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Introduction

Hello, I'm **Backend Engineer GeonYoung Shin**.

- I ponder to choose **appropriate methods** to solve problems.
  - I test deployable technologies and find solutions that are needed at the present moment, considering smooth flow.
- I emphasize the culture of **sharing issues and discussions** with colleagues for mutual growth.
  - Through specific feedback exchanges, I have experienced becoming a better developer than yesterday.
- I pursue **continuous improvement through code reviews and feedback**.
  - I divide tasks into units, complete them one by one, and continuously improve.

Work Experience

Dream Security

2022.07 ~ Present

- Developed web management tools for merchants and operators for identity verification services.
- Developed modules for service application and payment integration for partner companies.
- Enhanced the settlement process for identity verification services, averaging 14 million transactions per month.
- Supported operation and development of identity verification services.

Line Creative

2021.01 ~ 2021.12

- Collaborated with defense companies such as LIG Nex1, Hanwha Systems, and Poongsan to produce promotional videos.
- Developed F-35 VR simulation features using Unity 3D and Cryengine.

Development of Partner Service Application and Payment Integration Module

- **Duration**: 4 months
- **Key points**: Developed standardized partner application link system, integrated with PG payment module.
- **Contributions**:
  - Developed payment module linking with PG (standard payment window/periodic payment/payment cancellation/account refund).
  - Migrated existing partner companies to the current developing module.
  - Developed notification function based on service status (used/not used/under review) and payment status (payment completed/payment canceled/period expired).
  - Enhanced data integrity by using SHA-256 and HMAC for encryption/decryption and data transmission with partners.

- **Skills used**: Java, Spring Boot, JPA, QueryDSL, WildFly
- **Detailed Results**:
  - Developed **standardized partner application link module** to flexibly accommodate new partner companies.
  - Implemented encryption and decryption of data with partners using **SHA-256 and HMAC**, ensuring data confidentiality and integrity.
  - Introduced payment system notification function, providing real-time notifications to partners and related personnel via API/email in case of payment failure or system failure, enhancing payment system stability and service satisfaction.

Development of Identity Verification Service Back Office Management Features

- **Duration**: 8 months
- **Key points**: Integrated the process of registering and modifying information of merchants who want to use existing identity verification services from developers directly accessing the database into a web-based integrated management tool.
- **Contributions**:
  - Developed a system to manage information such as service status and ACL of the services provided to merchants.
  - Implemented functionality to generate and manage personal key and public key files required for identity verification service integration.
  - Developed audit log function to track and record user actions and important data processing history.
  - Implemented a web-based management system for registering terms of use, privacy policies, and promotional banners registered in the identity verification standard window by each mobile carrier.
- **Skills used**: Java11, Spring, MariaDB, MyBatis, MagicDB
- **Detailed Results**:
  - The process of registering and managing merchant information was integrated into a web-based system, transitioning management points from DBAs and developers to the web.
  - Reduced the procedure and time required for generating encryption keys from 5 minutes to 5 seconds by implementing the function to create public key and private key files on the web.
  - Ensured 100% reliability and traceability of log data, reducing preparation time for IT audits and subcontractor site inspections.

Development of Identity Verification Service Batch Features and Enhanced Settlement Process

- **Duration**: 4 months
- **Key points**: Converted the Oracle procedure, which was aggregating data on the monthly average of 14 million identity verification service transactions, into a Spring-based project, allowing confirmation of aggregated data in the web management tool and automating the manual settlement process.
- **Contributions**:
  - Developed a process to query necessary data for settlement from the database and generate an Excel (.xlsx) file to upload to the ERP system.
  - Migrated from Oracle procedures to a **Spring-based project**, reducing settlement processing time from about 20 minutes to 3 seconds, and reducing the human error rate in settlements by more than 95%.
  - Developed a function to send daily and monthly statistics reports on daily, monthly, and service provider usage to administrators via email and allow downloading of aggregated statistics data in Excel format.
- **Skills used**: Java11, Spring Scheduled, Apache POI, MariaDB, MyBatis, Oracle procedure
- **Detailed Results**:
  - Automated the settlement process, reducing the time required for settlement processing from about 20 minutes to 3 seconds and reducing the human error rate in settlements by more than 95%.
  - Used **Spring Batch functionality** instead of Oracle procedures for settlement processing, making maintenance easier.
  - Through the email notification system, administrators can receive daily, daily, and service provider usage reports, enabling data-based decision-making for service operations and management.

