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GAME DEVELOPMENT REPORT DOCUMENT

GAME OF DRAGONS:

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**Introduction**

Dragon battle game is a fun game where you get to be the master of a dragons. You pick a dragon that can be made of Fire, Ice, Wind, or Earth, and you use strategic moves to win fights. It is like a chess game but with dragons. You can play just for fun or really get into making calculative plans to win.

When you start, you fill in your player’s name, get to pick your dragon and give it a name. You choose what kind of dragon you want by clicking on the options on the screen. This part is important because it decides how one will play the game. The game is made to be easy to start but still has lots of smart ways to play. Once you are all set up, you are directed into a place where your dragons fight. Here, you decide what your dragon does, like attacking, using a special power, or protecting itself. How well you do these things can make you win or lose.

Dragon battle game is all about making smart choices and being strategic. It is fair and makes you think hard, but it's also a lot of fun. The game is not just about fighting; it's about getting into a world where dragons are real, and every fight tells a story. The game wants you to not just fight but also think carefully, make plans, and quickly decide what to do next. Every time you play, it's like you are creating your own dragon adventure story.

**Component names on the form**

**Form1 Game Setup Interface**

**Text Player 1, Name:**

Is a text box allowing Player 1 to input their name. This text box provides a user interface element where Player 1 can enter their chosen name. This name is used throughout the game to identify Player 1's actions and dragon, enhancing personalization and player engagement (Geeksforgeeks, 2023).

**Text Player 2, Name:**

Text box for Player 2’s name entry. Similarly to Player 1’s text box, this field allows Player 2 to input their name, which will appear in game logs and on the battle interface, maintaining clarity and continuity in multiplayer sessions (Geeksforgeeks, 2023).

**Player 1, Label Dragon name:**

Is box where Player 1 selects their dragon's name. In this box it can be filled with pre-defined dragon names that Player 1 can select from. This choice determines the name of Player 1’s dragon, adding a layer of strategy and personal touch to the game setup (Geeksforgeeks, 2023).

**Player2, Label Dragon name:**

Box for Player 2's dragon name selection. This box function is like the one for Player 1, which can be provided with a list of dragon names for Player 2 to choose from. The selection made here personalizes Player 2’s gameplay experience (Geeksforgeeks, 2023).

**Group box, Player 1, Dragon Type:**

Abramyan (2021: 16) suggests that group boxes should be dragged and dropped from the toolbox on to the form. The group box in this scenario is presenting Player 1 with dragon type options. This GroupBox contains multiple radio buttons, each representing a different type of dragon which are Fire, Ice, Wind and Earth. Player 1 selects one, which will automatically give or indicate the dragon’s attributes, abilities and strategies in battle.

**Player 1, Dragon Type-Fire:**

This is a radio button for Player 1 to select a Fire Dragon. IT school online explains that radio buttons are dragged and dropped as well from the visual studio toolbox on to the form. Selecting this radio button assigns the Fire Dragon type to Player 1, characterized by specific combat abilities that influence battle strategies, such as 20 hit points, 5 attack damage, 12 special attack damage, 4 block damage (see IT school online, 2021).

**Player 1, Dragon Type-Ice:**

Thisradio button is to choose an Ice Dragon for Player 1. This option equips Player 1 with an Ice Dragon, known for defensive prowess and special abilities that can change the course of the battle. The ice dragon type 30 hit points, 4 attack damage, 9 special attack damage and 5 block damage (see IT school online, 2021).

**Player 1, Dragon Type-Wind:**

Radio button for this selection, a Wind Dragon for Player 1, opting for the Wind Dragon that gives Player 1 a creature with agility and speed, offering unique fight advantages in combat which are 40 hit points, 3 attack damage, 7 special attack damage and 5 block damage (see IT school online, 2021).

**Player 1, Dragon Type-Earth:**

This radio button for Player 1's Earth Dragon selection, picks the Earth Dragon to Player 1, a dragon type that boasts durability and substantial blocking capabilities, making it a strong defender with 50 hit points, 2 attack damage, 5 special attack damage, and 6 block damage attributes (see IT school online, 2021).

**Group box, Player 2, Dragon Type:**

Is a group box for Player 2’s dragon type selection. Mirroring Player 1’s GroupBox, this component allows Player 2 to choose from the same set of dragon types, ensuring game balance in player options (Abramyan, 2021:16).

**Player 2, Dragon Type-Fire**:

Abramyan (2021: 17), highlights that this is how all the radio buttons in this game are created. Under toolbox the radio button is dragged and dropped on the form. Radio button for Player 2 to select a Fire Dragon. Enables Player 2 to select the Fire Dragon, promoting offensive strategies that may dictate the aggressive dynamics of Player 2's gameplay.

