DEC, 2023

SOFTWARE ENGINEERING

Student Smart Printing Service

Stronger together

L01_14

Team members

- Cao Minh Quân - 2112109
- Huỳnh Nguyên Phúc - 2110451
- Nguyễn Quốc Thắng - 2114837
- Trần Bảo Phúc - 2114452
- Dương Phúc Thắng - 2112327
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PROJECT & TEAM OVERVIEW

1.1 Project Overview

Service

Enable users to print and place orders seamlessly through both web and app platforms.

Features

Facilitate file upload, printer selection, print setting customization and purchase pages.

1.1 Project Overview

SPSO (admin)

Responsible for configuring the system, managing resource information (printers), as well as monitoring users' print history and viewing system usage reports

Authentication & payment

Integrate HCMUT_SSO authentication service and BKPay online payment system

1.2 Team Overview

Stronger together

6 members

Cao Minh Quân

- **Full-stack**
- **Requirements Specification**
- **Use-case creation**
- **Diagram Design**

1.2 Team Overview

Huỳnh Nguyên Phúc

- Front-end
- Use-case Creation
- Diagram Design
- Database

Dương Phúc Thắng

- Front-end
- Domain Context Description
- Use-case Creation
- Class Diagram Design

1.2 Team Overview

Nguyễn Quốc Thắng

- Back-end
- Use-case Creation
- Components Diagram Design

Trần Bảo Phúc

- Back-end
- Use-case Creation
- Activity Diagrams Design

Nguyễn Tiến Phát

- Back-end
- Use-case Creation
- Activity Diagrams Design

2

PROJECT OUTCOMES

2.1 Stakeholders & requirements

Students, Lecturers and Staffs

Login/Logout	
Order document printing: upload file, choose printer, set print options (paper size, page range, single/double-sided), and specify quantity	
Monitor document printing status	Check personal info and remaining print pages
Check print order history and paper usage stats	Purchase additional print pages and view transaction history

2.1 Stakeholders & requirements

SPSO

- Check any user's service usage history on selected or all printers within a specific period
- View service history for all users on selected or all printers within a specific timeframe
- Review the history of any selected printer within a specific timeframe
- Check print order history and paper usage stats

2.1 Stakeholders & requirements

SPSO

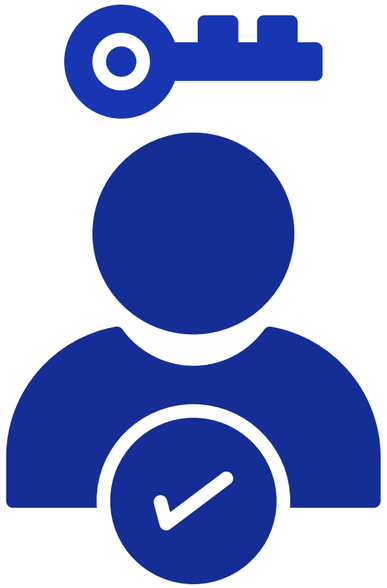
System configuration: Adjust default print page count, set system-wide default print limits, and specify accepted file formats

Auto-generate monthly and annual reports for SPSO, stored for anytime access.

Add, view, and edit printer information

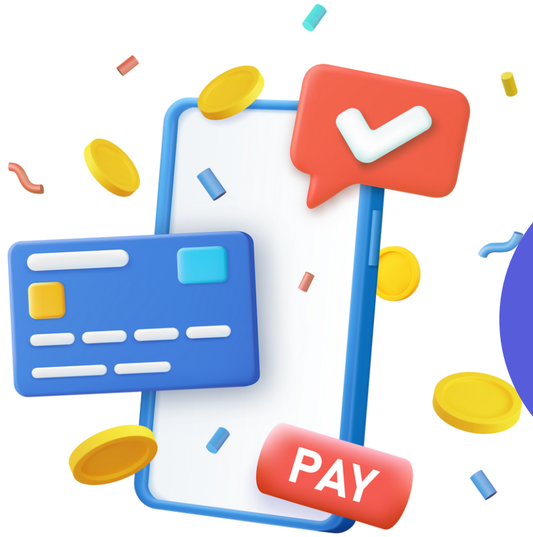
Add, delete, activate, and deactivate printers

2.1 Stakeholders & requirements



HCMUT_SSO

Authentication for students, faculty, university staff, and SPSO.



