

2024

Database Development

ASSIGNMENT 2 OF 2
TUTOR: MICHAEL THORNHILL
AUTHOR: TOMAS ATANASOV

Table of Contents

Introduction	2
Acid Principles	3
Database Development	4
Database Manipulation	15
References	18
Appendices	19

Introduction

This 'Database Development' document provides a thorough understanding of transactional integrity in database management systems through an exploration of the 'ACID' principles. It provides a completely constructed relational database for the game 'Caves and Creatures', developed using a suitable database management system software, and build in accordance with ERD design, while adhering to all identified business rules and regulations.

The document also provides implemented improvements of the original design, test data, database manipulation, evidence of 'CRUD' testing with examples, and database recovery backup plan, while exploring regular maintenance tasks.

Acid Principles

According to essentialsql, (2020) ACID database transaction model in SQL databases stands for Atomic, Consistent, Isolation, and Durability, all of which are fundamental principles in database management systems and establish reliability and integrity in database transactions.

geeksforgeeks (2023) Explains the principles, starting with 'Atomicity', which means that every transaction is treated as a single unit, and the transaction can either occur or not, there is no third option present. This principle works around the two operations 'Abort' to stop the transaction and deny changes to the database, or 'Commit' if the transaction happens and the changes to the database are made. It basically works on the 'All or nothing' policy. Next principle is 'Consistency' geeksforgeeks (2023) Elaborates further and refers to the reliability of a database, therefore data base has to be correct, and integrity must be maintained, to ensure consistency in the database both before and after the transaction. However, geeksforgeeks (2023) argues that incorrect values, data loss, and any other inconsistencies may occur if transactions occur simultaneously, without 'Isolation'. This principle prevents inconsistencies in database, by ensuring that multiple transaction can take place simultaneously, and ensures that changes are visible only after being fully committed to memory. Lastly, according to geeksforgeeks (2023) the 'Durability' principle guarantees that once transaction finishes, even if the system crashes, changes are permanently stored, which prevents data loss and maintains data integrity.

essentialsql (2021) Gives an example of the ACID concept by referring to banking transactions, where functions like deposit, withdrawal, and transaction audit trail benefit tremendously by the ACID model. It ensures the secure transfer of funds by guaranteeing that all steps are successful for the operation to complete, maintaining data consistency and preventing interference from other transactions, while also ensuring that committed data remains intact even in the event of system failures.

Aleksic (2020) Further emphasises the reliance of ACID compliant database on financial institutions for money transfers, where atomicity of the transactions is key factor which prevents issues like incomplete transfers. MySQL, PostgreSQL, Oracle, and others are a safe choice for guaranteeing ACID compliance, while some NoSQL databases like Apache's CouchDB or IBM's Db2 offer partial ACID support but may not be suitable for strict environments due to their transition from traditional ACID principles.

In their blog, keboola (2021) also exposes the disadvantages of the ACID transactions and concludes that they may slow down read and write processes due to locking mechanisms, making them less ideal for high-volume systems like Netflix or Facebook, where distributed systems perform better for handling large amounts of data simultaneously. However, keboola (2021) also highlights the advantages ACID principles, and claims that they ensure data accuracy, simplify operations, and provide reliable storage.

Database Development

Function	SQL	Appendices
Database [name] creation	CREATE DATABASE caves_and_creatures	Appendix 1 Appendix 1
Table [alignment] creation	CREATE TABLE `alignment` (`alignment_id` int(11) NOT NULL, `alignment_name` varchar(20) NOT NULL, `alignment_description` varchar(300) NOT NULL) ENGINE=InnoDB DEFAULT CHARSET=latin1;	Appendix 20 Appendix 2
Table [character] creation	CREATE TABLE `character` (`character_id` int(11) NOT NULL, `player_id` int(11) NOT NULL, `character_name` varchar(20) NOT NULL, `character_description` varchar(150) NOT NULL, `character_type_id` int(20) NOT NULL, `class_id` int(20) NOT NULL, `species_id` int(20) NOT NULL, `alignment_id` int(20) NOT NULL, `inventory_id` int(20) NOT NULL) ENGINE=InnoDB DEFAULT CHARSET=latin1;	Appendix 21
Table [character_quest] creation	CREATE TABLE `character_quest` (`character_quest_id` int(12) NOT NULL, `quest_id` int(200) NOT NULL, `character_id` int(20) NOT NULL) ENGINE=InnoDB DEFAULT CHARSET=latin1;	Appendix 22
Table [character_type] creation	CREATE TABLE `character_type` (`character_type_id` int(11) NOT NULL, `character_type_name` varchar(20) NOT NULL, `character_type_description` varchar(150) NOT NULL, `character_type_playability` varchar(20) NOT NULL) ENGINE=InnoDB DEFAULT CHARSET=latin1;	Appendix 23
Table [class] creation	CREATE TABLE `class` (`class_id` int(11) NOT NULL, `class_name` varchar(20) NOT NULL, `class_description` varchar(500) NOT NULL) ENGINE=InnoDB DEFAULT CHARSET=latin1;	Appendix 24
Table [difficulty] creation	CREATE TABLE `difficulty` (`difficulty_id` int(11) NOT NULL, `difficulty_name` varchar(20) NOT NULL, `difficulty_description` varchar(200) NOT NULL) ENGINE=InnoDB DEFAULT CHARSET=latin1;	Appendix 25
Table [inventory] creation	CREATE TABLE `inventory` (`inventory_id` int(11) NOT NULL, `inventory_capacity` varchar(100) NOT NULL, `item_id` int(11) NOT NULL, `item_count` varchar(100) NOT NULL) ENGINE=InnoDB DEFAULT CHARSET=latin1;	Appendix 26

Table [inventory_item] creation	CREATE TABLE `inventory_item` (`inventory_item_id` int(12) NOT NULL, `inventory_id` int(11) NOT NULL, `item_id` int(11) NOT NULL) ENGINE=InnoDB DEFAULT CHARSET=latin1;	Appendix 27
Table [item] creation	CREATE TABLE `item` (`item_id` int(11) NOT NULL, `item_name` varchar(30) NOT NULL, `item_description` varchar(300) NOT NULL, `item_type_id` int(11) NOT NULL, `item_rarity_id` int(11) NOT NULL) ENGINE=InnoDB DEFAULT CHARSET=latin1;	Appendix 28
Table [item_rarity] creation	CREATE TABLE `item_rarity` (`item_rarity_id` int(11) NOT NULL, `item_rarity_name` varchar(20) NOT NULL, `item_rarity_description` varchar(500) NOT NULL) ENGINE=InnoDB DEFAULT CHARSET=latin1;	Appendix 29
Table [item_type] creation	CREATE TABLE `item_type` (`item_type_id` int(11) NOT NULL, `item_type_name` varchar(25) NOT NULL, `item_type_description` varchar(200) NOT NULL) ENGINE=InnoDB DEFAULT CHARSET=latin1;	Appendix 30
Table [player] creation	CREATE TABLE `player` (`player_id` int(11) NOT NULL, `player_forename` varchar(20) NOT NULL, `player_surname` varchar(20) NOT NULL, `player_username` varchar(20) NOT NULL, `player_password` varchar(20) NOT NULL, `player_email` varchar(40) NOT NULL, `player_dob` varchar(10) NOT NULL) ENGINE=InnoDB DEFAULT CHARSET=latin1;	Appendix 31
Table [quest] creation	CREATE TABLE `quest` (`quest_id` int(11) NOT NULL, `quest_name` varchar(30) NOT NULL, `quest_description` varchar(250) NOT NULL, `region_id` int(11) NOT NULL, `difficulty_id` int(11) NOT NULL, `character_id` int(11) NOT NULL) ENGINE=InnoDB DEFAULT CHARSET=latin1;	Appendix 32
Table [region] creation	CREATE TABLE `region` (`region_id` int(11) NOT NULL, `region_name` varchar(20) NOT NULL, `region_description` varchar(450) NOT NULL) ENGINE=InnoDB DEFAULT CHARSET=latin1;	Appendix 33
Table [species] creation	CREATE TABLE `species` (`species_id` int(11) NOT NULL, `species_name` varchar(20) NOT NULL, `species_description` varchar(300) NOT NULL) ENGINE=InnoDB DEFAULT CHARSET=latin1;	Appendix 34

