

Week – 1 Report

Name: Sujit Sanjay Dhage

Domain: Core Java

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Week Ending: 01

I. Overview:

This week, my primary focus was on learning the history of Java and enhancing my programming skills in the language. I explored Java's origins, key features, and major updates while familiarizing myself with its syntax and core concepts. Additionally, I began implementing these skills in my project by creating basic functionalities and outlining key features for future development. Moving forward, I aim to deepen my understanding of more complex topics and expand my project's features.

II. Achievements:

1. Java Basics:

- Successfully grasped core Java concepts, including data types, control structures, and object-oriented principles.

2. Project Implementation:

- Began implementing basic functionalities in my project, effectively applying Java programming skills.
- Created an initial outline of project features to guide future development.

2. Core Java Project Contributions:

Banking Information System:

1. Project Setup and User Registration:

During the initial phase of the internship, I embarked on a journey of learning and exploration, driven by my passion for computer science, cybersecurity, and information technology. Among the various projects offered, the Banking Information System project piqued my interest with its unique challenges and opportunities for skill development.

2. Learning and Project Selection:

Before diving into the project, I dedicated time to learn about Java programming, the history of the language, and its significance in the software industry. Additionally, I familiarized myself with using a Java IDE and executing programs in the console. While the console knowledge was acquired through study materials, I independently explored and gained expertise in working with an IDE.

3. Project Initiation:

The first week focused on setting up the development environment and laying a solid foundation for the project. This involved installing the necessary tools, such as the Java Development Kit (JDK), and ensuring compatibility with the latest version. I also accessed essential Java libraries and frameworks to leverage their functionalities in the project.

4. Project Structure and User Class Implementation:

With the development environment established, I proceeded to create the project structure. Following best practices, I organized the code into logical packages and defined class files accordingly. This modular approach facilitated collaboration and enhanced code navigation throughout the project.

I then implemented the User class, which served as a fundamental component of the banking system. This class included attributes such as username and password, crucial

for user registration and authentication. By emphasizing data encapsulation and access modifiers, I prioritized the security and integrity of user information.

User Registration Functionality:

To enable user registration, I implemented functionality that allowed users to provide their desired username and password. I integrated user input validation to ensure the accuracy and integrity of the data. Registered users were stored using a list data structure, enabling efficient searching and retrieval during the login process.

3. Summary of Week

At the conclusion of the first week, I had successfully set up the development environment, created the project structure, and implemented the core user registration functionality. These accomplishments laid a strong foundation for the subsequent stages of the project. This initial week provided invaluable insights into software development methodologies, project organization, and the importance of meticulous planning and implementation.

III. Challenges:

1. User Registration Implementation: Developing effective input validation and selecting an appropriate data structure for storing registered users proved to be more complex than anticipated, requiring additional research and consideration.
2. Time Management: Balancing the time spent on learning Java concepts and implementing them into the project was difficult, necessitating careful planning to ensure both aspects were adequately addressed.

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IV. Learning Resources:

1. Online learning platform like Udemy and Coursera:
 - Learning new java concept and implementing it for better understanding.
 - Attended relevant online tutorials to deepen understanding.