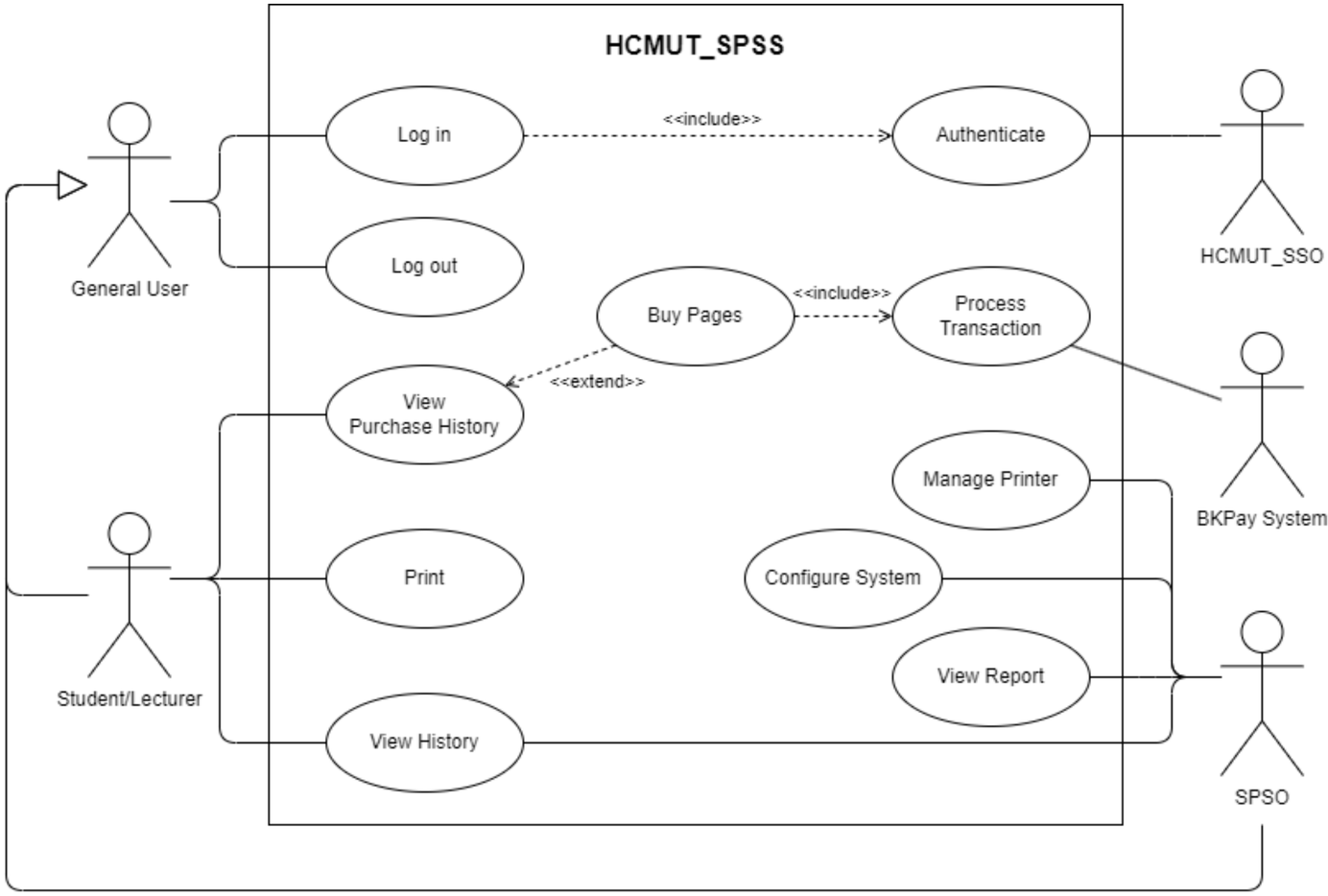
BKPay

User page printing payment.

2.2 Use case diagram

1. **Authentication**
2. **Printing Service**
3. **Purchase and Payment**
4. **Printer Management**
5. **Configure system**
6. **View system report**

