

Elder Scrolls V: Skyrim Lore-Based

Character Guide



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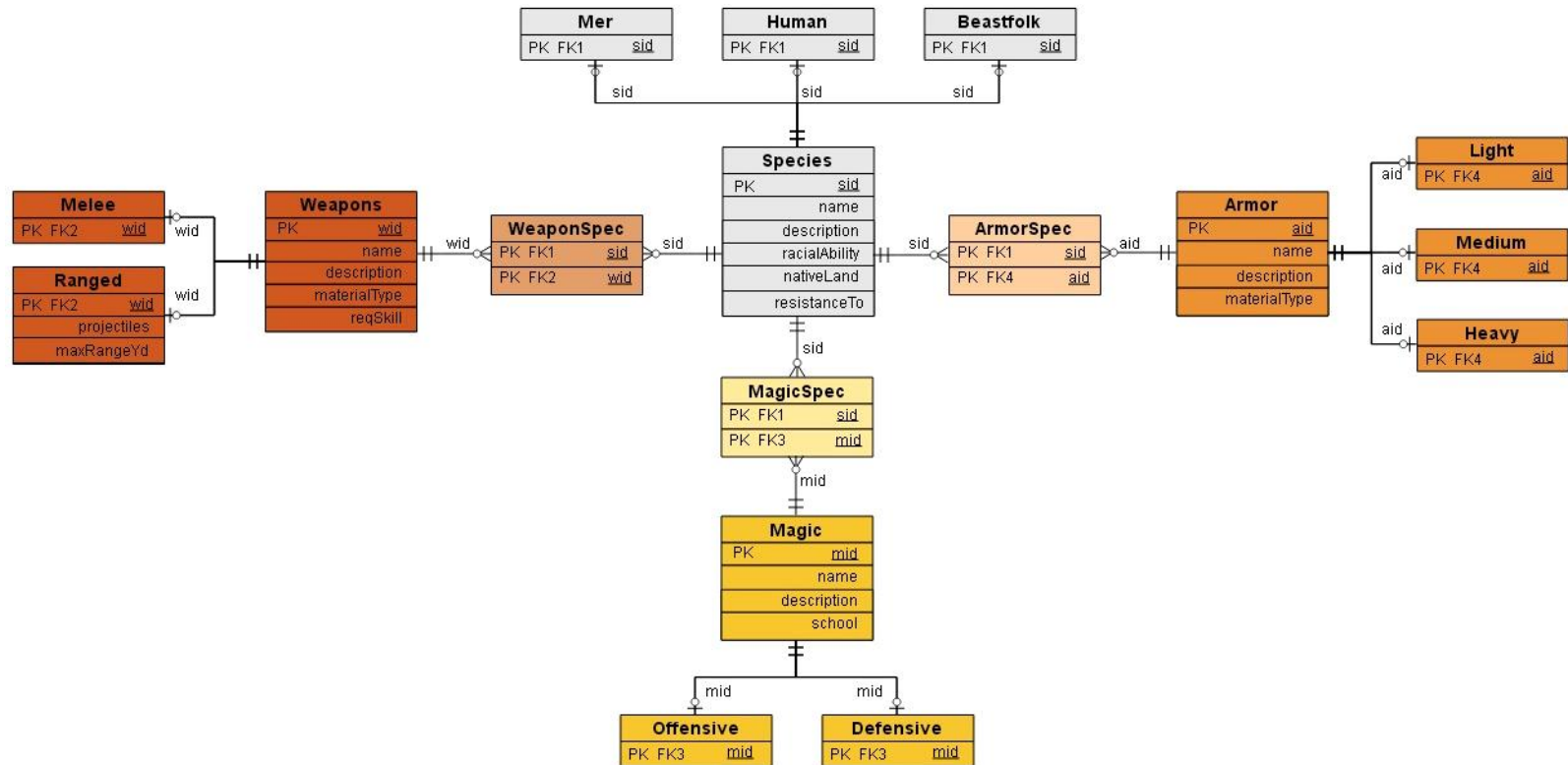
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Executive Summary

This document represents our design and implementation of a database for an Elder Scrolls V: Skyrim lore-based character guide. This database is a way to see characters' species and what that species is specialized in. Potential users include gamers, role players, and anyone interested in Elder Scrolls games.

