

TERRARIA EQUIPMENT DATABASE

IT&C 350 DATABASE DESIGN PROJECT

WINTER 2024

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PROJECT OVERVIEW

PROJECT OBJECTIVE STATEMENT

Create an equipment preparation system for Terraria players that enables users to discover and create the best combination of equipment for their current in-game situation.

PROJECT STAKEHOLDERS

Who are the Stakeholders?

- Terraria players.
- Our creation team.

Who is going to be maintaining the site?

- We, the aforementioned four horsemen of this project, are the maintainers of the site.

A shortened interview with Mr. Sam, a Terraria expert.

Q: Why do you like Terraria?

A: There's lots of bosses and lot of fun equipment. You can kill things with yo-yo's!

Q: What is the hardest thing about Terraria?

A: Acquiring stuff and getting ready for fights. Need to understand how to get ready.

Q: What would you envision an app of this type could do for you?

A: It could help me understand my options at where I am in the game.

Q: Limitations of current systems?

A: Terraria wiki exists, but you have to browse the wiki. Stats aren't shown in a concise form.

Q: What features would you like to see?

A: Understand boss difficulties, and crafting trees.

APP REQUIREMENTS

FUNCTIONAL REQUIREMENTS

Home Page Functionality

- Users can see a list of all items available for them to acquire and use under the condition that they have logged in and created a character profile.
- The list of available items changes based on the information provided by users about their Terraria Character.
- Users can view individual items with statistics about each item.
- Users can select an item to add to their list of equipped items.

Character Page Functionality

- Users can record what bosses their character has defeated so far.
- Users can record whether they have entered hard-mode or not.
- Users can record what biomes/regions they have discovered in their world so far.
- Users can see the current character statistics with the items they have equipped.

User page Functionality

- Users can create and select characters.
- Users can change their password.

NON-FUNCTIONAL REQUIREMENTS

Security

- Website protects against XSS.
- Website inputs will protect against SQL injections.
- Fail2ban (wish list)

Availability

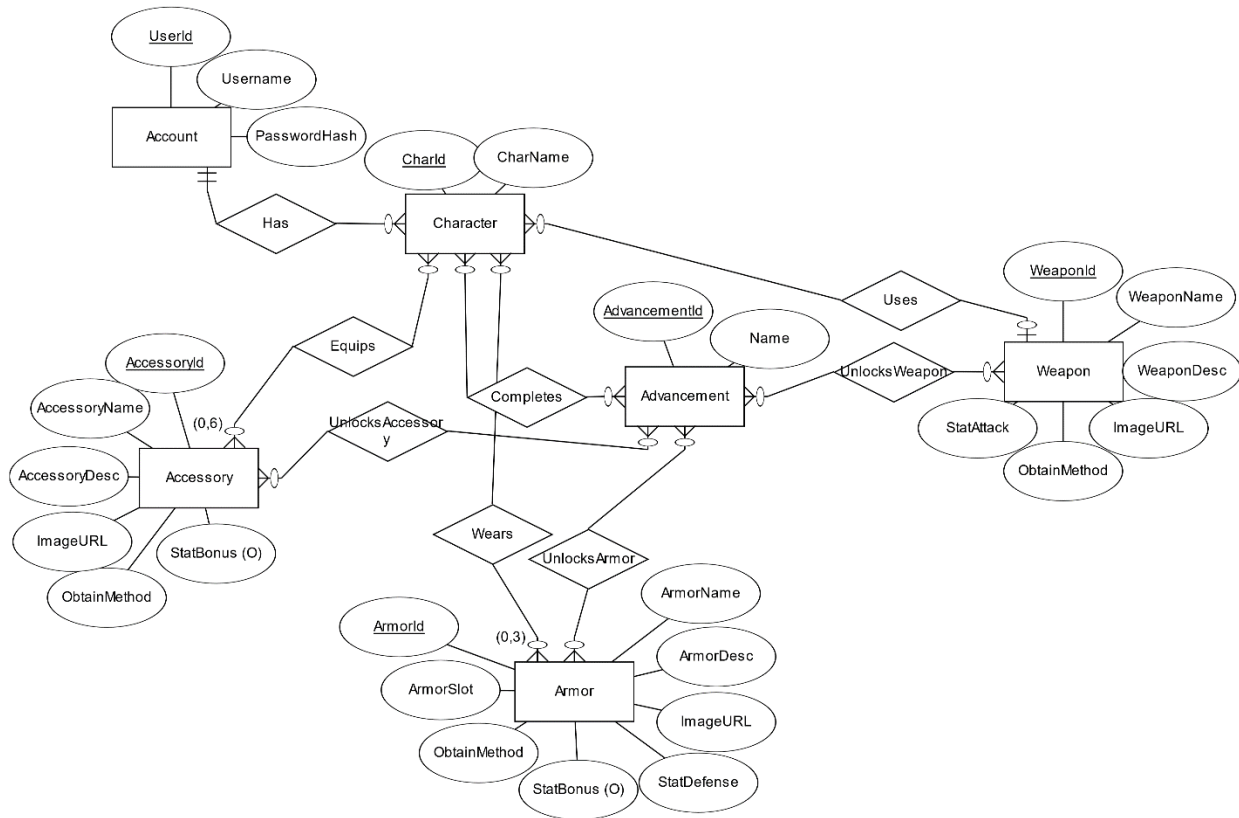
- 95% uptime and availability.

