SMITE GODS DATABASE

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Database Management
Design Project

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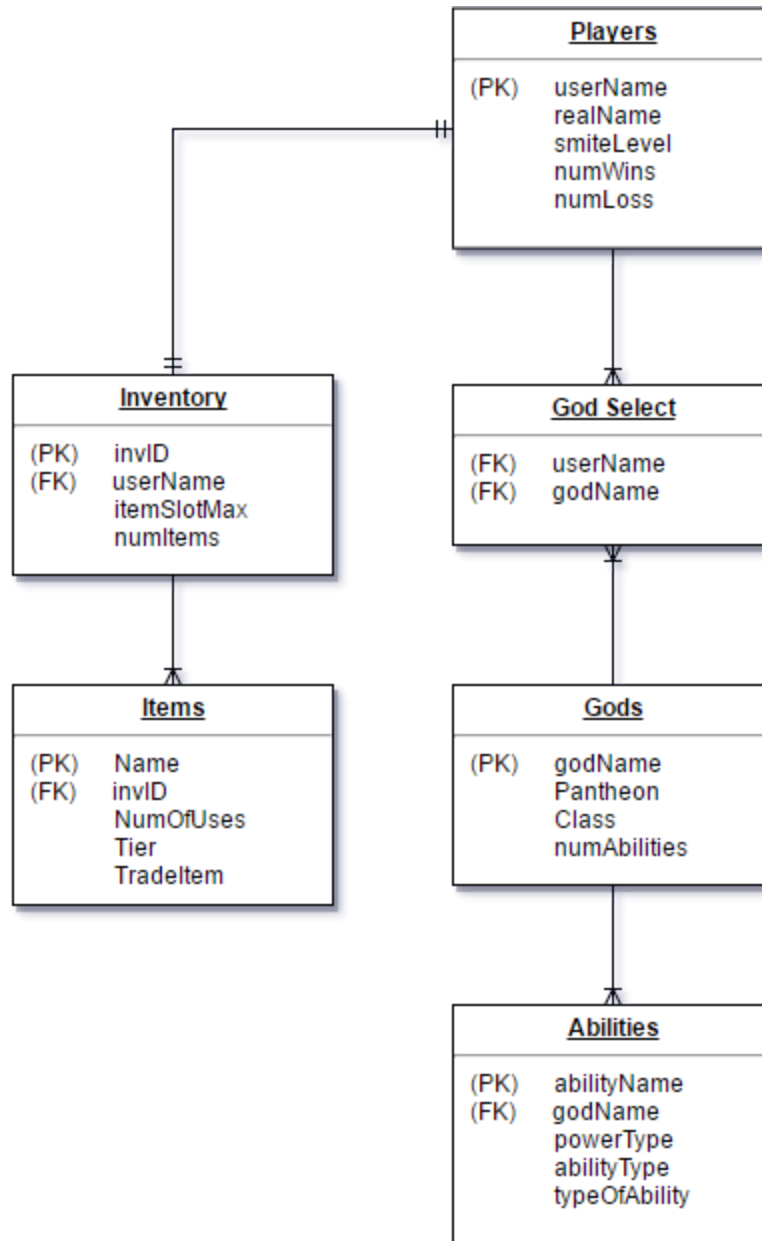
Executive Summary

This paper will provide an outline of the "Smite DB" database. Smite is a massive multiplayer online battle arena (MOBA). Smite is a game that was created by Hi-Rez Studios. The game has a vast amount of playable gods from ancient mythology ranging

from Greek Gods to Norse Gods. The reason for this database is because of the vast amount of data within the game that the player should know by the time he/she reaches Level 30. The Entity-Relationship diagram is illustrated to show functional dependencies within the database. As well as details on each element within the diagram with SQL code and examples for the database to display some test data, which was tested with PostgreSQL 9.6.1. Finally, I will talk about the problems that are known within the database as well thing I wish I did with project and things I would like do in the future if I ever get back to it.