The overall system use case diagram



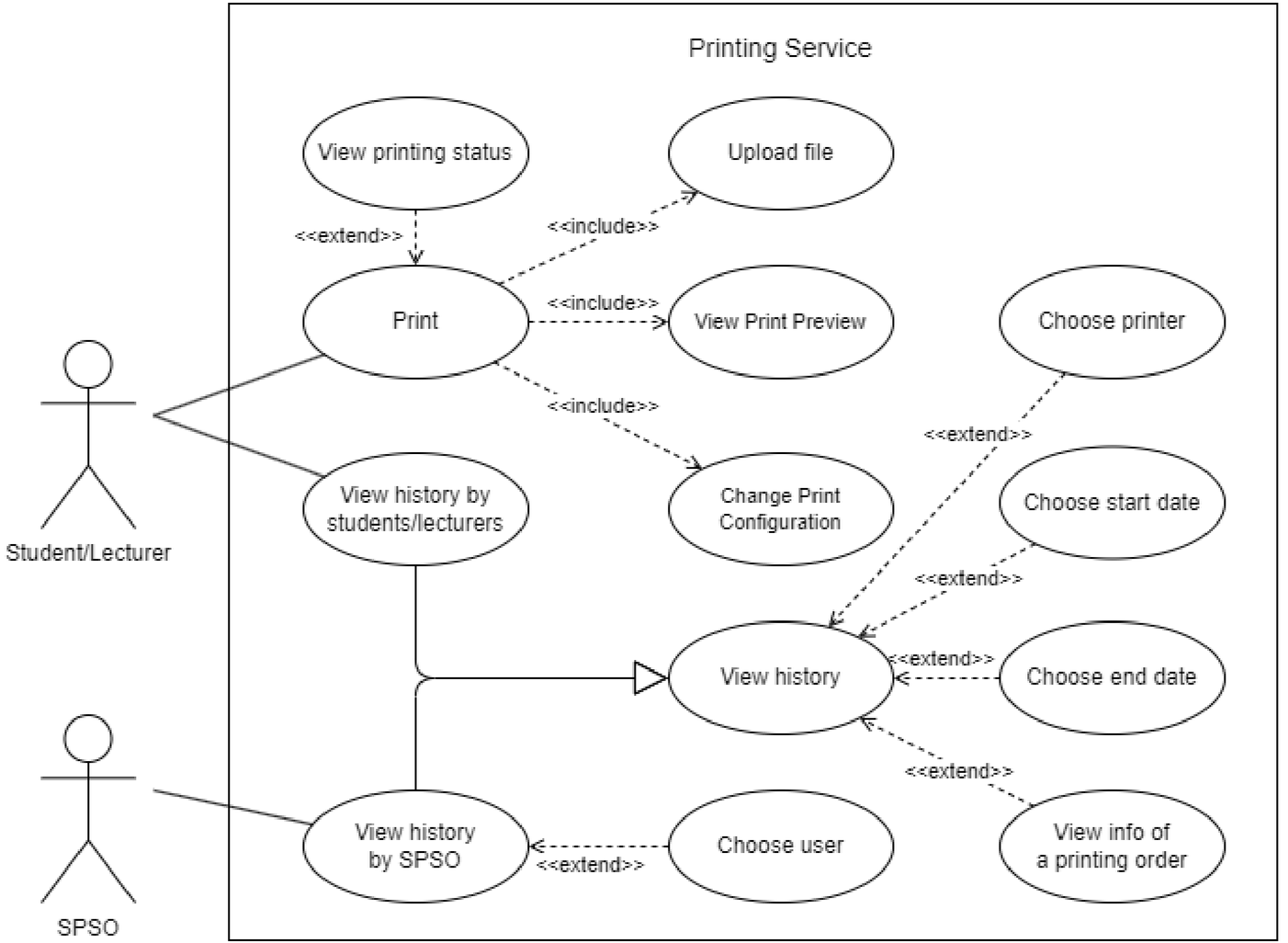
2.2 Use case diagram

Printing order

SPSO checks system print history

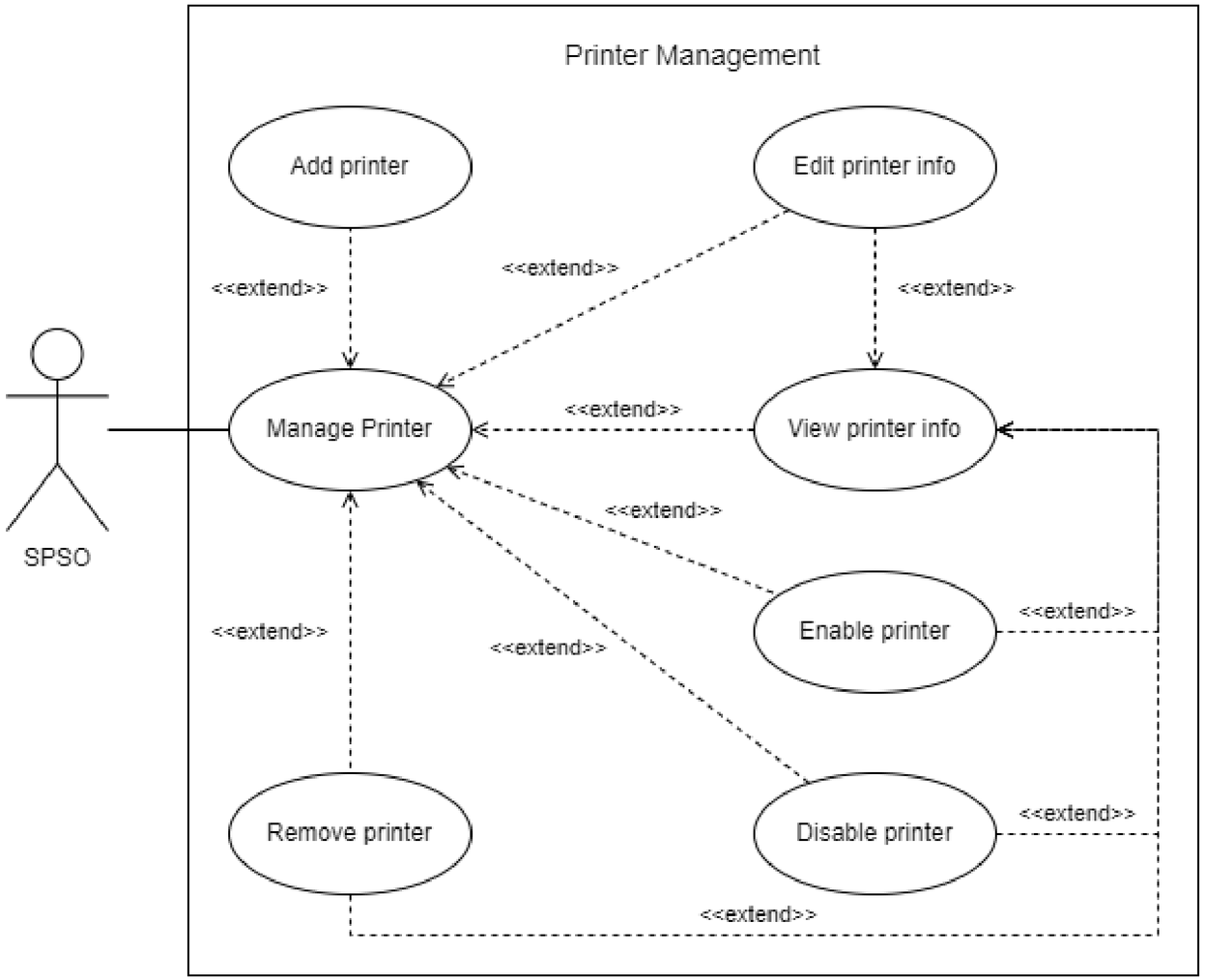
Check print history for students and staff

