



TRAINING REPORT

ON

Software Engineering Internship

IN

“Summit Technology Group”

Industry Oriented Hands-on Experience (CS253) - Final

Term Evaluation

OF

BE(CSE)

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Introduction to Internship

This training highlights my ongoing internship experience at STGI, where I am working as a Software Engineering Intern since June 2024. My role involves contributing to website development, fixing bugs, and implementing new features to enhance software solutions.

The internship has provided valuable hands-on experience, fostering growth in technical skills, problem-solving, and communication. Collaborating with a dynamic team in a supportive work environment has allowed me to gain practical insights, tackle challenges, and develop professionally.

This document outlines the projects I am involved in, the skills I am honing, and the impact of this internship on my learning journey.

Summit Technical Group, Inc. (STGI) is a leading service-based company that specializes in delivering comprehensive solutions across a diverse range of industries. With a commitment to quality, innovation, and tailored service offerings, STGI stands out for its ability to address complex operational and technical challenges faced by its clients. Leveraging decades of expertise, STGI focuses on strategic consultation, engineering, and project implementation to empower businesses in achieving their goals.

At the core of STGI's approach is a dedication to client-centric solutions. They emphasize understanding the unique needs and goals of each client, thereby fostering long-term partnerships and impactful results. Whether it's enhancing system efficiency, optimizing processes, or driving technological transformation, STGI's expert teams work diligently to deliver results that exceed expectations.

This experience has significantly shaped my professional growth by providing me with a comprehensive understanding of the software development lifecycle, the importance of teamwork, and the need for continuous learning in the tech industry.

In this training report, I will detail the specific projects I have undertaken, the skills I have developed, and the insights I have gained during my internship. I aim to provide a comprehensive overview of my contributions at STGI and reflect on how this experience has significantly shaped my professional growth. This report not only serves as documentation of my journey but also as a testament to the valuable lessons learned during my time at STGI.

Project I am working on at STGI:

- **Loan Origination System (LOS)**

The LOS is a comprehensive, web-based platform designed to manage the end-to-end lifecycle of loans, including term, large, and disaster loans. It features a user-friendly

dashboard, automated workflows for underwriting, credit verification, risk assessment, and loan approval, ensuring seamless and efficient loan processing. LOS enhances transparency and efficiency for banks and financial institutions with scalable and secure solutions.

- **Urgent Loan Processing (ULP)**

ULP is a disaster-focused extension of LOS, leveraging AI/ML technologies to identify and assess disasters in real time. It prioritizes and expedites loan applications during crises, offering a streamlined workflow for underwriting, credit checks, and compliance. ULP provides a scalable, agile solution for disaster-related lending.

- **Other Projects**

Additional initiatives include a testing platform used during recruitment to evaluate candidates' skill sets effectively.

Key Responsibilities:

- Developed an efficient caching solution that improved system performance by 30-50%.
- Integrated CSC API with Celery Workers to streamline the UCC search process, reducing processing time and preventing deadlocks.
- Improved payment processing and subscription management using Stripe Webhooks for the Loan Origination System (LOS) servicing.
- Redesigned the messaging system to support scalable HTML, text, and JSON templates, cutting down update time by 40%.
- Enhanced backend operations for banking applications, focusing on database optimization, API integration, and system scalability.

Facilities Required for Proposed Work (Optional)

Software Requirements:

- Programming Language: Python

- Framework: Django
- Database Management: PostgreSQL, Redis
- Testing Tools: Pytest
- Payment Gateway: Stripe API
- Task Management: Celery Workers for background processing
- Caching Mechanism: Django Cacheops and Dragon Cache Manager

The integration of these technologies has greatly strengthened STGI's projects by incorporating a range of third-party solutions, including key components from the Django framework and various other tools. This seamless integration allows for enhanced functionality, streamlined processes, and the creation of robust solutions tailored to client needs. To further improve efficiency and project success, we leverage tools like GitHub for version control, which ensures code consistency and collaboration, Jira for detailed project management and tracking, Slack for real-time communication among team members, and zoom for virtual collaboration and meetings. Together, these tools help us optimize workflows, boost productivity, and maintain clear and effective communication across all aspects of project delivery.

