

## Project Proposal: Larry's Home Improvement CIS 551

The project models a small hardware company with several stores. The model largely concerns three areas of data: employment, store inventory, and customers:

- Employees are broken down into hourly and salaried. Salaried employees are further divided into department supervisors and managers. Each hourly employee works in a given department at a given store. Stores are managed by one manager, and every department at every store has a department supervisor.
- Stores sell a collection of products from the company's catalog, which are fulfilled by vendors. Many vendors can fulfill a product, and products can be fulfilled by many vendors. Stores keep information on the price, quantity, and location of products in an inventory table.
- Customers are identified by their phone number and can purchase many items from many stores. Purchases are tracked via a table relating customers to store inventories.

The schema is designed to reflect these facts. The target application is a website that serves both the company and its customers by accessing and displaying this data. For example, the company can view information on employees, and stores have information on their inventory and sales. Customers can look up items to check availability and prices.

Areas and ideas for improvement or expansion of the database include:

- Changing the employee structure for more flexibility, eg, to allow hourly employees to also be department supervisors, or just to simplify the employee structure.
- Building a scheduling system.
- Tracking which vendors fulfill which store's inventory (ie not just which items in the catalog they fulfill)
- Allowing inventory to be separated into 'pallets' and 'shelves', where some items are grouped onto pallets for storage and others on shelves ready for sale. Pallets would in turn need to track which items they contain and their location.
- Tracking employees and customers through an online login system. This could be further expanded by allowing customers to place orders for products online through their account. Completed orders would require a location to be staged while they await pickup, and there would need to be a way to track which orders have been released and which are still waiting.