View print history for each task

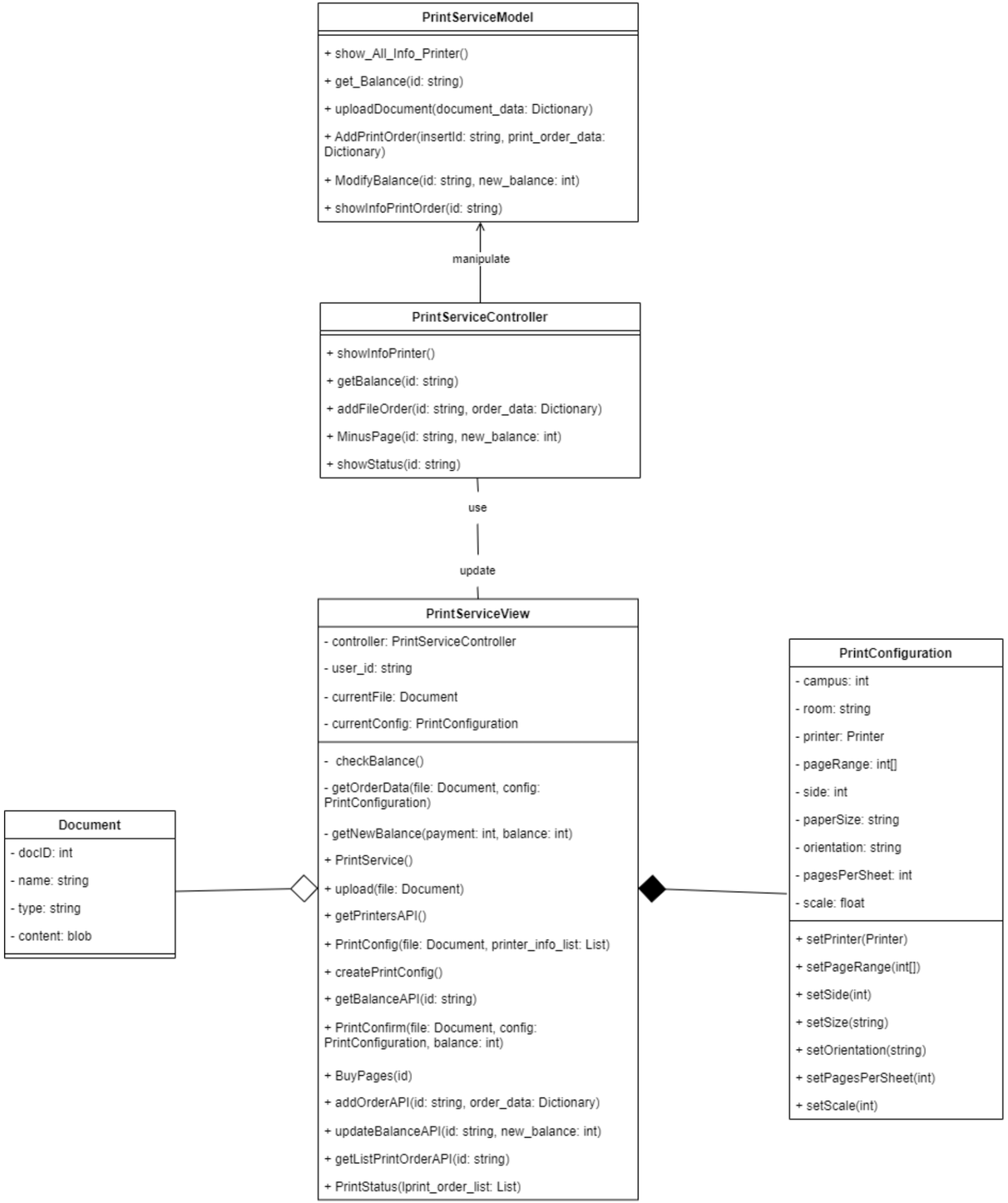


2.2 Use case diagram

- [ ] **Manage printer**
- [ ] **Add printer**
- [ ] **View info printer**
- [ ] **Modify info printer**
- [ ] **Remove printer**
- [ ] **Activate printer**
- [ ] **Disable printer**