Entity-Relation Diagram

Players

(PK)	userName
	realName
	smiteLevel
	numWins
	numLoss

Inventory

(PK)	invID
(FK)	userName
	itemSlotMax
	numItems

God Select

(FK)	userName
(FK)	godName

Items

(PK)	Name
(FK)	invID
	NumOfUses
	Tier
	TradeItem

Gods

(PK)	godName
	Pantheon
	Class
	numAbilities

Abilities

(PK)	abilityName
(FK)	godName
	powerType
	abilityType
	typeOfAbility

Create Statements

Gods Table

This table will display information about a certain amount of heroes, such as their name, class, pantheon, and number of abilities all of which have four useable abilities. Smite although being in development for years was only released a little less than three years ago in March of 2014. Although being in open beta since January 2013. Currently there are 82 different Gods people can choose from. Down below is the create statements as well as the database populated.

```
CREATE TABLE Gods (GodName        text not null primary key,
                   Pantheon       text not null,
                   Class          text not null,
                   numAbilities   int
);
```

Functional Dependencies:

GodName → Pantheon, Class, numAbilities

Sample Data

	godname text	pantheon text	class text	numabili... integer
☐	Sun Wuk...	Chinese	Warrior	4
☐	Guan Yu	Chinese	Warrior	4
☐	Ao Kuang	Chinese	Mage	4
☐	Hou Yi	Chinese	Hunter	4
☐	Anubis	Egyptian	Mage	4
☐	Ra	Egyptian	Mage	4
☐	Neith	Egyptian	Hunter	4
☐	Sobek	Egyptian	Guardian	4
☐	Apollo	Greek	Hunter	4
☐	Arachne	Greek	Assassin	4
☐	Zeus	Greek	Mage	4
☐	Poseidon	Greek	Mage	4
☐	Rama	Hindu	Hunter	4
☐	Kumbhak...	Hindu	Guardian	4
☐	Vamana	Hindu	Warrior	4
☐	Kali	Hindu	Assassin	4
☐	Raijin	Japanese	Mage	4
☐	Amaterasu	Japanese	Warrior	4
☐	Izanami	Japanese	Hunter	4
☐	Susano	Japanese	Assassin	4
☐	Awilix	Mayan	Assassin	4
☐	Hun Batz	Mayan	Assassin	4
☐	Chaac	Mayan	Warrior	4
☐	Cabrakan	Mayan	Guardian	4
☐	Odin	Norse	Warrior	4
☐	Loki	Norse	Assassin	4

Abilities

Within Smite Gods have abilities, they all differ from each other but they all have four abilities. Within the table it stores what ability a God may have the name of it and what ability type it is.What that means is it a physical or magical ability. It also brings into account if the abilities are ranged or melee. As well as the type of ability it is, which might be a line area debuff, cone, buff, dash, or projectile.

```
CREATE TABLE Abilities (AbilityName          text not null primary key,
                        GodName              text not null references Gods (GodName),
                        PowerType            text not null,
                        AbilityType          text not null,
                        TypeOfAbility        text not null,
);
```

Functional Dependencies

AbilityName → GodName, PowerType, AbilityType, TypeofAbility

Sample Data

abilityname text	godname text	powertype text	abilitytype text	typeofability text
The Magic Cudgel	Sun Wukong	Melee	Physical	Line
Conviction	Guan Yu	Melee	Magical	Area
Mark of the Golden Crow	Hou Yi	Ranged	Physical	Debuff
Plague of Locususts	Anubis	Melee	Magical	Cone
Heart Bomb	Cupid	Ranged	Physical	Projectile
Percussive Storm	Raijin	Ranged	Magical	Line
Mitgate Wounds	Hercules	Melee	Phyiscal	Buff
Gungnirs Might	Odin	Melee	Physical	Area
Trident	Poseidon	Ranged	Magical	Buff
Groggy Strike	Kumbhakarna	Melee	Magical	Line

Players

The player is the most important part of the game, without the player there is no game, no game, no database. The table stores the user's username, he/she's real name, the Level of their account, the number of wins, and the number of losses. Normally if I was doing Heroes of the Storm, League of Legends, World of Tanks, or almost any other MOBA there would be some kind of ELO or MMR but Smite doesn't have that.

```
CREATE TABLE Players (UserName          text not null unique primary key
                      RealName          text,
                      SmiteLvl          int,
                      numWins           int,
                      numLoss           int
);
```