Insert statement 1	<pre>INSERT INTO `alignment` (`alignment_id`, `alignment_name`, `alignment_description`) VALUES (1, 'Hostile', 'Tends to act aggressively or antagonistically towards other characters or creatures within the game.'), (2, 'Neutral', 'Don\'t actively seek conflict, and prioritize maintaining balance and impartiality in the game world.'), (3, 'Kind', 'Guided by strong sense of morality and compassion, striving to make the world a better place through their actions.'), (4, 'Evil', 'Manipulate, exploit, and destroy with little regard for the consequences.'), (5, 'Passive', 'Embodiment of peace and harmony. Preferring negotiation over conflict.'), (6, 'Psychopath', 'Unpredictable and unhinged, thriving in chaos and revel in destruction.'), (7, 'Tribal', 'Aligned with the tribal path of honour, the traditions and customs of their people above all else. They prioritize the well-being of their community.'), (8, 'Extremist', 'Fanatical and uncompromising, driven by a singular, often radical ideology or belief system.'), (9, 'Shy', 'They avoid the spotlight, navigating the world with caution. They excel in stealth and subtlety, using their keen intellect to overcome challenges without drawing attention.'), (10, 'Comic', 'Bring laughter and levity to even the darkest of situations. Use humour and slapstick antics to disarm foes and win allies to their cause.');</pre>	Appendix 2
Insert statement 2	<pre>INSERT INTO `character` (`character_id`, `player_id`, `character_name`, `character_description`, `character_type_id`, `class_id`, `species_id`, `alignment_id`, `inventory_id`) VALUES (1, 1, 'yoloswagqt69', 'BOOYAH! fr fr', 1, 1, 1, 1, 1), (2, 2, 'gangstaWizard', 'dont mess with me', 1, 2, 2, 2, 2), (3, 3, 'gigachad23', 'im afk', 1, 3, 3, 3, 3), (4, 4, 'iloveMK', 'i just like to play MK', 1, 4, 4, 4, 4), (5, 5, 'MoogyBear', '.....im a bear', 1, 5, 5, 5, 5), (6, 6, 'gothikk', 'i dont like to talk much', 1, 6, 6, 6, 6), (7, 7, 'holyPoggers', 'i go to church every Sunday.', 1, 7, 7, 7, 7), (8, 8, 'Barbie', 'No, i don\'t play with dolls', 1, 8, 8, 8, 8), (9, 9, 'divineSwagg77', 'i love jesus..obviously\r\n\r\nbr', 1, 9, 9, 9, 9), (10, 10, 'Swift', 'I like shape-shifting, my Pronouns Are \"He,\" Not \"Him,\" Cause I\'ll Never Be \"Him\"', 1, 10, 10, 10, 10);</pre>	Appendix 3
Insert statement 3	<pre>INSERT INTO `character_quest` (`character_quest_id`, `quest_id`, `character_id`) VALUES (1, 1, 1), (2, 2, 2), (3, 3, 3), (4, 4, 4),</pre>	Appendix 4

	(5, 5, 5), (6, 6, 6), (7, 7, 7), (8, 8, 8), (9, 9, 9), (10, 10, 10);	
Insert statement 4	INSERT INTO `character_type` (`character_type_id`, `character_type_name`, `character_type_description`, `character_type_playability`) VALUES (1, 'player', 'Player-controlled avatar which serve as the character that the player uses to engage with the game world.', 'playable'), (2, 'n_p_c', 'System-controlled non-player character.', 'non- playable');	Appendix 5
Insert statement 5	INSERT INTO `class` (`class_id`, `class_name`, `class_description`) VALUES (1, 'Blade Master', 'Blade Masters equip themselves carefully for combat and engage their enemies head-on. They depend greatly on their equipment and physical skills.'), (2, 'Wizard', 'The Wizards are masters of the magical arts. They use their knowledge to deal powerful magical attacks on enemies with staff type weapons. Their impressive understanding of magic gives them a huge array of spells to use while fighting their enemies!'), (3, 'Hunter', 'Hunters use their special abilities to deal powerful physical attacks on enemies with bow type weapons. Their unique ability to wield bow and quiver items gives them high damage with a long attacking range! '), (4, 'Magic Knight', 'These warriors combine spell and sword, bringing forth powerfull skill. Their arsenal includes abilities of both the Blade Master and the Archmage classes.'), (5, 'Slaughterer', 'Vampire-like warrior strikes with fierce swords and cunning, draining the life force of foes to fuel their own power. Beware the shadows, for where the Slaughterer lurks, death follows.'), (6, 'Warlock', 'The Warlock, whose bloodline has been preserved since ancient times, possess a natural gift in manipulative wizardry and communicating with another dimension to summon monsters. Through their constant prayers and meditations, they crush their enemies with curses.'), (7, 'Paladin', 'Holy warriors, devoted to justice and righteousness. Clad in heavy armour and wielding powerful weapons, they combine martial prowess with divine magic to smite evil and protect the innocent.'), (8, 'Barbarian', 'Primal warriors, harnessing their inner fury to become unstoppable forces of nature on the battlefield. Eschewing heavy armour in favour of speed and agility, they rely on raw strength. '),	Appendix 6

	(9, 'Priest', 'Devout servants of the divine, wielding sacred magic to heal the wounded, protect the innocent, and vanquish evil. Drawing upon their faith and spiritual devotion, they channel divine energy to perform divine spells. '), (10, 'Druid', 'Mystic guardians of the natural world, attuned to the primal forces of nature and the balance of life. Masters of shape-shifting and elemental magic, they commune with the spirits of the wild. ');	
Insert statement 6	INSERT INTO `difficulty` (`difficulty_id`, `difficulty_name`, `difficulty_description`) VALUES (1, 'very easy', 'A breeze for beginners, offering a relaxed experience with minimal challenge. '), (2, 'easy', 'Accessible for most players, providing a comfortable level of challenge without overwhelming difficulty. '), (3, 'medium', 'Provides a moderate amount of challenge. Because it's not too easy nor too challenging, players of ordinary skill can still enjoy the game. '), (4, 'hard', 'For skilled players seeking a demanding experience, requiring focus and determination to overcome obstacles. '), (5, 'extreme', 'Reserved for the elite, presenting a formidable test of skill and precision, suitable only for the most dedicated players. ');	Appendix 7
Insert statement 7	INSERT INTO `inventory` (`inventory_id`, `inventory_capacity`, `item_id`, `item_count`) VALUES (1, '8x8', 1, '1'), (2, '8x8', 2, '1'), (3, '8x8', 3, '1'), (4, '8x8', 4, '1'), (5, '8x8', 5, '1'), (6, '8x8', 6, '1'), (7, '8x8', 7, '1'), (8, '8x8', 8, '1'), (9, '8x8', 9, '1'), (10, '8x8', 10, '1');	Appendix 8
Insert statement 8	INSERT INTO `inventory_item` (`inventory_item_id`, `inventory_id`, `item_id`) VALUES (1, 1, 1), (2, 2, 2), (3, 3, 3), (4, 4, 4), (5, 5, 5), (6, 6, 6), (7, 7, 7), (8, 8, 8), (9, 9, 9), (10, 10, 10);	Appendix 9
Insert statement 9	INSERT INTO `item` (`item_id`, `item_name`, `item_description`, `item_type_id`, `item_rarity_id`) VALUES	Appendix 10

(1, 'Short sword', '1-H ATK DMG: 1 ~ 6\r\nATK Speed: 20\r\n\r\nRequirements:\r\nStrength: 21\r\nClass: All Classes\r\n\r\n', 3, 1),
 (2, 'Miracle Staff', '1-H WIZ DMG Raise: +44%\r\nATK Speed: +25\r\n\r\nRequirements:\r\nStrength: 146\r\nAgility: 0\r\nCan be equipped by Wizard, Magic Knight', 3, 2),
 (3, 'Ancient Shield of Nzoth', 'Off-H DEF: +15\r\nDEF Rate: +78\r\n\r\nRequirements:\r\nStrength: 110\r\nClass: Wizard, Magic Knight, Paladin, Barbarian.', 5, 3),
 (4, 'Excellent Book of Samut', 'Off-H Curse DMG Raise: +23%\r\nATK Speed: +25\r\n+2 sockets.\r\n\r\nRequirements:\r\nAgility: 51\r\nEnergy: 230\r\n\r\nClass: Warlock', 4, 2),
 (5, 'Mastery Blue-Eye Stick', '1-H WIZ DMG Raise: +84%\r\nATK Speed: 45\r\n\r\nRequirements:\r\nStrength: 270\r\nAgility: 130\r\nClass: Warlock', 12, 5),
 (6, 'Scythe of Balrog', '2-H ATK DMG: 210 ~ 283\r\nATK Speed: 15\r\n\r\nRequirements:\r\nStrength: 570\r\nAgility: 120\r\nClass: Blade Master, Magic Knight, Barbarian, Warrior.\r\n\r\nExpires in: 29 days, 8 hours, 59 seconds.', 9, 8),
 (7, 'Asura', '2-H ATK DMG: 300 ~ 423\r\nATK Speed: 20\r\n+3 Socket slots.\r\n\r\nRequirements:\r\nStrength: 700\r\nAgility: 320\r\nEnergy: 128\r\nClass: Magic Knight', 10, 10),
 (8, 'Reigning Cloak', 'DMG: +39%\r\nAbsorb DMG: +39%\r\n+Increased Movement Speed\r\n\r\nRequirements:\r\nCharacter Level 400\r\nClass: Hunter, Druid', 13, 1),
 (9, 'Wings of Satan', 'DMG: +12%\r\nAbsorb DMG: +12%\r\n+Increased Movement Speed\r\n\r\nRequirements:\r\nCharacter Level 150\r\nClass: Blade Master, Warrior, Slaughterer, Barbarian', 13, 1),
 (10, 'Wings of Heaven', 'DMG: +32%\r\nAbsorb DMG: +25%\r\n+Increased Movement Speed\r\n\r\nRequirements:\r\nCharacter Level 215\r\nClass: Wizard, Magic Knight, Paladin, Priest.', 13, 1),
 (11, 'Wings of Carnage', 'DMG: +55%\r\nAbsorb DMG: +43%\r\n+Increased Movement Speed\r\n\r\nRequirements:\r\nCharacter Level 800\r\nClass: Slaughterer', 13, 1),
 (12, 'Mana Potion', 'It is used to recover mana over time.\r\n\r\nStacks up to x3.', 14, 1),
 (13, 'Apple', 'It is used to instantly recover a small amount of HP.\r\n\r\nStacks up to x3', 14, 1),
 (14, 'Antidote', 'It is used to instantly remove Poison DMG debuff.\r\n\r\nStacks up to x3', 14, 1),
 (15, 'Health Potion', 'It is used to recover health over time.\r\n\r\nStacks up to x3.', 14, 1),

