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Q.1: Elaborate what your internship or academic projects were?

- a. What did the system do?
- b. What other systems have you seen in the wild like that?
- c. How do you approach the development problem?
- d. What were interesting aspects where you copied code from Stack Overflow?
- e. What did you learn from some very specific copy paste? Mention explicitly some of them.

Ans:

a) What did the system do?

- 1) **Pedagogy Over Internet Portal:** POIP is web application specially designed for students and teachers, where teachers can assign homework as well as any study material that they want to share with the whole class.
- 2) **Movies Recommendation System:** A content-based recommender system that takes a movie title as input and recommends the top 5 most similar movies using the cosine similarity algorithm.
- 3) **Blogging Application:** A comprehensive blog application with functionalities for authentication, authorization, and CRUD operations for blog posts and comments.

b) What other systems have you seen in the wild like that?

- 1) **POIP:** *Moodle, Google Classroom.*
- 2) **Movies Recommendation System:** *Amazon Prime Video, Netflix, Disney+Hotstar etc*
- 3) **Blogging Application:** *Medium, Blogger etc*

c) How Do You Approach the Development Problem?:

- 1) **Requirements Analysis:** Understand the specific needs and requirements of the project. For example, the most important requirement of POIP was a forum where teachers and students can share homework and study materials.
- 2) **Planning and Design:** Design the system architecture and design the development process, including the selection of appropriate technologies and tools.
- 3) **Development:** Write project code following best practices and using version control systems like Git to manage the code.
- 4) **Testing:** Perform thorough testing to ensure the system works as expected and is error free.
- 5) **Deployment:** Deploy the system to a production environment where users can use it eg. Heroku, Render, aws etc.
- 6) **Maintenance:** Continuously monitor and update the system to fix potential problems and add new features as needed.

d) What were interesting aspects where you copied code from Stack Overflow?

1) Handling User Authentication: For the Blogging Application, implementing JWT for secure user authentication was facilitated by code snippets from Stack Overflow that demonstrated generating and verifying JWT tokens.

2) Implementing Cosine Similarity: In the Movies Recommendation System, the implementation of the cosine similarity algorithm was based on a Stack Overflow example that showed how to compute the similarity between two vectors.

e) What did you learn from some very specific copy paste? Mention explicitly some of them.

1) User Authentication with JWT: Understood the JWT workflow, including generating tokens, storing them securely, and validating them at the user's request. This included dealing with license expiry and renewal mechanisms.

2) Cosine Similarity Implementation: Learnt how to convert text data into vectors and calculate the cosine similarity between them. This involved using libraries like scikit-learn in Python for vectorization and similarity calculations.

3) CRUD Operations in Spring Boot: Performed basic CRUD operations using Spring Boot and understood how to use JPA repositories to interact with the database .