**Player 2, Dragon Type-Ice:**

Is a radio button for Player 2's Ice Dragon choice, with the same attributes as player 1. By choosing the Ice Dragon, Player 2 gains a dragon capable of significant defensive movement, potentially impacting the defensive strategy of the gameplay (see IT school online, 2021).

**Player 2, Dragon Type-Wind:**

This radio button is to choose Wind Dragon for Player 2. This selection awards Player 2 with the Wind Dragon, whose speed can be at an advantage to out move Player 1. The wind dragon has the same attributes as player 1’s (see IT school online, 2021).

**Player 2, Type-Earth:**

Radio Button for Player 2's Earth Dragon selection. Grants Player 2 Earth Dragon, ideal for enduring long battles and countering high-damage attacks with its superior blocking ability. Like wise the earth dragon attributes are the same as earth dragon in player 1 (see IT school online, 2021).

**Button Player 1, Save:**

Button to confirm and save Player 1's configurations. This button finalizes Player 1’s selections, saving their chosen name and dragon type to the game. It ensures that Player 1's setup is locked in before the battle starts (Abramyan, 2021:17).

**Button Player 2, Save:**

This button is to save Player 2's game settings. Similarly to Player 1’s save button, this confirms and saves all of Player 2's selections, finalizing their participation in the game and preventing any changes once the game starts (Abramyan, 2021:17).

**Button Start Game:**

A button start game is a button that triggers the transition from the setup to the battle interface to another form where game play is. This important button becomes enabled only once both players have saved their settings. Abramyan (2021: 20) stresses that by adding a field in form1 of a private form2 creating a new form2, Clicking or selecting the button transitions the game from the setup phase to the actual combat phase, signaling the start of the battle.

**Form 2 Battle interface**

**Text Current Turn:(Johnny’s turn)**

A text label indicating the current player's turn in the battle sequence. This label displays the name of the player whose turn it is to act, providing clear visuals to maintain the flow of gameplay. It helps in preventing confusion overturn order, especially in heated and strategic moments of the game.

**Label Player 1, Dragon name:**

Label displaying the name of Player 1’s dragon, reflecting the choice made on Form 1. Positioned visually on the interface, this label not only reinforces player identity but also enhances by consistently reminding players of the dragon they are going against.

**Label Player 2, Dragon name: (next in turn)**

Is a label showing the name of Player 2’s dragon. Similarly to Player 1’s dragon label in a group box. This maintains uniformity in the user interface and helps both players keep track of the opposing dragon's identity, which is important for strategizing in battle.

**Progress Player 1, Dragon HP:**

On this progress bar section, is a label which visually represents Player 1's dragon's hit points. This progress bar decreases as Player 1’s dragon takes damage, providing a quick and easy visual representation of the dragon’s health status (see The perfect coder, 2022). It allows players to gauge their remaining strength immediately and make strategic decisions accordingly.

**Progress Player 2, Dragon HP:**

Progress bar for Player 2's dragon's hit points, decreasing with damage. Mirroring Player 1’s hit points bar, this component serves the same purpose for Player 2, ensuring both players are equally informed about the critical health state of their dragons, which can heavily influence battle strategy.

**Button Attack:**

This is a button that allows players to execute a standard attack move. When pressed, this button triggers the dragon’s basic attack against the opponent. It’s the most frequently used action and is designed to inflict damage based on the dragon’s attack attribute, made for wearing down the opponent over time.

**Button Special Attack:**

Is a button for performing a more powerful and riskier special attack. This button enables the dragon to use a special attack, which is stronger than a regular attack but typically has a drawback, such as leaving the dragon vulnerable in the next turn. It introduces a strategic layer to the game where players must balance power against potential risks.

**Button Block:**

The button enables the player's dragon to attempt to block an incoming attack. Activating this button allows a dragon to defensively block, reducing the damage from the next incoming attack based on the dragon’s block attribute. This is an important move strategy element, offering players a way to reduce damage and survive longer in battle.

**Text Battle Log:**

The text box logs all the actions and outcomes during the combat phase, providing a current playing hit points and history of the battle's progression. This section area records every action taken by both players, including attacks, blocks, and special moves, along with their outcomes (Hindrikes & Karisson, 2020:14). The Battle Log is important for players to review past actions, understand the flow of the game, and strategize future moves based on historical actions.

Each component of Form2 is designed to support the core gameplay loop of "Dragon Battle!". The interface components not only provide necessary game information in a clear and accessible manner but also enhance the strategic depth of the game by allowing players to make informed decisions based on real time information and historical actions. This detailed setup ensures that players remain engaged and fully aware of the game state, promoting a competitive and thrilling gaming experience.

**User input**

According to Netapp (2024), a user input is any information that a user provides to a system. In this case, players interact with Dragon Battle game through a variety of input mechanisms designed to control their dragons and navigate through the game. Player names and dragon names. Players use the “Text Player 1, Name” and “Text Player 2, Name” text boxes to input their respective names, which are crucial for identifying each player throughout the game. Similarly, the “Player 1, Label Dragon name”and “Player 2, Label Dragon name**”** are used to select the names of the dragons they wish to command.