	(16, '\$', 'Zen Dollar Coins (\$), are the primary medium of exchange for goods and services.', 15, 1);	
Insert statement 10	INSERT INTO `item_rarity` (`item_rarity_id`, `item_rarity_name`, `item_rarity_description`) VALUES (1, 'Normal', 'The basic item grade, there is nothing unique about it.'), (2, 'Excellent', 'Unique powerful equipment items that have special additional options bound to it.'), (3, 'Ancient', 'Have greater DMG/DEF than `excellent items`, always have an `+Ancient Option` bound to it, and have a unique `set name` which unlocks `+Set Option` when combined with other items of the same `set name`.'), (4, 'Socket', 'Socket Items have `+Sockets` which Seed Spheres can be attached to in order to grant additional options.'), (5, 'Mastery', 'Mastery Items are `excellent items` for characters greater than level 400, and have better `+Excellent Options`.'), (6, 'Mastery Set', 'Mastery Set Items are `ancient items` for characters greater than level 400, and have better `+Set Option`.'), (7, 'Archangel', 'Archangel Weapons are very powerful `excellent items` designed for characters less than level 400. These items always have x6 excellent options bound to the item. Furthermore, they can be transformed into a `Blessed Archangel Weapon` which is even more powerful and allows the ability to cast a special buff called `Archangel's Will`! But you should note, these items are only obtainable via promotional events.'), (8, 'Temporary Item', 'Temporary items have an expiration date, they usually usually expire after 1, 3, 7, or 30 days after obtaining.'), (9, 'Quest item', 'A type of item used in missions and quests to fulfil the objective.'), (10, 'Bound item', 'Item obtained from promotional codes and offers, cannot be traded or upgraded.');	Appendix 11
Insert statement 11	INSERT INTO `item_type` (`item_type_id`, `item_type_name`, `item_type_description`) VALUES (1, 'one-hand axe', 'One-handed melee attack weapon with high attack damage and low attack speed.'), (2, 'one-hand sword', 'One-handed melee attack weapon with low attack damage and high attack speed.'), (3, 'one-hand staff', 'One-handed staff weapon with low spell damage and high attack speed.\r\n'), (4, 'book', 'Off-hand weapon with curse damage modifier.'), (5, 'shield', 'Off-hand defensive item.'), (6, 'bow', 'Ranged weapon with high attack damage and low attack speed, requires a quiver to use.'), (7, 'crossbow', 'Ranged weapon with higher attack speed and lower damage, requires a quiver to use.'),	Appendix 12

	(8, 'quiver', 'Off-hand ranged weapon.'), (9, 'two-hand axe', 'Two-handed melee attack weapon with high attack damage and low attack speed.'), (10, 'two-hand sword', 'Two-handed melee attack weapon low attack damage and high attack speed.'), (11, 'two-handed staff', 'Two-handed staff weapon with high spell damage and low attack speed.'), (12, 'stick', 'One handed weapon equipped only by Warlocks, with wizardy damage modifier.'), (13, 'Wings', 'Wings are expensive piece of equipment, which boost DMG, DMG, Absorb Damage, and provide a nice increase in Movement Speed while wearing them.'), (14, 'consumable', 'Item that is only use-able a limited number of times (typically once) before being used, discarded or destroyed.'), (15, 'currency', 'System of value that makes the exchange of goods and services possible.');	
Insert statement 12	<pre>INSERT INTO `player` (`player_id`, `player_forename`, `player_surname`, `player_username`, `player_password`, `player_email`, `player_dob`) VALUES (1, 'Jody', 'Allan', 'jodyhighroller69', 'washingMachine404', 'jodygaming95@hotmail.com', '01.10.1995'), (2, 'Rusty', 'Kuntz', 'kam1995', 'SafariGun95', 'alternator1995@gmail.com', '05.11.1995'), (3, 'Fia', 'Reisek', 'fairyleft88', '013r4j8!', 'fiagaming@yahoo.com', '09.02.2001'), (4, 'Mo', 'Lester', 'supermanSouljaboy', 'canOpener!', 'fromthenorth91@outlook.com', '12.24.1992'), (5, 'Paige', 'Turner', 'Evovar', 'q1w2e3r4', 'crazydragon@abv.bg', '11.05.2002'), (6, 'Ben', 'Dover', 'Johnny666', 'comingforYou666', 'wickedJohnny@hotmail.com', '04.12.1993'), (7, 'Jackie', 'Chan', 'KungFuPanda', 'ChingChong123', 'nadsndaouidaoui@outlook.com', '29.11.2003'), (8, 'Jean-Claude', 'Van-Damme', 'Hiyaaaaaa', 'helicopterKick101', 'bloodsport69@yahoo.com', '03.08.1994'), (9, 'Steven', 'Spielberg', 'RK55', 'rTk123456', 'baseballking@gmail.com', '05.12.1995'), (10, 'Laz', 'Any', 'molly99', 'tryingTofindher99', 'lesterswagg@hotmail.com', '02.06.1999');</pre>	Appendix 13
Insert statement 13	<pre>INSERT INTO `quest` (`quest_id`, `quest_name`, `quest_description`, `region_id`, `difficulty_id`, `character_id`) VALUES (1, 'A New Beginning!', 'Press \"LMB\" to move 0/1\r\nTalk to [Shadow Elf] 0/1\r\n\r\nReward: 100exp, 100 gold', 1, 1, 1), (2, 'Spider Hunt!', 'Kill: Spider 0/10\r\n\r\nReward: 500exp, 120 gold', 2, 1, 2),</pre>	Appendix 14

