

Time Limit Approach to Reduce the Effects of Bots in Massively Multiplayer Online Games

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Abstract

In this paper we will discuss about the threats caused by bots in Massively Multiplayer Online Games (MMOGs) and how we can try to reduce the affects of bots in MMOGs by using Time Limit Approach (TLA) in MMOGs. In later half of the paper we will discuss about various merits and drawbacks of this technology and how we can improve it.

Keywords

Bots, Gold Farming, MMOGs, TLA

I. Introduction

One of the major part of everybody's life is the source of entertainment in his life. In this modern era of science we have many different sources of entertainment and one such source of entertainment is the videogames, with the development of televisions and computers the videogames gained tremendous popularity all around the world. But as the technology flourished even more there came many revolutionary changes in online games and this brought a new concept of Massively Multiplayer Online Games (MMOG). According to this MMOGs concept many different players can play the online games by sitting at different places across different countries of world so many different players can participate in a single game at once and enjoy playing that game. This brought many new ways through which the game companies can earn a lot of money, however it also brought a big challenges through which the some players use unfair means to win the game or earn more profit over the other players and one such technology is the bots. In which the players makes maximum profit without making any effort or minimum effort in the game.

The word "Bot" are the last three suffix of word "Robot" like a robot is a machine which reduces human effort in doing work similarly in gaming world the "Bot" reduces the effort of playing the online game. By using bots the player can play the game by making less effort as compared to when he have to play the game when he is playing by his own. The bots automatically play the game on the behalf of the humans as a result the player can play the game for much greater time as compared to humans and therefore can make more points than humans can make and hence can buy more expensive things in game as a result the price of products in games increases.

Many gaming companies have made huge profit through online gaming business, one such game is World of Warcraft(WoW) which made a tremendous profit in online gaming industry. The market leader alone—Blizzard Entertainment's World of Warcraft (WoW)—surpassed 11.5 million subscribers in December 2008, making in an estimated US\$150 million in subscription fees per month et al.[1]. In 2009, games played on social networks such as Facebook, games that primarily derive revenue from the sale of virtual goods, brought in 1 billion USD, and that is expected to increase to 1.6 billion in 2010. Worldwide, 7.3 billion USD was made from virtual goods that same year. et al.[2].

Gold farming a process in which the players makes the maximum points or makes gold by playing the game again and again or killing

large number of enemies they gain certain points which helps them to get some reward which makes their character better et al[3]. The points gained here are used for buying expensive weapons and these weapons are sold to other human player in exchange of low price of human currency as a result the transfer of human currency takes place.

II. Related Work

Many techniques are purposed to reduce the affects of bots in MMOGs one such technique is "Improved Packet Encryption" technique in this technique we use to increase the security on packet by making more complex algorithms though this method is useful for improving security but yet if the size of the packet is too large more time will be required to transfer the packet as a result it will decrease the real time experience of playing the game which will decrease the interest of the player et al[4].

The next technique is CAPTCHA in this, the player will see a text in the image and he will need to enter the text in the image, in case he is able to enter the correct text he is authorized to play the game. But this mechanism fails the smooth function of the game. Moreover the player can use the Proofs(HOPs) in which the bots are classified from humans through the suspicious behaviour shown by bots which is uncommon to that of humans et al.[6]. Next is Artificial Neural Network Approach in which an Artificial intelligent system was created which differenciates the humans from bots through the data entered in the system, through that data the calculations are made and bots are classified from humans et al. [7].

III. Methodology

In Time Limit Approach (TLA) we focused on attacking main strength of bots. The main strength of bots was that it can play a game for a long time without getting fatigue and with a complete accuracy, however in TLA we set a time limit for all players and bots and after that analysed their score. To verify our approach we divided it into two phases in first phase there was no time limit to play the game and we recorded the scores and in second phase of our research we set up a time limit and record the scores again.

