Hello Everyone!

It gives me immense pleasure to share with you that I've successfully completed my 3 months Paid Internship at Capgemini with not only my Completion Letter to share but also with Lots of Learnings that I'm always going to carry forward with me.

And most importantly, I have learned how I could better contribute myself to the IT World.

Thank you to all, I have learned to carry out the responsibility and smart work in "Software Engineering".

I would like to say Grateful Thanks to Amrut Rajmane (Our Senior Director), Shilpa Mahajan (Our Supervisor), C.V. Raman Global University (CVRGU) and Capgemini Technology Services India Limited for providing this excellent learning opportunity.

During the internship, I found some amazing and aspiring minds who kept me motivated. Grateful to them and wish all my friends a great future ahead.

**ABOUT THE INTERNSHIP:-**

**Objective:**

Application Title: ***Bank Server Application*** (TO BE DEVELOPED INDIVIDUALLY)

Application should allow users to check the balance in the account; withdraw/deposit money; transfer funds from one account to another; display the last 10 transactions on the account.

## **Project Phases:**

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| Phases | Description |
| Phase #1 | Develop application using arrays |
| Phase #2 | Change array to appropriate collection |
| Phase #3 | Implement JDBC |
| Phase #4 | Implement JPA |
| Phase #5 | Implement Spring |
| Phase #6 | Implement Spring Data JPA with Spring Boot |

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**Points to consider:**

**#1:** Appropriate error messages if the user tries to do an operation on an invalid account.

**#2:** Account balance cannot be negative.

**#3:** One customer can have only one account, there is only one type of account. Customers can have multiple transactions.

* Account --> Customer (one-to-one relationship)
* Customer --> Transactions (one-to-many relationship)

**Milestones in Each Phase:**

**#1**. Class Design (Only for Phase-1)

**#2.** Write Code (Includes Best Practices, Design Patterns, and Exception Handling with proper Messages)

**#3.** Write Test Cases in JUnit & Mockito

**#4**. Check Code Quality in SonarLint & SonarQube

**#5.** Java 8 Features Implementation (From Phase-3)

**#6.** Creating a GitHub repository and committing code to the repository, branching.

**#7.** For Security & Vulnerability Purposes:

* Used **Rollback**, to make sure Data should be Persist in case of any interruption during the transaction.
* **Synchronization**, to make sure each transaction should take place at a time.
* Used JDBC **Prepared Statement**, to avoid vulnerabilities like SQL Injection.

**Tech Stack Used: JAVA Full Stack (Backend Specific)**

**1.** Core & Advanced Java (Covers OOPs, Maven, JDBC, JPA, Web Services and many more...)

**2.** HTML, CSS, JavaScript, XML & JSON

**3.** Git and GitHub

**4.** MySQL (Relational Database)

**5.** Spring Frameworks, Spring Boot & Spring REST

**6.** Docker & AWS (DevOps Tools for application deployment)

**7.** Postman (For HTTP Protocol & REST API)

**8.** Initially followed Monolithic then moved to the Microservices Pattern (Software Architecture).

**9.** STS & Eclipse (IDE)

Thank you #Capgemini for giving me the wonderful opportunity to get trained in your company. The internship helped me gather a lot of practical as well as personal skills which will definitely benefit me in my upcoming career.