Support for Identity Verification System Enhancement and Service Operation

- **Duration**: 6 months
- **Key Activities**: Management of deployed samples and guides, vulnerability assessment, service operation and incident response, optimization of JEUS server resources
- **Contributions**:
  - Conducted standardization efforts for consistency and standardization of sample code across various languages including JSP, PHP, ASP, React, and Node.js.
  - Identified and addressed XSS vulnerabilities through security vulnerability analysis.
  - Provided support for service incidents.
- **Detailed Outcomes**:
  - Strengthened system security through enhanced input validation logic and addition of XSS filters.

- Added comprehensive testing manuals for both PC and mobile environments to address issues with missing authentication codes.
- Reduced service downtime by supporting DB storage failure recovery and transferring backed-up server data to previous servers.
- Enhanced capacity to handle a 1.5 times increase in concurrent users and traffic through optimization of JEUS server resources.

Cover Letter

[Motivation for Application]

I am applying with the confidence that I can develop in a field similar to my current role and in a better environment. Throughout my experience developing backend systems, especially in the realms of authentication back offices and payment modules, I have emphasized security-centric tasks. Additionally, I have integrated monitoring systems utilizing logs and Zabbix into on-premises environments, facilitating efficient and secure system management and usage.

Moreover, my experience extends to Spring Framework and schedulers, where I automated the billing system. These experiences have equipped me to overcome the limitations of legacy systems and explore more efficient resource utilization methods.

To enhance automation in billing, I transitioned the existing Oracle procedure-based billing system to a Spring-based project, integrating it with a web management tool for data visualization. I also developed functions allowing daily and monthly usage statistics to be sent via email to administrators and enabled the download of aggregated statistical data in Excel format.

By implementing these changes, the time required for billing processing was reduced from approximately 20 minutes to just 3 seconds, leading to a significant decrease in human error rates in billing operations.

[Interests and Future Goals]

I am deeply interested in software architecture and patterns, particularly Domain-Driven Design (DDD) and Hexagonal Architecture. I've been documenting these topics on my blog and in Obsidian, and I've been applying them practically in projects such as the payment module project. My future goal is to foster a better development culture by applying such architectural principles.

Currently, I am participating in a project involving the integration of partner protocols. My goal is to introduce these architectural concepts into this project. Additionally, I aim to share the latest technology trends and efficient development methodologies within the team, creating an environment for mutual growth.

Ultimately, my goal is to evolve into a developer who can continuously propose suitable solutions for new technologies and projects in a constantly evolving technological landscape.

[Collaboration - Two Principles for Collaboration and Communication]

Two principles I uphold when collaborating and communicating with others are 'Understanding' and 'Action'.

Firstly, 'Understanding' - I believe it's crucial to align understanding levels before engaging in discussions or collaborations. Even if both parties are involved in collaboration, their understanding levels of the subject matter may differ. Thus, I strive to ensure alignment by asking questions and providing explanations where necessary.

Secondly, 'Action' - When tasks requiring collaboration arise, I proactively participate. Whether the task is something I enjoy or simply something that needs to be done, I tackle it with enthusiasm. I firmly believe in addressing tasks promptly rather than procrastinating.

An instance where these principles were challenging to apply was during last year's billing process automation project. Initially, communication with the sales management team was not as smooth as desired, impeding progress. Addressing this required additional explanations and education to ensure alignment.

Additionally, unclear role allocations led to difficulties in taking proactive actions. Overlapping or omitted roles hindered project progress and efficiency. Overcoming these challenges required enhanced communication with the sales management team and proactive leadership in role clarification.

I envision an organization where open communication and collaboration foster a culture of mutual growth. I strive to contribute to realizing these values through my experiences and efforts.

[Experience - Complex Problem Solving]

In the Partner Service Application and Payment Integration Module Development project, I tackled various challenges. Initially, integration with new partners was challenging due to the specificity of their protocols. To address this, we reconstructed the system to be more flexible and standardized.

Firstly, we transitioned from a Servlet-based project to one centered around Spring Boot and REST APIs for greater flexibility. For example, we simplified integration with new partners by reducing the required data formats for service applications. Additionally, by introducing REST

APIs for data exchange, we simplified the integration process.

Furthermore, to address security concerns, we utilized SHA-256 and HMAC for data encryption and integrity when transferring data to partners. This ensured data safety and prevented tampering during transit.

Moreover, I was responsible for developing the payment module for integration with payment gateways. I implemented various features such as standard payment windows, recurring payments, payment cancellations, and account refunds. Adapting to different data exchange methods for each feature required intricate coding and integration.

These tasks were made possible through effective communication and collaboration both within and outside the team. Leveraging my technical knowledge and problem-solving skills, I successfully led the project to improve the efficiency and development of the partner integration protocol and payment module.
