

CPSC 304 Project Cover Page

Milestone #: 1

Date: Tuesday, October 1st, 2024

Group Number: 32

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By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above. (In the case of Project Milestone 0, the main purpose of this page is for you to let us know your e-mail address, and then let us assign you to a TA for your project supervisor.)

In addition, we indicate that we are fully aware of the rules and consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia

2. A brief project description answering these questions:

a. What is the domain of the application? Describe it. The domain of an application refers to the area of knowledge your application resides in. For example, if I am making an application for a hospital, the domain would be something like healthcare/patient management/logistics (it would depend on what the application is trying to do).

The domain of this application will be in the Supply Chain/Logistics realm. We will be building an application which can be used by shipping ports to better manage and access incoming shipments, vessels, and cargo.

b. What aspects of the domain are modeled by the database? In answering this question, you will want to talk about what your project is trying to address and how it fits within the domain. It is likely that in the process of answering these questions you will bring up examples of a real-life situation that the application could be applied to.

We will be addressing the management system of all shipping movement within a given port. Ports such as the Port of Vancouver handle 140 million metric tonnes of goods annually and are a driving force of the consumer economy.

We will be modeling the storage and carriers of these shipments, so that users can quickly find the origin country and vessel of any given good, as well as where it is stored within the port's warehouse.

Shipping ports make up a 2 trillion-dollar industry, and while there is a clear market leader in port logistics software in Nicom Maritime, we believe that our database software can be of equal use in improving the efficiency and organization of port management.

Specific aspects that will be modeled include but are not limited to:

- Ship
- Good
- Shipment
- Warehouse
- Origin Country
- Destination Country
- Regulations

3. Database Specifications:

a. What functionality will the database provide? I.e., what kinds of things will people using the database be able to do.

The database will provide comprehensive functionality relating to the shipment port management system, with information ranging from ship identification, cargo attributes, warehouses, information about customs clearance, and much more.

A user will be able to create new shipments and edit all required attributes, view incoming shipments, complete regulations checks, and assign incoming shipments to warehouses. This will allow for easy retrieval of shipment location, stored goods, and country of origin.

Along with these features, our database will provide extensive information on tariffs and trade agreements, allowing for ports to better track their compliance with local laws.

4. Application Stack. What platform will the final project be on? What is your application technology stack?

a.

Our project will use the department provided Oracle database, and will run it on IntelliJ Ultimate. We'll use these because they are the most supported and practical for our database. IntelliJ IDEA supports Oracle with the Database Tools plugin, which, when combined with the existing Oracle server, will make integration fairly simple.

b.

We will be using JavaScript which we'll interface on NodeJS, because of the support we can get from the teaching team as well as for its real-world practicality. We'll be able to use JavaScript for the full stack, and we'll be able to utilize JSON formatting across the board.

i. Specific JS libraries we plan on using:

1. Express.js: Simple API setup
2. Sequelize: Control schema design and DB operations
3. Electron.js: Light and simple GUI creation
4. Joi: Validating user input
5. node-oracledb: For Oracle DB interactions
6. Swagger: API and DB interactions documentation
7. Mocha & Chai: Basic testing

5. An ER diagram for the database that your application will use.

It is OK to hand-draw it but if it is illegible or messy or confusing, marks will be taken off. You can use software to draw your diagram (e.g., draw.io, GoogleDraw, Microsoft Visio, Powerpoint, Gliffy, etc.) The result should be a legible PDF or PNG document. Note that your ER diagram must use the conventions from the textbook and the lectures. For example, do not use crow's feet notation or notation from other textbooks).

a. Please limit your diagram to a letter size page (8.5 x 11 inches). If you require additional space, talk to your project mentor beforehand as this might mean that your project is a bit more complicated than what we expect.

6. Your E/R diagram should adhere to the expectations listed above.

7. Other comments, as appropriate, to explain your project.

