DAT 602 – Assessment 1

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## Proposal:

### Game Description

Game Name: The Curse of The Lost Isle

This will be a multi-player adventure game, requiring at least two players, max of four players to explore a mysterious island to fight enemies and collect treasures. The game will have the players independently move their own characters on the tiles, to find artifacts or weapons to fight enemies. When both the players reach the end, they must defeat the boss that guard the cursed artifact and return to a secret room which needs that artifact. Winning the game. The players lose the game if all players are at 0 health, or if the run out of time to defeat the boss, which will restart the game to their current save point.

### Log in

When the users open the application, they will be presented with a log in screen, it will have textboxes for the username and password of the user. The player must log in first. Once the player is logged in, they will be sent to the game lobby, the user can log out once successfully logged in. The user only has 5 attempts to log in, otherwise their account will be locked. If their username is not found inside of the database, the user will have to register to create an account. When registering, it will require an email address, username and a password for the account. Once successful, they can use that account in the game.

### Game Lobby

When the player is logged in the game. It will show a game lobby, which show the player’s account and who is online that are logged in. The players can log out of the lobby or create a new game. Before they begin the game, the players choose their archetype e.g. warrior, mage, archer. Once the players choose their archetype. They can press the start game button to play the game.

### Game Play

When the players start the game, it starts off with a 10x10 tile grid which the players can move around independently. The players can move around the island which they can find chests and encounter enemies which they can fight. As the players navigates the island, they will find better weapons and encounter more difficult enemies while also trying to collect artifacts scattered around which unlocks passages and doorways to find hidden areas.

The objective of the game is to find the cursed artifact and destroys it and removes the curse from the island. But this artifact is guarded by an ancient golem which has been in slumber, protecting it from adventurers who break the islands curse.

### How to Score

The score is calculated based on the player getting kills and healing players. For killing enemies, the player gets a certain amount of point depending on the type of enemy. Slimes give the player 50 points, Zombies give the player 80 point and Ghouls give the player 110 points. For Healing a Player. It gives the player who healed another player 70 points. At the end of the game, all the points are counted and save as the players score. The highest score of the player will override their old score, but if they do not surpass their highscore, then their old highscore stays the same. However, if all players died. All the accumulated points will reset, and will have to start again.

### The Administrators

For the administrator role, a certain admin can be given administrator privileges to players who are trusted. Giving that player controls which have controls no other player has, The administrator of the game can kill games that are running, they can create new users, update an existing user, deleting an existing user. With locked accounts, the player must contact the administrator, this will then let the administrator know and can unlock that players account, it the player has been acting bad e.g bad language through chat. The administrator can also lock the account.

## Breaking down the elements of the game

### Player Movements

The player movement of the players will be using will be the following:

|  |  |
| --- | --- |
| Movements | Player Controls |
| Up | W |
| Down | S |
| Left | A |
| Right | D |
| Attack | E |
| Interact | F |

The players can move around the tiles using these controls. Since the grid is a 10x10, it will not render the whole game, in this case the players will have to move to the same location in order to load the other parts of the island to the players.

For example, if the players want to load the screen above, both players must move up to the top of the screen, which will load the new screen as they show up below the screen with the new parts may have some chests or enemies waiting. The same goes if they go down, left or right. As long as it is a valid location for the players to go, if they move in direction and it will not let them, there will either be a wall or an area they cannot access yet.

### Chest

In the game, there will be many chests around the island for treasure for the players to collect.

The chest will have different items such as:

* A weapon
* An artifact, depending on the artifacts as each has a different use
* Health Potions

These different items have their purpose, weapons help defeat enemies faster by dealing more damage, artifacts open different paths to the island, keys help unlock doors.

### Weapons

For the weapons in the chest, once the player opens it, the weapon inside will depend what archetype they are. For example, if the player is a warrior, they will pick up the sword, if the player is a mage, they will pick up a staff, if the player is an archer, they will pick up a bow.

