Inventory Management System for

Action Role-Playing Games

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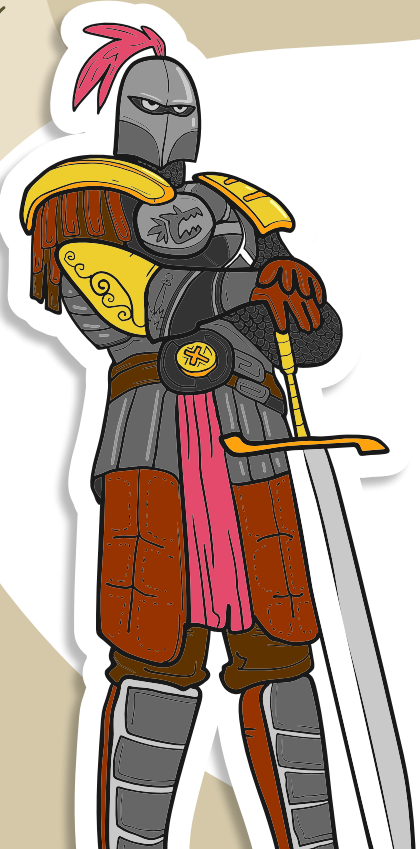
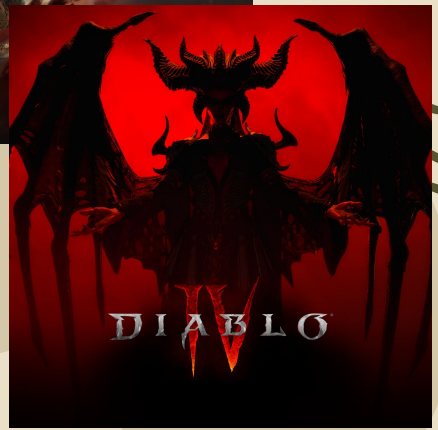
WHAT IS AN ARPG?



An **Action Role-Playing Game** is a genre of video games that combines real-time combat with a character progression system.

Players develop their characters through **strategic choices** in abilities and equipment.



PURPOSE OF IMS IN ARPGs

Challenge

Managing a vast array of in-game items can be **overwhelming** for both players and developers.

Solution

A well-designed **Inventory Management System** streamlines this process, making item organization and accessibility seamless for players and simplifying asset tracking for developers.

ACHIEVING A SUCCESSFUL IMS

Efficient Item Management

Capability for **storing**, **identifying**, and **tracking** items across inventory spaces.

Seamless UI Integration

Ensure smooth IMS **integration** within the **game's user interface** for intuitive player interaction.

Enhanced Gameplay Features

Support for **player-to-player trading** with comprehensive logging of traded items.

