

PES UNIVERSITY
AUGUST – DECEMBER 2022 SEMESTER 5
SOFTWARE ENGINEERING UNIT 5 LAB TASKS

Team 14

Shriya Harish(PES2UG20CS463)

Aarav Babu(PES2UG20CS486)

Aditya Lawankar(PES2UG20CS488)

Advait Shet(PES2UG20CS490)

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 jeopardising the good relationship with your client. Make use of ethical frameworks and principles in your answer.**

(PES2UG20CS486-Aarav Babu)

Solution:

The bug is first studied to see if it can be solved by the client, then inform the client about the procedure to fix the bug.

If not, the client should be informed about the bug as it is important to show integrity and honesty as the bug could lead to failure causing the client to lose a lot of money and trust in the company.

Then we check if there is sufficient time for the development team to fix the bug, compensating them for working extra hours. If this doesn't fix the defect, that particular feature is pushed to the next release and testing is prioritised a couple of days before the feature is released to avoid a similar situation in the future.

We handle this situation with utmost professionalism and respectfulness. We will be accountable and maintain transparency throughout which will lead to the client being understanding and co-operative.

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, organisation 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?

(PES2UG20CS463–Shriya Harish, PES2UG20CS488–Aditya Lawankar)

Solution:

Crazy 4s:

1. An app which provides a platform for charities and NGOs which focus on helping the poor. Donations can be accepted from users on the app.
2. A small jobs site where people can search for jobs or work and earn their livelihood.
3. A website which keeps track of all the new and existing policies made by the government to help the poor. Also help users by guiding them through the application process by giving information about eligibility criteria etc.
4. An app which can help users keep track of their ration and provide the lowest price of ration based on the users location.

The **best possible solution** we have chosen is the second idea: A small jobs site where people can search for jobs or work and earn their livelihood.

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

Substitute: Instead of an app which allows people to look for available jobs, they can post their resumes which can be used by hiring companies to hire people according to their requirements

Combine: We can combine the two aspects of the idea into a single app/website which lets people look for jobs and, additionally, lets them post their resumes for the hiring companies

Adapt: Adapt the feature of finding jobs/work for people based on their ability and financial situation.

Modify: We can increase the geographical limits over which the software can operate

Put to another use:

It can be used for generating employment in rural areas by the government. It can be used by companies and head-hunters to fulfil their low-skill requirements.

Eliminate: If we remove a part of it, the website's main functionality will be lost.

Reverse/rearrange: The main functionality of the website will not be affected by any rearrangement of current status

3. For your SE project, 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.

(PES2UG20CS490-Advaith Shet)

SE Project: Apartment Management App

Business Roadmap:

	Sprint 1	Sprint 2
Infrastructure	Login Page User Registration Page	API
Features	1. User Dashboard 2. Maintenance Bill Payments Section	1. Forums and Chat Section 2. OTP generation for visitor verification
Internal Tools	Database	
Integration		Integration of all components

Service strategy:**Service Value Definition:**

Create value for customers by providing an online platform to handle their apartment needs.

Business Case Development:

There is a need for an online platform where all the apartment functionalities are integrated together. It is beneficial for the residents as it makes living in apartments much easier and convenient.

Service Assets:

MongoDB Atlas, Stripe API

Market Analysis:

Our target market is directly dependent on the Real Estate market which is large in size and we can easily create value in that market by catering to apartments of any size.

Service Provider Types: Our project makes use of Internal and shared service providers