	(3, 'Expanding Bussinneses.', 'Kill: Blood Assassin 0/20\r\nKill: Cruel Blood Assassin 0/10\r\nObtain: Absolute artifact 0/1\r\n\r\nReward: 1,900exp, 5,000 gold', 3, 2, 3), (4, 'Shadow of Evil!', 'Kill: Necron 0/10\r\nKill: Illusion of Kundun 0/10\r\n\r\nReward: 24,000exp, 10,0000 gold', 4, 2, 4), (5, 'Eliminate Boss Monsters.', 'Kill: Undine 0/10\r\nKill: Gnome 0/10\r\nKill: Hellraiser 0/10\r\n\r\nReward: 1,000,000exp, 1,000,000 gold, Brilliant Box (x1)\r\n', 5, 3, 5), (6, 'Surrender to Madness!', 'Kill: Incubus 0/1\r\nKill: Hellhound 0/10\r\nKill: Imp 0/25\r\n\r\nReward: 10,000,000exp, 10,000,000 gold, Apocalypse Box (x1)', 6, 3, 6), (7, 'The Legend of Asgard.', 'Kill: Ice Giants 0/7\r\nFind: [Messenger Of the Archangel] 0/1\r\n\r\nReward: 55,000,000exp, 100,000,000 gold, Fenrir Mount (x1)', 7, 4, 7), (8, 'Into the abyss!', 'Kill: Cyclopes 0/10\r\nObtain: Head of the Titan 0/1\r\n\r\nReward: 1,000,000,000exp, 150,000,000 gold, \'random\' Ancient Manticore item (x1)', 8, 4, 8), (9, 'Failed paradise.', 'Kill: Dryads 0/12\r\nKill: Nymph 0/5\r\nObtain: Spirits of nature 0/100\r\n\r\nReward: 10,000,000,000exp, 300,000,000 gold, \'random\' Ancient Frosty Blue-Eye item (x1)', 9, 4, 9), (10, 'Devil Square!', 'Find: [Priest James] 0/1\r\nEscort: [Priest James] 0/1\r\nKill: Lord Kundun 0/1\r\nKill: Beam Knight 0/100\r\nObtain: Absolute Divine Weapon of Archangel 0/1\r\n\r\nReward: 100,000,000,000exp, 100,000,000,000 gold, \'random\' Archangel Weapon Item (x1)\r\n\r\n', 10, 5, 10);	
Insert statement 14	INSERT INTO `region` (`region_id`, `region_name`, `region_description`) VALUES (1, 'Moria', 'Moria is the native city of the Fairy kingdom. It is a huge woods located in the eastern-most part of the Zen Continent. Originally, Moria was once populated only by the Fairies, but after Satan\'s invasion on Zen, exchange between humans grew more frequent.'), (2, 'Atlantis', 'Atlantis was an ancient city built by the Ancient People, whom had developed very advanced systems inside of Ancient Relics. The Ancient People thrived off of natural resources, and therefore created this city for its abundant natural resources. '), (3, 'Shadow Lands', 'The Shadow Lands is formidable, cold place located in northern part of Zen. It was once an underground prison, but is now a den for Satan\'s Army! The fierce Gorgon awaits anyone who dares to challenge him.'), (4, 'Tower of Death', 'The Lost Tower is a huge tower which located in the Northern part MU! The Tower of Death was once a place of great achievement. It is where a great sorcerer was successful at opening a portal to Icarus with	Appendix 15

	powerful magic. Icarus is an ancient sky world which was thought to be only a mythical place.'). (5, 'Icarus', 'Icarus is an ancient sky world which was thought to be only a mythical place. You'll for sure need a pair of Wings, or a Cape, in order to access this place. Over-looking the Shadow Lands snow fields, this place holds host to the fierce Phoenix of Darkness.'). (6, 'Underworld', 'Hell, a dim realm where lost souls roam amid old ruins and dark caves, with whispers hanging in the air, telling stories of ancient sorrow.'). (7, 'Asgard', 'The celestial abode of gods and goddesses, gleaming with golden halls and tall towers, overlooking vast fields and snowy peaks.'). (8, 'Tartaros', 'A blazing land of eternal suffering, where the damned endure fiery pits and barren plains, haunted by shadows of remorse.'). (9, 'Arcadia', 'A serene and idyllic place, where nature flourishes in its purest form. Rolling meadows, tranquil rivers, and lush forests paint the landscape, offering a haven of peace and harmony. A place of respite, where weary travellers find solace amidst the beauty of untouched wilderness.'). (10, 'Midgard', 'An earthly realm, bustling with life in forests, mountains, and seas, where mortals thrive amidst the ever-changing rhythms of nature.');	
Insert statement 15	<pre>INSERT INTO `species` (`species_id`, `species_name`, `species_description`) VALUES</pre> (1, 'Orc', 'Orc is a fierce, brutish creature, they excel in close combat, often wielding crude weapons like swords, axes, or spears. With low intelligence but high aggression, they're relentless foes, driven by their thirst for blood and conquest.'). (2, 'Human', 'Humans are versatile and adaptable race, known for their ambition, resilience, and diversity. They are exceptionally smart and diverse, and can master everything from swordsmanship to magic. '), (3, 'Elf', 'Elves are a graceful and ancient race, renowned for their elegance, longevity, and connection to nature. They possess keen senses, agility, and a deep attunement to magic. '), (4, 'Dwarf', 'The Dwarves are strong and resistant to fire. They were harder than any other race, secretive, stubborn, and steadfast in enmity or loyalty. Highly skilled in the making of weapons and armour, their main weapon is the battle axe!'), (5, 'Dragonborn', 'The Dragonborn are an ancient race of humanoid dragonkin. They have the ability to wield the magic of all five primary elements as ritualists, and, like true dragons, shapeshift between a draconic form and a humanoid form.').	Appendix 14 Appendix 16

	(6, 'Undead', 'Abominations, calling themselves Forsaken, they struggle to thrive in a world that has come to despise their existence.'), (7, 'Troll', 'Mythical ugly creature that dwell in isolated rocks, mountains, or caves. '), (8, 'Werewolf', 'Lupine beasts known as werewolves, ready to unleash the beast within at a moment's notice'), (9, 'Demon', 'Dark, malicious species that revel in pain, chaos, and death. They engage in torture and destruction because it is fun or to avoid being tortured themselves.'), (10, 'Seraph', 'The burning ones, celestial heavenly beings serving as guardians.');	
Database	Backup & Recovery	Appendices
Backup database [caves_and_creatures]	GitHub Backup – Exporting Database – Exported .SQL file on desktop –	Appendix 17 Appendix 18 Appendix 19

Database Manipulation

Function	SQL	Appendices
Select statement	select * FROM alignment;	Appendix 36
Select statement	SELECT item_name FROM item;	Appendix 37
Select statement	SELECT * FROM `character` WHERE alignment_id <> 1;	Appendix 38
Select statement	SELECT item.* FROM item LEFT JOIN inventory ON item.item_id = inventory.item_id WHERE inventory.item_id IS NULL;	Appendix 39
Select statement	SELECT `item_rarity_id` FROM item RIGHT JOIN inventory ON item.item_rarity_id = inventory.item_id;	Appendix 40
Like statement	SELECT * FROM `character` WHERE character_name LIKE 'g%';	Appendix 41
Like statement	SELECT * FROM `character` WHERE character_type_id LIKE '_';	Appendix 42
Like statement	SELECT * FROM `character` WHERE character_name LIKE 's%' OR class_id LIKE '_0';	Appendix 43
Like statement	SELECT* FROM item_type WHERE item_type_name LIKE '%hand%';	Appendix 44
Like statement	SELECT * FROM player WHERE player_email LIKE '%hotmail.com' AND player_dob LIKE '%1____';	Appendix 45
Join statement (minimum of 2)		
Statistic functions (Minimum of 3)		

Insert statement (Minimum of 3)		
Update statement (Minimum of 3)		
Delete statement (Minimum of 3)		

References

geeksforgeeks (2023) *ACID Properties in DBMS*. Available at: <https://www.geeksforgeeks.org/acid-properties-in-dbms/> (Accessed on 23rd of April 2024).

Aleksic, M (2020) *ACID vs. BASE: Comparison of Database Transaction Models*. Available at: <https://phoenixnap.com/kb/acid-vs-base> (Accessed on 23rd of April 2024).

essentialsql (2021) *SQL ACID Database Properties Explained*. Available at: <https://www.essentialsql.com/sql-acid-database-properties-explained/> (Accessed on 23rd of April 2024).

keboola (2021) *What are the ACID properties of transactions and why do they matter in data engineering?* Available at: <https://www.keboola.com/blog/acid-transactions> (Accessed on 23rd of April 2024).

Appendices

Appendix 1

Server: 127.0.0.1

Databases SQL Status User accounts Export Import Settings

Databases

Create database ?

caves_and_creatures latin1_swedish_ci Create

Database	Collation	Action
☐ caves_and_creatures	latin1_swedish_ci	Check privileges
☐ information_schema	utf8_general_ci	Check privileges
☐ mysql	latin1_swedish_ci	Check privileges
☐ performance_schema	utf8_general_ci	Check privileges
☐ phpmyadmin	utf8_bin	Check privileges
☐ test	latin1_swedish_ci	Check privileges

Total: 6

↑ ☐ Check all With selected: Drop

Appendix 2

Server: 127.0.0.1 > Database: caves_and_creatures > Table: alignment

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Name	Type	Length/Values	Default	Collation	Attributes	Null A_I	Comments
alignment_id Pick from Central Columns	INT	11	None			☐ ☒	
alignment_name Pick from Central Columns	VARCHAR	20	None	latin1_swedish_ci		☐ ☐	
alignment_descriptio Pick from Central Columns	VARCHAR	300	None	latin1_swedish_ci		☐ ☐	

Appendix 3

Server: 127.0.0.1 » Database: caves_and_creatures » Table: character

Column Type Function Null Value

character_id	int(11)			1
player_id	int(11)			1 - Jody
character_name	varchar(20)			yoloswaggt69
character_description	varchar(150)			BOOYAH! fr fr
character_type_id	int(20)			1 - player
class_id	int(20)			1 - Blade Master
species_id	int(20)			1 - Orc
alignment_id	int(20)			1 - Hostile
inventory_id	int(20)			1 - 8x8

Go

Column Type Function Null Value

character_id	int(11)			2
player_id	int(11)			2 - Rusty

Appendix 4

Server: 127.0.0.1 » Database: caves_and_creatures » Table: character_quest

Column Type Function Null Value

character_quest_id	int(12)			1
quest_id	int(200)			1 - A New Beginning!
character_id	int(20)			1 - yoloswaggt69

Go

Column Type Function Null Value

character_quest_id	int(12)			2
quest_id	int(200)			2 - Spider Hunt!
character_id	int(20)			2 - gangstaWizard

Go

Column Type Function Null Value

character_quest_id	int(12)			3
quest_id	int(200)			3 - Expanding Bussinesses.
character_id	int(20)			3 - gigachad23

Go

Column Type Function Null Value

character_quest_id	int(12)			4
--------------------	---------	--	--	---

Appendix 5

Server: 127.0.0.1 > Database: caves_and_creatures > Table: character_type

Column	Type	Function	Null	Value
character_type_id	int(11)			1
character_type_name	varchar(20)			player
character_type_description	varchar(150)			Player-controlled avatar which serve as the character that the player uses to engage with the game world.
character_type_playability	varchar(20)			playable

Go

Column	Type	Function	Null	Value
character_type_id	int(11)			2
character_type_name	varchar(20)			n_p_c
character_type_description	varchar(150)			System-controlled non-player character.