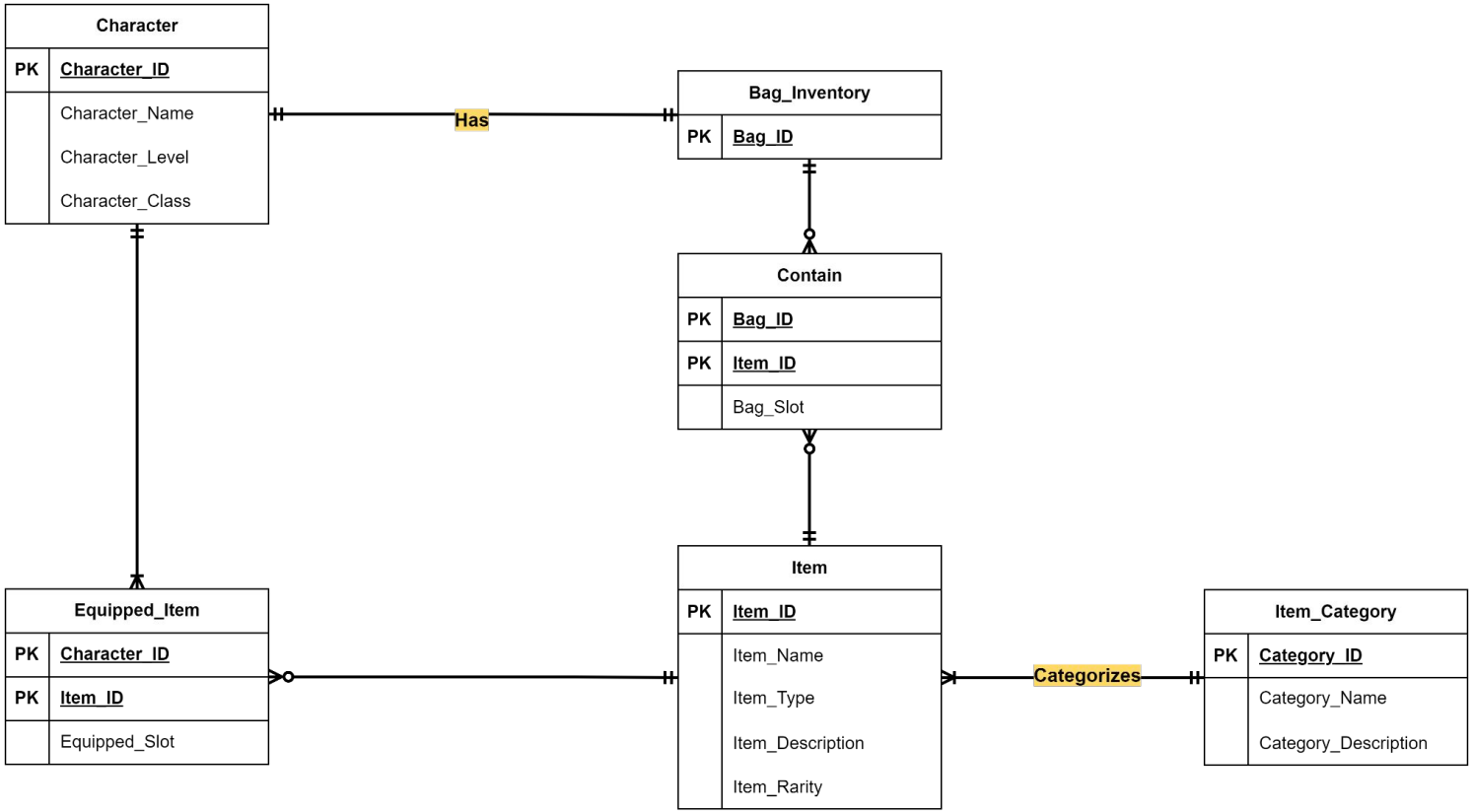
Optimization & Performance

Achieve **fast** and **responsive** system performance, crucial for high payer concurrency and trading functions.