First the Entity Relationship Diagram is shown which shows the relationships between all of the table, followed by the tables, including their SQL code, functional dependencies, and sample data. Then the views, reports, and stored procedures for the database are shown. Last are the security features of the database and more information on the implementation and future enhancements that could be added to the database.

Entity Relationship Diagram



Tables

Species table

The Species table holds all the possible species a character can be in an Elder Scrolls game. Its attributes are inherited by its subtypes, mer, human, and beastfolk.

CREATE TABLE Species

```
(
    sid            integer      NOT NULL PRIMARY KEY,
    name           varchar(100)  NOT NULL,
    description     varchar(250) NOT NULL,
    racialAbility   varchar(250) NOT NULL UNIQUE,
    nativeLand     varchar(100)  NOT NULL,
    resistanceTo   varchar(250),
);
```

Functional Dependencies: sid -> name, description, racialAbility, nativeLand, resistanceTo

Sample Data:

	sid [PK]	name character varying(100)	description character varying(250)	racialability character varying(250)	nativeland character varying(100)	resistanceto character varying(250)
1	1	Bosmer	Wood elves are the s	Control Animals - cont	Valenwood	Poison and Diseases
2	2	Nord	The hardy bunch of S	Battle Cry - make enem	Skyrim	Frost
3	3	Khajiit	The catfolk known fo	Night Eye - see in the	Elsweyr	
4	4	Argonians	Argonians are the re	Water Breathing	Black Marsh	Diseases
5	5	Breton	Bretons are a hybrid	Dragonskin - absorb 50	High Rock	Magic
6	6	Altmer	High elves are the t	Highborn - regenerate	Summerset Isle	
7	7	Redguard	Redguards are dark-s	Adrenaline Rush - rege	Hammerfell	Poison
8	8	Dunmer	Dark Elves known to	Ancestor's Wrath - fir	Morrowind	Fire
9	9	Imperial	Imperials are well-e	Voice of the Emperor -	Cyrodill	
10	10	Orsimer	Orcs known as the ba	Berserker Rage- take h	High Rock	

Mer table

Contains a list of Mer, Elven, species.

```
CREATE TABLE Mer (  
    sid integer NOT NULL references Species(sid) PRIMARY KEY  
);
```

Functional Dependencies: sid ->

Sample Data:

	sid [PK] integer
1	1
2	6
3	8
4	10

Human table

Contains a list of human species.

```
CREATE TABLE Human (  
    sid integer NOT NULL references Species(sid) PRIMARY KEY  
);
```

Functional Dependencies: sid ->

Sample Data:

	sid [PK] integer
1	2
2	5
3	7
4	9

Beastfolk table

Contains a list of beastfolk species.

```
CREATE TABLE Beastfolk (  
    sid integer NOT NULL references Species(sid) PRIMARY KEY  
);
```

Functional Dependencies: sid ->

Sample Data:

	sid [PK] integer
1	3
2	4

Weapons table

Contains a list of weapons including their materials and required skill needed to use them.

```
CREATE TABLE Weapons (  
    wid          integer      NOT NULL PRIMARY KEY,  
    name         varchar(100) NOT NULL,  
    description  varchar(250) NOT NULL,  
    materialType varchar(250) NOT NULL,  
    reqSkill     varchar(100) NOT NULL  
);
```

Functional Dependencies: wid -> name, description, materialType, reqSkill

Sample Data:

	wid [PK]	name character varying(100)	description character varying(250)	materialtype character varying(250)	reqskill character varying(100)
1	1	Steel Sword	Durable one-handed sword.	Steel	One-Handed
2	2	Scimitar	Durable one-handed curved sword.	Steel	One-Handed
3	3	Greatsword	Massive two-handed sword.	Steel	Two-Handed
4	4	Elven Bow	Moonstone bow made specifically for elves.	Refined Moonstone	Archery
5	5	Cross Bow	Durable crossbow meant for vampire hunting.	Steel	Archery
6	6	Steel Shield	Durable steel shield.	Steel	Block
7	7	Imperial Shield	Durable shield meant for Imperial soldiers.	Steel	Block
8	8	Steel Dagger	Small one-handed dagger.	Steel	One-Handed
9	9	Long Bow	Durable bow with a farther range than most bows.	Wood	Archery
10	10	Orcish Warhammer	Massive two-handed warhammer meant for orcs.	Orichalcum	Two-Handed

