CS 491/691 Semester Project, Spring 2023

Overview

This project consists of building a typical system for internal use in a company. In larger companies, you may have one system that is for managing a store, for example, and another for managing employees. In the system we are going to build, we have a main store management system and a human resources (HR) system that communicate using JSON. To accomplish this, the HR system must expose a JSON API that can be consumed by the store management system.

This project is intended for groups of two students.

NOTE	Videos are in the works to futher explain the project and to provide more guidance in building the required systems.

System Requirements

The HR System

The HR system has its own user interface for entering employee data. The data collected for an employee includes

- Employee ID (*not* the same as the database ID)

- Last name

- First name

- Date of hire

- Department

The API for the HR system is read-only, so the main store system can only retrieve and display data from the system.

The Store Management System (SMS)

The SMS system is reponsible for tracking product inventories and product prices. The system can display employee information pulled from the HR system, however, it cannot add or modify employees in any way.

The basic data for the store includes

- Store location (street address, city, state, zipcode)

- Store ID (not the DB ID)

- Product information

- Each product should have

  - a name,

  - the name of the vendor that supplies the product,

  - a wholesale price,

  - a retail price, and

  - the current inventory count

When the user enters the URL "/employees", the system should pull the current list of employees from the HR system and display them in a table.

Project Levels

CS 491

The system must implement the data requirements given above. The user interface for the SMS should utilize LiveView in Phoenix. The HR system must use the basic MVC pattern (no live views). The products in the SMS system must be stored in a separate database table, so you will need to implement a has-many relationship (a store has many products).

CS 691 and Honors

The system will implement all of the requirements for CS 491, with the following additions:

- SMS system will include authentication for users (using the auth system that can be implemented using `phx.gen.auth`)

- The HR system will include pubsub functionality so that updates to the employee list will be pushed to all concurrent users of the system

Coming soon

Videos will be available shortly that cover the technologies required for this project, and we will work on parts of the project during the lecture.