Usability

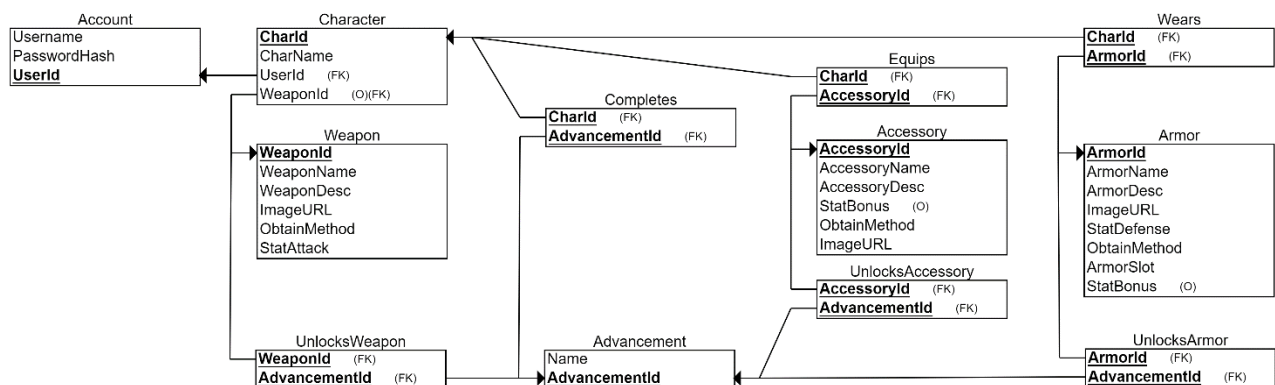
- Mobile/Desktop application. (wish list)
- Dark mode.

DATABASE REQUIREMENTS

ER DIAGRAM IMAGES



SCHEMA DIAGRAM



BUSINESS RULES

- Users can create up to 25 characters.
- Newly created characters have no items assigned to them.
- Characters can equip, at maximum, 1 weapon, 3 armor pieces (head, chest plate, boots), and 6 pieces of equipment.
- Users can have zero or one characters selected for viewing relevant and equipped items.
- The list of items cannot be changed from the front end and will be managed directly in the database by site administrators when needed.
- Usernames can only contain letters and numbers (no special characters).
- Attempts to equip more items than is permitted will not replace prior equipped items (operation will produce an error instead).
- If a user has no character selected, they are unable to equip any items.
- Users can have zero or more advancements selected when filtering data output.

RELATIONAL SCHEMA TYPES

Account:	ObtainMethod (varchar)	ArmorDesc (varchar)
Username (varchar)	StatAttack (varchar)	ImageURL (varchar)
PasswordHash (varchar)	Accessory:	StatDefense (int)
<u>UserID</u> (int)	<u>AccessoryID</u> (int)	ObtainMethod (varchar)
Character:	AccessoryName (varchar)	ArmorSlot (int)
<u>CharID</u> (int)	AccessoryDesc (varchar)	StatBonus (varchar)
CharName (varchar)	StatBonus (varchar)	Advancement:
Weapon:	ObtainMethod (varchar)	Name (varchar)
<u>WeaponID</u> (int)	ImageURL (varchar)	<u>AdvancementID</u> (int)
WeaponName (varchar)	Armor:	
WeaponsDesc (varchar)	<u>ArmorID</u> (int)	
ImageURL (varchar)	ArmorName (varchar)	

DATABASE DOCUMENTATION

GITHUB ACCESS

Scripts for creating, populating, and clearing the database are found on the GitHub repository under the Milestone 3 folder. The GitHub repository is accessible at <https://github.com/suspenceb/TerrariaCraftingRepo>.

ACCESSING THE DATABASE

1. Connect to the IT&C VPN
2. Open a command prompt and SSH into the server with:
3. `ssh username@172.16.32.12`
4. Navigate to our Docker folder in /docker.
5. Turn on the Database and PHPMyAdmin with `docker compose up -d` (It can be turned off with `docker compose down`) (Information about the current images can be seen with `docker ps`)
6. Connect to PHPMyAdmin with `http://172.16.32.12:8000` in your browser.

Note: For convenience, the domain `db.beerefamily.org` has been registered to point to `172.16.32.12` and can be used in place of the IP address.