Warrior - This archetype relies on their swordsmanship, so their weapons in the game is a sword. In the chests there are three different swords for the warrior to collect, each sword dealing more damage.

The player starts off with a stick, dealing one damage

|  |  |
| --- | --- |
| Stick | * 1 Damage |
| Wooden Sword | * 3 Damage |
| Iron Sword | * 9 Damage |
| Titanium Sword | * 13 Damage |

Mage – This archetype relies on their spellcasting but require a tool to hone to it full potential, so their weapon in the game is a staff. In the chests there are three different staffs that help the mage, each staff dealing more damage.

The player starts off with a magic wand dealing two damage

|  |  |
| --- | --- |
| Magic Wand | * 2 Damage |
| Topaz Staff | * 4 Damage |
| Emerald Staff | * 8 Damage |
| Diamond Staff | * 12 Damage |

Archer – This archetype relies on the skills on the bow, so their weapon in the game is a bow. In the chests there are three different bows for the archer to collect, each bow dealing more damage.

The player starts off with slingshot, dealing two damage

|  |  |
| --- | --- |
| Slingshot | * 2 Damage |
| Wooden Bow | * 4 Damage |
| Platinum Bow | * 7 Damage |
| Golden Bow | * 11 Damage |

### Artifacts

In this game, there are artifacts which is used to open new locations for the players to progress in the game. There will be three artifacts to gather.

* Crystal Heart
* Ancient Stone Tablet
* Shadow Crystal

In this game, there is only one of each artifact, these artifacts have a certain purpose in the game

* Crystal Heart opens the entrance to the underground cave.
* Ancient Stone Tablet opens the entrance to the room where the final artifact is located.
* Shadow Crystal is the cursed artifact which curse the island, it is part of the ancient stone golem. Destroying this artifact will set the island free from its curse.

### Health Potion

The health potion recovers 20 health points when used by a player. They can also use a health potion to a fallen player with 0 health points. A player can have more than one health point in their inventory, Maximum of 3 in the inventory.

### Level Up System

In the game, the players will have a small amount of health (10). As the game progresses the player must level up. To do so, the player must kill enemies to level up. Certain number of kills is what allows the player to level up.

|  |  |  |
| --- | --- | --- |
| Kills | Level | Health Points |
| 0 | 1 | 10 |
| 10 | 2 | 15 |
| 20 | 3 | 20 |
| 30 | 4 | 30 |
| 40 | 5 | 40 |

### Enemies

There will be different enemies in this game:

|  |  |  |
| --- | --- | --- |
| Enemy | HP | Damage |
| Slimes | 15 | 2 |
| Zombies | 25 | 5 |
| Ghouls | 30 | 7 |

Slimes will spawn in the early game, they are the weakest enemies for the players. Good enemy for the starting levels of the game.

Zombies will spawn in the same area as the slimes only if one of the players are at level 3. This will give the players some challenge

Ghouls can only spawn in the underground cave, they are the strongest enemy in the game.

### Boss

There is only one boss in the game:

|  |  |  |
| --- | --- | --- |
| Boss | HP | Damage |
| Ancient Golem | 200 | 15 |

This boss guards the Shadow Crystal artifact which is the curse that shroud the island. It is stronger than any enemy as it is powered by the same crystal. it sole mission is to protect the artifact. It has been in slumber for many years. However, if they do not defeat the boss in time, the room will have lava seep in the room and the players lose health quickly losing the boss fight.

### Win condition

The win condition of the game is to destroy the Shadow Crystal which is guarded by an ancient stone golem. Once they defeat the stone golem. The golem will drop the artifact, when the player finds the artifact. It is destroyed. Winning the game.

### Loss condition

The loss condition of the game is if all players reach 0 health, or if all players are unable to defeat the last boss in time. Which they would have to restart the from their previous save.

