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MDA Analysis: Data Design

MDA Analysis of Yu-Gi-Oh

Data design is a term used to describe the way information within the game works and interacts with each other and how this information can be used by the designer in the development process. An example of can be seen in the probability that is present with dice; there is an equal chance of rolling a number on a single die, but this chance can be changed when other variables such as extra dice or value modifiers (such as adding 1 to the dice roll or subtracting 3, for example) are introduced. The following essay will use the MDA Framework as proposed by Robin Hunicke in which a game can be broken down by it’s mechanics, it’s dynamics or behavior in the game as well as the aesthetics or response received by the player (Hunicke, 2004) to analyze the strategy card game Yu-Gi-Oh (Konami, 1999).

Yu-Gi-Oh is a strategy card game in which two players face each other with decks of their own combination of cards. The winner is that which reduces their opponent’s life points (hit points) to 0, their opponent can no longer draw a card from their deck (due to running out of cards) or other card-specific methods. Life points can be reduced by card effects of certain cards as well as battles in which players use monster cards to declare attacks on their opponent or on the monster’s their opponent controls if they have any. There are many different types of cards, but they can be categorized into monster cards, spell cards and trap cards. There are various sub-categories such as normal monster cards as well as effect monster cards that have various effects when used in play (such as allowing the player to draw more cards). In standard games, the player can build their own deck of 40-60 cards with a maximum of 3 copies of a certain card. Each player draws 5 cards at the start of their turn and can have no more than 6 cards in their hand at the end of their turn (unless specified by the effect of a card). Each player has their own field in which they place their cards which is made up of 5 slots for monster card placement and 5 slots that are shared between trap and spell cards. There is a graveyard zone in which used or discarded cards are placed. A player’s turn is split into 6 phases: a Draw Phase in which they draw one card from their deck, a Standby Phase where certain card effects activate, a Main Phase 1 where players play most of their cards, a Battle Phase in which players use their monster cards to declare attacks, a Main Phase 2 to play other cards and an End Phase in which they pass their turn to their opponent. Players can play as many spells and traps on their turn as they’d like, but are limited to one monster a turn (unless specified by card effects). Each player starts the game with 8000 life points. We can see multiple aspects of data design, which will be broken down into the game’s deck size, hand limit, card copy limit, field size, a description of the monster cards and their statistics, how battle works and finally card effects.

As previously stated, the game has a deck limit of 40-60 cards with a maximum if 3 copies per card (not counting specific cards that are banned in play, which may have a limit of 2 cards, 1 card or cannot be played). As decks are made up of a player’s own cards that they have collected, decks are usually unique and crafted to suit the player’s playstyle. There is data manipulation here as a player with 3 copies of a card in a 40-card deck has a 7,5% chance of drawing that card, which is higher than a player who has 3 copies of a card in a 60-card deck, which would be a 5% chance. This, however, is still a higher chance than a player with one copy of a card in a 40-card deck as it would be a 2,5% chance of drawing that card. As play continues these odds would rise and fall depending on whether players draw more cards, draw a copy of that card etc. As such players, although not having information about their opponent’s deck due to it’s unique nature, has enough information during a game to determine how or when they can get a card they may want by calculating the odds of getting that card and can plan strategies around this, such as using cards that allow the player to draw more cards in order to get to it quicker.

Players are limited to 6 cards in their hand. Should a player have more than 6 cards in their hand at the end of their turn, they must discard the excess cards into the graveyard zone. Players also have limited slots to play their cards (and as a result may be forced to keep certain cards in their hand if they have used all their slots and run the risk of discarding cards). Due to the decks being unique, players will usually have very different combinations of cards every time they play and as such learn to use their cards in conjunction with one another. The data manipulation here is card dependent, but seen in how players use the cards and information that is available to them, which expands to what cards their opponent may have on their field and because of this they must decide when to use which card and make decisions based on this. Aesthetically, a player usually learns what their cards do and how they work with the other cards in their deck because of this and this allows players to form strategies. For example, if a player may have to discard cards into the graveyard zone often they may play cards that have effects which activate in the graveyard as the conditions for that card’s abilities would have been met, etc.

