

MDA Analysis: Data Design – Age Of Empires

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Age Of Empires is a historical themed real-time strategy game, originally developed by Ensemble Studios and published by Microsoft for Microsoft Windows in 1997. (Microsoft, 1997) The game puts the player in control of one of several ancient civilizations (such as the Roman or Egyptian Empires) as they advance through the ages – the player is tasked with collecting resources and then using those resources in various ways to aid their civilization's advancement. The following analysis will explore this game in-depth using the MDA Framework to discuss its elements of Data Design.

The MDA Framework (which stands for Mechanics, Dynamics and Aesthetics) was created by Robin Hunicke, Marc LeBlanc, and Robert Zubek. Defined by its creators as a “formal approach to understanding games”, it is a commonly used tool for video game analysis: Mechanics includes all of the components that make up the core game – this includes the data and algorithms that power the game experience, as well as the basic actions the player is allowed to take in the game; Dynamics involves the ways in which these mechanics behave and interact with each other in relation to the input provided by the player; Aesthetics then describes the emotional responses that are evoked in the player when they interact with the game's mechanics and dynamics. (Hunicke et al, 2004: pp. 1-5)

The main mechanics of Age Of Empires all involve the player using the mouse to click on either a unit or a building and queuing a task for completion. For instance, if a player clicks on a unit, that unit will have different actions available depending on that unit type. Villagers have the ability to either collect various resources, build new structures using some of those resources or repair damaged structures. Combat units on the other hand have the ability to attack enemy units and buildings, and can be given automated tasks such as patrolling or pursuing enemies. Resource collection is a vital mechanic as almost every action in the game has a resource cost – units and buildings cost resources to produce.

Research is another important mechanic – clicking on different buildings will allow the player to research new unit types or upgrades for their existing units and buildings. These research tasks also have a resource cost attached to them. The most important research task in the game is the Age Advancement – collecting enough resources (as well as meeting other specific requirements) will allow the player to advance to the next age. This unlocks new unit types, building types and upgrades for the player. The main goal of a standard Age Of Empires game is usually to advance to the final age as quickly as possible and wipe out the enemy civilizations. This is done through another one of the game's main mechanics: combat.

Being a strategy game, combat plays a major role in Age Of Empires. The player will use some of their resources to create units for combat – this can include infantry, ranged units, mounted units, siege weapons. Etc. Each combat unit type has certain advantages and disadvantages against other unit types – for example, infantry units are the cheapest units to produce and are the most effective against buildings, but have weaknesses against ranged units and mounted units. These are represented through numerical bonuses such as percentage modifiers and so on. The data design aspect of the game's mechanics comes in the

way the in-game numbers work and react to each other: how each action has a resource cost, how each unit has numerical strengths and weaknesses against others, how there is a finite number of resources within an enclosed game.

The Dynamics of Age Of Empires arise in the way the player has to strategize and choose their course of action depending on the situation they are in. The player will need to adequately manage the finite number of resources and choose which actions to spend them on – this may then lead to situations where the player may have to make certain sacrifices, such as choosing to create more of a specific combat unit as opposed to upgrading something else because the current situation calls for more defences and the player does not have enough resources at that moment to take both actions. The player should prioritize which units, buildings and upgrades are more important over others so that these are the ones the player spends their resources on first.

The player will also have to think strategically when it comes to the in-game combat: they will observe the defences of their enemy and plan for the battle accordingly. If the enemy civilization has a lot of infantry, the player may choose to produce more ranged units. If the enemy has a lot of buildings that must be destroyed, the player may build more siege weapons. The player may also choose to produce a few units of each type and deploy them to different parts of the battle where they will be most effective. At the same time, the player should always be working towards Age Advancement research – they must weigh their options when it comes down to advancing to the next age in the quickest amount of time, as this will allow them a host of advantages over enemy civilizations who have not advanced yet.

Here, the Data Design aspect literally manifests in the way the player reacts to and interacts with the numbers – seeing how much resources they have, how quickly they gather one resource over the others and choosing where to spend these resources to give them the biggest advantage in the long run. They will consider the numerical bonuses of each unit type and weigh them against the enemy defences to determine which units are needed - and how many of each type – to ensure that they claim victory in the battle whilst simultaneously suffering the least casualties or resource loss. They will consider the costs for researching upgrades or advancing to the next Age and will decide when is the appropriate time to do so.

The Aesthetic experience evoked in the player can differ depending on the situation. At the beginning of the game the aesthetic of Discovery may be evoked, as the player will explore the area around them to find resources as well as where the other civilizations are located. During the middle of gameplay, the aesthetic of Challenge will be evoked instead – this will be the point where they player will really strategize their next move, and at times they may be filled with feelings of tension, frustration, competitiveness. Etc. If playing a multiplayer game with friends, the player may evoke the aesthetic of either Challenge or Fellowship - dependent on whether the players are playing against each other or together versus an AI or other players. At times, the aesthetic of Submission may even be evoked – this directly relates to the game's Data Design aspect, as the interweaving data systems create a game loop that the player may fall into which could lead to a feeling of repetitiveness (Submission).

Age Of Empire's game design is heavily influenced by its use of data interaction and data systems: the game makes use of its data designed Mechanics to create Dynamic and Aesthetic experiences for the player to make use of this data efficiently.

References:

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