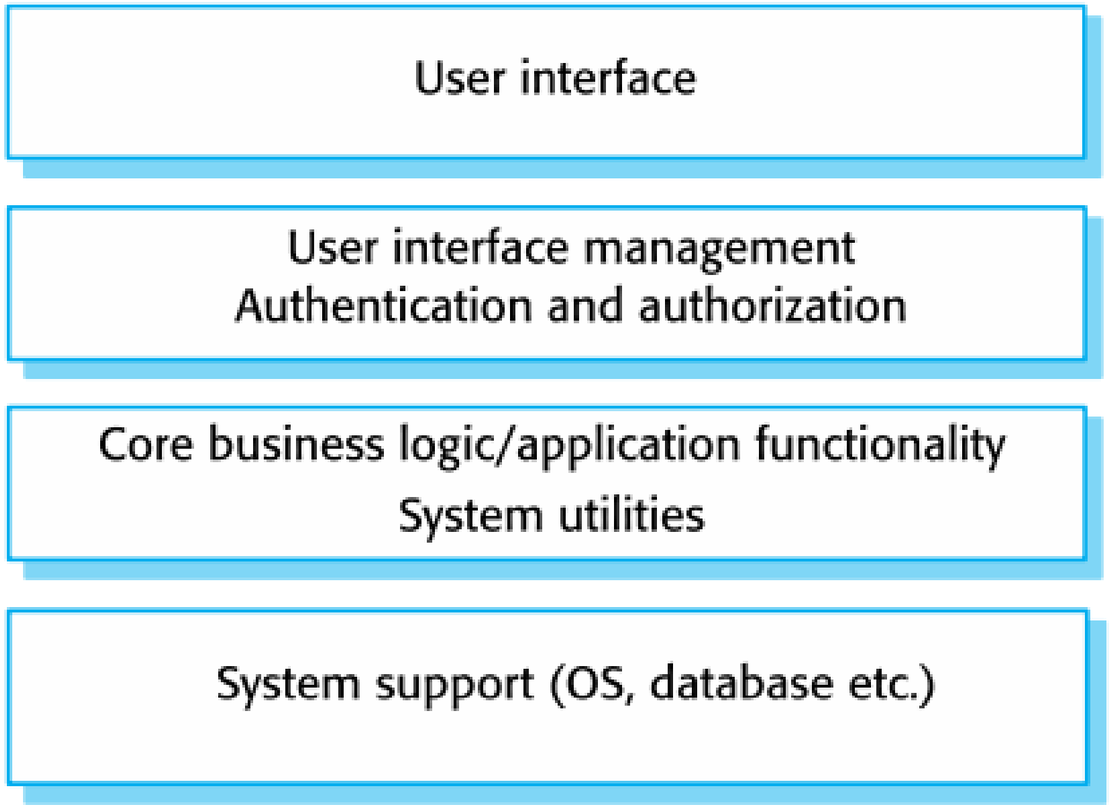
2.3 Class diagram



2.4 Architecture Design

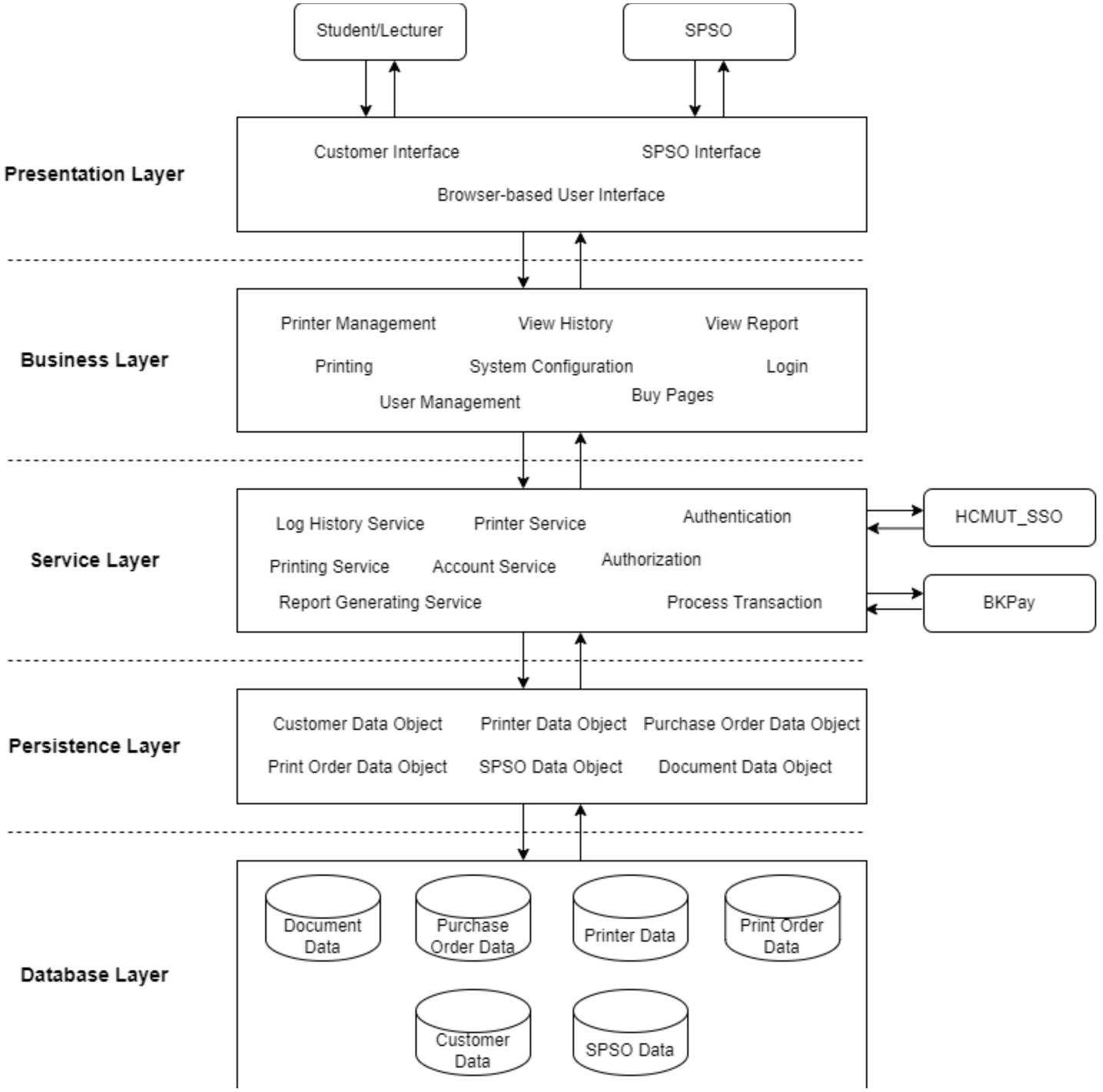
- **Testing simplicity**
- **Straightforward implementation**

