

# MID-TERM EVALUATION REPORT

*SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE  
DEGREE OF*

## **BACHELOR OF ENGINEERING (Information Technology)**

*8<sup>th</sup> Semester*



TO  
Department of Information Technology  
University Institute of Engineering and Technology  
Panjab University, Chandigarh  
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## **DECLARATION**

I hereby declare that the project work entitled “Midterm Evaluation Report” is an authentic record of my work carried out at GEMINI SOLUTIONS PVT. LTD., Gurugram as the requirement for six months of Industrial Training for the award of the degree of B.E. at UIET, Panjab University, Chandigarh under the guidance of Mr. Amit Tomar (Manager) and Dr. Raj Kumari during Jan-Jun, 2024.

Date:

Parth Garg  
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Certified that the above statement made by the student is correct to the best of our knowledge and belief.

**Mr. Amit Tomar,**  
**Manager Industry Coordinator**

## **ACKNOWLEDGEMENT**

I would like to extend my sincere gratitude to my manager Mr. Amit Tomar, my mentor Mr. Atul Kumar, and the entire team. Without their cooperation, guidance, and encouragement, the experience couldn't have been what it evolved to be.

Furthermore, distinguished appreciation also goes to the Training and Placement Cell – UIET, the management of the Panjab University, and all others involved in making training a part of the academic assessment to enable students to gain the valuable and aspired work experience before graduating.

Parth Garg

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## **SUMMARY**

This report provides details about the industry and work done during the Industrial Training at Gemini Solutions Pvt Ltd., Gurugram Office.

Gemini Solutions is a global IT consulting firm, and a leading offshore outsourcing company with expertise in the BFSI domain.

The report gives details about patent terminologies, the associated processes, and details of how these are combined with various strategies to deliver the services to the clients.

## **INTRODUCTION**

As part of my four years of bachelor's degree in engineering per the requirement of the UIET, Panjab University, Chandigarh, the students of the last semester must go for industrial training. Students bearing this degree are to embark on this training for six months to enable them to obtain practical industrial experience in the field of study and to abreast themselves of the business environment.

This report is written for the First progress evaluation in March by the student to the institute which forms part of awarding the degree certificate. The training period covered in this report is Jan 2024 to March 2024, at Gemini Solutions Pvt Ltd., Gurugram. I am currently assigned to the Devops team. My main duty is to write clean and optimized code that helps site to work perfectly, handling all edge cases, goals of the team which includes various tasks code monitoring, refactoring and optimizing the code. I, as a trainee, started my training by gathering knowledge about development and operations as described in this report further.

Gemini Solutions provides professional services to help companies and individuals create significant value from their innovation doing common things uncommonly well. The firm's global approach to service delivery helps provide value-added services to clients. The client portfolio consists of corporations, banking firms, product development companies, data analytics and data science departments, Equity funds, financial investors. The main areas of work include:

- Product development
- Provide asset owners and fund manager's support
- Operations and outsourcing solutions
- Offshore development
- Analytical tool management

Industrial Training introduces students to the practical side of their learning. It exposes students to the world of work so that we can relate theoretical knowledge with application in industry.

## **ABOUT THE ORGANISATION**



Gemini Solutions Pvt. Ltd. is an IT Consulting and Product Development firm. Its services give customers the freedom to select from a variety of automation and application development options as well as onshore, offshore, or outsourcing engagement models. Gemini provides a variety of management services and has the flexibility to combine their offerings to meet a wide range of customer requirements.

Gemini Solutions serves a broad range of customers from various industries, including banking and financial services, retail, healthcare, education, and government. The services offered by Gemini Solution Pvt Ltd are:

### **1. IT managed services**

The organization provides end-to-end ongoing operational support services to the clients, including 24\*7 monitoring, real-time issue identification and resolution, and timely escalation and delegation.

The infrastructure supports ensures the highest level of availability of services.

## **2.Application Development**

High quality applications are custom built for the clients' requirements. The mobile solutions are designed to create unique user experiences that reflect the values, priorities and vision of client businesses. They help the clients achieve their business goals and work towards satisfying their long-term needs, expectations and user requirements which extend beyond any specific technology or implementation strategy.

Cloud solutions Cloud solutions make sure that businesses can continue operating without any disastrous consequences despite any sudden changes in the environment.

