Modifications made since Phase 1:

- Updated relation between 'Tool' and 'Reservation' to M-to-N
- Updated 'Ratchet' entity name to 'Hand Ratchet'
- Updated 'Plier' entity name to 'Hand Plier'
- Updated 'Striking Tool' entity's 'head width' attribute name to 'head-weight'
- Removed 'quantity' attribute from 'Tool' entity
- Added 'amp rating' attribute to 'Cordless Accessory' entity
- Added new relation between 'Clerk' and 'SaleOrder' entities as 1-N
- Combined 'Work Phone', 'Home Phone', 'Cell Phone' entities into 'Phone Number' entity with same phone type attribute.
- Changed 'Sale Order', 'Reservation', and 'Accessory' to weak entities.
- Added 'Rented' entity with attributes 'start date', 'end date', 'number of rentals'
- Added new relation between 'Rented' and 'Tool' with a 1-1 relationship
- Updated relation between 'Clerk' and 'Reservation' to 0..1-to-N
- Added derived attributes 'full description' and 'short description' to 'Tool' entity

Entity-Relationship Diagram (Tool Rental System)

User — username, email, password, first name, last name, middle name

Address (0..1) — city, street, state, zip; Primary Phone Type

Phone Number — area code, number, ext; has (1)

Customer — has, places, belongs to

Clerk — first name, DOH, temp pwd, employee #, edited by

Credit Card — name, number, CVC, expiration year, expiration month; has

Reservation — res number, booking date, start date, end date; total rental, total deposit; includes (N, M)

Sale Order — sold date, confirm number, for sale date, purchase price; edited by (0..1); pickup (0..1), dropoff (0..1)

Service Order — start date, end date, cost (0..1)

Category (1) — Name; has (N)

Power Source (M, 1) — Name; has (N, M)

Subtype (M, 1) — Name; has

SubOption (1) — Name

Tool — manufacturer, width, material, full description, short description, deposit price, length, weight, tool number, rental price, original cost; has; includes (N)

Rentals — start date, end date, number of rentals

Cordless Accessory — battery name, amp rating, volt rating; equips (N, 1)

Accessory — description, quantity; has (N)

Cordless Power Tool — has (1)

Power Tool (d) — amp rating, volt rating, max-rpm-rating, min-rpm-rating

Power Tool subtypes (d): **Power Mixer** (motor rating, drum size), **Power Saw** (blade size), **Power Sander** (dust bag), **Power Generator** (power rating, adjustable clutch), **Power Drill** (min torque rating, max torque rating), **Power Air Compressor** (pressure rating, tank size)

Garden Tool (d) — handle material, blade material, blade length

Garden Tool subtypes: **Pruning Tool**, **Striking Tool** (head-width), **Digging Tool** (blade length, blade width), **Rake Tool** (tine count), **WheelBarrow Tool** (bin material, bin volume, wheel count)

Hand Tool (d) — **Screwdriver** (screw size), **Socket** (deep socket, drive size, sae size), **Hand Ratchet** (drive size), **Hand Hammer** (anti vibration), **Hand Gun** (capacity, gauge rating), **Hand Piler** (adjustable)

Ladder Tool — weight capacity, step count

Ladder Tool subtypes (d): **Straight Ladder** (rubber feet), **Step Ladder** (pailshelf)