Appendix 6

Server: 127.0.0.1 > Database: caves_and_creatures > Table: class

Column	Type	Function	Null	Value
class_id	int(11)			1
class_name	varchar(20)			Blade Master
class_description	varchar(500)			Blade Masters equip themselves carefully for combat and engage their enemies head-on. They depend greatly on their equipment and physical skills.

Go

Column	Type	Function	Null	Value
class_id	int(11)			2
class_name	varchar(20)			Wizard
class_description	varchar(500)			The Wizards are masters of the magical arts. They use their knowledge to deal powerful magical attacks on enemies with staff type weapons. Their impressive understanding of magic gives them a huge array of spells to use while fighting their enemies!

Appendix 7

The screenshot shows a database management tool interface for a table named 'difficulty'. The table has three columns: 'difficulty_id' (int(11)), 'difficulty_name' (varchar(20)), and 'difficulty_description' (varchar(200)). The 'difficulty_id' column is highlighted, and its values are 1 and 2. The 'difficulty_name' column has values 'very easy' and 'easy'. The 'difficulty_description' column has values 'A breeze for beginners, offering a relaxed experience with minimal challenge.' and 'Accessible for most players, providing a comfortable level of challenge without overwhelming difficulty.'

Column	Type	Function	Null	Value
difficulty_id	int(11)			1
difficulty_name	varchar(20)			very easy
difficulty_description	varchar(200)			A breeze for beginners, offering a relaxed experience with minimal challenge.

Column	Type	Function	Null	Value
difficulty_id	int(11)			2
difficulty_name	varchar(20)			easy
difficulty_description	varchar(200)			Accessible for most players, providing a comfortable level of challenge without overwhelming difficulty.

Appendix 8

The screenshot shows a database management tool interface for a table named 'inventory'. The table has four columns: 'inventory_id' (int(11)), 'inventory_capacity' (varchar(100)), 'item_id' (int(11)), and 'item_count' (varchar(100)). The 'inventory_id' column is highlighted, and its values are 1 and 2. The 'inventory_capacity' column has a value '8x8'. The 'item_id' column has a value '1'. The 'item_count' column has a value '1'.

Column	Type	Function	Null	Value
inventory_id	int(11)			1
inventory_capacity	varchar(100)			8x8
item_id	int(11)			1
item_count	varchar(100)			1

Column	Type	Function	Null	Value
inventory_id	int(11)			2
inventory_capacity	varchar(100)			8x8

Appendix 9

Server: 127.0.0.1 > Database: caves_and_creatures > Table: inventory_item

Column Type Function Null Value

inventory_item_id	int(12)		1
inventory_id	int(11)		1 - 8x8
item_id	int(11)		1 - Short sword

Go

Column Type Function Null Value

inventory_item_id	int(12)		2
inventory_id	int(11)		2 - 8x8
item_id	int(11)		2 - Miracle Staff

Go

Column Type Function Null Value

inventory_item_id	int(12)		3
inventory_id	int(11)		3 - 8x8
item_id	int(11)		3 - Ancient Shield of Nzoth

Go

Column Type Function Null Value

inventory_item_id	int(12)		4
-------------------	---------	--	---

Appendix 10

Server: 127.0.0.1 > Database: caves_and_creatures > Table: item

Column Type Function Null Value

item_id	int(11)		1
item_name	varchar(30)		Short sword
item_description	varchar(300)		1-H ATK DMG: 1 ~ 6 ATK Speed: 20 Requirements: Strength: 21 Class: All Classes
item_type_id	int(11)		3 - one-hand staff
item_rarity_id	int(11)		1 - Normal

Go

Column Type Function Null Value

item_id	int(11)		2
item_name	varchar(30)		Miracle Staff
item_description	varchar(300)		1-H WIZ DMG Raise: +44% ATK Speed: +25 Requirements: Strength: 146 Agility: 0

Appendix 11

Column	Type	Function	Null	Value
item_rarity_id	int(11)		1	
item_rarity_name	varchar(20)		Normal	
item_rarity_description	varchar(500)			

The basic item grade, there is nothing unique about it.

Go

Appendix 12

Column	Type	Function	Null	Value
item_type_id	int(11)		1	
item_type_name	varchar(25)		2	one-hand axe
item_type_description	varchar(200)			

One-handed melee attack weapon with high attack damage and low attack speed.

Go

Appendix 13

Server: 127.0.0.1 > Database: caves_and_creatures > Table: player

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Column	Type	Function	Null	Value
player_id	int(11)			1
player_forename	varchar(20)			Jody
player_surname	varchar(20)			Allan
player_username	varchar(20)			jodyhighroller69
player_password	varchar(20)			washingMachine404
player_email	varchar(40)			jodygaming95@hotmail.com
player_dob	varchar(10)			01.10.1995

Go

Column	Type	Function	Null	Value
player_id	int(11)			2
player_forename	varchar(20)			Rusty
player_surname	varchar(20)			Kuntz
player_username	varchar(20)			kam1995
player_password	varchar(20)			SafariGun95
player_email	varchar(40)			alternator1995@gmail.com
player_dob	varchar(10)			05.11.1995

Appendix 14

Server: 127.0.0.1 > Database: caves_and_creatures > Table: quest

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Column	Type	Function	Null	Value
quest_id	int(11)			1
quest_name	varchar(30)			A New Beginning!
quest_description	varchar(250)			Press "LMB" to move 0/1 Talk to [Shadow Elf] 0/1 Reward: 100exp, 100 gold
region_id	int(11)			1 - Moria
difficulty_id	int(11)			1 - very easy
character_id	int(11)			1

Go

Column	Type	Function	Null	Value
quest_id	int(11)			2
quest_name	varchar(30)			Spider Hunt!
quest_description	varchar(250)			Kill: Spider 0/10 Reward: 500exp, 120 gold

Appendix 15

Server: 127.0.0.1 » Database: caves_and_creatures » Table: region

Column	Type	Function	Null	Value
region_id	int(11)			1
region_name	varchar(20)			Moria
region_description	varchar(450)			Moria is the native city of the Fairy kingdom. It is a huge woods located in the eastern-most part of the Zen Continent. Originally, Moria was once populated only by the Fairies, but after Satan's invasion on Zen, exchange between humans grew more frequent.

Go

Column	Type	Function	Null	Value
region_id	int(11)			2
region_name	varchar(20)			Atlantis
region_description	varchar(450)			Atlantis was an ancient city built by the Ancient People, whom had developed very advanced systems inside of Ancient Relics. The Ancient People thrived off of natural resources, and therefore created this city for its abundant natural resources.

Go

Appendix 16

Server: 127.0.0.1 » Database: caves_and_creatures » Table: species

Column	Type	Function	Null	Value
species_id	int(11)			1
species_name	varchar(20)			Orc
species_description	varchar(300)			Orc is a fierce, brutish creature, they excel in close combat, often wielding crude weapons like swords, axes, or spears. With low intelligence but high aggression, they're relentless foes, driven by their thirst for blood and conquest.

Go

Column	Type	Function	Null	Value
species_id	int(11)			2
species_name	varchar(20)			Human
species_description	varchar(300)			Humans are versatile and adaptable race, known for their ambition, resilience, and diversity. They are exceptionally smart and diverse, and can master everything from swordsmanship to magic.