## **3.Software Quality Services**

Gemini Solutions provides testing support for the entire SDLC Cycle involving major cornerstones of testing services such as Quality Assurance (QA), Quality Control (QC), project planning and estimations. The QA engineers and testing units ensure quality control & product stability through a series of testing stages & methodologies.

## **4. Data mining services**

Data Mining uses database technology, statistical analysis, and machine learning to analyse large amounts of data in an automated way, to discover hidden patterns and predictive information in the data.

As a service provider to clients in the financial sector, they process a large quantity of data in various batches in the system. It is quite important to validate the data at different points in the process to identify corrupt data and correct it at an early phase before it flows in the system.



## **5. Migration services**

Gemini Solutions provides organizations with the best operational services to migrate from contemporary systems to more advanced systems.

They also provide end-to-end support from initial planning and analysis of existing systems to assess the potential impact of migration, deciding on the migration strategy, creating a streamlined roadmap, implementing it and then providing post-migration support.

An analysis is done to the existing structure/code along with a thorough cost-benefit analysis that enables the clients to accurately determine the need for re-engineering/migration of the existing processes and hence give them an indication on the benefits that can accrue even before a single brick is moved.

## **6. Enterprise Solutions**

Running the company is where enterprise solutions come in. In today's digital age, it's very difficult to visualize a company which doesn't have an enterprise solution to smoothly manage its operations and company-employee interactions.

### **a) Enterprise resource planning**

ERP solutions come with employee-centric features: attendance, content hosting, performance measurement/appraisal, device management, information management and so on.

### **b) Enterprise Content Management**

Enterprise Content Management (ECM) refers to the strategies, methods, and tools used by organizations to capture, manage, store, preserve, and deliver information and documents related to the organization's processes and workflows. Here's a brief description:

ECM involves the systematic organization and management of digital content, including documents, images, videos, emails, and other types of data, throughout their lifecycle. It encompasses various components such as document management, records management, workflow automation, collaboration tools, and search capabilities.

By implementing ECM systems, organizations can streamline their document-centric processes, improve information governance and compliance, enhance collaboration among teams, and facilitate access to critical information when needed. ECM solutions often integrate with other enterprise systems such as customer relationship management (CRM), enterprise resource planning (ERP), and business intelligence (BI) systems to provide a comprehensive view of organizational data and support decision-making.

Overall, ECM plays a vital role in helping organizations manage the growing volume of digital content, mitigate risks associated with information management, and leverage their information assets to drive productivity and innovation.

## **OVERVIEW OF THE BUSINESS**

The company establishes mutual trust with the clients, and all of the search assignments are faithfully conducted based on such strong relationships.

It achieves client satisfaction through the highest quality searches and by ensuring excellent communication with the clients while conducting the searches.

Information provided by the clients is kept confidential.

It exerts professional efforts in conducting searches and asks the clients to understand that search results depend on pricing and the search specifications provided by the clients.

It offers a wide range of IT operations and outsourcing solutions to clients. Gemini's business model fuses information search innovation, technical background, and operations in a variety of technical fields.

The main areas of where Gemin Solutons include:

- Product development
- Provide asset owners and fund managers support
- Operations and outsourcing solutions
- Offshore development
- Analytical tool management

## **ABOUT MY TEAM**

**Currently, I'm a part of the Devops Team at Gemini Solutions, which plays an important role in Devops.**

### **What is Software Engineering?**

Software engineering is the branch of computer science that deals with the design, development, testing, and maintenance of software applications. Software engineers apply engineering principles and knowledge of programming languages to build software solutions for end users.

Software engineers design and develop computer games, business applications, operating systems, network control systems, and middleware—to name just a few of the many career paths available.

A career as a software engineer can be both fun and challenging with opportunities to work in almost any industry, including large and small businesses, government agencies, nonprofit organizations, healthcare facilities, and more. And as technology continues to evolve, the need for software developers continues to grow. Many companies are also shifting towards hiring software engineers who work from home, allowing for increased flexibility and more opportunities to enter the field.

### **What does the Devops Team do?**

The role of DevOps teams can include aspects of software development, operations, and testing, with a strong emphasis on automation and continuous delivery and deployment. However, the scope and focus of the role can vary depending on the specific organization and its needs.

