

CHAPTER I

INTRODUCTION

1.1 Background

The advancement of technology is something that cannot be denied nor avoid, it is something that should be embrace with open arms. Nowadays many corporations, firms, or organizations have already implement technology in their business [1]. Most companies already using advance technology, making new business feel the need to implement even more advance and better than other company, just to stay in the competition [1]. There are many forms of technology that are being implemented in the business, such as Big Data Analytics for data analytics, website development for creating easy-to-understand platform to communicate with user/viewers out there looking for something to aid their needs, and business in Video Games sector.

As of now, even though the rapid development of technology has becoming even more fast, especially in the midst of Pandemic Corona since year 2020, more and more people are becoming more invested in technology, especially Video Games. Ever since Pandemic Corona started, there are a lot of business that went bankrupt because of the decrease of sales, some even unable to open their business to even get any incomes [2]. But most business that benefitted from technology, such as GoFood, Zoom, RuangGuru, and Game Corporation like Mihoyo, they are able to actually embraces the “stay at home” rule and gain profit from it [3].

Mihoyo is one of many Video Games company that launch its current and newly developed game in the middle of the Pandemic and got success, the game’s name is Genshin Impact. Genshin Impact is a multiplatform Video Games that engage its players with outstanding character design, compelling storytelling, and the depth of the world of Teyvat, the world inside Genshin Impact. Ever since its release at 2020, Genshin Impact’s fans has steadily increasing, and as the story progress so is the characters also increase, making the total of 46 characters. Each of these characters has their own unique skills, talents, combat role, and elemental

powers that can help the gameplay of players. There are 7 elemental skills, that is Anemo (wind), Geo (earth), Electricity (electro), Pyro (fire), Cyro (ice), Hydro (water), and Dendro (plants). While their combat role can be categorized into DPS (characters that are meant to deal damage), and Support (characters that can buff, create shields, heal, or make have elemental advantage).



Image 1.1 Genshin Impact Limited-Time Character Banner

Image 1.1 above is the screenshot from inside the game of Genshin Impact, it is the screenshot of one of limited-time character banner that is showing at that moment, and the above is Tartaglia or can be known as Childe. In the game, there are two ways to get characters, one if Genshin Impact give the character for free (which is incredibly rare) or two, by player to “pull” the character from that banner. It can be seen from the image above, that there are buttons in the right-down corner button “Wish x1” and “Wish x10”, when player “Wish” (click that button), there are chances player might get that character, and “Pull” is another term that fans used to call the action of “Wish” or clicking that button. Because this banner is using a gacha system, there is chances that player might not Tartaglia, while he is one the character that can only be get or “Wish” or “Pull” from limited-time banner only, and the term “comes home” means that players

managed to get Tartaglia and become their teams member, or their “Wish” is successful.

But to be able to pull in a banner, player must use what is called “Intertwined Fates” it is a pink ball that can be seen in the top-right corner or at the Wish buttons. Then to get that pink ball players need to buy it using currency called “Primogems”, that can be seen in the top-right corner beside the pink ball (in the image 1.1 there are 1290 Primogems). Primogems or free Primogems is given only on special occasions and quite rare, except if players want to buy it with real money. Therefore making it almost impossible for Free-to-Play or little spender players to pull every banner and get all of the characters (up until version 2.4 there are 46 characters), unless they are very lucky.

Mihoyo first introduced these characters through their Special Programs on Twitch, followed by a new limited-time banner of that character’s “lucky gacha”, and that character’s trial for player to try out how that character’s gameplay is. To get characters that player want, player will have to “pull” in that limited-time character banner until the character they wish for “comes home”. For F2P (free to play) players or little spender, this is cause for concerns, because there are many characters and players can’t pull each banner (at least 46 banners) with very limited free pull that they had.