Melee table

Contains a list of melee weapons.

```
CREATE TABLE Melee (  
    wid integer NOT NULL references Weapons(wid) PRIMARY KEY  
);
```

Functional Dependencies: wid ->

Sample Data:

	wid [PK] integer
1	1
2	2
3	3
4	6
5	7
6	8
7	10

Ranged table

Contains a list of ranged weapons, including their projectiles and max range.

```
CREATE TABLE Ranged (  
    wid integer NOT NULL references Weapons(wid) PRIMARY KEY,  
    projectiles varchar(100),  
    maxRangeYd integer  
);
```

Functional Dependencies: wid -> projectiles, maxRangeYd

Sample Data:

	wid [PK] integer	projectiles character v	maxrangeyd integer
1	4	Arrows	250
2	5	Bolts	100
3	9	Arrows	300

Magic table

Contains a list of magic spells, including their school of magic.

```
CREATE TABLE Magic (  
    mid          integer      NOT NULL PRIMARY KEY,  
    name         varchar(100) NOT NULL,  
    description  varchar(250) NOT NULL,  
    school       varchar(100) NOT NULL  
);
```

Functional Dependencies: mid -> name, description, school

Sample Data:

	mid [PK]	name character varying(100)	description character varying(250)	school character varying(100)
1	1	Firebolt	A bolt of fire thrown at the target	Destruction
2	2	Blizzard	A blizzard that surrounds the caster	Destruction
3	3	Heal	Heal the target that is not undead	Restoration
4	4	Ironflesh	Improve the caster's armor rating	Alteration
5	5	Paralyze	Immobilize a target for a short amount of time	Alteration
6	6	Calm	Calms a target and stops them from attacking	Illusion
7	7	Invisibility	Make the caster invisible for a short amount of time	Illusion
8	8	Conjure Familiar	Summons a familiar to fight for the caster	Conjuration
9	9	Reanimate Zombie	Reanimates a dead body to fight for the caster	Conjuration
10	10	Repel Undead	All affected undead will flee from the caster	Restoration

Offensive table

Contains a list of offensive magic spells.

```
CREATE TABLE Offensive (  
    mid integer NOT NULL references Magic(mid) PRIMARY KEY  
);
```

Functional Dependencies: mid ->

Sample Data:

	mid [PK] integer
1	1
2	2
3	8
4	9

Defensive table

Contains a list of defensive magic spells.

```
CREATE TABLE Defensive (  
    mid integer NOT NULL references Magic(mid) PRIMARY KEY  
);
```

Functional Dependencies: mid ->

Sample Data:

	mid [PK] integer
1	3
2	4
3	5
4	6
5	7
6	10

Armor table

Contains a list of armor with their materials.

```
CREATE TABLE Armor (  
    aid            integer      NOT NULL PRIMARY KEY,  
    name           varchar(100) NOT NULL,  
    description     varchar(250) NOT NULL,  
    materialType   varchar(250) NOT NULL  
);
```

Functional Dependencies: aid -> name, description, materialType

Sample Data:

	aid [PK]	name character varying(100)	description character varying(250)	materialtype character varying(250)
1	1	Leather Armor	Armor made out of durable leather.	Leather
2	2	Ebony Armor	Armor made out of the volcanic material	Ebony
3	3	Steel Armor	Armor made out of old-fashioned steel.	Steel
4	4	Mages Robes	Enchanted robes made specifically for m	Cloth
5	5	Master Robes	Enchanted robes made for the best magic	Cloth
6	6	Elven Armor	One of the lightest armor sets, it is t	Refined Moonstone
7	7	Orcish Armor	Armor built by orcs for orcs.	Orichalcum
8	8	Imperial Armor	The Imperial Legion's heavy armor set m	Steel
9	9	Imperial Light Armor	The Imperial Legion's light armor set m	Leather
10	10	Hammerfell Garb	Typical garb of Redguards from Hammerfe	Cloth

Light table

Contains a list of light armor.

```
CREATE TABLE Light (  
    aid integer NOT NULL references Armor(aid) PRIMARY KEY  
);
```

Functional Dependencies: aid ->

Sample Data:

	aid [PK] integer
1	4
2	5
3	10

Medium table

Contains a list of medium armor.

```
CREATE TABLE Medium (  
    aid integer NOT NULL references Armor(aid) PRIMARY KEY  
);
```