## Storyboards

|  |
| --- |
| Storyboard - Main Screen |
| 1.1  1.2 |
| * 1. – A button to start the login process. (move to log in storyboard)   1.2 – A button to start the register process, if the user does not have and account in the game. (move to register storyboard) |
| Storyboard – Log in Screen |
| 2.4  2.3  2.2  2.1 |
| 2.1 – The back button, used to go back to the main screen (move to main screen)  2.2 – The textbox for entering the user’s username  2.3 – The textbox for entering the user’s password  2.4 – The login button, if the username and password match in the database (move to game lobby) if the user |
| 2.5 |
| 2.5 – A message showing that the user has entered the wrong password, has a maximum of 5 attempts, only 4 attempts remaining. |
| 2.7  2.6 |
| 2.6 – A message showing that the account is locked, this only shows if the users has used all 5 attempts in entering the password.  2.7 – A button to contact the adminstrator to unlock the users account. Only shows when the account has gotten locked |
| Storyboard – Register Account Popup |
| 3.3  3.2  3.1 |
| 3.1 – A pop-up alerting the user that this is not a vaild username, meaning it is not it the database, it is asking the user if they would like to register using the name they entered.  3.2 – A button with ‘yes’ when clicked, removes popup. (move to register screen)  3.3 – A button with ‘no’ when clicked, removes popup. (stay in log in screen) |
| Storyboard – Register |
| 4.5  4.4  4.3  4.2  4.1 |
| 4.1 – The back button, used to return to the main screen (move to main screen)  4.2 – The textbox for entering a new email address  4.3 – The textbox for entering a new username  4.4 – The textbox for entering a new password  4.5 – A button for registering a new account (move to game lobby) |
| 4.6 |
| 4.6 – A message showing the user that the email address in already in the database and will have to try again. |
| Storyboard – Game Lobby Screen |
| 5.5  5.6  5.4  5.3  5.2  5.1 |
| 5.1 – A button to log out the user. (move to main screen)  5.2 – A button for admin console, it only shows for the admin user. It will not show for a regular user. (move to admin console)  5.3 – A box which show which players are currently online. It will display their name and their score.  5.4 – A box which show the current games that are being played  5.5 – A button which lets the user create a new game (move to player lobby)  5.6 – A button which lets the user join a current game (move to game) |
| Storyboard – Player Lobby Screen |
| 6.6  6.7  6.1  6.5  6.4  6.3  6.2 |
| 6.1 – A button to log the user out (move to main screen)  6.2 – A box showing the players in the player lobby  6.3 – A box showing the chat logs, with the names of the user and the message they sent  6.4 – The textbox that the user types their message in to communicate in the chat.  6.5 – A button to send the message to the chat log.  6.6 – A button to start the game, it only works once there are 2 or more players in the lobby (move to archetype selection)  6.7 – A button to leave the player lobby the user is currently in (move to log out popup) |
| Storyboard – Log out Popup |
| 7.1  7.3  7.2 |
| 7.1 – A pop-up alerting the user if they want to log out.  7.2 – A button ‘yes’ when clicked, removes popup, logs the user out. (move to main screen)  7.3 – A button ‘no’ when clicked, removes popup, ignores log out. |
| Storyboard – Leave Lobby Popup |
| 8.3  8.2  8.1 |
| 8.1 – A popup alerting the user if they want to leave to player lobby.  8.2 – A button ‘yes’ when clicked, removes popup, leaves the player lobby. (move to game lobby)  8.3 A button ‘no’ when clicked, removes popup, ignore leaving the lobby. |
| Storyboard – Archetype Selection Screen |
| 9.3  9.4  9.2  9.1 |
| 9.1 – A button that selects the mage archetype.  9.2 – A button that selects the archer archetype.  9.3 – A button that selects the warrior archetype.  (Note: the selected archetype will have the button show a different colour to show the user that they have chosen)  9.4 – A button that starts the game, it only works if the user has selected their archetype. (move to game) |
| Storyboard – Game Screen |
| 10.11  10.5  10.4  10.3  10.2 |
| 10.1 – A button to leave the current game. (move to leave game popup)  10.2 – A label which displays the current status of the player.  10.3 – A label of each players names and stats such as level, kills, health, and current weapon used.  10.4 – A label of the players inventory  10.5 – The game which is a table grid and is a 10 x 10 which the players can move around independently. |
| Storyboard – Leave Game Popup |
| 11.1  11.3  11.2 |
| 11.1 – A popup alerting the user if the would like to leave the game.  11.2 – A button ‘yes’ when clicked, removes popup, leaves the current game (move to game lobby)  11.3 – A button ‘no’ when clicked, removes popup , stays in the game.  (Note: Players who leave the game, has their information saved. E.g their inventory stays the same having all of their items. Their position on the board stays the same, unless another object is occupying that spot, they will be moved to the spot that is next to their saved spot.) |
