target audience: Any bank customer or a company using the bank services for any transactions.

Service provider type: Any Cloud Service Provider