Functional Dependencies: aid ->

Sample Data:

	aid [PK] integer
1	1
2	6
3	9

Heavy table

Contains a list of heavy armor.

```
CREATE TABLE Heavy (  
    aid integer NOT NULL references Armor(aid) PRIMARY KEY  
);
```

Functional Dependencies: aid ->

Sample Data:

	aid [PK] integer
1	2
2	3
3	7
4	8

WeaponSpec table

Table that connects the Species table to the Weapons table.

```
CREATE TABLE WeaponSpec (  
    sid    integer NOT NULL references Species(sid),  
    wid    integer NOT NULL references Weapons(wid),  
    PRIMARY KEY (sid,wid)  
);
```

Functional Dependencies: sid, wid ->

Sample Data:

	sid [PK] integer	wid [PK] integer
1	1	4
2	1	8
3	1	9
4	2	1
5	2	3
6	2	5
7	2	6
8	3	1
9	3	8
10	4	1
11	4	8
12	5	1
13	5	6
14	6	1
15	6	4
16	6	8
17	7	1
18	7	2
19	7	6
20	7	9
21	8	1
22	8	4
23	8	8
24	9	1
25	9	5
26	9	6
27	9	7
28	9	9
29	10	1
30	10	3
31	10	6
32	10	10

MagicSpec table

Table that connects the Species table and the Magic table.

```
CREATE TABLE MagicSpec (  
    sid    integer NOT NULL references Species(sid),  
    mid    integer NOT NULL references Magic(mid),  
    PRIMARY KEY (sid,mid)  
);
```

Functional Dependencies: sid, mid ->

Sample Data:

	sid [PK] integer	mid [PK] integer
1	4	3
2	4	4
3	4	5
4	5	3
5	5	4
6	5	6
7	5	8
8	5	9
9	5	10
10	6	1
11	6	3
12	6	4
13	6	6
14	6	8
15	7	1
16	7	4
17	8	1
18	8	2
19	8	4
20	8	5
21	8	6
22	8	7
23	9	1
24	9	2
25	9	3
26	9	10

ArmorSpec table

Table that connects the Species table to the Armor table.

```
CREATE TABLE ArmorSpec (  
    sid    integer NOT NULL references Species(sid),  
    aid    integer NOT NULL references Armor(aid),  
    PRIMARY KEY (sid,aid)  
);
```

Functional Dependencies: sid, aid ->

Sample Data:

	sid [PK] integer	aid [PK] integer
1	1	1
2	1	6
3	2	1
4	2	3
5	3	1
6	4	1
7	5	1
8	5	3
9	5	4
10	6	4
11	6	5
12	6	6
13	7	1
14	7	10
15	8	1
16	8	4
17	8	6
18	9	1
19	9	3
20	9	8
21	9	9
22	10	1
23	10	3
24	10	7

Views

SpeciesSpecs view

Displays the armor and weapon specializations for all species.

```
CREATE VIEW SpeciesSpecs
AS
SELECT DISTINCT s.name AS "Species Name", a.name AS "Armor Name", w.name AS
    "Weapon Name", w.reqSkill AS "Weapon Skill"
FROM species s, armorspec ars, armor a, weapons w, WeaponSpec ws
WHERE ars.sid = s.sid AND ars.aid = a.aid AND ws.sid = s.sid AND ws.wid = w.wid
ORDER BY w.reqskill, w.name, s.name, a.name
```

Sample Data on next page:

	Species Name character varying(100)	Armor Name character varying(100)	Weapon Name character varying(100)	Weapon Skill character varying(100)
1	Imperial	Imperial Armor	Cross Bow	Archery
2	Imperial	Imperial Light Armor	Cross Bow	Archery
3	Imperial	Leather Armor	Cross Bow	Archery
4	Imperial	Steel Armor	Cross Bow	Archery
5	Nord	Leather Armor	Cross Bow	Archery
6	Nord	Steel Armor	Cross Bow	Archery
7	Altmer	Elven Armor	Elven Bow	Archery
8	Altmer	Maqes Robes	Elven Bow	Archery
9	Altmer	Master Robes	Elven Bow	Archery
10	Bosmer	Elven Armor	Elven Bow	Archery
11	Bosmer	Leather Armor	Elven Bow	Archery
12	Dunmer	Elven Armor	Elven Bow	Archery
13	Dunmer	Leather Armor	Elven Bow	Archery
14	Dunmer	Maqes Robes	Elven Bow	Archery
15	Bosmer	Elven Armor	Long Bow	Archery
16	Bosmer	Leather Armor	Long Bow	Archery
17	Imperial	Imperial Armor	Long Bow	Archery
18	Imperial	Imperial Light Armor	Long Bow	Archery
19	Imperial	Leather Armor	Long Bow	Archery
20	Imperial	Steel Armor	Long Bow	Archery
21	Redguard	Hammerfell Garb	Long Bow	Archery
22	Redguard	Leather Armor	Long Bow	Archery
23	Imperial	Imperial Armor	Imperial Shield	Block
24	Imperial	Imperial Light Armor	Imperial Shield	Block
25	Imperial	Leather Armor	Imperial Shield	Block
26	Imperial	Steel Armor	Imperial Shield	Block
27	Breton	Leather Armor	Steel Shield	Block
28	Breton	Maqes Robes	Steel Shield	Block
29	Breton	Steel Armor	Steel Shield	Block
30	Imperial	Imperial Armor	Steel Shield	Block
31	Imperial	Imperial Light Armor	Steel Shield	Block
32	Imperial	Leather Armor	Steel Shield	Block
33	Imperial	Steel Armor	Steel Shield	Block
34	Nord	Leather Armor	Steel Shield	Block
35	Nord	Steel Armor	Steel Shield	Block
36	Orsimer	Leather Armor	Steel Shield	Block
37	Orsimer	Orcish Armor	Steel Shield	Block
38	Orsimer	Steel Armor	Steel Shield	Block
39	Redguard	Hammerfell Garb	Steel Shield	Block
40	Redguard	Leather Armor	Steel Shield	Block
41	Redguard	Hammerfell Garb	Scimitar	One-Handed
42	Redguard	Leather Armor	Scimitar	One-Handed
43	Altmer	Elven Armor	Steel Dagger	One-Handed
44	Altmer	Maqes Robes	Steel Dagger	One-Handed
45	Altmer	Master Robes	Steel Dagger	One-Handed
46	Argonians	Leather Armor	Steel Dagger	One-Handed
47	Bosmer	Elven Armor	Steel Dagger	One-Handed
48	Bosmer	Leather Armor	Steel Dagger	One-Handed
49	Dunmer	Elven Armor	Steel Dagger	One-Handed
50	Dunmer	Leather Armor	Steel Dagger	One-Handed
51	Dunmer	Maqes Robes	Steel Dagger	One-Handed
52	Kha'jiit	Leather Armor	Steel Dagger	One-Handed
53	Altmer	Elven Armor	Steel Sword	One-Handed
54	Altmer	Maqes Robes	Steel Sword	One-Handed
55	Altmer	Master Robes	Steel Sword	One-Handed
56	Argonians	Leather Armor	Steel Sword	One-Handed
57	Breton	Leather Armor	Steel Sword	One-Handed
58	Breton	Maqes Robes	Steel Sword	One-Handed
59	Breton	Steel Armor	Steel Sword	One-Handed
60	Dunmer	Elven Armor	Steel Sword	One-Handed
61	Dunmer	Leather Armor	Steel Sword	One-Handed
62	Dunmer	Maqes Robes	Steel Sword	One-Handed
63	Imperial	Imperial Armor	Steel Sword	One-Handed
64	Imperial	Imperial Light Armor	Steel Sword	One-Handed
65	Imperial	Leather Armor	Steel Sword	One-Handed
66	Imperial	Steel Armor	Steel Sword	One-Handed
67	Kha'jiit	Leather Armor	Steel Sword	One-Handed
68	Nord	Leather Armor	Steel Sword	One-Handed
69	Nord	Steel Armor	Steel Sword	One-Handed
70	Orsimer	Leather Armor	Steel Sword	One-Handed
71	Orsimer	Orcish Armor	Steel Sword	One-Handed
72	Orsimer	Steel Armor	Steel Sword	One-Handed
73	Redguard	Hammerfell Garb	Steel Sword	One-Handed
74	Redguard	Leather Armor	Steel Sword	One-Handed
75	Nord	Leather Armor	Greatsword	Two-Handed
76	Nord	Steel Armor	Greatsword	Two-Handed
77	Orsimer	Leather Armor	Greatsword	Two-Handed
78	Orsimer	Orcish Armor	Greatsword	Two-Handed
79	Orsimer	Steel Armor	Greatsword	Two-Handed
80	Orsimer	Leather Armor	Orcish Warhammer	Two-Handed
81	Orsimer	Orcish Armor	Orcish Warhammer	Two-Handed
82	Orsimer	Steel Armor	Orcish Warhammer	Two-Handed