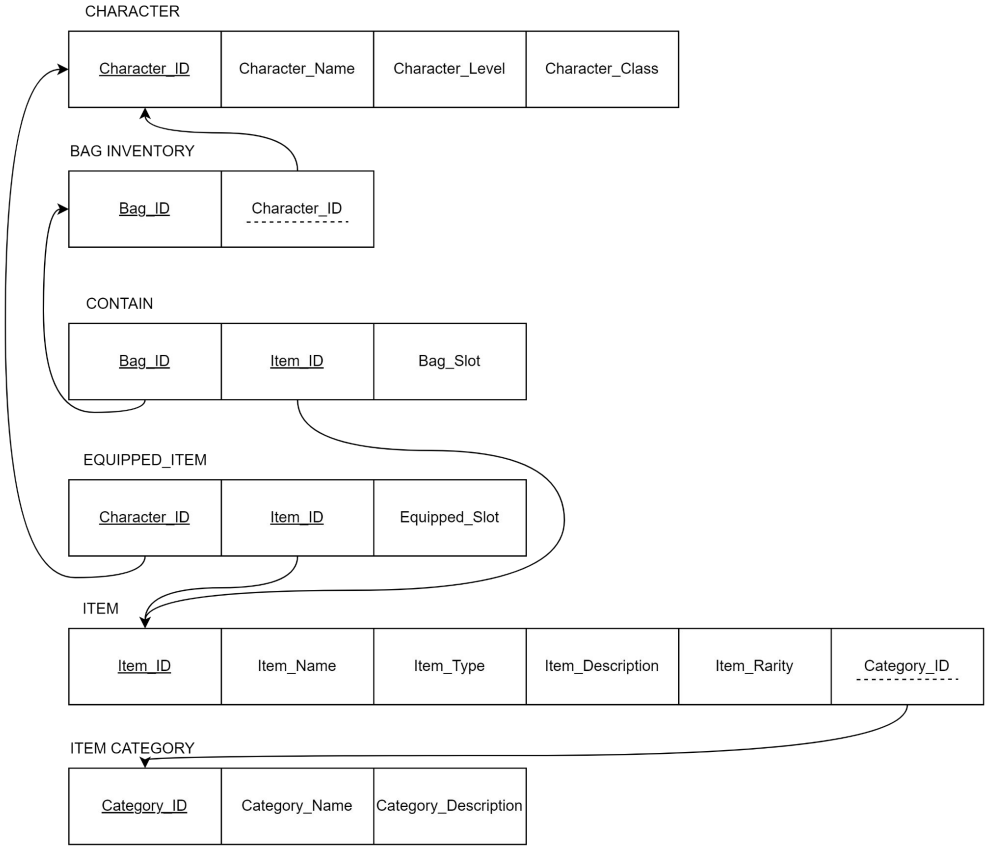
Data Integrity, Security, & Scalability

Implement robust **security measures** and **scalability solutions** to support gameplay mechanics.

CONCEPTUAL MODEL



LOGICAL MODEL



SQL QUERIES

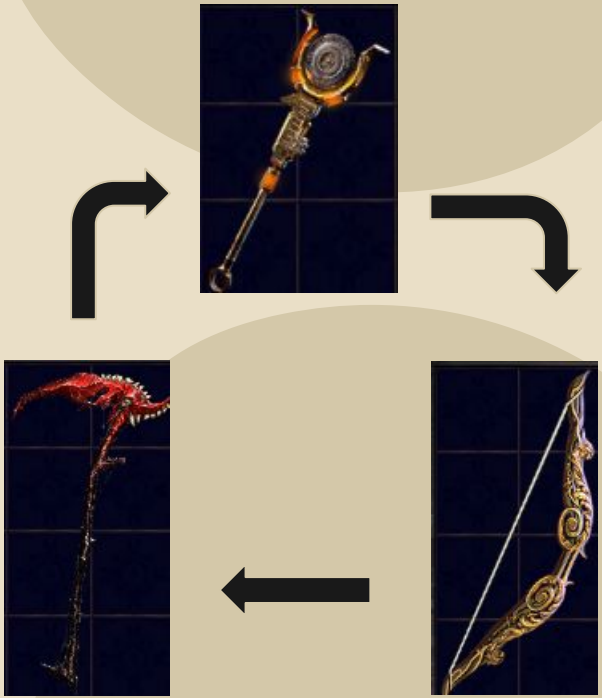
```sql
--Query 5
--What items does Gold_Fisher have equipped?
SELECT
    t1.Character_Name AS Name,
    t1.Character_Level AS Level,
    t1.Character_Class AS Class,
    t3.Item_Name AS Item,
    t3.Item_Rarity AS Rarity,
    t2.Equipped_Slot AS Equipped
FROM
    Character t1
JOIN
    Equipped_Item t2
ON
```

```sql
--Query 6
--What about what Gold_Fisher has in his bag?
SELECT
    t1.Character_Name AS Name,
    t1.Character_Level AS Level,
    t1.Character_Class AS Class,
    t4.Item_Name AS Item,
    t4.Item_Rarity AS Rarity,
    t4.Item_Type AS Type,
    t3.Bag_Slot AS "Bag Slot"
FROM
    Character t1
JOIN
    Bag_Inventory t2
ON
    t1.Character_ID=t2.Character_ID
JOIN
    Contain t3
ON
    t2.Bag_ID=t3.Bag_ID
JOIN
    Item t4
ON
    t3.Item_ID=t4.Item_ID
```

