Andrew Bauman
CMPT 308: Database Management

11/20/17
Prof. A. Labouseur

Lab Nine: Normalization Three

1) Functional Dependencies

People.person_id –> firstName
People.person_id –> lastName
People.person_id -> dateOfBirth

FlightControlOperators.person_id –> chairPreference
FlightControlOperators.person_id –> drinkPreference
FlightControlOperators.person_id –> hangoverCure

Astronauts.person_id –> yearsFlying
Astronauts.person_id –> golfHandicap
Astronauts.person_id –> spouseName

Engineers.person_id –> highestDegreeEarned
Engineers.person_id –> favoriteVideoGame

Spacecraft.craft_id –> name
Spacecraft.craft_id –> tailNumber
Spacecraft.craft_id –> weightInTons
Spacecraft.craft_id –> fuelType
Spacecraft.craft_id –> crewCapacity

Systems.system_id –> name
Systems.system_id –> desc
Systems.system_id –> costUSD

Parts.part_id –> name
Parts.part_id –> desc
Parts.part_id –> costUSD

Suppliers.supplier_id –> name
Suppliers.supplier_id –> address
Suppliers.supplier_id –> paymentTerms

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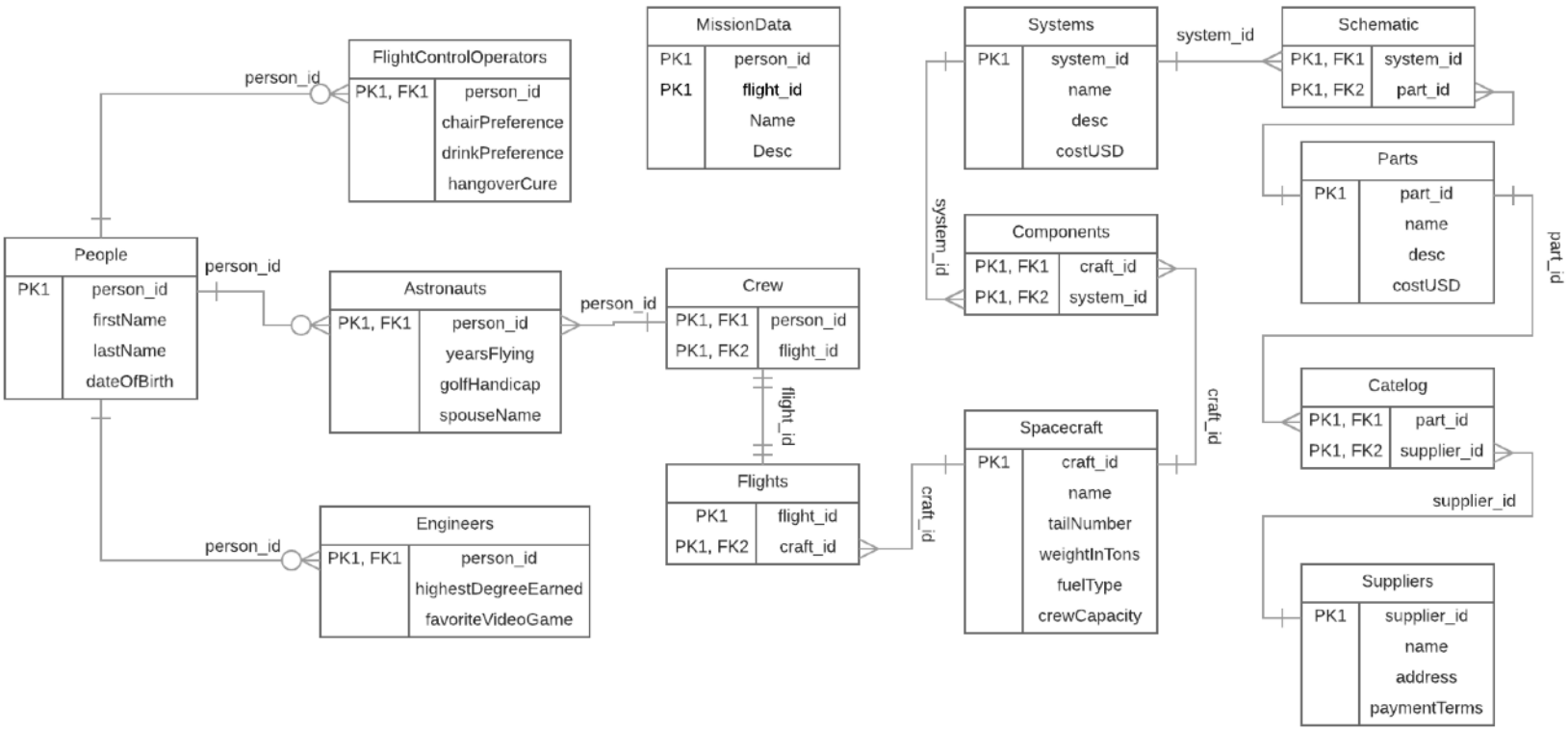
2) E-R Diagram



3) Allow me to convince you…

1NF & 2NF: Assuming this system contains data which is atomic (1NF), it is in Second Normal Form as there are no partial dependencies.

3NF: Additionally, it is in Third Normal form because there are no multiple dependencies.

BCNF: I would argue that this system is in BCNF because all keys only rely on their respective primary keys and no other keys within their respective tables.