University of British Columbia, Vancouver
Department of Computer Science

Milestone #1

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Group #10

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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.

Description

This project is a farm management system that keeps track of many farming utilities and processes such as facilities, fields, animals, crops, farmers, products, and buyers, with the intention of helping farm owners manage their farms more efficiently and effectively.

The database models the many components of a working farm which includes the entities listed in the database specifications. The main aspects of the system are separated between staff, livestock, agriculture and the many components that are required to mass produce these items. All of these many entities will be linked to provide a user interface for the farmer in order to keep track of tasks needing to be accomplished, which include those listed above, in addition to keeping track of expenses and profits. Furthermore, important distributors will also have access to the system in order to purchase products to distribute to other manufacturers, which implies a needed access to the database in order to view available products.

Database Specifications

The farmer will be able to consult the application in order to determine which tasks need to be accomplished on the farm. Some of these tasks include seeding, watering and harvesting fields, feeding and giving water to livestock, keeping track of animal movement from enclosure to enclosure, ensuring sanitation and maintenance of farm facilities, as well as interacting with distributors interested in the farm's agricultural and animal products. In addition, buyers will also have access to the stock in order to make purchases. The application will also track information on the many expenses on this farm. This includes the cost of feeding animals, watering fields as well as housing staff. The idea for this is to help keep expenses transparent and thus make it easier for the user to make smart financial decisions (cutting down food costs, water bills, etc.).

Application Platform

We will be using JDBC and SQL in our project. As for our user interface, we plan to use ReactJS. Depending on our needs in the future, we will potentially include more to our current tech stack.

ER Diagram

maxCapacity
age
Facility
upkeep
name
facilityID
Manages
lastMaintained
Disallowed Overlap Constraints
Covering Constraint: Yes
Many to Many to Many
IsA
Pen
Housing
typeOfAnimals
rent ($)
distanceToFields
distanceFromPens
farmersHoused
Lives
farmerID
yearsOfEmployment
Farmers
name
Nurtures
waterSpent
foodSpent
Deals With
Tends
waterSpent
buyerID
address
Buyers
name
phoenNumber
quantity
Buys
transactionID
price
pesticidesAndChemicals
plot#
Fields
nutrientLevels
state
capacity
suitableCrops
Crops
quantity
plantedOrHarvested
cropType
variant
Is Growing
harvestDate
lastWatered
plantedDate
capacityOccupied
Contains
tagID
weight
diet
age
Livestock
lastViolatedForHarvstedGoods
lastFed
animalType
Has
Veterinary Records
date
healthStatus


Creates
Livestock Produce
productType
quantity
amount
Date produced