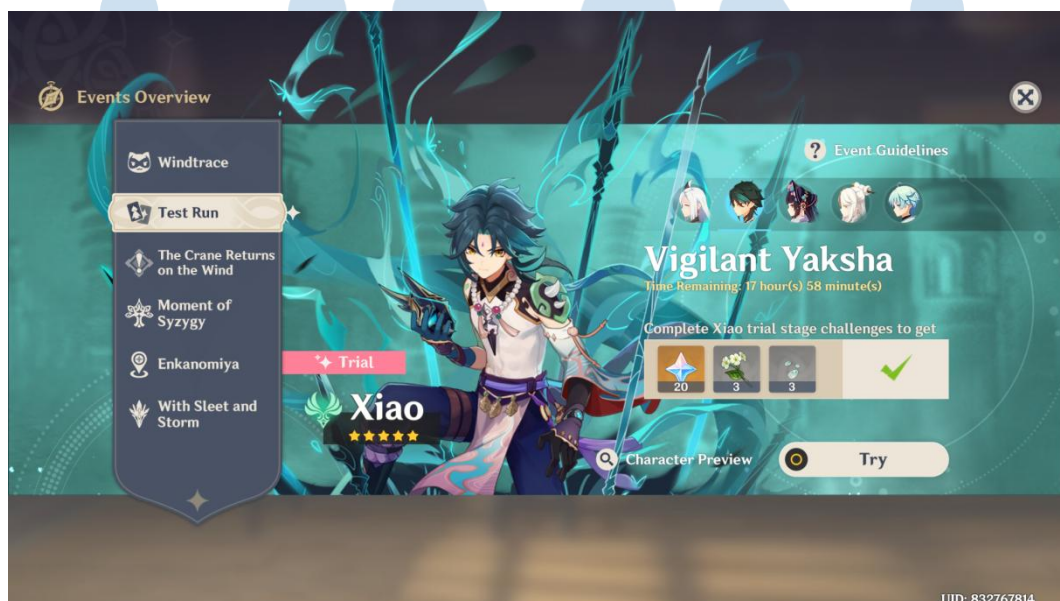


Image 1.2 Genshin Impact Character Trials

Image 1.2 above is the in-game screenshot for Character Trials. Even though players can't get the character they want unless they pull until it comes home, Genshin Impact or rather Mihoyo gave the players a chance to try to use the limited-time characters, and this is called Characters Trials. From the image 1.2 above, the character is called Xiao and player can try to use Xiao by clicking button "Try".