| Storyboard – Opening Chest |
| 12.1  12.2 |
| 12.1 – The status message shows the user has opened the chest.  12.2 – A table showing the contents inside of the chest, the user must click on the item inside the chest to move it into their inventory. |
| Storyboard – Player Death |
| 13.2  13.1 |
| Screen 1  13.1 – The status message showing the user has died in the game.  13.2 – The player showing an ‘X’ showing the player that they had died in the game |
| 13.4  13.3 |
| Screen 2  13.3 – The status message showing other users that one player has died in the game, this will be similar to other users who are not players.  13.4 – The other players will also see the ‘X’ on the player, showing they have died |
| Storyboard – Player Revival |
| 14.2  14.1 |
| Screen 1  14.1 – The status message saying ‘Bob healed you!’, The name will be different depending on who has healed the player.  14.2 – The player model does not have the ‘X’, meaning that the player has fully recoverd and can continue with playing the game. |
| 14.4  14.3 |
| Screen 2  14.3 – The status message is showing that the Bob has healed a player, this works for all other players, if they have healed another player,  14.4 – The health potion in the inventory gets removed when the player revives another player who has died in the game. |
| Storyboard – Killing an enemy |
| 15.1  15.2 |
| 15.1 – The status message shows that you have killed a ‘slime’. This also works for other enemies such as zombie or ghoul.  15.2 – A label showing the amount of kills a player has, increases when a player kills an enemy. |
| Storyboard – Boss Kill |
| 16.1  16.2 |
| 16.1 – The status message showing that the boss has been defeated.  16.2 – The boss has been defeated in the gameboard, dropping the shadow crystal. (move to win condition. |
| Storyboard – Win Condition |
| 16.1  16.2 |
| 16.1 – The Shadow Crystal artifact shows on the screen with an ‘A’ (meaning artifact)  16.2 – The player destroys the artifact by interacting with it, Winning the game. (move to win game pop up) |
| Storyboard – Win Game Popup |
| 17.2  17.3  17.1 |
| 17.1 – A pop up alerting the user that they have won the game.  17.2 – A button ‘Play Again’ which lets the user start a new game. Sending them back to the lobby to play with the same players, new players or playing with less amount of players (move to player lobby)  17.3 – A button ‘Leave Game’ which lets the user leave the game. (move to game lobby) |
| Storyboard – Loss Condition |
| 18.2  18.1 |
| 18.1 – The status message showing that all players have died.  18.2 – All characters have an ‘X mark showing they have all died. |
| Storyboard – Loss Game Popup |
| 19.1  19.2  19.3 |
| 19.1 – A pop up alerting the user that all players have died, they have lost the game.  19.2 – A button ‘Try Again’ which lets the users try the game again from the start with the same archetype and players, if a player leaves there will be less one less character on screen and the game can continue. (move to game screen)  19.3 – A button ‘Leave Game’ which lets the user leave the current game. (move to game lobby) |
| Storyboard – Administrator Screen |
| A screenshot of a computer  Description automatically generated  20.8  20.7  20.6  20.4  20.1  20.5  20.31  20.2 |
| 20.1 – A button ‘Logout’ to log the user out of the game. (move to main screen)  20.2 – A button ‘Return to Game Lobby’ which lets this user admin go to the game lobby (move to game lobby)  20.3 – A display showing the current games that are being played.  20.4 – A display of the registered players of the game.  20.5 – A button ‘Kill Game’ which the admin will select a game currently being played and can kill/terminate the game.  20.6 – A button ‘New User’ which lets the admin create a new user to the game (move to create/edit a user)  20.7 – A button ‘Update User’ which lets the admin update a user by selecting on a registered player and clicking the button. (move to create/edit a user)  20.8 – A button ‘Delete User’ which lets the admin delete a user by selecting on a registered user and clicking the button. |
| Storyboard – Create/Edit a User |
| A screenshot of a login form  Description automatically generated  21.7  21.6  21.5  21.4  21.3  21.2  21.1 |
| 21.1 – A field to enter/update a username of a user.  21.2 – A field to enter/update a password of a user.  21.3 – A field to enter/update an email address of a user.  21.4 – A field to update a highscore or a user.  21.5 – A checker to see if the account is locked or not, can be toggled.  21.6 – A checker to see if the account is an admin, can be toggled.  21.7 – A button ‘Save Changes’ to save all fields and checks. |

