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Final Submission

Resource Utilization and Cost Management System

Natural resources will always be of high value and interest. Even more so when they are at a shortage and demands are high for those resources. Having access to an app that allows you to manage or control a natural resource can be a game changer for you if your world depends on securing the resources the app gives you access to. The project I designed has been built to do just that, give the user access to manage demands and cost to the resource you depend on. Concrete is the resource or commodity my project has been designed to manage. Concrete is used for building roads buildings and for laying down a structure for anything of mass capacity. The demand for this commodity causes delays in construction projects valued in the millions. There are projects that move at a pace that concrete manufacturers are not able to keep-up with due to the volume required for laying down the foundations being built. This has led me to build an app that will track the level of resources in any state as well as the value and costs the concrete is valued at in real time.

This app is named “Resource Utilization and Cost Management System” it includes the truck, boat, and train industry, concrete manufactures, and warehouses. Each is listed in a database for the purpose of tracking inventory and costs. A network between the three industries is embedded into the app, and constantly updated for accuracy of on hand resources and moving cost values due to the rise and fall of demands for the product.

The Resource Utilization and Cost Management System is built using java. It provides an Icompany class, person class, transportation class, trucking class, boat class, train class, products class, and a concrete class. Personal data for persons and for a company is registered into an accounts class. Icompany is the Interface class. The transportation class extends the Icompany class, and the truck, boat and train classes extends the transportation class. The transportation class also creates composition of the truck, boat, and train class. Multiple constructors are provided as well as string formatting creating polymorphism. Once an account is created the account holder can enter inventory levels, and info on future requirements for demands on any concrete products available in the state.

Building the app in a short period of has been challenging and improvements to its design are being modeled. The design was an attempt to cover the entire state of Virginia and requires a lot of interaction with a database. SQLite database is used for this mobile app for its small hard drive and memory requirements to deploy its many services. The number of programming hours required has led me to scale the app down temporarily for the purpose of completing enough of the code for demonstration and market research. The app has been deployed to GitHub and is shared for collaboration of its development.