A generic layered architecture

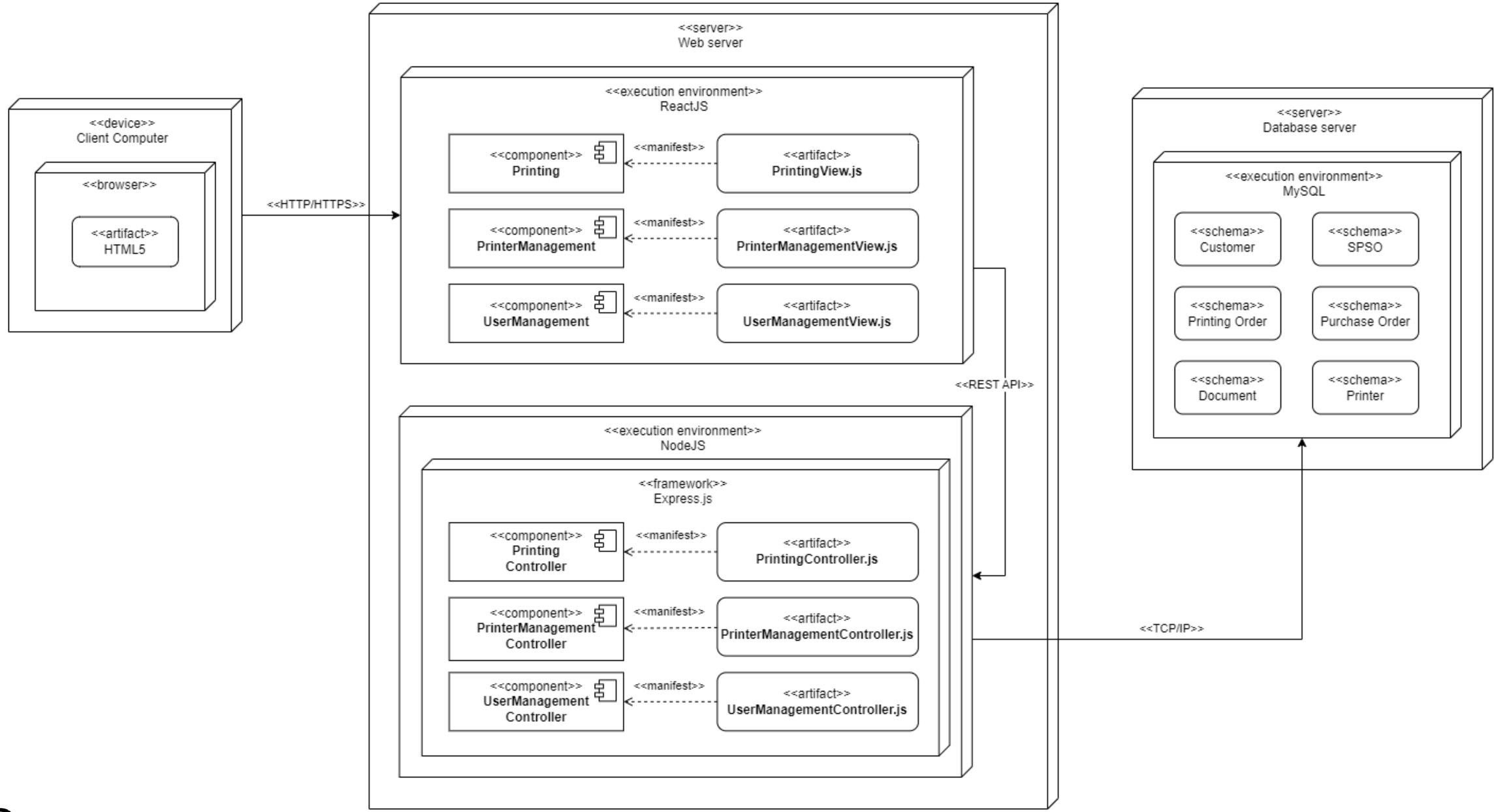


- **Moderate performance**
- **Costly scalability expansion**

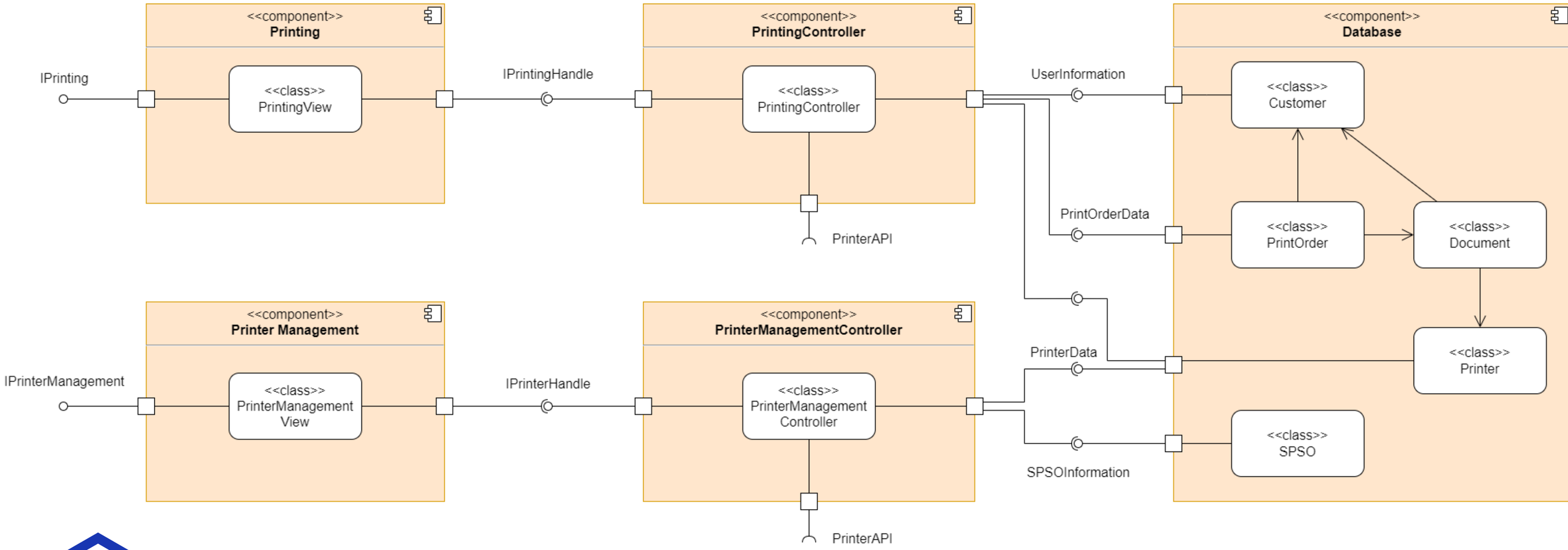
2.5 Box-line diagram



2.6 Deployment diagram



2.7 Component diagram



3

TECHNICAL DECISIONS

3.1. Design

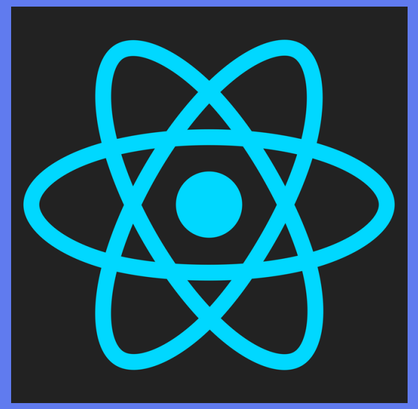
Figma

It’s a vector graphics and online UI/UX design software. It is used to create designs for web, mobile applications...

Draw.io

It’s a open source online diagram drawing application. It provide features to help create professional diagrams.

3.2. Front-end



React

It’s an open-source and free JavaScript library for building UI. It’s known for its speed, scalability, and high reusability.

Bootstrap

It’s an open-source and free CSS framework used to build user interfaces (UI) for websites and applications.

3.3. Back-end

Node.js

It’s a cross-platform, open-source JS runtime environment. It helps run JS outside the web browser.

Express.js

It’s back-end web app framework built on Node.js. It provides features to help build web and RESTful APIs.

3.4. Database

MySQL

It’s a relational database management system (RDBMS) widely used in web, mobile, and enterprise applications.

