

Database Design in 3NF

employees (id, first_name, last_name, ssn, date_of_birth, phone, role, username, password_digest, active)

stores (id, name, street, city, state, zip, phone, active)

assignments (id, store_id, employee_id, start_date, end_date, pay_grade_id)

shifts (id, assignment_id, date, start_time, end_time, notes, status)

pay_grades (id, level, active)

pay_grade_rates (id, pay_grade_id, rate, start_date, end_date)

shift_jobs (id, shift_id, job_id)

jobs (id, name, description, active)

Underlines:

Solid underlined fields are primary keys;

Dotted underlined fields are foreign keys;

Double underlined fields are composite keys that are both primary and foreign keys.

Database Design Notes:

1. Strictly speaking, having zip code in the locations table creates a transitive dependency, but given the limited size of the system (the greater Pittsburgh area) there is no need to normalize and move zip code and primary city & state into its own table.
2. A employee's current assignment is determined by finding the employee's assignment that has a NULL value in end_date.
3. All phone numbers and social security numbers are saved as a string of numbers without any other characters. Phone numbers include area code, prefix, and suffix as one numerical string.