## Screen Design Rationale

#### Main Screen Design

The main screen design is to let a player decide to log in or to register. This help the users choose between the two as new users can click the register button to put in their information to be able to have an account in the game, existing users can click the login button to use their existing information to log in the game without having to go through the registration process. Additionally if the user goes to login and types a new username, it will ask that player that the user does not exist, and lets the player decide to register an account using that username.

#### Login/Registration Screen Design

The Login/Registration screen is for allowing the player to create an account and to be able to login using their login information. The design is simple with labels and textboxes displaying what is needed and a button to confirm. With Register having three inputs, email address, username, and password. Allowing the user to enter with those credentials once they go to the login screen. With the login screen, they only need two inputs, username and password, this allows them to enter the game lobby once they have entered the right credentials.

#### Administration Screen Design

The purpose of having an administrator screen is to manage games and users, an admin can kill current running games, and be able to manage users by creating a user, updating an existing user, and deleting an existing user. The administrator screen needs a list of players for them to interact with existing users, they also need a list of games running so that they can kill a game if they see fit. Considering that creating a user and updating a user requires the same labels and textboxes, they can be in the same screen so the same screen can be used for both create and updating a user.

#### Game Lobby Design

The purpose of having a game lobby is to allow players to see other players online displaying their highscores and the games currently running. In the lobby, player can create a player lobby which they are taken to another screen to wait for other players. Players can join those player lobbies to have more players in the game. The logout button logs the user out if they are leaving the game or changing the user. The Admin Console (only for admins) can access another screen which they have control over the game management.

#### Game Screen Design

The game screen is important to have information about the players, their stats, the game board, the current status of the players actions, inventory and chest, showing those information in a easy to read design. The grid is a 10x10 board for the players and enemy to move around. The players and their stats are displayed in their own boxes on the right side of the screen. Their status are displayed above the grid to display their current action/situation. It also has a ‘leave game’ which lets that player leave, it will save their current spot and their items in the inventory. The inventory sits between the grid and the player stats. The chest shows below the inventory, but pops up once a player is nearby a chest and opens it. Both inventory and chest shows items inside which the player can interact with.

#### Choose Archetype Screen Design

This screen allows the player to choose their archetype once the player lobby has started. The player has three buttons to choose from mage, archer, or warrior, once the player has chosen their desired archetype. They can click the start game button and they will be that archetype in the gam screen.