## **REVIEW**

As a Technical Trainee at Gemini Solutions, I gained valuable experience and knowledge in Software Development. During my time at Gemini, I worked on a variety of projects assigned by my mentor that allowed me to develop my technical and analytical skills and enhance my problem-solving abilities.

One of my main tasks is that I recently aligned with Devops team where my role is to learn various tools and technologies used for Development and operations.

In addition to technical work, I also participated in team meetings and collaborated with other departments to understand the overall technical domains of the company. This experience allowed me to see how my work contributed to the company's overall success and growth.

Throughout my internship, I received constructive feedback from my supervisors and mentors that helped me to improve my skills and knowledge. I was also encouraged to ask questions and guidance whenever I needed it, which helped me to feel supported and motivated.

Overall, my internship was a valuable learning experience that provided me with a solid foundation in the IT industry. I would highly recommend Gemini Solutions to other students seeking an internship in this field.

## **DETAILS OF THE WORK INCLUDING WORK PROGRAMME AND RESULTS**

### **THE TRAINING PROGRAMME**

- IT Fundamentals
- Product Development
- Web Technologies
- Linux Terminal
- Cybersecurity
- Database Engineering
- Cloud Technologies
- Presentation Skills

## **LITERATURE RELATED TO TRAINING**

### **Introduction**

Gemini Solutions caters to a diversified portfolio of clients such as banking & financial services, insurance, healthcare, education, and government sector.

Gemini Solutions is a global IT firm, a leading offshore outsourcing company with a specialized focus in financial services. Gemini offers several management services and can combine our range of services to suit a diverse range of needs. Having well equipped automated corporate office in Gurgaon and a nationwide network of associate offices. We provide asset owners and fund managers with a wide range of support, operations outsourcing solutions, and servicing to offshore development. We also deliver innovative performance measurement and analytics tools, giving our clients the information they need to make better-informed decisions

## **2. Generic and Technical Training**

I was assigned 13 mandatory training courses, to be completed over 2 months. (January-February'23). This training course is comprised of generic training, followed by technical training. These are listed below:

### **Generic Trainings:**

- Elevate 1.0 (Personality Development)
- Basic Asset Management Training Course
- Cyber Security Training
- Technical Training
- SQL – Basic
- Java Basic
- Linux Basic
- HTML
- CSS
- Bootstrap
- Dot Net Generic
- Version Control System: GIT
- Python – Basic
- JavaScript – Application Development



### **3. METHODOLOGY**

#### **3.1 GENRIC TRAININGS**

##### **Elevate 1.0 (Personality Development):**

The goal of this training was to instill professional etiquette in the learners. It covered email etiquette, phone etiquette, public speaking, presenting skills, and general etiquette.

Basic Asset Management Training Course:

The course addressed the fundamentals of finance and economics, the capital market, demand and supply, the trade lifecycle, and the several types of offices in an asset management firm.

Cyber Security Awareness Training:

Cybersecurity is the activity of safeguarding vital systems and sensitive data from digital threats. The course's goal was to raise awareness about various phishing attempts and other hacking assaults that employees should be aware of.

#### **3.2 TECHNICAL TRAININGS**

##### **3.2.1 SOL – Basics**

The Structured Query Language (SQL) is a query writing language used to conduct operations on relational databases. It gives users the ability to retrieve, insert, update, and remove data from a database.

There are several versions utilised, including MySQL, Oracle, Microsoft SQL Server, PostgreSQL, and SQLite. The choice of these versions is determined by the user and the system under development.

SQL's basic structure is retrieving schemas from the database based on queries made on the server and returning the needed data cells. SQL commands are classified into five types: Data Definition Language (DDL), Data Manipulation Language (DML), Transaction Control Language (TCL), Data Query Language

(DQL), and Data Control Language (DCL) (DCL).

DDL Commands includes CREATE, DROP, TRUNCATE

DML Commands includes WHERE, INSERT, UPDATE, DELETEDQL Commands includes SELECT

TCL Commands include ROLLBACK, SAFEPOINT. COMMIT

### **3.2.2 Linux – Basic**

Linux is one of the most popular operating systems used by businesses for a variety of reasons. Among these benefits are increased security and customizability. Any users can alter this operating system to their own demands, adjusting it to ours.