Dragon Type Selection:

Through the “Group box, Player 1 and Player 2, Dragon Type”, players select their dragon types using radio buttons for example radio button “Player 1, Dragon Type-Fire. This selection affects their dragons’ skills and information which has an important influence on their game play.

Game Actions:

Game actions refer to any input or decision made by players through the course of the game (Game creator, 2020). In the battle phase players use, “Button Attack”, “Button Special Attack”, and “Button Block” to decide and execute their combat strategies. These actions directly impact the game's outcome and are critical for engaging with the game mechanics effectively.

**Output on Forms**

Outputs on forms are responses data displays. The game provides real time feedback and updates through various outputs on the forms, necessary for a functional and interactive gaming experience (GE Digital, 2024). Here are some responses the form executes:

Game Setup Confirmation:

Once players finalize their selections and press “Button Player 1, Save” or “Button Player 1, Save”, their choices are confirmed on the screen, and “Button Start Game” becomes active, signaling readiness to proceed.

Game Health Updates:

The “Progress Player 1 and 2 Dragon HP**”** progress bars visually present the health of both dragons, decreasing during combat as they get damage. This immediate visual feedback is useful for players to assess their current standing and strategy effectiveness.

Battle Progression Log:

The “Text Battle Log” captures and displays a detailed record of all actions taken by both players during the battle. This log includes attacks, blocks, special moves, and their respective outcomes, providing a clear information of the battle's progression.

**Purpose of Output**

The outputs made by the game serve several useful functions in enhancing the gaming experience, for example for feedback for actions, decision making and engagement. On Feedback for Actions each output acts as a feedback mechanism that confirms the players' actions like saving settings and choosing actions during battle. For decision making, updating the health bars and logging each action in the battle log, players can make informed decisions based on past performances and current health statuses. On the engagement side of view, visual and textual outputs keep players engaged in the game. By actively reflecting the results of player actions and the current state of the game, they improve the player experience (GE Digital, 2024).

**Game Logic and Rules**

Game logic and rules dictate how a game is played. Dragon battle game is created by a set of rules and logic that ensure strategy and fair play. Here is the list of rules noticed from the game (Indigo extra, 2024).:

1. Turn-Based Combat: Players alternate turns, where they can choose to attack, perform a special attack, or block. This sequence continues until one dragon's health reaches zero.

2. Dragon Abilities: Attack which is regular attacks deal damage equal to the dragon's attack stat. Special attack deals with higher damage but may have drawbacks such as making the dragon vulnerable the following turn. Then block reduces the damage received from the next enemy attack, useful for survival and strategy play.

3. Victory Conditions: The game ends when one dragon's hit points drops to zero. The player whose dragon remains alive is declared the victor.

4. Game Progression: Players must carefully manage their dragon's abilities, considering both their strengths and weaknesses in relation to their opponent’s strategies.

**Conclusion**

Dragon battle game is a game where players think carefully and use strategy to play with dragons. It's special because it mixes stories about dragons with smart game playing. Players like the game because it looks good and is fun to play. The game has parts that make it easy for players to choose their dragons and how they want to play, which makes every player's game a bit different. The game shows how many health dragons have left and what's happening in the battle, so players can make good choices. These details make the game more exciting. The game is made to be fair and fun, following good game-making rules. Players take turns doing things like attacking or defending, which makes them think about their next move. Players can start playing easily and know how to win. The game is good for both new and experienced players. Dragon battle game is a well-made game that lets players enjoy using strategy and getting into the world of dragons.

**PSEUDO CODE FOR DRAGON BATTLE GAME.**

Start

Declarations

String player1Name

String player1DragonType

num player1DragonHealth

String player2Name

String player2DragonType

num player2DragonHealth

initializeGame()

Stop

initializeGame()

// Form 1

output "Enter Player 1's name:"

input player1Name

output "Select Player 1's Dragon (Fire/Ice/Wind/Earth):"

input player1DragonType

Set player1DragonHealth = setInitialHealth(Player1DragonType)

output "Enter Player 2's name:"

input player2Name

output "Select Player 2's Dragon (Fire/Ice/Wind/Earth):"

input player2DragonType

Set player2DragonHealth = setInitialHealth(Player2DragonType)

// Form 2 Starts, display initial data

return

num setInitialHealth(String playerDragonType)

Declarations

num HP = 0

if playerDragonType = “Fire” then

Set HP = 20

else if playerDragonType = “Ice” then

Set HP = 30

else if playerDragonType = “Wind” then

Set HP = 25

else if playerDragonType = “Earth” then

Set HP = 35

return HP

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