## Entity Relationship Diagram A diagram of a computer Description automatically generated

## CRUD Table

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Entity/Attribute | Check Username in Database | Register a New User | Check Password against Username | Lock Account | Login Successful | Start New Game | Join Existing Game | Player Moves | Game Ends | Player Logs Off | Open Admin Console | Admin Kill Current Game | Admin Delete Player | Admin Creates New Player | Admin Edits Existing Player Info | Send Message | Receive Message |
| **Player** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Player ID |  | C |  |  |  | R | R |  |  | R | R |  | D | C | R |  |  |
| Username | R | C | R |  | R |  |  |  |  |  | R |  | D | RC | RU |  |  |
| User Password |  | C | R |  |  |  |  |  |  |  |  |  | D | C | RU |  |  |
| Email |  | C |  |  |  |  |  |  |  |  |  |  | D | C | RU |  |  |
| Locked User | R | C |  | U |  |  |  |  |  |  |  |  | D | C | RU |  |  |
| Admin User |  | C |  |  | R |  |  |  |  |  |  |  | D | C | RU |  |  |
| Login Attempts | R | C | RU |  | U |  |  |  |  |  |  |  | D | C | RU |  |  |
| User Online | R | C |  |  | U |  |  |  |  | U |  |  | D | C | RU |  |  |
| High Score |  | C |  |  | R |  |  |  | RU | RU |  | RU | D | C | RU |  |  |
| **Player Character** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CharacterID |  |  |  |  |  | C | R | U | U |  |  |  | D | C | RU |  |  |
| PlayerID | R | C |  |  |  | C | R |  | U |  |  |  | D | C | RU |  |  |
| GameID |  |  |  |  |  | C | R |  | U |  |  |  | D | C | U |  |  |
| TileID |  |  |  |  |  | C | R | U | U |  |  |  | D | C | U |  |  |
| Archetype |  |  |  |  |  | C | R |  |  |  |  |  | D | C | U |  |  |
| Health |  |  |  |  |  | C | R | U | U |  |  |  | D | C | U |  |  |
| Level |  |  |  |  |  | C | R | U | U |  |  |  | D | C | U |  |  |
| Kills |  |  |  |  |  | C | R |  | U |  |  |  | D | C | U |  |  |
| **Inventory** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| InventoryID |  |  |  |  |  | C | R |  | U |  |  |  | D |  |  |  |  |
| ItemTypeID |  |  |  |  |  | C | R |  |  |  |  |  | D | C |  |  |  |
| GameID |  |  |  |  |  | C | R |  | U |  |  |  | D | C |  |  |  |
| PlayerID | R | C |  |  |  | C | R |  | U |  |  |  | D | C | U |  |  |
| Quantity |  | C |  |  |  | C | R |  | U |  |  |  | D | C | U |  |  |
| **Game** |  |  |  |  | R | C | R | U | U | U | R | U |  |  |  |  |  |
| Game ID |  |  |  |  | R | C | R |  |  |  | R |  |  |  |  |  |  |
| Start Time |  |  |  |  | R | C | R |  |  |  | R |  |  |  |  |  |  |
| End Time |  |  |  |  |  | C | R | U |  | U |  |  |  |  |  |  |  |
| Game Status |  |  |  |  |  |  |  |  | U | U | R | U |  |  |  |  |  |
| **Session** |  |  |  |  | R | C | CR | U | R |  | R | R | D |  |  |  |  |
| SessionID |  |  |  |  | R | C | CR | U | RU | RU | R | RU | D |  |  |  |  |
| Player ID |  |  |  |  | R | C | CR |  |  |  | R |  | D |  |  |  |  |
| Game ID |  |  |  |  | R | C | R |  |  |  | R |  |  |  |  |  |  |
| Start Time |  |  |  |  |  | C | RU |  |  |  |  |  |  |  |  |  |  |
| End Time |  |  |  |  |  |  |  |  | RU | RU |  |  |  |  |  |  |  |
| Session Status |  |  |  |  | R | C | CR |  | U | U | R | U | D |  |  |  |  |
