Phase 2 Updated EER | CS 6400 - Fall 2017 | Team 008

Feedback of Phase 1:

- 1. "PhoneNumber" should be an entity which has multiple subtypes such as "PrimaryPhone";
- 2. Between Customer/Clerk and Tools, it should have multiple weak entities such as "Service Order", "Sales Order", "Reservation" and "Rented" in between (yours only has Reservation), take an example of "Service Order", it connect to Clerk on one side while connect to Tools on the other side, and has its own attributes (such as sale_ID), looks like "Clerk <- 1:N -> Service Order <- 1:N -> Tools";
- 3. "HandTools", "GardenTools", etc should be mid-super-types which also has their own subtype such as prune, dig, rake, striking, wheelbarrow for "GardenTools", and each of those subtypes has its own attribute, eg. head_weight for Striking Tool;
- 4. Participation beween Tool to "Service Order", "Sales Order", ... should be mandotory;

Based on the feedback and communication with TA on Piazza, here are our modifications:

- 1. We add one separate "Phone" entity with four attributes "phone_type", "area_code", "phone_number" and "extension", and is connected with Customer entity through "Has_primary" and "Has_other" relationships.
- 2. As suggested, we add the weak entities between clerk/customer and tools which are "Rented", "Reservation", "ServiceOrder" and "SaleOrder" with their own attributes.
- 3. As suggested, all the subtypes of the Tools entity are added with details in the EER diagram.
- 4. Change the Clerk entity's attribute 'employee_number' from key attribute to normal attribute 'clerk_id'. Both Clerk and Customer entities should be identified by username attribute inherited from User superclass.
- 5. Update the attributes of Tools, 'rental_price', 'deposit_amount', and 'sell_price' from normal attribute to derived attribute, according to the description.
- 6. We add one separate weak entity "ToolInfo" with attributes of "tool_type", "tool_subtype", and "tool_suboption" to store the tool information which can be queried for "short-description" and "full-description" section.
- 7. Reformat the naming style of entities and attributes according to the naming conventions to fit better with SQL.