Go

Appendix 17

-caves_and_creatures-database

Private

Unwatch1

main

1 Branch

0 Tags

Go to file

Add file

Code

TOMAZO77

Add files via upload

ab85112 · 4 minutes ago

8 Commits

caves and creatures3.sql	Add files via upload	2 weeks ago
caves_and_creatures (1).sql	Add files via upload	2 months ago
caves_and_creatures 6.sql	Add files via upload	last week
caves_and_creatures 7.sql	Add files via upload	last week
caves_and_creatures 8.sql	Add files via upload	last week
caves_and_creatures 9.sql	Add files via upload	4 minutes ago
caves_and_creatures2.sql	Add files via upload	2 weeks ago
caves_and_creatures5).sql	Add files via upload	last week

Appendix 18

phpMyAdmin

Recent Favorites

New

caves_and_creatures

New

alignment

character

character_quest

character_type

class

difficulty

inventory

inventory_item

item

item_rarity

item_type

player

quest

region

species

information_schema

mysql

performance_schema

phpmyadmin

test

Structure

SQL

Search

Query

Export

Import

Operations

Privileges

Routines

Events

Triggers

Tracking

Designer

Central columns

Exporting tables from "caves_and_creatures" database

Export templates:

New template:

CavesAndCreatures_backup

Create

Existing templates:

Template: - Select a template -

Update

Delete

Export method:

☒ Quick - display only the minimal options

☐ Custom - display all possible options

Format:

SQL

Go

Appendix 19

A dark blue folder icon with a white document symbol. Below the icon, the text 'caves_and_...' is visible, followed by the number '10'.

27 | Page

Appendix 20

Server: 127.0.0.1 » Database: caves_and_creatures » Table: alignment

Name	Type	Length/Values	Default	Collation	Attributes	Null A_I	Comments
alignment_id	INT	11	None			☐ ☒	
alignment_name	VARCHAR	20	None	latin1_swedish_ci		☐ ☐	
alignment_descriptio	VARCHAR	300	None	latin1_swedish_ci		☐ ☐	

Appendix 21

Server: 127.0.0.1 » Database: caves_and_creatures » Table: character

Name	Type	Length/Values	Default	Collation	Attributes	Null A_I	Comments
character_id	INT	11	None			☐ ☒	
player_id	INT	11	None			☐ ☐	
character_name	VARCHAR	20	None	latin1_swedish_ci		☐ ☐	
character_descriptior	VARCHAR	150	None	latin1_swedish_ci		☐ ☐	
character_type_id	INT	20	None			☐ ☐	
class_id	INT	20	None			☐ ☐	
species_id	INT	20	None			☐ ☐	
alignment_id	INT	20	None			☐ ☐	
inventory_id	INT	20	None			☐ ☐	

Appendix 22

Server: 127.0.0.1 » Database: caves_and_creatures » Table: character_quest

Name	Type	Length/Values	Default	Collation	Attributes	Null A_I	Comments
character_quest_id	INT	12	None			☐ ☒	
quest_id	INT	200	None			☐ ☐	
character_id	INT	20	None			☐ ☐	

Appendix 23

Server: 127.0.0.1 » Database: caves_and_creatures » Table: character_type

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Name	Type	Length/Values	Default	Collation	Attributes	Null A_I	Comments
character_type_id Pick from Central Columns	INT	11	None			☐ ☒	
character_type_nam Pick from Central Columns	VARCHAR	20	None	latin1_swedish_ci		☐ ☐	
character_type_desc Pick from Central Columns	VARCHAR	150	None	latin1_swedish_ci		☐ ☐	
character_type_playi Pick from Central Columns	VARCHAR	20	None	latin1_swedish_ci		☐ ☐	

Appendix 24

Server: 127.0.0.1 » Database: caves_and_creatures » Table: class

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Name	Type	Length/Values	Default	Collation	Attributes	Null A_I	Comments
class_id Pick from Central Columns	INT	11	None			☐ ☒	
class_name Pick from Central Columns	VARCHAR	20	None	latin1_swedish_ci		☐ ☐	
class_description Pick from Central Columns	VARCHAR	500	None	latin1_swedish_ci		☐ ☐	

Appendix 25

Server: 127.0.0.1 » Database: caves_and_creatures » Table: difficulty

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Name	Type	Length/Values	Default	Collation	Attributes	Null A_I	Comments
difficulty_id Pick from Central Columns	INT	11	None			☐ ☒	
difficulty_name Pick from Central Columns	VARCHAR	20	None	latin1_swedish_ci		☐ ☐	
difficulty_description Pick from Central Columns	VARCHAR	200	None	latin1_swedish_ci		☐ ☐	

Appendix 26

Server: 127.0.0.1 » Database: caves_and_creatures » Table: inventory

Name	Type	Length/Values	Default	Collation	Attributes	Null A_I	Comments
inventory_id	INT	11	None			☐ ☒	
inventory_capacity	VARCHAR	100	None	latin1_swedish_ci		☐ ☐	
item_id	INT	11	None			☐ ☐	
item_count	VARCHAR	100	None	latin1_swedish_ci		☐ ☐	

Appendix 27

Server: 127.0.0.1 » Database: caves_and_creatures » Table: inventory_item

Name	Type	Length/Values	Default	Collation	Attributes	Null A_I	Comments
inventory_item_id	INT	12	None			☐ ☒	
inventory_id	INT	11	None			☐ ☐	
item_id	INT	11	None			☐ ☐	

Appendix 28

Server: 127.0.0.1 » Database: caves_and_creatures » Table: item

Name	Type	Length/Values	Default	Collation	Attributes	Null A_I	Comments
item_id	INT	11	None			☐ ☒	
item_name	VARCHAR	30	None	latin1_swedish_ci		☐ ☐	
item_description	VARCHAR	300	None	latin1_swedish_ci		☐ ☐	
item_type_id	INT	11	None			☐ ☐	
item_rarity_id	INT	11	None			☐ ☐	

Appendix 29

Server: 127.0.0.1 » Database: caves_and_creatures » Table: item_rarity

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Name	Type	Length/Values	Default	Collation	Attributes	Null	A_I	Comments
item_rarity_id	INT	11	None			☐	☒	
Pick from Central Columns								
item_rarity_name	VARCHAR	20	None	latin1_swedish_ci		☐	☐	
Pick from Central Columns								
item_rarity_descriptic	VARCHAR	500	None	latin1_swedish_ci		☐	☐	
Pick from Central Columns								

Appendix 30

Server: 127.0.0.1 » Database: caves_and_creatures » Table: item_type

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Name	Type	Length/Values	Default	Collation	Attributes	Null	A_I	Comments
item_type_id	INT	11	None			☐	☒	
Pick from Central Columns								
item_type_name	VARCHAR	25	None	latin1_swedish_ci		☐	☐	
Pick from Central Columns								
item_type_descriptio	VARCHAR	200	None	latin1_swedish_ci		☐	☐	
Pick from Central Columns								

Appendix 31

Server: 127.0.0.1 » Database: caves_and_creatures » Table: player

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Name	Type	Length/Values	Default	Collation	Attributes	Null	A_I	Comments
player_id	INT	11	None			☐	☒	
Pick from Central Columns								
player_forename	VARCHAR	20	None	latin1_swedish_ci		☐	☐	
Pick from Central Columns								
player_surname	VARCHAR	20	None	latin1_swedish_ci		☐	☐	
Pick from Central Columns								
player_username	VARCHAR	20	None	latin1_swedish_ci		☐	☐	
Pick from Central Columns								
player_password	VARCHAR	20	None	latin1_swedish_ci		☐	☐	
Pick from Central Columns								
player_email	VARCHAR	40	None	latin1_swedish_ci		☐	☐	
Pick from Central Columns								
player_dob	VARCHAR	10	None	latin1_swedish_ci		☐	☐	
Pick from Central Columns								

Appendix 32

Server: 127.0.0.1 » Database: caves_and_creatures » Table: quest

Name	Type	Length/Values	Default	Collation	Attributes	Null	A_I	Comments
quest_id	INT	11	None			☐	☒	
quest_name	VARCHAR	30	None	latin1_swedish_ci		☐	☐	
quest_description	VARCHAR	250	None	latin1_swedish_ci		☐	☐	
region_id	INT	11	None			☐	☐	
difficulty_id	INT	11	None			☐	☐	
character_id	INT	11	None			☐	☐	