SpeciesMagicSpecs View

Displays the magic specializations for all species.

```
CREATE VIEW SpeciesMagicSpecs
AS
SELECT s.name AS "Species Name", m.name AS "Magic Name", m.school AS "Magic
      School"
FROM species s, MagicSpec ms, magic m
WHERE ms.sid = s.sid AND ms.mid = m.mid
ORDER BY m.school, m.name, s.name
```

Sample Data:

	Species Name character varying(100)	Magic Name character varying(100)	Magic School character varying(100)
1	Altmer	Ironflesh	Alteration
2	Argonians	Ironflesh	Alteration
3	Breton	Ironflesh	Alteration
4	Dunmer	Ironflesh	Alteration
5	Redguard	Ironflesh	Alteration
6	Argonians	Paralyze	Alteration
7	Dunmer	Paralyze	Alteration
8	Altmer	Conjure Familiar	Conjuration
9	Breton	Conjure Familiar	Conjuration
10	Breton	Reanimate Zombie	Conjuration
11	Dunmer	Blizzard	Destruction
12	Imperial	Blizzard	Destruction
13	Altmer	Firebolt	Destruction
14	Dunmer	Firebolt	Destruction
15	Imperial	Firebolt	Destruction
16	Redguard	Firebolt	Destruction
17	Altmer	Calm	Illusion
18	Breton	Calm	Illusion
19	Dunmer	Calm	Illusion
20	Dunmer	Invisibility	Illusion
21	Altmer	Heal	Restoration
22	Argonians	Heal	Restoration
23	Breton	Heal	Restoration
24	Imperial	Heal	Restoration
25	Breton	Repel Undead	Restoration
26	Imperial	Repel Undead	Restoration

Reports and their Queries

Species with Leather Armor Specialization

Displays all species and species information that have a specialization in leather armor.

```
SELECT s.name AS "Species Name", s.description AS "Species Description", s.nativeLand AS  
      "Native Land"  
FROM species s, armorspec ars, armor a  
WHERE ars.sid = s.sid AND ars.aid = a.aid AND a.name = 'Leather Armor'  
ORDER BY s.name
```

Sample Data:

	Species Name character vary	Species Description character varying(250)	Native Land character vary
1	Argonians	Argonians are the reptilian folk of the marshy Black Marsh.	Black Marsh
2	Bosmer	Wood elves are the smallest elves, who prefer living in the	Valenwood
3	Breton	Bretons are a hybrid race of elves and humans, resulting in	High Rock
4	Dunmer	Dark Elves known to be strong and intelligent, yet aloof and	Morrowind
5	Imperial	Imperials are well-educated and spoken humans disciplined an	Cyrodill
6	Khajiit	The catfolk known for their natural agility and stealth. The	Elsweyr
7	Nord	The hardy bunch of Skyrim known for their aggressive warfare	Skyrim
8	Orsimer	Orcs known as the barbarian people of Tameriel. Orsinium, th	High Rock
9	Redguard	Redguards are dark-skinned masters at blades and shields. Li	Hammerfell

Mer Weapons Specializations

Displays all mer species weapons specializations.

```
SELECT s.name AS "Mer Name", w.name AS "Weapons Name", w.reqSkill AS "Skill"
FROM species s,mer m, weaponspec ws, weapons w
WHERE m.sid = s.sid AND ws.sid = s.sid AND ws.wid = w.wid
ORDER BY s.name, w.name
```

Sample Data:

	Mer Name character varying(100)	Weapons Name character varying(100)	Skill character varying(100)
1	Altmer	Elven Bow	Archery
2	Altmer	Steel Dagger	One-Handed
3	Altmer	Steel Sword	One-Handed
4	Bosmer	Elven Bow	Archery
5	Bosmer	Long Bow	Archery
6	Bosmer	Steel Dagger	One-Handed
7	Dunmer	Elven Bow	Archery
8	Dunmer	Steel Dagger	One-Handed
9	Dunmer	Steel Sword	One-Handed
10	Orsimer	Greatsword	Two-Handed
11	Orsimer	Orcish Warhammer	Two-Handed
12	Orsimer	Steel Shield	Block
13	Orsimer	Steel Sword	One-Handed

