



ĐẠI HỌC QUỐC GIA THÀNH PHỐ HỒ CHÍ MINH
TRƯỜNG ĐẠI HỌC KHOA HỌC TỰ NHIÊN



INTERNSHIP REPORT

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- With a team of more than 800 Consulting and IT experts, ELCA is Switzerland's biggest independent IT company leading in the fields of IT Business Consulting, software engineering, system integration and application maintenance/hosting.
- ELCA is particularly active in the finance and insurance sectors, in health care, public services, the event industry, retail and the transport sector. We have specific expertise in a number of core technologies (eg. Java and .Net) and while we are experts for standard products by our strategic partners, we are a leader in software engineering and tailor-made solutions.
- At ELCA, we strive for the highest quality and put our full energy into each challenge to literally "make it work". In order to keep our solutions at the cutting edge of technology, we foster relationships with internationally leading universities and are heavily involved in research and development.
- Today, the ELCA Group comprises ELCA Informatique SA and SecuTix SA with headquarters in Lausanne and branches in Bern, Geneva and Zurich, Paris, Madrid, London and Ho Chi Minh City in Vietnam (offshore development).

(Source: ELCA VN)

OBJECTIVE

- Gain internship course's credits.
- Gain experience in real working environment.
- Have an overview of all team roles: Manager, BA, Tester, Developer.
- Learn experience from colleagues and supervisors.
- Learn working methodology, working process.
- Improve communication and presentation skills. (especially in English)
- Improve logical thinking as well as coding skill.
- Learn how to manage project and organize source codes.



- JacpFX framework for newbie
- Workbench vs. Stage vs. Scene
- Perspective vs. Component vs. Fragment
- Context in JacpFX framework
- Event handling: handle vs postHandle
- PIM Tool – Front end

Week 7

- Agile IT method (ELCA Internal using)
- What is web application
- Spring Boot Application
- Using property files
- Hibernate pagination: setFirstResult & setMaxResults
- PIM Tool – Backend

Week 8

- Using common interface/API for communicating between different modules
- Maven project dependencies import
- Protocol Buffer (protobuf) for beginner
- Using protobuf with gRPC
- PIM Tool – Update service using gRPC
- Team's project overview - Technique

Week 9

Week 10

- Project Lombok
- PIM Tool – Update using Lombok
- Mapping with MapStruct
- PIM Tool – Mapping with MapStruct
- PIM Tool – Refactor code for cleaning purpose
- Team's project overview - Business

Week 11

- Demo PIM Tool
- Using ScenicView for JavaFX
- Using plugin Multirun & GrepConsole
- Setup team's project environment
- Build team's project

Week 12

- Approach team's project source code
- Onboarding presentation
- Farewell party

- Learnt working methodology, team's working process.
- Improve communication and presentation skills.
- Improve logical thinking as well as coding skill.
- Successfully did the final project PIM Tool.
- Successfully present "Onboarding presentation".
- Successfully learnt new programming language – Java.

EXPERIENCE

- Experience in real working environment
- Experience from colleagues and supervisors
- Experience in Email writing
- Experience in using VCS - Github
- Experience in source codes organization
- Experience in time-management
- Experience in UI design

- This small project is applied for newcomers of .NET and Java group.
- PIM is the tool used to manage administrative documentation of projects.
- Estimated time: 4 weeks.

- Glossary:

Term	Description
PIM	Project Information Management

- Requirements/ Tasks/ Features:

Basic	<ul style="list-style-type: none"> ○ Create new project ○ View project in detail ○ Update a specific project ○ Delete a specific project ○ Delete all selected projects ○ Using dialog: Help / Exit Warning... ○ Exception handling ○
Advanced	<ul style="list-style-type: none"> ○ Filter search. ○ Pagination ○ Using graphs to express. ○ Login/Logout ○ Multilingual ○ Concurrent controls ○ Preloader page (for app) ○

- Techniques:

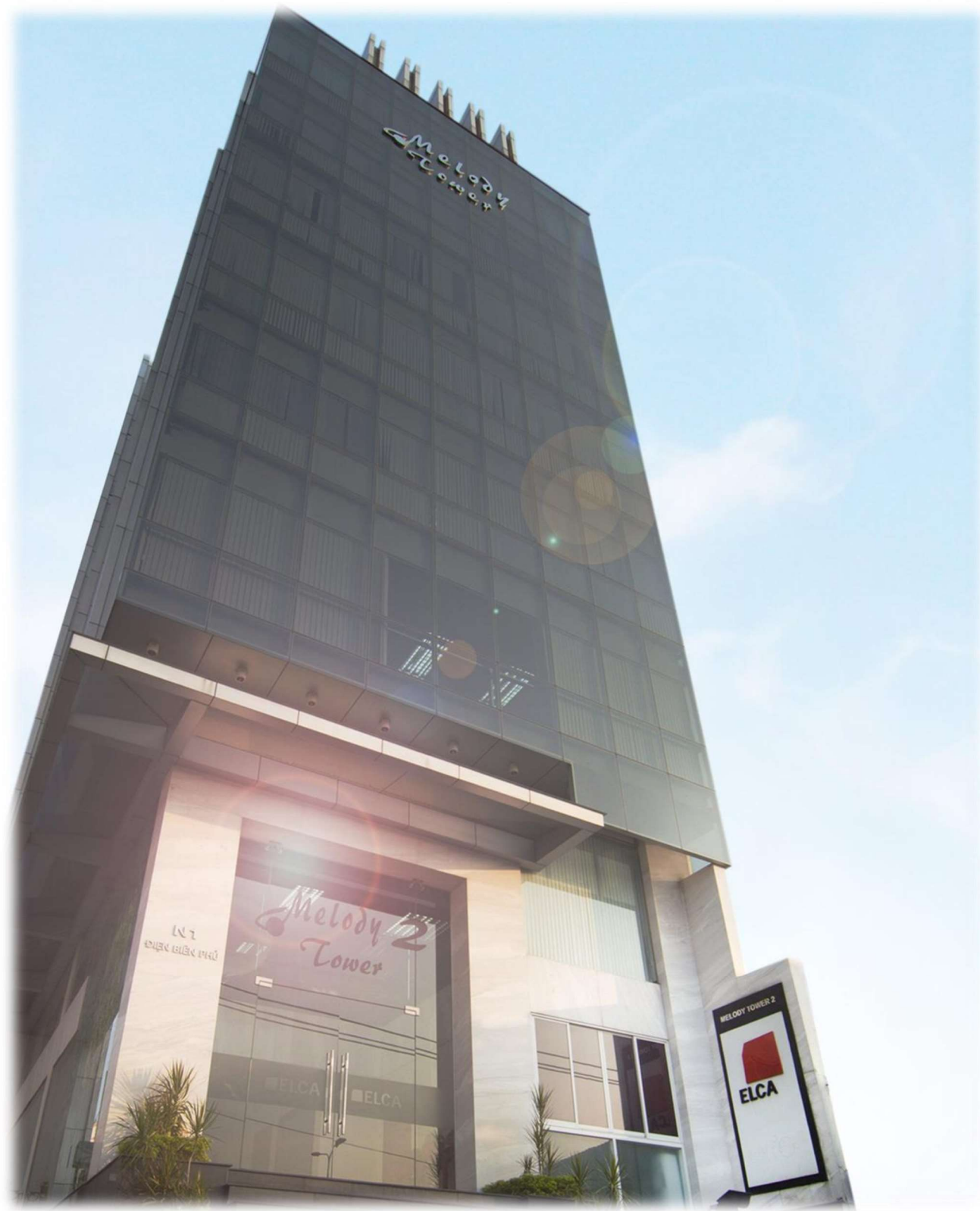
Techniques/ Descriptions	Using
DBMS	Microsoft SQL Server
Application type	Client/Server
Java Version	java 8 (jdk1.8)
Client	JavaFX GUI Application
Server	Spring Boot Console Application
Communication between Client & Server	Protocol buffer, using gRPC stub
Mapping objects	MapStruct
Constructor, Logging...	Lombok
Dependencies controls	Maven
Object relational mapping (ORM) tool	Hibernate
JavaFX UI styling support	FXML, CSS
JavaFX Non-blocking UI support	JacpFX Framework
Logging support	Log4J
Test Support	JUnit
Packaging	Jar File (*.jar)



Picture 1 – My working environment



Picture 2 – Farewell party at King Buffet and BBQ



 **ELCA**

We make it work.