**The solar system**

All Major Objects of the Milky Way Solar System

Deaunte’ Gay

March 24, 2017

**Executive Summary**

The Solar System consists of many objects that have many different qualities. The objects revolve around one object called the Sun, however this database is not about the Sun. While there are many solar systems within the Milky Way, this database is primarily linked towards our solar system. This database provides an overview of the systems within our solar system and how they all are linked. Objects like comets and asteroids originate from asteroid belts and arrive near planets resulting in them revolving near the planets. The database shows this by showing the origin of these objects and their location. Planets have different characteristics like color, orbital period, temperature, names, and descriptions that are unique to each planet. The database shows the differences between every planet within our Solar System by taking these characteristics and uniquely identifying each planet. Each factor within this database has unique qualities and they are all linked together. The Sun also directly affects each object as the center of this system in which all objects revolve. Below you will find is the business rules that gives more details on the dataset as well as the relational schema to show the attributes of the database system.

**I. Business Rules**

* The only star within our solar system is the sun, however, there are other star systems outside of our solar system.
* Each planet can have zero to many moons
* The colors of objects (Sun, planets, moons) are what the appearance seems to be from what satellites have shown.
* The rotations for the relevant objects (moons, planets) are the rotations of the objects during a full cycle of the sun.
* Planets are referred by moons.
* Each moon revolves around only one planet.
* Planets have temperature, a size, a main mineral, an ID, AU, a color, surface, rotations, a name, and a description.
* Moons have an ID, size, a main mineral, rotations, a name, AU, and a description
* Stars have a name, color, size, and a galaxy name.
* Asteroid belts have a ID, name, AU, and minerals.
* Astronomical units(AU) for planets is the distance from the sun.
* Astronomical units(AU) for moons is the distance from the planet the moon is orbiting.
* Astronomical units (AU) for asteroids is the distance of its current orbit from the sun.
* The thickness of the asteroid belt is the Astronomical units of the asteroid belt beginning from the inside of the belt to the outside.
* Comets have an ID, a name, epoch, aphelion, perihelion, orbital periods, and a comet type.
* All orbital periods are how many earth days in a year for each object.
* Comets and asteroids originate from asteroid belts.
* Asteroids must have an ID, name, AU, and belt that it came from.

**II. Schema**

PLANETS(**PLANET\_ID, PLANET\_NAME, PLANET\_TEMP, PLANET\_SURFACE, PLANET\_COLOR, PLANET\_AU, PLANET\_ROTATIONS**, **PLANET\_DESCRIPTION**)

MOONS(**MOON\_ID**, **MOON\_NAME**, ***PLANET\_ID***,**MOON\_AU, MOON\_SURFACE, MOON\_ROTATION, MOON\_ORIGIN** )

ASTEROID BELTS(**BELT\_ID**, **BELT\_NAME**, **BELT\_AU, ASTEROID\_MINERALS, BELT\_THICKNESS**)

ASTEROID(**AST\_ID**, **AST\_NAME**, **AST\_AU***,* ***BELT\_ID***, *PLANET\_ID***,** AST\_SATELLITES**,** AST\_FAMILY)

COMETS(**COMET\_ID**, **COMET\_NAME**, ***BELT\_ID***, **EPOCH, APHELION, PERIHELION, ORBITAL\_PERIOD, COMET\_TYPE**)