Species with Ranged Weapon Specializations

Displays all species that have a ranged weapon specializations.

```
SELECT s.name AS "Species Name", w.name AS "Weapons Name", r.projectiles AS  
      "Projectiles", r.maxRangeYD As "Max Range (yd)"  
FROM species s, weaponspec ws, weapons w, ranged r  
WHERE r.wid = w.wid AND ws.wid = w.wid AND ws.sid = s.sid  
ORDER BY w.name, s.name
```

Sample Data:

	Species Name character varying(100)	Weapons Name character varying(100)	Projectiles character varying(100)	Max Range (yd) integer
1	Imperial	Cross Bow	Bolts	100
2	Nord	Cross Bow	Bolts	100
3	Altmer	Elven Bow	Arrows	250
4	Bosmer	Elven Bow	Arrows	250
5	Dunmer	Elven Bow	Arrows	250
6	Bosmer	Long Bow	Arrows	300
7	Imperial	Long Bow	Arrows	300
8	Redguard	Long Bow	Arrows	300

Species with Defensive Magic Specialization

Displays all species that have a defensive magic specialization.

```
SELECT s.name AS "Species Name", m.name AS "Magic Name", m.school AS "Magic  
School"  
FROM species s, MagicSpec ms, magic m, defensive d  
WHERE ms.sid = s.sid AND ms.mid = m.mid AND d.mid = m.mid  
ORDER BY m.school, m.name, s.name
```

Sample Data:

	Species Name character varying(100)	Magic Name character varying(100)	Magic School character varying(100)
1	Altmer	Ironflesh	Alteration
2	Argonians	Ironflesh	Alteration
3	Breton	Ironflesh	Alteration
4	Dunmer	Ironflesh	Alteration
5	Redguard	Ironflesh	Alteration
6	Argonians	Paralyze	Alteration
7	Dunmer	Paralyze	Alteration
8	Altmer	Calm	Illusion
9	Breton	Calm	Illusion
10	Dunmer	Calm	Illusion
11	Dunmer	Invisiblity	Illusion
12	Altmer	Heal	Restoration
13	Argonians	Heal	Restoration
14	Breton	Heal	Restoration
15	Imperial	Heal	Restoration
16	Breton	Repel Undead	Restoration
17	Imperial	Repel Undead	Restoration

Stored Procedures

SpecificArmor()

All armor and weapons specialization for species with a given armor.

```
CREATE OR REPLACE FUNCTION SpecificArmor(armorName varchar(100))
RETURNS TABLE("Species Name" varchar(100), "Armor Name" varchar(100), "Weapon
                Name" varchar(100), "Weapon Skill" varchar(100))AS $$
BEGIN
RETURN QUERY SELECT s.name AS "Species Name", a.name AS "Armor Name", w.name
                AS "Weapon Name", w.reqSkill AS "Weapon Skill"
FROM species s, armorspec ars, armor a, weapons w, WeaponSpec ws
WHERE a.name = armorName AND ars.sid = s.sid AND ars.aid = a.aid AND ws.sid = s.sid
        AND ws.wid = w.wid
ORDER BY w.reqskill, w.name, s.name, a.name;
END;
$$ LANGUAGE plpgsql;
```

Sample Data: SELECT SpecificArmor('Mages Robes');

	specificarmor record
1	(Altmer, "Mages Robes", "Elven Bow", Archery)
2	(Dunmer, "Mages Robes", "Elven Bow", Archery)
3	(Breton, "Mages Robes", "Steel Shield", Block)
4	(Altmer, "Mages Robes", "Steel Dagger", One-Handed)
5	(Dunmer, "Mages Robes", "Steel Dagger", One-Handed)
6	(Altmer, "Mages Robes", "Steel Sword", One-Handed)
7	(Breton, "Mages Robes", "Steel Sword", One-Handed)
8	(Dunmer, "Mages Robes", "Steel Sword", One-Handed)

WeaponSkill()

