**Project Proposal: D&D Item Shop Simulator**

**Purpose of the App:**

The D&D Item Shop Simulator is designed to creation and management of a fantasy shop within the Dungeons & Dragons lore. It enables Dungeon Masters and players to generate random items across various categories such as armor, magical items, weapons, wondrous items, and potions. Users can also input custom items into the shop, track the shop's funds, during their D&D sessions.

**App Interface:**

Intro Screen

* Navigation bar at the top for saving, loading, or deleting shops and accessing an information/help page.
  + Ability to name the shop when saving for later use.
* User inputs for size (quantity of items in the shop), type, and funds, or the option to randomize those properties.

Main Screen

* Navigation bar at the top for shop management and access to an information/help page.
  + Ability to name the shop when saving for later use.
* Display items based on the type of shop chosen with a limit of 5 items.
* Up to 3 slots for custom items.
* Button to create custom items based on DM needs.
* Sell button to trade items with the shop.
* Sidebar displaying shop funds and recent transactions.

Custom Items Pop-up Screen

* Fields for inputting custom item information:
  + Type, Name, Description, Price, Rarity, Stats.
* Save button to add the custom item to the inventory directory and an open slot in the shop.

Buy Transaction Pop-up Screen

* Pop-up window displaying item details (name, description, price, stats, rarity, type).
* Buy button to finalize the purchase and increase shop funds.

Sell Transaction Pop-up Screen

* Field to select an item from a list.
* Custom item entry field if the item is not listed (added to the item directory).
* Sell button to complete the transaction and decrease shop funds.

Information Pop-up Screen

* Glossary page containing item descriptions, type information, and rarity information.

**Classes:**

1. **Item Class:**
   * **Relationship:** Each item will be classified into different types such as armor, weapon, magical, wondrous, and potion, aiding in organizing and displaying items in the shop inventory.
   * **Fields for Item Class:**
     + Name, Description (Details of what the item looks like or a short history), Price, Stats (What the item does), Rarity (Common, Uncommon, Rare, Very Rare, Legendary, Epic), Type (Armor, Weapon, Magical, Wondrous, Potion)
2. **Shop Class:**
   * **Relationship:** The shop will contain an inventory of items, including armor, weapons, magical items, wondrous items, random, and potions. It will manage transactions, funds, and player interactions related to these items.
   * **Fields for Shop Class:**
     + Type (Magic Item, Armor, Weapons, Wonderous, Potions, Random), Size (3-5 items), Inventory (array of items choose by type of item or at random), Funds (What the shop starts with, 2000-20,000)
3. **Transaction Class:**
   * **Relationship:** This class will handle the buying and selling of items. It will record details such as the buyer, seller, item involved, transaction type (buy/sell), and transaction amount.
   * **Fields for Transaction Class:**
     + Buyer (Who bought the item), Seller (Who sold the item), Item (Item name that was involved in the transaction), Transaction Type (Buy/Sell), Transaction Amount (+/- Funds used in transaction)