Monster cards have a lot of information. These cards list the name of the monster, the attribute as well as the monster’s type (for example it’s attribute would be wind and it’s type would be dragon) similar to types in the Pokémon series (Game Freak, 1996). These are usually important in regards to card effects, which will be discussed later. These monster cards typically also have a level that ranges from 1 to 12, an attack statistic and a defence statistic. Some monsters also have additional effects. Generally, players may only play one monster card on their turn (known as a normal summon) unless specified by other cards that may be played in addition to the normal summon in what is known as a special summon. Players may also “set” monster cards face down to signify that the monster is in it’s defence position and will use it’s defence statistic in battle. A player may only normal summon monsters with a level from 1 to 4. Should a monster’s level be 5 or 6, the player will need to send one of their monster cards from the field to the graveyard zone. Should the level be 7 and up the player will need to send two of their monster cards to the graveyard. We see data manipulation here as should a player have too many monsters with a high level they have a low chance of playing their monsters compared to someone with a lot of level 1 to 4 monsters. This causes players to think about the balance of their monster cards in their decks and if it’s worth having stronger monsters if it’s difficult to play them.

In battle, a player may attack with each of the monsters they control once each (unless, of course, stated otherwise by card effects). If the opponent controls monsters, the player’s attacks have to be directed at them. If not, any attacks the player makes are directed at their opponent in what is called a direct attack. If a player is directly attacked, they lose life points equal to the monster’s attack. If a monster attacks another monster, the monster with the higher attack score wins with the losing monster being moved to the graveyard zone. The difference in attack score is reduced from the loser of that battle’s life points. For example if monster A with an attack of 1500 attacks monster B with an attack of 1000, the player that played monster B will have their life points reduced by 500. Should a player attack a defence position monster and win, the defence monster is sent to the grave but the opponent does not take damage. If the attacking monster’s attack statistic is lower than the defending monster’s defence, the owner instead takes the difference as damage to their life points. If two attack position monsters have the same attack, after battle they are both sent to the graveyard and neither player takes damage. Should the attack of an attacking monster be the same as the defence of a defending monster, neither monster is sent to the grave and neither player takes damage. In this system we see that players are able to experiment with multiple strategies in which they could prioritize monsters with high attack to destroy their opponent’s monsters, play high defence monsters to lower their opponent’s life points when being attacked while still keeping their monsters on the field etc. The data manipulation is also directly linked to life points as we can see that on attacks, a player’s life points may be directly affected. As battle is usually the main aspect of play in the game, players strategize and come up with plans that they think will help them last in these scenarios and create situations in which they may be victorious.

Lastly, most cards have effects that activate when certain conditions are met (such as when sent to the graveyard or if the card is flipped face up from face down defence position). These effects usually alter the way the standard rules of the game are used. Card effects vary indefinitely from increasing life points to destroying monsters to possibly bringing monsters in the graveyard back onto the field. These cards are also seen to directly manipulate data in the game due to their ability to change the game itself. Spell and trap cards are examples of effect cards and players use these to keep the game changing. As such, it becomes hard for players to predict what will happen during the game.

In conclusion, it can be clearly seen how the individual mechanics of the game come together in what can be described as the dynamics of the game which is where the data design and manipulation is seen to take place. Yu-Gi-Oh relies heavily on it’s data design as it applies to nearly every aspect of the game. As such, this game falls into the Challenge category of aesthetics as explained by Hunicke as it can be described as a game in which players must overcome the everchanging state of the game through their own planning and strategy in which they themselves are manipulating data to their advantage in order to win.

# References

Game Freak. (1996). *Pokemon* [Video Game].

Hunicke, R. (2004). *MDA: A Formal Approach to Game Design and Game Research* (p. 5).

Konami. (1999). *Yu-Gi-Oh* [Card Game].