Josh Atchley
CS 340
4/11/2017

Project Proposal

I will be making a database representing an airport landing fee billing system. An airport has many kinds of activities, from small general aviation operations and ultralight experimental aircraft, to large commercial jets and military aircraft. The complexity of an airport's operations makes it a compelling miniworld to model using a relational database.

The entities that my database will represent are:
- Operators – The private individual, group, or company that owns and operates aircraft.
- Aircraft – Unique aircraft, including information such as tail number and model/manufacturer.
- Airports – The location where aircraft activities take place, and associated fee billing rules.
- Invoices – The fees outstanding that are owed by operators to airports.

The relationships these entities will have to each other are:
- Operators can own multiple aircraft – This is a one-to-many relationship, since an aircraft can only be owned by one operator.
- Aircraft operate at airports – This is a many-to-many relationship, as an aircraft can operate at multiple airports, and airports allow multiple aircraft to operate there.
- Operators have invoices – This represents outstanding fees that operators must pay. An operator can have many invoices for many airports, but an invoice only has one operator and one airport.
- Invoices are tied to an airport – An invoice is specific to one airport and one operator.