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Normalization Part Three
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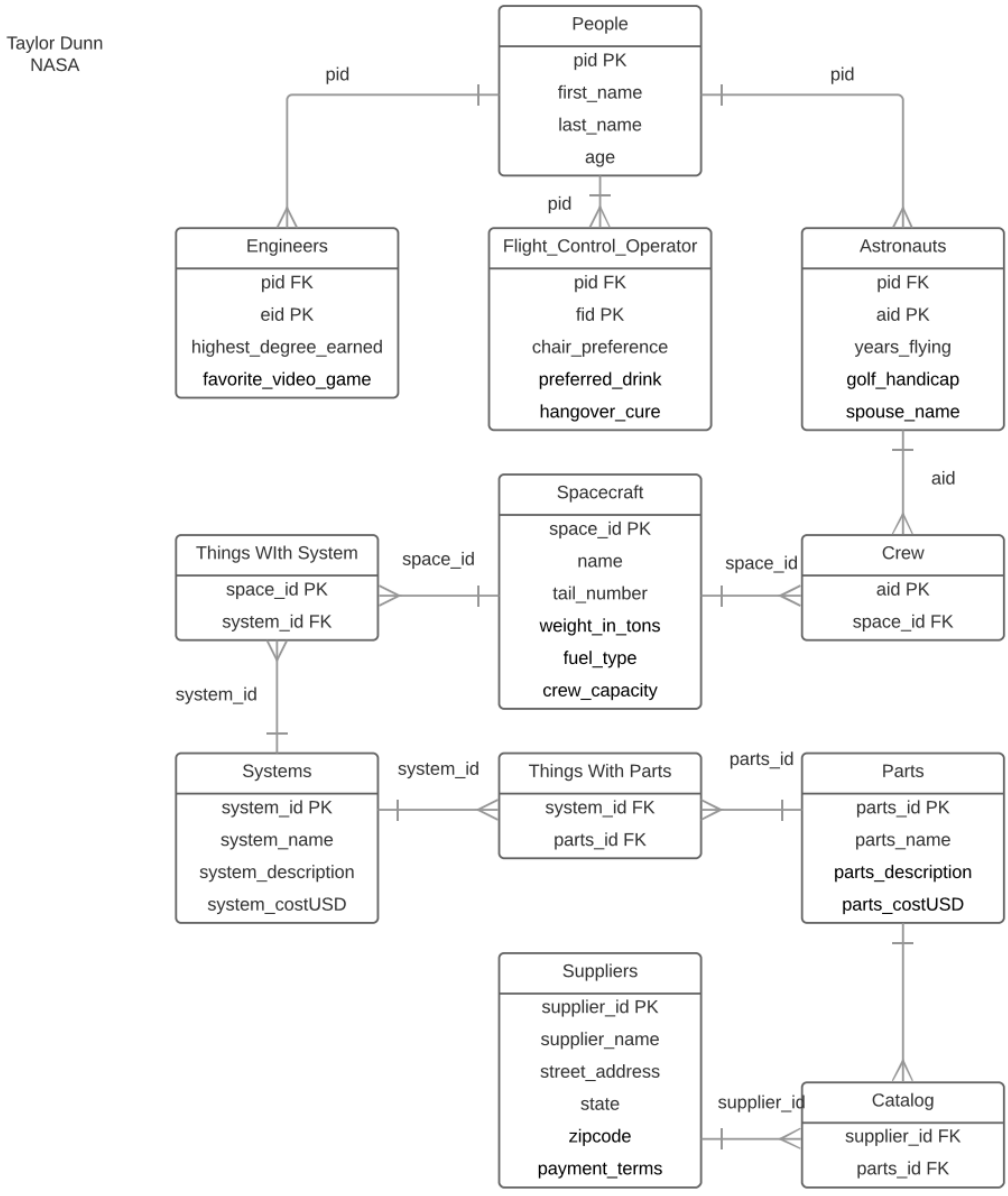

Functional Dependencies:

first_name, last_name, age → pid

pid → aid, fid, eid

years_flying, golf_handicap, spouse_name → aid

chair_preference, preffered_drink, hangover_cure → fid

highest_degree_earned, favorite_video_game → eid

name, tail_number, weight_in_tons, fuel_type, crew_capacity → space_id

system_name, system_description, system_costUSD → system_id

parts_name, parts_description, parts_costUSD → parts_id

supplier_name, supplier_street_address, state, zipcode, payment_terms → supplier_id

Third Normal Form:

To start, the information in this database is atomic, meaning that no one value can be broken down into smaller terms. For example, address is broken down into street address, state and zip code because putting this all in one section of the database would be violating the 1NF. The second normal form states that all of the non-key elements must be dependent on the tables primary key. This is the case for the database created above. All of the non-key attributes have a dependency on the primary key as shown through the functional dependency relation just above. Finally, it is in third normal form because none of the attributes in the tables are transitively related to the other. For example, aid may determine golf_handicap but golf_handicap does not determine spouse name. Each of the non-key attributes are related to the primary key of the table independently.