| Score |  |  |  |  |  | C | CR | RU | R | R |  | R | D |  |  |  |  |
| **Map** |  |  |  |  |  | C | R | RU |  |  |  |  |  |  |  |  |  |
| MapID |  |  |  |  |  | C | R |  |  |  |  |  |  |  |  |  |  |
| GameID |  |  |  |  | R | C | R |  | U |  |  |  |  |  |  |  |  |
| TileID |  |  |  |  |  | C | R | U | U |  |  |  |  |  |  |  |  |
| Map Type |  |  |  |  |  | C | R |  |  |  |  |  |  |  |  |  |  |
| Map Number |  |  |  |  |  | C | R |  |  |  |  |  |  |  |  |  |  |
| **Enemy** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| EnemyID |  |  |  |  |  | C | R |  | U |  |  |  |  |  |  |  |  |
| TileID |  |  |  |  |  | C | R | U | U |  |  |  |  |  |  |  |  |
| Name |  |  |  |  |  | C | R |  |  |  |  |  |  |  |  |  |  |
| Health |  |  |  |  |  | C | R | U | U |  |  |  |  |  |  |  |  |
| Damage |  |  |  |  |  | C | R |  | U |  |  |  |  |  |  |  |  |
| **Boss** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BossID |  |  |  |  |  | C | R |  | U |  |  |  |  |  |  |  |  |
| TileID |  |  |  |  |  | C | R | U | U |  |  |  |  |  |  |  |  |
| Name |  |  |  |  |  | C | R |  |  |  |  |  |  |  |  |  |  |
| Health |  |  |  |  |  | C | R | U | U |  |  |  |  |  |  |  |  |
| Damage |  |  |  |  |  | C | R |  | U |  |  |  |  |  |  |  |  |
| **Chest** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ChestID |  |  |  |  |  | C | R |  |  |  |  |  |  |  |  |  |  |
| GameID |  |  |  |  |  | C | R | R |  |  |  |  |  |  |  |  |  |
| TileID |  |  |  |  |  | C | R | R |  |  |  |  |  |  |  |  |  |
| IsOpened |  |  |  |  |  | C | R | R | U |  |  |  |  |  |  |  |  |
| **Tile** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| TileID |  |  |  |  |  | C | R | R |  |  |  |  |  |  |  |  |  |
| MapID |  |  |  |  |  | C | R | R |  |  |  |  |  |  |  |  |  |
| TileTypeID |  |  |  |  |  | C | R | R |  |  |  |  |  |  |  |  |  |
| **Item** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ItemID |  |  |  |  |  | C | R |  |  |  |  |  |  |  |  |  |  |
| ItemTypeID |  |  |  |  |  | C | R |  |  |  |  |  |  |  |  |  |  |
| ChestID |  |  |  |  |  | C | R | R |  |  |  |  |  |  |  |  |  |
| Name |  |  |  |  |  | C | R | R |  |  |  |  |  |  |  |  |  |
| Damage |  |  |  |  |  | C | R |  |  |  |  |  |  |  |  |  |  |
| Heal |  |  |  |  |  | C | R |  |  |  |  |  |  |  |  |  |  |
| **Item Type** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ItemTypeID |  |  |  |  |  | C | R |  |  |  |  |  |  |  |  |  |  |
| Archetype |  |  |  |  |  | C | R |  |  |  |  |  |  |  |  |  |  |
| **Chat** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ChatID |  |  |  |  |  |  | R |  |  |  |  |  |  |  |  | C | R |
| PlayerID |  |  |  |  |  |  | R |  |  |  |  |  |  |  |  | C | R |
| Time |  |  |  |  |  |  | R |  |  |  |  |  |  |  |  | C | R |
| Text |  |  |  |  |  |  | R |  |  |  |  |  |  |  |  | C | R |
| **Chat Session** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ChatSessionID |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | C | R |
| ChatID |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | C | R |
| SessionStart |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | U |
| SessionEnd |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | U |

GitHub Repo: https://github.com/josephcruel/DAT602-A1