Linux is well-known for its powerful security features and command over the computer environment, making it a popular choice for organizations that value data security and privacy. There are two ways to interact with Linux computers. This may be done using CLI or GUI.

The Command Line Interpreter (CLI) is comparable to the Windows command prompt. Over there, we type Linux commands, and the system executes them. A user can access the system via icons on the desktop via Graphical User Interface (GUI).

CLI is the most widely used technique of accessing any Linux-based system. We may also utilise the pipelining approach to run many commands in the same shell expression. Because of its adaptability, Linux may be found in a variety of applications such as servers, cloud environments, and embedded systems.

### **3.2.3 HTML**

The markup language HTML (Hyper Text Markup Language) is used to define the basic structure of every online page or web application. It gives us many tags that we can use to add text, photos, video, links, and other elements to our web page. These tags are surrounded by angle brackets.

HTML is frequently used with CSS and JavaScript to make webpages responsive and capable of interacting with servers and users. HTML tags are classified into three categories. They are as follows:

Semantic Tags; like SECTION, HEADER, FOOTER, Non-semantic Tags; like DIV Self-Ending Tags; like

### **3.2.4 CSS**

Cascading Style Sheets is used to style the HTML-created webpages. IT is utilised to add new and engaging elements to our website, making it appear more interactive and approachable.

Bootstrap is a well-known CSS Framework that features pre-built styles and components that can be used to rapidly and efficiently design any aesthetically attractive web page.

CSS may also be used to generate animations and transitions, which serve as dynamic and interactive components of a web application. We may also partition the entire web screen into a grid and layout each cell within the grid separately.

There can be three ways in which CSS can be used within a HTML file. They are;

Inline CSS – Here, we pass the styling attributed within a style attribute in the respective tag.

Internal CSS – We add a style tag to the head tag and style various components inside that tag.

External CSS – We create an external file with extension being .css and add that sheet using link tag.

### **3.2.5 Bootstrap**

Bootstrap is a well-known front-end web development framework for creating responsive web apps. This framework minimizes manual styling by utilising CSS, and we can easily style multiple cells inside the grid.

Bootstrap is also used to reduce the amount of complicated and heavy code generated by JavaScript. The functionality acquired via JavaScript may also be accessed with in-built classes in the bootstrap.

These Bootstrap-created responsive web apps would adjust to the screen size on which they were visited. Because of the usage of inbuilt classes, we may make significant changes to the design of our web application while making only minor modifications to the code.

### **3.2.6 Dot Net Generic**

.NET is an open-source framework for developing desktop and mobile apps that are interoperable with any operating system. This platform includes tools and libraries that can aid in the building of contemporary, scalable, and high-performance applications.

In this course, we will construct fundamental applications in Visual Studio using C#. This language was also utilized to construct a link between a server and our website, which was used to create the runtime environment that governs application execution.

.NET is made up of two primary components. There are two of them: .NET Framework and .NET Core. .NET Framework is the initial version of the .NET platform, which provides a collection of runtime components for application development on Windows, whereas .NET Core is a cross-platform implementation that allows developers to create applications for a variety of operating systems.

Memory Management (including a garbage collector), Security, and Performance are some of the important characteristics of the .NET framework (both being built-in features).

### **3.2.7 Version Control System: GIT**

Version control, often known as source control, is used to track any changes made to source code. Version control systems (VCS) are software tools that assist software development teams in managing changes to source code over time.

Git is a form of distributed version control system that we use to collaborate on code and keep track of the changes we make to it. In GIT, logs are produced for every operation performed on our file and we may roll back to the previous modification made.

Some of the most common features of Git are that it is an open-source community, which means that GitHub is home to a large community of open-source developers who share their code with others and contribute to each other's projects, and that it facilitates collaborative development, which allows developers to collaborate on code with others.

There is also a branching and merging capability that allows developers to build branches that are independent versions of their codebase that can be worked on independently. After modifications on a branch are finished, they may be merged back into the main codebase.

### **3.2.8 Python – Basic**

Python is a computer language that is utilised in a wide range of applications. It is used in web development, data analysis, and machine learning in artificial intelligence. This introductory Python course covered data types, variables, conditional expressions, and loops.