INTERACTION

Changing

Equipments



INTERACTION

Viewing Item

Details

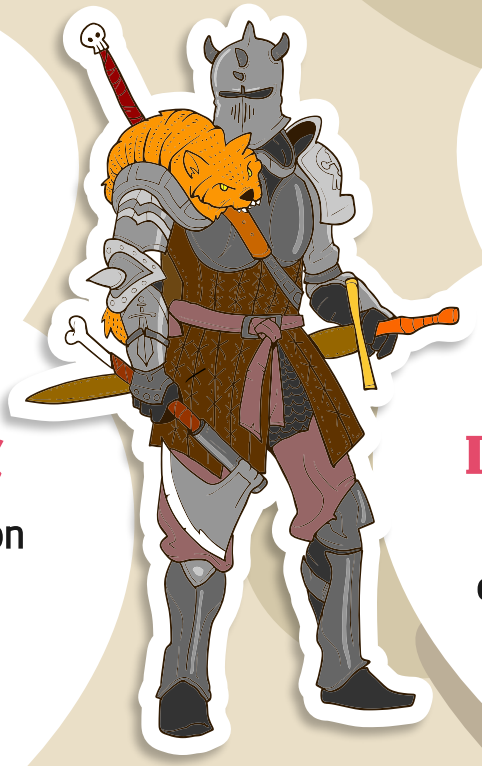
MEETING PLAYER NEEDS IN ARPGs

Strategic Gameplay Support

IMS **simplifies managing** extensive item collections, enabling players to focus on strategic equipment choices crucial for character development.

Informed Decision Making

Provides **detailed item information** to enhance combat strategy and inventory management with up-to-date, accessible data.



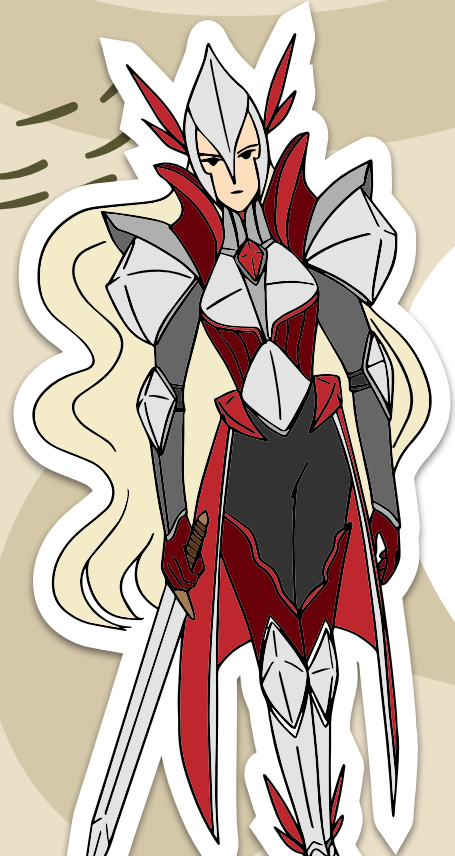
Transparency and Accessibility

Allows players to **easily locate items**, ensuring items are appropriately used and managed.

Impact on Gaming Experience

Facilitates a **smoother, more enjoyable** gaming experience by reducing item management complexities.

INPUTS AND ITEM TRACKING



Diverse Item Inputs

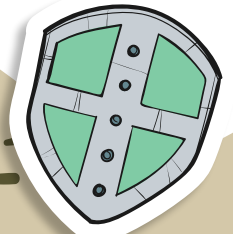
Captures every item found, marking each with unique characteristics.

Precise Item Tracking

Maintains detailed records of item locations.

Game Consistency

Ensures every item's journey matches the player's adventure.



ACCESS CONTROL & SECURITY MEASURES

Administrators

Full access (insert, read, modify, delete) for database management and maintenance.

Game Developers

Limited access; can't delete sensitive player information. Focus on updating game mechanics and items.

Players

Access limited to their own data to ensure engagement without compromising game integrity of affecting other player's data.

Analytics Team

Read-only access to analyze game data, emphasizing the safeguard against data alteration.

DATABASE RECOVERY POLICY

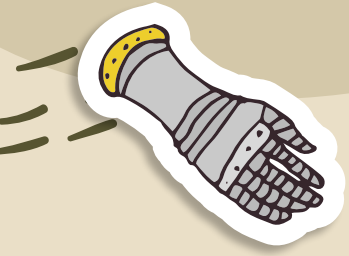
Recovery Policy

- **Full Backups:** Scheduled during off-peak to minimize performance impact, ensuring data integrity with off-side storage.
- **Differential Backups:** Capture changes since the last full backup, optimizing for efficiency in time and storage.

Disaster Recovery

- **Disk Mirroring:** Real-time data duplication across multiple disks, ready for instant data restoration.
- **Restoration Process:** Leveraging the latest full backup and transaction logs for data recovery, ensuring minimal downtime.
- **Continuous Monitoring:** Proactive system checks to detect and resolve issues swiftly, guaranteeing data availability.




THANK YOU

Questions?