3.5. Version Control System

Git

It’s a distributed version control system (DVCS) that works by storing the history of all changes made to a file or directory.

Github

It allows users to store their source code online, collaborate with others on projects, and share their code with the public.

4

RISKS & CHALLENGES

RISKS AND CHALENGES

Team work

Ineffective communication, lack of consensus among team members.

Challenge in teachnology

Having no experience in using new programming language or framework

Mock Data & API

Asynchrony with real data, inaccuracies in reflecting real-world scenarios

API Integration (FE & BE)

Deployment challenges due to incompatible APIs.

SOLUTION

- Team management, fair task assignment, encouraging creativity and collaboration.
- Acquire knowledge through online resources, coding practice, and reference to projects.
- Efficiently create mock data and APIs, maintain synchronization between mock and real data.
- Define a standardized data structure between the frontend and backend, and carefully test how well they work together.

5

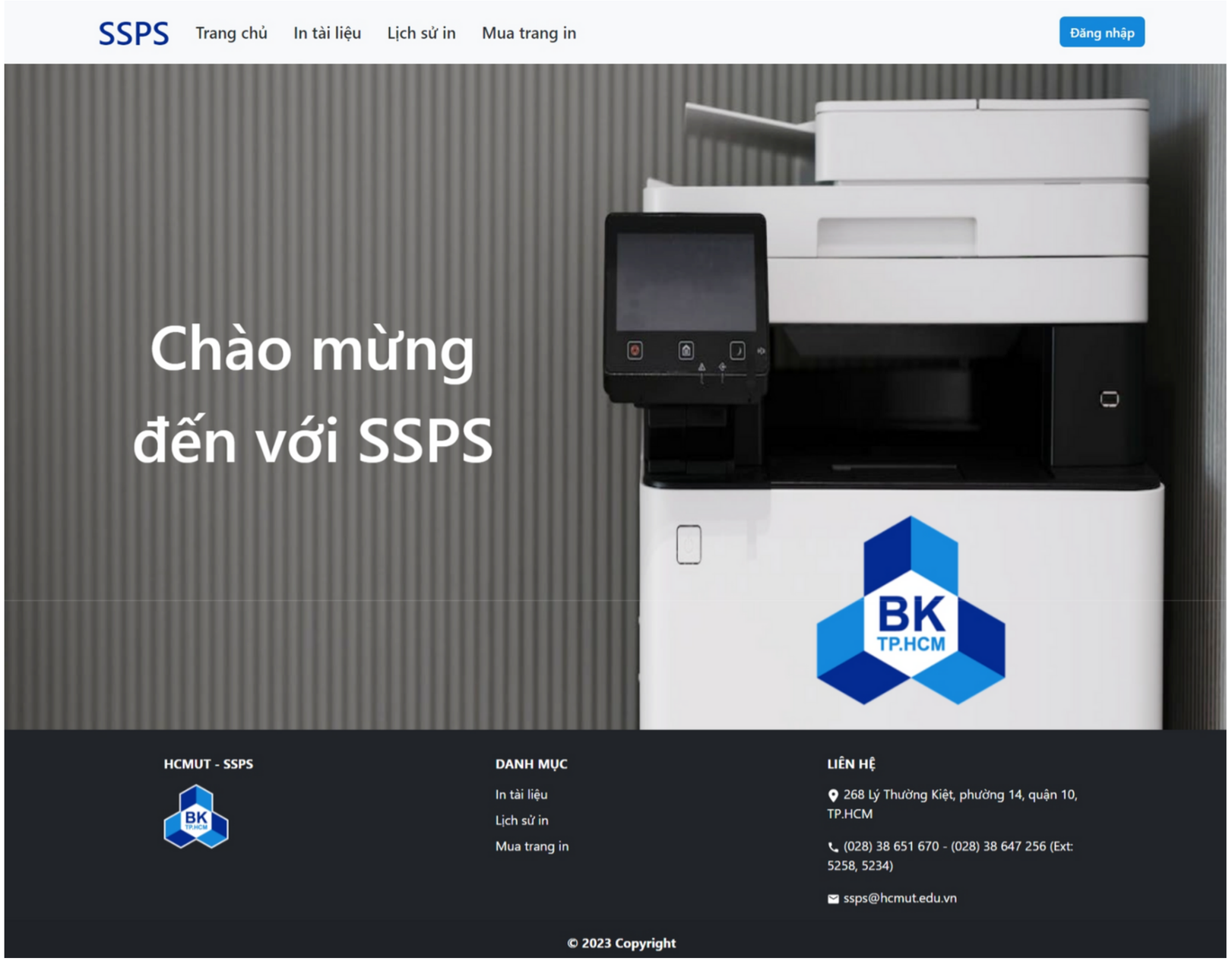
LESSONS LEARNED

LESSON LEARNED FOR OUR TEAM

- Buildup a software project
- Use new technologies: React, Nodejs,...
- Use FIGMA for designing UI
- Manage time and people
- Work well in a team

6

Demo


SSPS
Trang chủ
In tài liệu
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Mua trang in
Đăng nhập
Chào mừng
đến với SSPS
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In tài liệu
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Thank You