Appendix 33

Server: 127.0.0.1 » Database: caves_and_creatures » Table: region

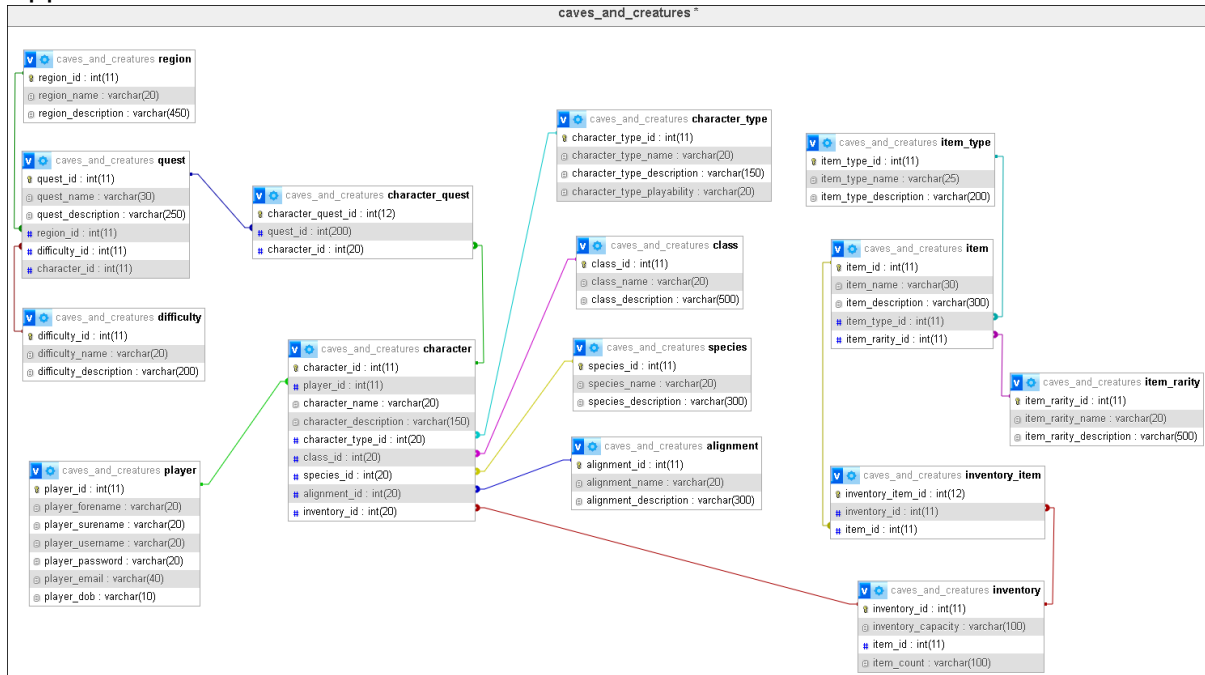
Name	Type	Length/Values	Default	Collation	Attributes	Null	A_I	Comments
region_id	INT	11	None			☐	☒	
region_name	VARCHAR	20	None	latin1_swedish_ci		☐	☐	
region_description	VARCHAR	450	None	latin1_swedish_ci		☐	☐	

Appendix 34

Server: 127.0.0.1 » Database: caves_and_creatures » Table: species

Name	Type	Length/Values	Default	Collation	Attributes	Null	A_I	Comments
species_id	INT	11	None			☐	☒	
species_name	VARCHAR	20	None	latin1_swedish_ci		☐	☐	
species_description	VARCHAR	300	None	latin1_swedish_ci		☐	☐	

Appendix 35



Appendix 36

Screenshot of the phpMyAdmin interface showing the **alignment** table in the **caves_and_creatures** database.

The table structure is as follows:

alignment_id	alignment_name	alignment_description
1	Hostile	Tends to act aggressively or antagonistically towa...
2	Neutral	Don't actively seek conflict, and prioritize maint...
3	Kind	Guided by strong sense of morality and compassion,...
4	Evil	Manipulate, exploit, and destroy with little regar...
5	Passive	Embodiment of peace and harmony. Preferring negoti...
6	Psychopath	Unpredictable and unhinged, thriving in chaos and...
7	Tribal	Aligned with the tribal path of honour, the tradit...
8	Extremist	Fanatical and uncompromising, driven by a singular...
9	Shy	They avoid the spotlight, navigating the world wit...
10	Comic	Bring laughter and levity to even the darkest of s...

The interface includes a sidebar with a tree view of the database structure, a top navigation bar with options like Browse, Structure, SQL, Search, Insert, Export, Import, Privileges, Operations, and Track. The main area displays the table data and provides options for editing, deleting, and exporting rows.

Appendix 37

Server: 127.0.0.1 > Database: caves_and_creatures > Table: item

Showing rows 0 - 15 (16 total, Query took 0.0002 seconds.)

```
SELECT item_name FROM item;
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

	item_name
☐ Edit Copy Delete	Short sword
☐ Edit Copy Delete	Miracle Staff
☐ Edit Copy Delete	Ancient Shield of Nzoth
☐ Edit Copy Delete	Excellent Book of Samut
☐ Edit Copy Delete	Mastery Blue-Eye Stick
☐ Edit Copy Delete	Scythe of Balrog
☐ Edit Copy Delete	Asura
☐ Edit Copy Delete	Reigning Cloak
☐ Edit Copy Delete	Wings of Satan
☐ Edit Copy Delete	Wings of Heaven
☐ Edit Copy Delete	Wings of Carnage
☐ Edit Copy Delete	Mana Potion
☐ Edit Copy Delete	Apple
☐ Edit Copy Delete	Antidote
☐ Edit Copy Delete	Health Potion
☐ Edit Copy Delete	\$

Check all | With selected: Edit Copy Delete Export

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Appendix 38

Server: 127.0.0.1 > Database: caves_and_creatures > Table: character

Showing rows 0 - 9 (10 total, Query took 0.0005 seconds.)

```
SELECT * FROM 'character' WHERE alignment_id < 1;
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

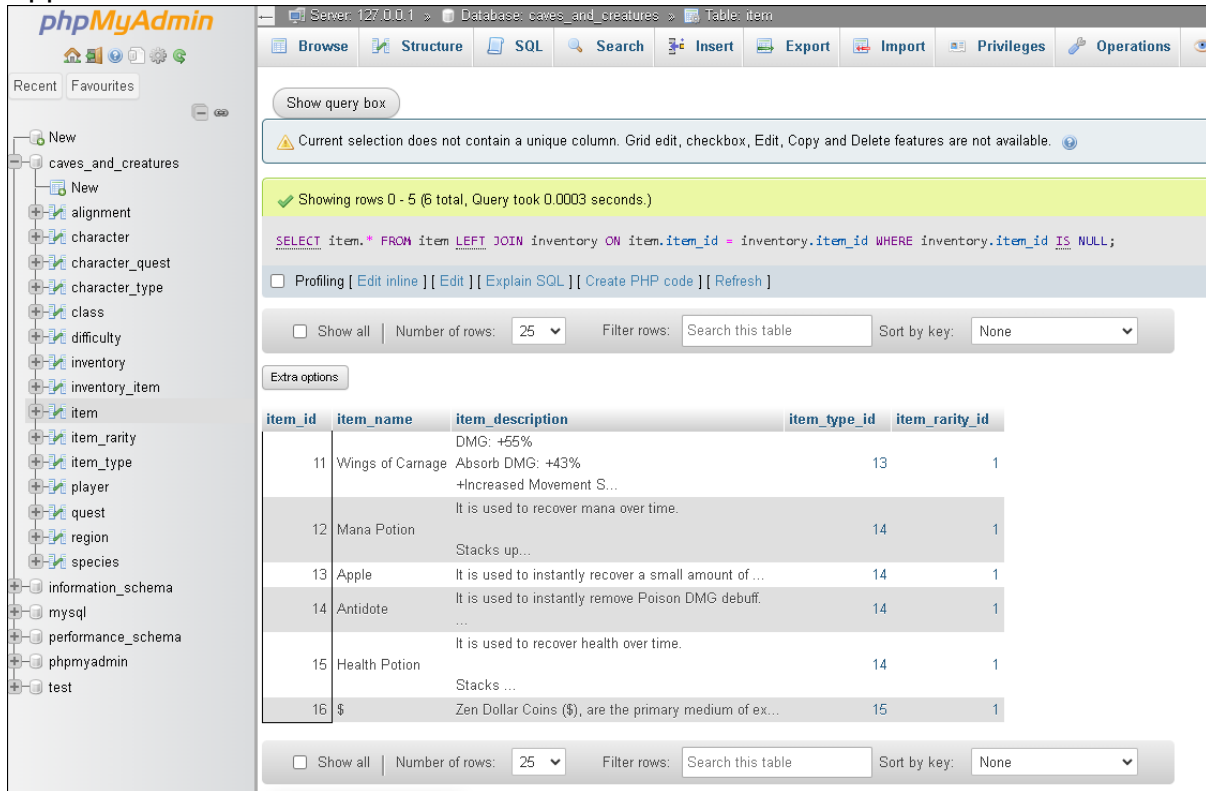
Extra options

	character_id	player_id	character_name	character_description	character_type_id	class_id	species_id	alignment_id	inventory_id
☐ Edit Copy Delete	2	2	gangstaWizard	dont mess with me	1	2	2	2	2
☐ Edit Copy Delete	3	3	gigachad23	im afk	1	3	3	3	3
☐ Edit Copy Delete	4	4	iloveMK	i just like to play MK	1	4	4	4	4
☐ Edit Copy Delete	5	5	MoogyBear	Im a bear	1	5	5	5	5
☐ Edit Copy Delete	6	6	gothikk	i dont like to talk much	1	6	6	6	6
☐ Edit Copy Delete	7	7	holypoggers	i go to church every Sunday	1	7	7	7	7
☐ Edit Copy Delete	8	8	Barbie	No, i don't play with dolls	1	8	8	8	8
☐ Edit Copy Delete	9	9	divineSwagg77	i love jesus. obviously br br	1	9	9	9	9
☐ Edit Copy Delete	10	10	Switty	I like shape-shifting, my Pronouns Are "He," Not "..."	1	10	10	10	10

Check all | With selected: Edit Copy Delete Export

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Appendix 39



Server: 127.0.0.1 > Database: caves_and_creatures > Table: item

Browse Structure SQL Search Insert Export Import Privileges Operations

Show query box

⚠ Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.