APPENDIX 1: LOW-FIDELITY PAPER PROTOTYPES

Login

Login

Username

Password

☐ Forgot password?


Register

User name

New Password

Confirm Password

Login Screen

 My Character

Character Select

name

select delete

select delete

select delete

Password Reset

New password

confirm pass

Account controls screen

My Character

Account

Name of Character *modify*

Armor

weapon?

weapon?

weapon?

Accessories

weapon?

weapon?

✓

✓

✓

✓

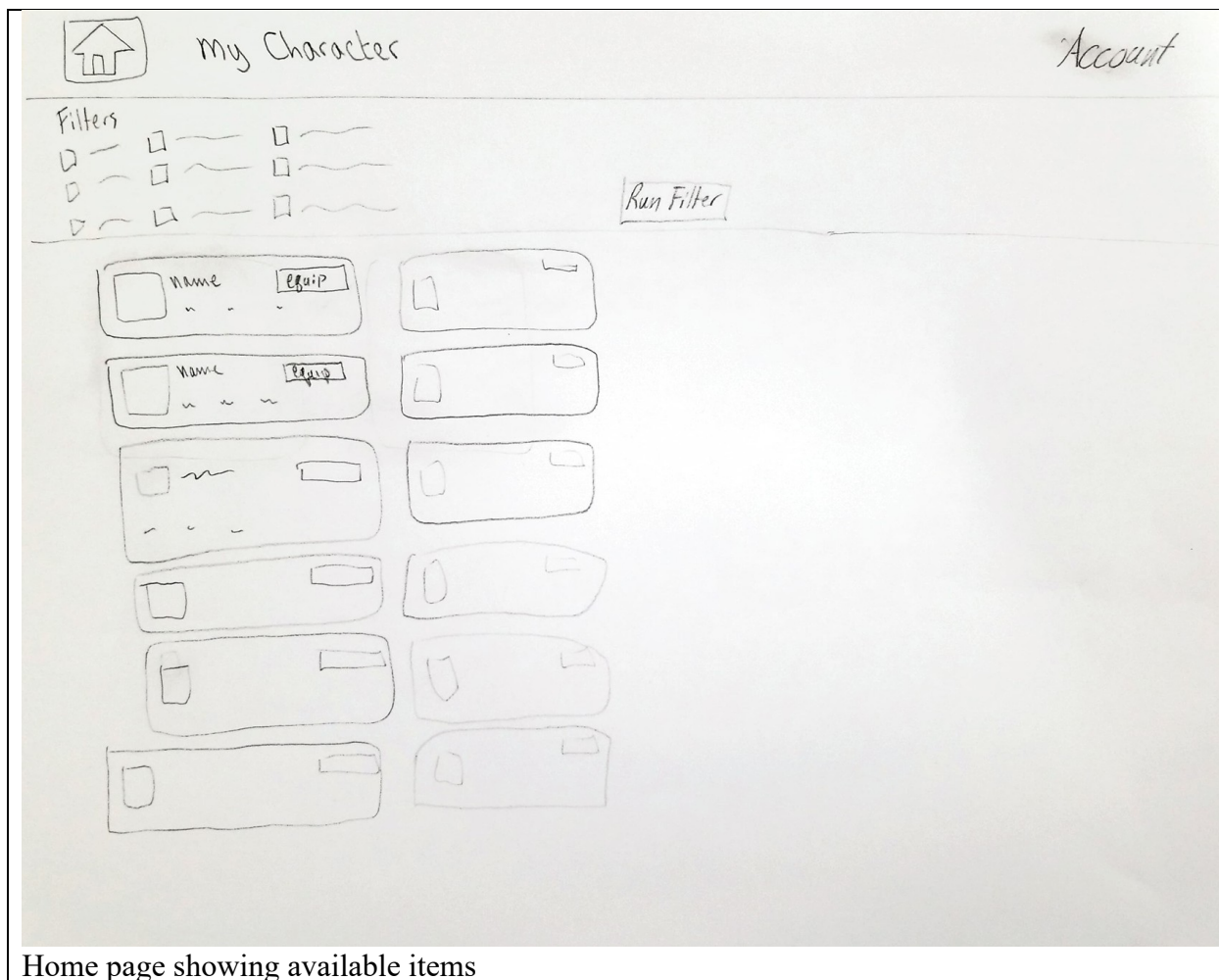
✓

Weapon

weapon?

Statistics

Hand-drawn sketch of an Item Details Screen. The screen features a header with a back arrow and the text "back" on the left, and the title "Item detail" in the center. Below the header, there is a section for the item name, labeled "Item Name" (underlined), with a box containing the text "equip". Below this is a section for statistics, labeled "Statistics". A large, empty rounded rectangle occupies the lower half of the screen, representing the area for item statistics.



Home page showing available items

APPENDIX 2: HIGH-FIDELITY PAPER PROTOTYPES

[images]