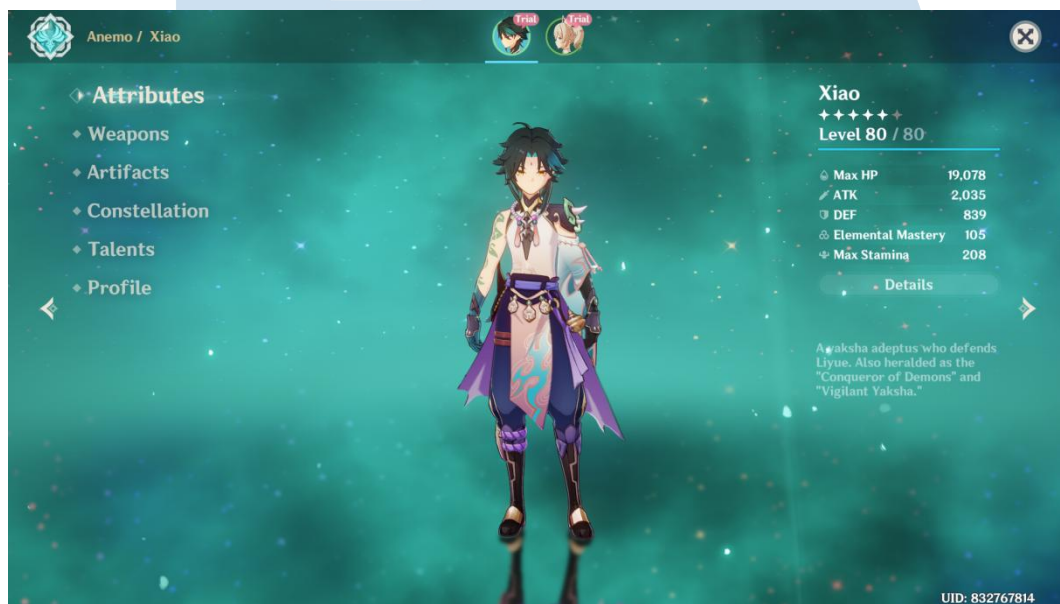


Image 1.3 Genshin Impact Character Trials

Image 1.3 above is the screenshot of Xiao's attributes as Character Trials, and a more detailed attributes can be seen by clicking button "Details". Players can use the stats from Character Trials as references when building their characters, and from this screenshots of every Character Trials that have appear up until version 2.4 is what will be used as the data in this project.

Table 1.1 Fans Arguments on Sites

Problem/Title	Predicted Viewers	Source Link
Should I pull Raiden?	60 Comments	https://www.hoyolab.com/article/819205
Who should I pull, Kokomi, Kazuha or Venti?	54 Comments	https://gamefaqs.gamespot.com/boards/270518-genshin-impact/79939377
Ayaka or Kazuha	82 Comments	https://gamefaqs.gamespot.com/boards/270518-genshin-impact/79945177
Should i pull for Ganyu or Zhongli?	12 Comments	https://www.hoyolab.com/article/1852835
Should i pull for Hu Tao	4 Comments	https://www.hoyolab.com/article/1139207

Problem/Title	Predicted Viewers	Source Link
or Childe		
Raiden Or Kokomi? Who Should You Choose?	10,313 Viewers	https://www.youtube.com/watch?v=FJphqTLNMck
Should You Pull for Shenhe or Itto	20,127 Viewers	https://www.youtube.com/watch?v=lQ1m8h-D9pg
Albedo or Eula or SKIP?	80,975 Viewers	https://www.youtube.com/watch?v=agASN1ieENM

Table 1.1 above contains some of sites where fans usually find answer over their questions. Most of each of these sections may not have hundreds of comments, but it is the accumulation of all of sites and sections that fans visited to find some help to make decisions. After observing some of those sites, there are plenty of reasons and consideration when players are deciding to choose which characters should they pull, such as; how is their performance?, are they compatible with this character?, how are they in combat? Or good looking characters (husbando or waifu).

That is why players need a system or platform that can help them choose the best character out of each combat role, to help them choose which character should they “pull” or they let go. Although there are quite a lot of reasons and consideration for players that want to choose character, it is decided that this project should help players decide by them viewing ranking of the characters based on their combat role. This research will try to design and develop a web-based decision support system that can rank from the best on each skill to the not very best.

This project will be made using PHP language as a web-based decision support system to help players of Genshin Impact, but more specifically, it is made for Free to Play (F2P) or little spender Genshin Impact players. Like its name, Free to Play mean players who play without spending anything on the game, and little spender is for players who spend just a little amount to try to keep up with Genshin Impact’s limited characters. For such players, it is very important to choose what character should they get from what limited-time banner, because primogems (the special in-game currency for “pull” in gacha Genshin Impact) is

limited and very hard to earn freely, of course players can buy primogems with real money, but for F2P players and little spender, that would be like testing their patience. Nevertheless, a F2P or little spender player sometimes can cross the line. For example case from website msn.com titled “18-Year-Old Daughter’s 6-Week Genshin Impact Gacha Spree Hands Dad a \$20,000 Credit Card Bill” [4]. Another reason is because even though there are many website or video that explain the greatness of certain character, as referred from table 1.1, there has yet no platform that uses the implementation of decision support system to help decide which characters should they choose.

Additionally, before doing the implementation of the decision support system, it is required to choose some things that will be the deciding factors and how that factor will be counts. In Genshin Impact, characters can be “raised” or “build” by adding items (artifacts and weapons) on them to make them more powerful. But to do so the items need to have stats that are in accordance with how the character will be build, and depending on what that characters’ combat role, their primary stats will be different as well.

