

Portfolio Management System

Amber House Team 4

LittleBankXA

July 31, 2025

Team Members

- ▶ Sharon Shang Guan – Database & Backend
- ▶ Kelvin Chang – System Architecture Frontend
- ▶ Richard Wang – Backend & API Integration
- ▶ Anthony Wang – Frontend & Testing

Project Introduction

Goal

Develop a financial portfolio management web app.

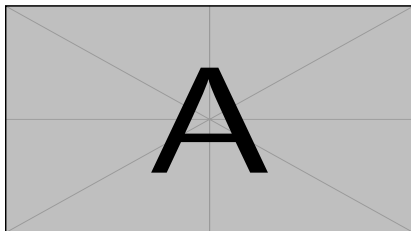
- ▶ Manage stocks and bonds portfolios.
- ▶ RESTful API backend; responsive web frontend.
- ▶ Real-time asset tracking, trade simulation, interactive charts.

System Flow

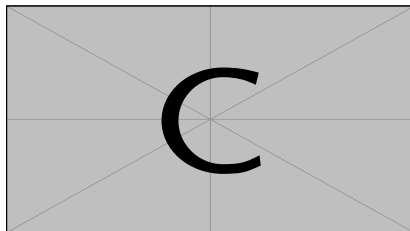
1. **Frontend:** HTML/CSS/JS interface.
2. **API Requests:** Fetch API calls.
3. **Backend:** Node.js (Express.js) processes requests.
4. **Database:** MySQL CRUD operations.
5. **External Data:** Yahoo Finance API integration.
6. **Response:** JSON data updates UI dynamically.

Application Screenshots

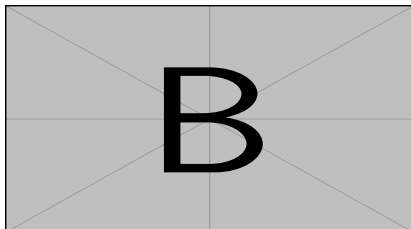
Dashboard Overview



Portfolio Detail View



Stock Market Page



Historical Chart



Live Demonstration

System Architecture

Three-Tier Architecture

- ▶ **Presentation Layer:** HTML/CSS/JavaScript
- ▶ **Application Layer:** Node.js, Express.js, REST API
- ▶ **Data Layer:** MySQL database

Technology Stack

Backend

- ▶ Node.js
- ▶ Express.js
- ▶ MySQL2
- ▶ Axios

Frontend

- ▶ HTML5
- ▶ CSS3
- ▶ Vanilla JavaScript
- ▶ Chart.js

Conclusion & Next Steps

Achievements

- ▶ Functional, robust portfolio management system.
- ▶ Clearly defined, maintainable three-tier architecture.

Future Enhancements

- ▶ User authentication; multi-user environment.
- ▶ Expand asset types (cryptocurrencies, ETFs).
- ▶ Advanced analytics and reporting.
- ▶ Modernize UI/UX (React/Vue).