Company Profile

The Summit Group (STG) is a boutique consulting firm specializing in providing comprehensive technology and operational solutions to community banks and financial institutions. Their services are designed to help clients modernize their infrastructure, enhance operational efficiency, and eliminate barriers to growth.

Key Services:

- **Technology Services:** STGI offers managed services, cloud engineering, virtual desktop solutions, API integration, performance engineering, and DevOps. They assist clients in migrating from VMware to AWS and provide expertise in Splunk and SD-WAN technologies.
- **Platforms:** The firm provides platforms such as Bankers Analytics and Lenders Cooperative, which support financial services and bank operations. These platforms are designed to enhance credit underwriting, cloud modernization, and risk and compliance management.
- **Advisory Services:** STGI offers advisory services in technology transformation, assisting clients in navigating the complexities of modernizing their technological infrastructure.

Notable Projects:

STG has quietly powered software solutions for thousands of banking organizations in the United States and has operated some of the largest lending programs in operation today. Their leadership team comprises technology innovators, former federal regulators, attorneys, and operational experts, bringing a wealth of experience to their projects.

Client Testimonials:

- **Centier Bank:** They deliver in three critical ways: they communicate frequently, they offer real-time guidance, and they deliver solutions that keep pace with constant industry changes.
- **Community Bank of Mississippi:** They treat us like the only bank they are working with.
- **Old National Bank:** Our dealings with Lenders Cooperative and STG have been excellent.

Strategic Partnerships:

STG has established strategic partnerships with leading organizations, including VMware, the American Bankers Association (ABA), AWS, Microsoft Azure, Diebold Nixdorf, Infosys Finacle, Jack Henry Associates, Pentaho, and Splunk.

Through these services and partnerships, The Summit Group demonstrates a commitment to delivering innovative solutions that address the evolving needs of the financial services industry.

Methodology/ Planning of work/Job Description

Objective

The primary goal is to contribute to the development, enhancement, and maintenance of the Loan Origination System (LOS) project, with a focus on the Spreading module. The Spreading module streamlines financial data analysis, ensuring efficiency and accuracy in loan decision-making.

Scope of Work

1. **Bug Fixing:** Identify, diagnose, and resolve issues in the Spreading module to ensure smooth functionality.
2. **Feature Development:** Design and implement new features to enhance user experience and module capabilities.
3. **Amendments and Updates:** Collaborate with the team to integrate upcoming features and amendments based on business requirements.
4. **Testing and Validation:** Ensure the accuracy and performance of developed features through rigorous testing processes.

Methodology

1. Requirement Analysis

- Understand the existing functionalities of the LOS project and Spreading module.
- Gather requirements for bug fixes, feature enhancements, and new amendments.
- Collaborate with stakeholders to prioritize tasks and finalize deliverables.

2. Planning and Design

- Develop a roadmap outlining milestones and timelines for each task.
- Create design specifications for new features and enhancements.
- Plan integration workflows to align with the existing architecture.

3. Development

- Work on bug resolutions and code optimizations.
- Implement features such as automated data extraction, advanced financial analysis tools, and compliance workflows.
- Follow coding standards and maintain documentation for all changes.

4. Testing and Quality Assurance

- Conduct unit testing for individual components and integration testing for combined workflows.
- Use automated and manual testing methodologies to ensure stability.
- Validate results against predefined financial scenarios to ensure data accuracy.

5. Deployment and Maintenance

- Deploy the updated module to the staging environment for review and approval.
- Monitor live systems post-deployment to identify and address any issues promptly.
- Provide maintenance support for continuous improvements.

By adhering to this structured methodology, the project aims to ensure timely delivery of enhancements while maintaining high-quality standards and aligning with organizational goals.

References

- ChatGPT
- Official Python Documentation
- Django Documentation
- AWS Documents
- Community Forums and Blogs

