University of British Columbia, Vancouver
Department of Computer Science

CPSC 304 Project Cover Page

Milestone #: 1

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Group Number: 4

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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

Deliverables

1. Domain specifications

a) <u>What is the domain of the application? Describe it.</u>

The domain of this application is agriculture and farm management. It focuses on the comprehensive management of farm operations, including animal care, crop cultivation, product production, employee activities, equipment maintenance, and financial tracking.

b) <u>What aspects of the domain are modeled by the database?</u>

The database models key aspects of agriculture and farm management by representing essential entities and their relationships. It models farmers and their shifts, crops, animals which are cows and chickens, animal products which are milk and eggs, buildings, sales, machinery, and customers. Specifically, it models:

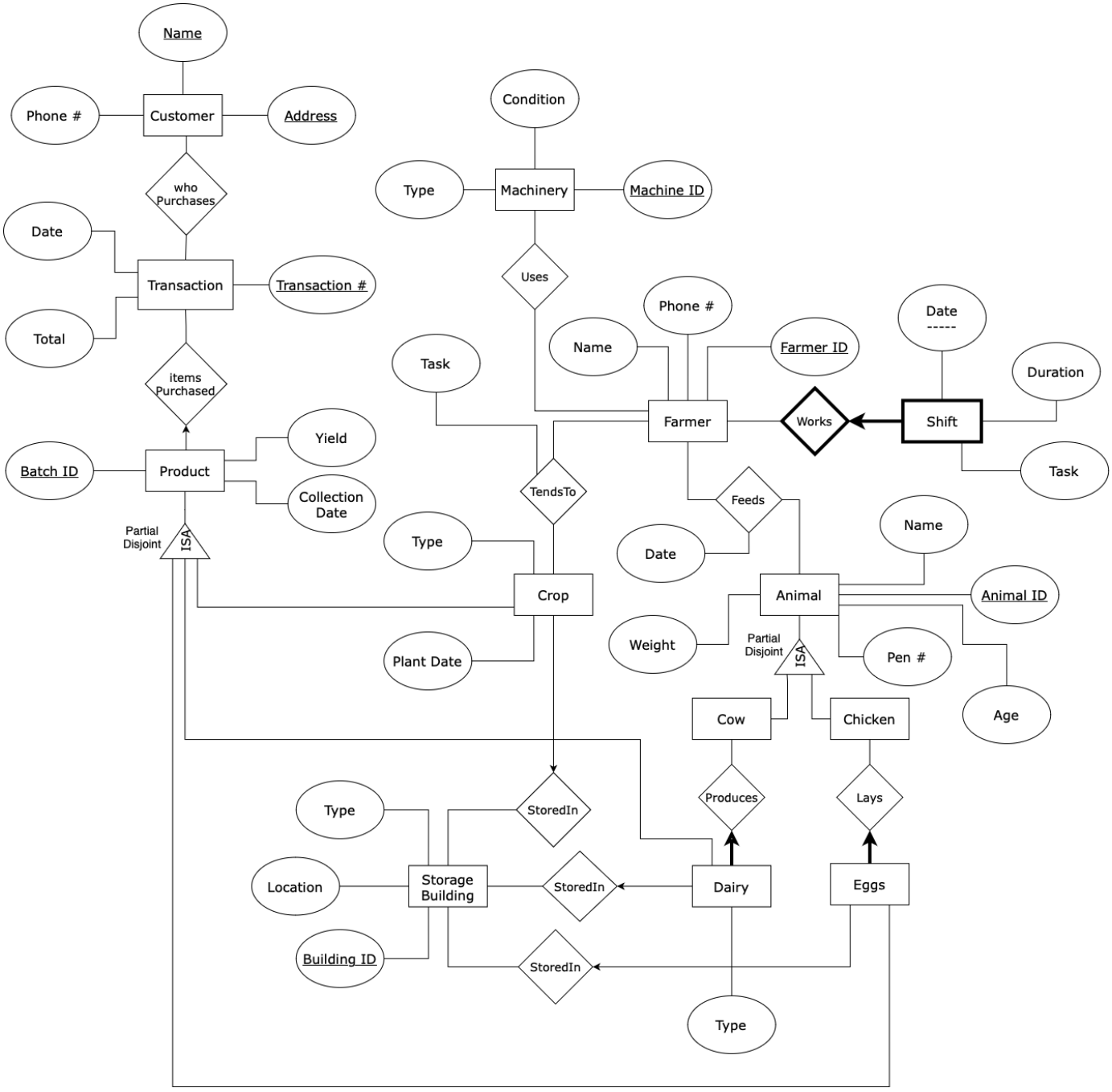
- **Farmers and their shifts**: The database tracks farmers by their Farmer ID number and their assigned shifts by the date. Farmers are responsible for planting and harvesting crops, feeding animals, and using machinery.
- **Products:** The database includes information on different types of products offered by the farm, including crops, dairy from cows, and eggs from chicken. They are uniquely identified by their Batch ID. The collection date and yield are also tracked for every product. For crops, it also tracks when they were planted by which farmer and the type (e.g. corn, wheat). For dairy, it will track the type of dairy product (e.g. milk, butter). Additionally, the products are stored in specific buildings.
- **Animals:** The database tracks two types of animals, cows and chickens, each assigned a unique animal ID. It also stores important information about the animals such as their weight, age, and pen number. It maintains a feeding schedule by recording which farmer fed each animal at a specific date.
- **Buildings:** The database includes information on the various buildings used for storing crops and products. For example, a fridge is used to store milk, while a silo holds harvested corn. Each building is uniquely identified by a building ID.
- **Transactions:** The database tracks transactions made from the farm, and each sale is uniquely identified by a transaction ID. The transaction is placed by customers for specific products.
- **Customers:** The database models farm customers who place sales. They are uniquely identified by their name and address, and the email of each customer is also tracked.
- **Machinery:** The database models machinery that are used by farmers. It will track the different types of machinery (e.g. tractor, baler) used by which farmer, and its working condition. They are uniquely identified by their Machine ID.

2. Database specifications

a) <u>What functionality will the database provide?</u>

The database will allow farm managers to efficiently track animals, inventory, workers, and machinery, ensuring smooth daily operations. Users will be able to monitor livestock records, maintain accurate inventory levels, and be notified if supplies are low. Additionally, the system will support financial management by providing profit reports, helping managers make informed decisions. It will also store worker information, monitor various farm products, and keep equipment maintenance records up to date, ensuring optimal resource management.

3. ER diagram



4. Other comments to explain your project.

Inspired by Hay day :)