All armor and weapons specialization for species with a given weapon skill.

```
CREATE OR REPLACE FUNCTION WeaponSkill(WepSkill varchar(100))
RETURNS TABLE("Species Name" varchar(100), "Armor Name" varchar(100), "Weapon
                Name" varchar(100), "Weapon Skill" varchar(100))AS $$
BEGIN
RETURN QUERY SELECT s.name AS "Species Name", a.name AS "Armor Name", w.name
                AS "Weapon Name", w.reqSkill AS "Weapon Skill"
FROM species s, armorspec ars, armor a, weapons w, WeaponSpec ws
WHERE w.reqskill = WepSkill AND ars.sid = s.sid AND ars.aid = a.aid AND ws.sid = s.sid
                AND ws.wid = w.wid
ORDER BY w.reqskill, w.name, s.name, a.name;
END;
$$ LANGUAGE plpgsql;
```

Sample Data: SELECT WeaponSkill('Block');

	weaponskill record
1	(Imperial,"Imperial Armor","Imperial Shield",Block)
2	(Imperial,"Imperial Light Armor","Imperial Shield",Block)
3	(Imperial,"Leather Armor","Imperial Shield",Block)
4	(Imperial,"Steel Armor","Imperial Shield",Block)
5	(Breton,"Leather Armor","Steel Shield",Block)
6	(Breton,"Mages Robes","Steel Shield",Block)
7	(Breton,"Steel Armor","Steel Shield",Block)
8	(Imperial,"Imperial Armor","Steel Shield",Block)
9	(Imperial,"Imperial Light Armor","Steel Shield",Block)
10	(Imperial,"Leather Armor","Steel Shield",Block)
11	(Imperial,"Steel Armor","Steel Shield",Block)
12	(Nord,"Leather Armor","Steel Shield",Block)
13	(Nord,"Steel Armor","Steel Shield",Block)
14	(Orsimer,"Leather Armor","Steel Shield",Block)
15	(Orsimer,"Orcish Armor","Steel Shield",Block)
16	(Orsimer,"Steel Armor","Steel Shield",Block)
17	(Redguard,"Hammerfell Garb","Steel Shield",Block)
18	(Redguard,"Leather Armor","Steel Shield",Block)

MagicSpell()

All magic specialization for species with a given magic spell.

```
CREATE OR REPLACE FUNCTION MagicSpell(Spell varchar(100))
RETURNS TABLE("Species Name" varchar(100), "Magic Name" varchar(100), "Magic
    School" varchar(100))AS $$
BEGIN
RETURN QUERY SELECT s.name AS "Species Name", m.name AS "Magic Name", m.school
    AS "Magic School"
FROM species s, MagicSpec ms, magic m
WHERE m.name = Spell AND ms.sid = s.sid AND ms.mid = m.mid
ORDER BY m.school, m.name, s.name;
END;
$$ LANGUAGE plpgsql;
```

Sample Data: SELECT MagicSpell('Heal');

	magicspell record
1	(Altmer, Heal, Restoration)
2	(Argonians, Heal, Restoration)
3	(Breton, Heal, Restoration)
4	(Imperial, Heal, Restoration)

Security

There would be two types of users for this database.

1. The admin who can change, update, and maintain the database.

```
CREATE ROLE admin
GRANT SELECT, INSERT, UPDATE, ALTER
ON ALL TABLES IN SCHEMA PUBLIC
TO admin
```

2. The public user who can see the database and perform queries on it.

```
CREATE ROLE public
GRANT SELECT
ON ALL TABLES IN SCHEMA PUBLIC
TO public
```

Implementation Notes / Known Problems / Future Enhancements

The implementation went fairly well with few issues. The main issue that became apparent while implementing is how specific to get. The solution was to go for very generic names for the weapons, magic, and armor, instead of named armor for instance, Wolf Armor or Shrouded Armor, I used instead Steel Armor and Leather Armor. For weapons, the sample data is a generic pick of weapons, which is why most of it is the steel version of said weapon. In magic, the data is two popular spells from each school of magic. This is a known problem and could be fixed with a future enhancement.

The information for species specifically, the racial ability and the resistance to columns, are based off of the Skyrim game. Another future enhancement could be to edit these and the title to reflect the entire Elder Scrolls series instead of just one, since the rest of the data is generic enough to cover all of the Elder Scrolls series.