We learned how to utilise if-else statements and switch statements in conditional statements. In addition, we learned about loops such as the while loop, for loop, and do-while loop. This is one of the simplest languages since it does not require any variable declaration before use.

We also learned how to manipulate arrays and strings. Python has a number of built-in functions in a single line.

### **3.2.9 JavaScript – Application Development**

JavaScript (JS) is an object-oriented programming language used for website scripting. It is utilised to enhance our website's dynamic interaction. It was initially used to add applications to websites in the Netscape Navigator browser, and it is currently utilised by all other graphical browsers.

We can update the contents of our homepage using dynamic interaction without having to reload it every time. JavaScript has always been utilised to create various sorts of interactivity and simplicity.

The ability to edit and modify the DOM of a webpage, allowing for interactive online applications, is one of JavaScript's key characteristics. JS has a plethora of built-in APIs and frameworks that allow you to accomplish a wide range of activities, from string manipulation to dealing with server-side technologies.

## **4. JAVA – Basics**

Java is a very versatile and widely used programming language that can be utilized in a wide range of applications, from simple desktop programmers to high-end business systems. Because of its versatility and portability, developers favor this programming language.

In this introductory course on Java, we were exposed to basics ideas and grammar used in Java. We were also taught how to use different data types and control flow statements such as if-else blocks and switch expressions.

We also learned how to manipulate arrays and strings, as well as how to handle exceptions with a try-catch block. In addition, we learned how to develop numerous methods and functions to make coding more efficient.

## **Milestones**

### **January:**

In the month of January 2023, I completed 9 courses, along with their tests and assignments

- a. Basic Asset Management Training Course
- b. Elevate 1.0 (Personality Development)
- c. SQL-Basic
- d. Version Control System: GIT
- e. HTML
- f. CSS -Application development team

### **February:**

In the month of February 2023, I completed the following 4 course:

- a. Python basic
- b. JavaScript-Application Development
- c. Cyber security awareness training
- d. MS Excel

And aligned to MEARN EC (Engineering Council) so I started working on small self-projects using HTML, CSS and JavaScript for skill development.

### **March:**

In March, I would be assigned to a team based on my progress and performance in the assignments of the above-mentioned courses.

## **CONCLUSIONS AND FUTURE SCOPE OF WORK**

### ➤ **Conclusion**

The above contents are an amalgam of what I, as a trainee, learned while being a part of the company.

I learnt about the software development, technical aspects of various technical domains, including database engineering, challenges that are faced while developing an application and giving technical expertise during invention development. Positions of this nature may focus a great deal on development while technical background rather than legal.

It has been a great experience to watch and learn how a company operates. Being a part of such a talented organization filled with aspiring and encouraging people has shown me a great path for my career. I would like to learn more and more and develop new and professional skills.

I would really like to thank all the teachers, mentors, and UIET, Chandigarh for providing me with this opportunity to learn, grow more, and make an impact.



## ➤ **Future Scope**

In the future, software engineers will continue to be at the forefront of technological innovation, driving progress in diverse fields such as healthcare, finance, transportation, and beyond. With the rapid advancement of artificial intelligence, machine learning, and data analytics, software engineers will increasingly focus on developing intelligent systems that can automate tasks, make predictions, and provide personalized experiences. Additionally, the rise of decentralized technologies like blockchain will open up new possibilities for creating secure and transparent systems for transactions, identity management, and supply chain tracking.

Moreover, as the world becomes increasingly interconnected through the Internet of Things (IoT), software engineers will play a crucial role in developing and managing networks of smart devices that collect and analyze data to optimize processes and improve efficiency. Augmented Reality (AR) and Virtual Reality (VR) technologies will also continue to evolve, offering immersive experiences in gaming, education, training, and more, with software engineers leading the way in creating innovative applications and content.

Furthermore, the ongoing shift towards cloud computing will require software engineers to develop scalable, reliable, and secure solutions for deploying and managing applications in the cloud. This will involve leveraging platforms like Amazon Web Services (AWS), Microsoft Azure, and Google Cloud Platform to build flexible and cost-effective infrastructure.

In essence, the future of software engineering is characterized by constant learning, adaptability, and a relentless drive to push the boundaries of what is possible with technology. As software engineers, individuals will have the opportunity to make a significant impact on society by creating innovative solutions that address complex challenges and improve the lives of people around the world.

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