For raising or building characters, players can’t raise all the existing stats, they have to choose or to focus on stats that will correspond to that character’s best role. Every character have their own specialization or preferences stats to prioritize or focus on when player wants to make them stronger. These preferences stats are like criteria and the stats number are like the weight for Simple Additive Weight (SAW). For example, Tartaglia have combat role as DPS, therefore to make him stronger, usually players would choose stats that are corresponding or suitable for Tartaglia, so before players wants to choose which artifacts or weapons to be used on Tartaglia, players need to determine which stats is suitable for him. These is also the case for SAW, because SAW is a method that requiring decision maker to determine a set of criteria for a set of alternative, and weight to measure the criteria’s priority for ranking the alternative [5]. Therefore in this project, SAW method will be used to calculate and make the rankings.

1.2 Problem Scope

In order for a more thoroughly development of the project, author set several scope as limits that must be followed, based from background research and observation of Video Games Genshin Impact, such as:

- 1) Because this project is intended for Genshin Impact's players, therefore this project can only use the data, information, that are gain by observation from the game itself or from the fans/players.
- 2) Due to the variety of characters' potential and regular update from Genshin Impact developer, it is decided that this project will only uses characters' attribute from character trial also to use character, weapon, artifact, and material ascensions until version 2.4.
- 3) Because each player can build a character differently, one player will chose and her way of building character will be used as references for determining the criteria and weight in this project.
- 4) This project will be made as a web-based decision support system, intended for players F2P or little spender.
- 5) This system will make decision support system surrounded by combat role, DPS and Support (Heal, Shield, Buff, and Elemental) as it main, using only character trial as its bases.
- 6) This system will also showcase the information regarding weapons, artifacts, and material ascensions.

1.3 Problem Statement

Based from the exploration of Genshin Impact and this research background, these are some problem statement that is requires for this research.

1. How the system will display the best character based on their combat roles?
2. How to determine the weight for the criteria and to implement the character's stats into SAW?

1.4 Research Objective and Benefits

1.4.1 Research Objective

This project was conducted in order to help fans and players of game Genshin Impact, such as;

- 1) To develop a web-based decision support system using SAW that capable of ranking the best character for each of the five combat roles.
- 2) To build platform that help fans and/or players of the game to choose which characters should they pull, and to have easier access to find information regarding artifact, weapon, and material ascensions.

1.4.2 Research Benefit

According to the project's objective, hopefully the benefit that will be achieved from this project are;

- 1) Genshin Impact fans able to determine what characters they would like to pull or skip on the next banner.
- 2) Genshin Impact fans can know the necessary information regarding their preferable artifact, weapon, and material ascensions. Including the name of the domain or enemy they should fight off to receive that very artifact or material ascensions.

1.5 Writing System

The writing system for this research project will follow these steps.

- 1) Chapter 1 Introduction will be covering the reasons and background behind choosing this research, to create a limit of how far this research will be, and to understand what can be gain from the end result of this research project.

- 2) Chapter 2 Literature Review will explain every theory that will be mentioned in this research paper, and some journal or trusted website will be used as references for making this project and writing the paper. For example, the method Prototype flowchart, the use case or activity diagrams.
- 3) Chapter 3 Research Methodology will be for understanding more about the research object, the research structure that will be done in chapter 4 with references from chapter 2, and to know what research method and system development method will be used in the making of this research project.
- 4) Chapter 4 Analysis and Result will show the result of from the development, following the research method mentioned from chapter 3, that is the requirement, quick design, build a prototype, user evaluation, refine prototype, also implementation and maintenance [6].
- 5) Chapter 5 Conclusion will conclude the result of the decision support system, hopefully able to fully answer all the questions from chapter 1, and to identify what is it that can make this project be better for future project.