✓ Showing rows 0 - 5 (6 total, Query took 0.0003 seconds.)

```
SELECT item.* FROM item LEFT JOIN inventory ON item.item_id = inventory.item_id WHERE inventory.item_id IS NULL;
```

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

item_id	item_name	item_description	item_type_id	item_rarity_id
11	Wings of Carnage	DMG: +55% Absorb DMG: +43% +Increased Movement S...	13	1
12	Mana Potion	It is used to recover mana over time. Stacks up...	14	1
13	Apple	It is used to instantly recover a small amount of ...	14	1
14	Antidote	It is used to instantly remove Poison DMG debuff. ...	14	1
15	Health Potion	It is used to recover health over time. Stacks ...	14	1
16	\$	Zen Dollar Coins (\$), are the primary medium of ex...	15	1

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Appendix 40

phpMyAdmin

Server: 127.0.0.1 > Database: caves_and_creatures > Table: item

Browse Structure SQL Search Insert Export Import Privileges Operations

Show query box

Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.

Showing rows 0 - 19 (20 total, Query took 0.0004 seconds.)

```
SELECT `item_rarity_id` FROM item RIGHT JOIN inventory ON item.item_rarity_id = inventory.item_id;
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

item_rarity_id
1
1
1
1
1
1
1
1
1
1
1
1
2
2
3
NULL
5
NULL
NULL
8
NULL
10

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Appendix 41

phpMyAdmin

Server: 127.0.0.1 > Database: caves_and_creatures > Table: character

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Show query box

Showing rows 0 - 2 (3 total, Query took 0.0002 seconds.)

```
SELECT * FROM `character` WHERE character_name LIKE 'g%';
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

	character_id	player_id	character_name	character_description	character_type_id	class_id	species_id	alignment_id	inventory_id
☐ Edit ☐ Copy ☐ Delete	2	2	gangstaWizard	dont mess with me	1	2	2	2	2
☐ Edit ☐ Copy ☐ Delete	3	3	gigachad23	im afk	1	3	3	3	3
☐ Edit ☐ Copy ☐ Delete	6	6	gothikk	i dont like to talk much	1	6	6	6	6

☐ Check all | With selected: ☐ Edit ☐ Copy ☐ Delete ☐ Export

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Query results operations

☐ Print ☐ Copy to clipboard ☐ Export ☐ Display chart ☐ Create view

Appendix 42

phpMyAdmin

Recent Favourites

New

caves_and_creatures

New

alignment

character

character_quest

character_type

class

difficulty

inventory

inventory_item

item

item_rarity

item_type

player

quest

region

species

information_schema

mysql

performance_schema

phpmyadmin

test

Server: 127.0.0.1 > Database: caves_and_creatures > Table: character

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Show query box

Showing rows 0 - 9 (10 total, Query took 0.0002 seconds.)

```
SELECT * FROM `character` WHERE character_type_id LIKE '1';
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

	character_id	player_id	character_name	character_description	character_type_id	class_id	species_id	alignment_id	inventory_id	
☐	Edit	Copy	Delete	1	1	yoloswagg69	BOOYAH! fr fr	1	1	1
☐	Edit	Copy	Delete	2	1	gangstaWizard	dont mess with me	2	2	2
☐	Edit	Copy	Delete	3	1	gigachad23	im afk	3	3	3
☐	Edit	Copy	Delete	4	1	iloveMK	i just like to play MK	4	4	4
☐	Edit	Copy	Delete	5	1	MoogyBear	im a bear	5	5	5
☐	Edit	Copy	Delete	6	1	gothikk	i dont like to talk much	6	6	6
☐	Edit	Copy	Delete	7	1	holyPoggers	i go to church every Sunday.	7	7	7
☐	Edit	Copy	Delete	8	1	Barbie	No, i don't play with dolls	8	8	8
☐	Edit	Copy	Delete	9	1	divineSwagg77	i love jesus. obviously	9	9	9
☐	Edit	Copy	Delete	10	1	Swifty	I like shape-shifting, my Pronouns Are "He," Not "...	10	10	10

Check all | With selected: [Edit](#) [Copy](#) [Delete](#) [Export](#)

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Appendix 43

phpMyAdmin

Recent Favourites

New

caves_and_creatures

New

alignment

character

character_quest

character_type

class

difficulty

inventory

inventory_item

item

item_rarity

item_type

player

quest

region

species

information_schema

mysql

performance_schema

phpmyadmin

test

Server: 127.0.0.1 > Database: caves_and_creatures > Table: character

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Show query box

Showing rows 0 - 0 (1 total, Query took 0.0002 seconds.)

```
SELECT * FROM `character` WHERE character_name LIKE '%*' OR class_id LIKE '0';
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table

Extra options

	character_id	player_id	character_name	character_description	character_type_id	class_id	species_id	alignment_id	inventory_id	
☐	Edit	Copy	Delete	10	10	Swifty	I like shape-shifting, my Pronouns Are "He," Not "...	1	10	10

Check all | With selected: [Edit](#) [Copy](#) [Delete](#) [Export](#)

Show all | Number of rows: 25 | Filter rows: Search this table

Appendix 44

phpMyAdmin

Recent Favourites

New

caves_and_creatures

New

alignment

character

character_quest

character_type

class

difficulty

inventory

inventory_item

item

item_rarity

item_type

player

quest

region

species

information_schema

mysql

performance_schema

phpmyadmin

test

Server: 127.0.0.1 > Database: caves_and_creatures > Table: item_type

Browse Structure SQL Search Insert Export Import Privileges Operations

Show query box

Showing rows 0 - 5 (6 total, Query took 0.0002 seconds.)

```
SELECT * FROM `item_type` WHERE item_type_name LIKE '%hand%';
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

	item_type_id	item_type_name	item_type_description			
☐	Edit	Copy	Delete	1	one-hand axe	One-handed melee attack weapon with high attack da...
☐	Edit	Copy	Delete	2	one-hand sword	One-handed melee attack weapon with low attack dam...
☐	Edit	Copy	Delete	3	one-hand staff	One-handed staff weapon with low spell damage and ...
☐	Edit	Copy	Delete	9	two-hand axe	Two-handed melee attack weapon with high attack da...
☐	Edit	Copy	Delete	10	two-hand sword	Two-handed melee attack weapon low attack damage a...
☐	Edit	Copy	Delete	11	two-hand staff	Two-handed staff weapon with high spell damage and...

Check all | With selected: [Edit](#) [Copy](#) [Delete](#) [Export](#)

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Query results operations

Appendix 45

The screenshot shows the phpMyAdmin interface for a MySQL database named 'caves_and_creatures'. The 'player' table is selected, and a query has been executed: `SELECT * FROM player WHERE player_email LIKE '%hotmail.com' AND player_dob LIKE '%1___';`. The query returned 3 rows. The interface includes a sidebar with a database structure tree, a top navigation bar with tabs like 'Browse', 'Structure', 'SQL', 'Search', 'Insert', 'Export', 'Import', 'Privileges', 'Operations', 'Tracking', and 'Triggers'. Below the query box, there are controls for showing rows, filtering, and sorting. The 'Extra options' section shows the table data with columns: player_id, player_forename, player_surname, player_username, player_password, player_email, and player_dob. The 'Query results operations' section at the bottom provides options to print, copy to clipboard, export, display chart, or create a view.

	player_id	player_forename	player_surname	player_username	player_password	player_email	player_dob
☐	1	Jody	Allan	jodyhighroller69	washingMachine404	jodygaming95@hotmail.com	01.10.1995
☐	6	Ben	Dover	Johnny666	comingforYou666	wickedJohnny@hotmail.com	04.12.1993
☐	10	Laz	Anya	molly99	tryingTofindher99	lesterswagg@hotmail.com	02.06.1999