Functional Dependencies

UserName → RealName, SmiteLvl, numWins, numLoss

Sample Data

username text	realname text	smitelvl integer	numwins integer	numloss integer
420YoloScope	Booker DeWitt	30	420	421
Trumpler	Nicholas Barranco	30	919	910
TheRealDanielCraig	Daniel Craig	2	0	60
PinheadLarry	Hideo Kojima	12	28	32
Wheatley	Stephen Merchant	30	62	41

God Select

Before the game begins the player must choose a god to play. Each player can chose any of the gods they have. The God Select table works like this so that the user can play every hero and not be locked to just one and only one god. The way it's made is very simple the table contains just the player's username as well as the god the user chose.

```
CREATE TABLE GodSelect (UserName        text not null references Players (UserName),
                        GodName         text not null references Gods (GodName)
);
```

Sample Data

username text	godname text
420YoloScope	Nox
Trumpler	Ymir
TheRealDanielCraig	Ra
PinheadLarry	Hercules
Wheatley	Izanami

Inventory

Within the table for inventory the table will store each player's inventory including the player's inventory ID (or invID). The maximum number of item slots for the game, six being the max number of items a player can hold within the game.

```
CREATE TABLE Inventory (invid          serial primary key,
                        UserName        text not null references Players (UserName),
                        ItemSlotsMax    int,
                        numItems        int
);
```

Functional Dependencies

invID → userName, itemSlotMax, numItems

Sample Data

invid integer	username text	itemslotsmax integer	numitems integer
1	420YoloScope	6	6
2	Trumpler	6	5
3	TheRealDanielCraig	6	1
4	PinheadLarry	6	2
5	Wheatley	6	4

Items

This table will store the data about the items within the game that is then stored within the player's inventory. It contains the name of the item, the inventory ID the number of uses, the tier in which the user can get it at, and whether or not its tradable.

Functional Dependencies

itemName → invID, numOfUses, Tier, TradeItem

Sample Data

name text	invid integer	numofuses integer	tier integer	tradeitem boolean
Boots	1	0	1	true
Ancient Blade	2	0	1	true
Tiny Trincket	2	1	1	false
Mace	3	0	1	true
Steel Mail	4	0	2	false
Spell Focus	5	3	2	false
Rod of Healing	1	0	2	true
Doom Orb	3	0	2	false
Stone Gaia	4	0	3	true
Ancile	4	0	3	false
Odysseus Bow	2	0	3	true
Malice	5	0	3	true

Views

Here it retrieves all the relevant information about the Gods and their Abilities then displays then in one table. The Gods and Abilities table is the most reasonable because of how they are relatable and interchange with one another because a God without any abilities is useless, so you might as well give him to Daniel Craig.

```
CREATE VIEW GodsAndAbilities AS
    SELECT g.GodName, g.Class, g.numAbilities,
        a.AbilityName, a.PowerType, a.AbilityType, a.TypeOfAbility
    FROM Gods g
    JOIN Abilities a
    ON g.GodName = a.GodName;

SELECT * FROM GodsAndAbilities
ORDER BY GodName ASC;
```

Sample Data

godname text	class text	numabilities integer	abilityname text	powertype text	abilitytype text	typeofability text
Anubis	Mage	4	Plague of Locususts	Melee	Magical	Cone
Cupid	Hunter	4	Heart Bomb	Ranged	Physical	Projectile
Guan Yu	Warrior	4	Conviction	Melee	Magical	Area
Hercules	Warrior	4	Mitgate Wounds	Melee	Phyiscal	Buff
Hou Yi	Hunter	4	Mark of the Golden Crow	Ranged	Physical	Debuff
Kumbhakarna	Guardian	4	Groggy Strike	Melee	Magical	Line
Odin	Warrior	4	Gungnirs Might	Melee	Physical	Area
Poseidon	Mage	4	Trident	Ranged	Magical	Buff
Raijin	Mage	4	Percussive Storm	Ranged	Magical	Line
Sun Wukong	Warrior	4	The Magic Cudgel	Melee	Physical	Line

Views