



PES UNIVERSITY

AUGUST – DECEMBER 2022 SEMESTER 5

# **SOFTWARE ENGINEERING LAB TASKS**

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## **Unit - 5**

### **Team Details:**

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### **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.

**Answer:**

- Delivering a product that contains a major bug is not acceptable for any software development company. And when delivering a software with the promise of it being defect and bug free, the client's interest and goals should always be kept in mind.
- In this case, the client should be immediately notified of the bug, and the reports of the same should be handed over and discussed with the client and their team as soon as possible, while at the same time making sure that the discussions go quickly, as time is very crucial.
- Lot of possibilities will be presented to the client , including masking the feature for time being, pushing the development and testing team to fix the bug as soon as possible, delaying the launching of the software.
- Another way, the software can be launched product free is, by checking through older versions of the software, where the bug might not have existed, and importing that module to replace the broken module.
- Also, it is important to apologize to the client for the inconvenience caused, and assure them that steps will be taken to prevent such a mistake from happening again in the future.

## **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.

### **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?

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.

### **Answer**

1. An app that shops can use to keep track of all the products' expiration dates and donate or sell first the goods that are getting close to expiration. This will lessen food waste and address the issue of hunger.

2. A collaborative app to collect food donations from various housing colonies. All residents of an apartment can prepare food that has been donated by an NGO.

3. A mobile application that allows people living in poverty to request small amounts of

4. An app that allows NGOs and restaurant owners to work together to collect leftovers to feed the hungry

We could create an app where the needy could post their request for money or food in place of one where NGOs and donors collaborate.

**Combine:**

We are able to create an app that serves both donors and those in need. The needy can ask for donations, and the generous can contribute or work with the needy to provide food.

**Adapt:**

Adapt the feature so that people in a specific region can still donate even if they can't use the app.

We can change the app's operating area by making it larger.

**Use another method:**

It can be used to create NGOs and enlist public support for the work they are doing.

**Eliminate:**

The app's core functionality would be lost if any part of it is removed at the current stage

**Reverse/Rearrange:**

The main functionality of the website won't be affected by any rearrangement.

### **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.

### **Answer:**

- Service Strategy- Our software, the ATM Simulator will be integrated with the hardware ATMs present at equidistant network based on population density. Since, almost all banks have their ATMs present at different localities, it is almost certain that the ATM software will be very necessary.
- The service assists and assets will include the technician and the ATM manager, who will ensure the proper periodic functioning and maintenance of the ATM software and machine.
- The market for the ATMs will always remain active and demanding , because cash withdrawal is still very widespread and followed.

- The service providers will be the various banks that will have ATM machines situated at different places, which contain the ATM software in it.