To reach our objectives we implemented our work on game Enemy Territory Quake Wars (ETQW). Enemy Territory: Quake Wars is a tactical shooter video game. The major strength of bots is they can play game again and again without getting bored and hence they can make the maximum points through this. While the human player which plays game honestly he is unable to make the points equal to the scores of bots and hence gets disappointed as he is not able to buy all the items that are available to the players in the online games. We divided our research work in two phases; each phase consists of 5 days and we had 5 players playing the game. The two phases were created to identify the difference between the present scenario and in the second phase we associate each player a time bound. Before actually starting the phases of our research we allowed the players to play the game for some days in order to get their hands in the game so that they can give their best short when the game starts.

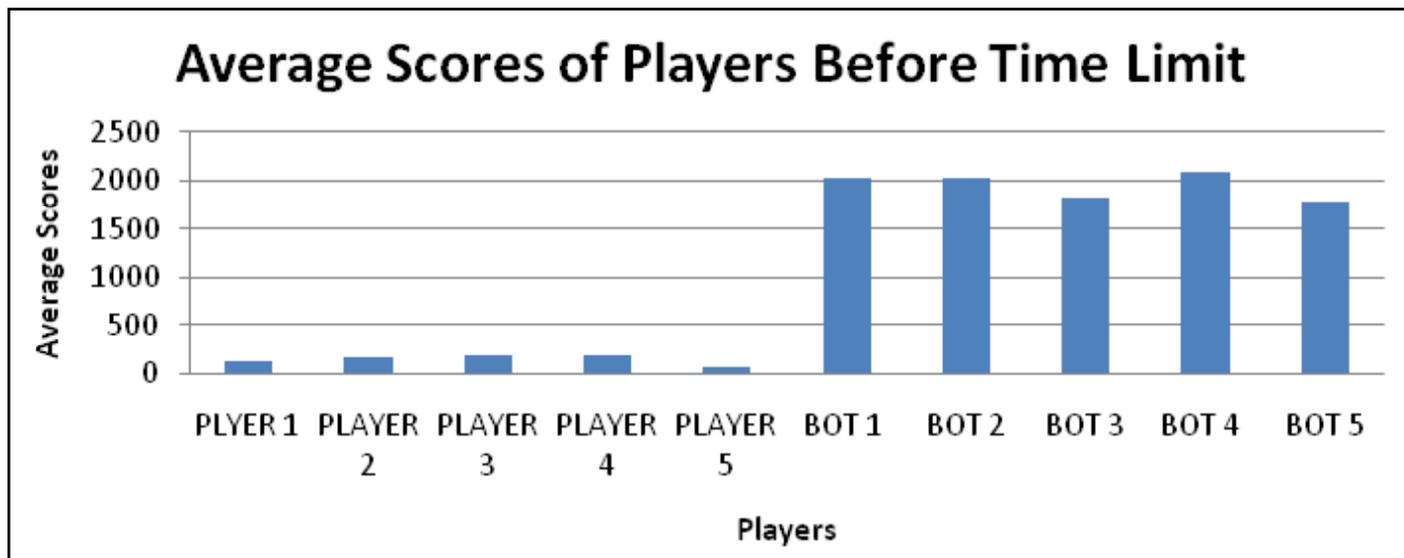


Fig. 1: Shows the Average Score Without Time Limit

A. Phase 1

In this phase of our research there was no restriction and no time bond for any player each player can play the game for as long as he wants. Same was for bots but we noticed that the average time for which they can play the game was around one hour after that they started getting bored and most of the time they stopped playing game while in case of bots nothing like that happened they kept on playing the games until the PC was turned on and hence they scored lot more than humans. The fig. 1 shows the

scored recorded for the phase of five days and the average score scored by humans as well as bots.

B. Phase 2

In the second phase of our research we set a fixed time limit of 1 hour for all players including bots as well as humans, this is done so that each player gets equal time to play the game and hence we identified the difference in the scores of bots and the humans again fig. 2 shows the analysis of the second phase of our research.

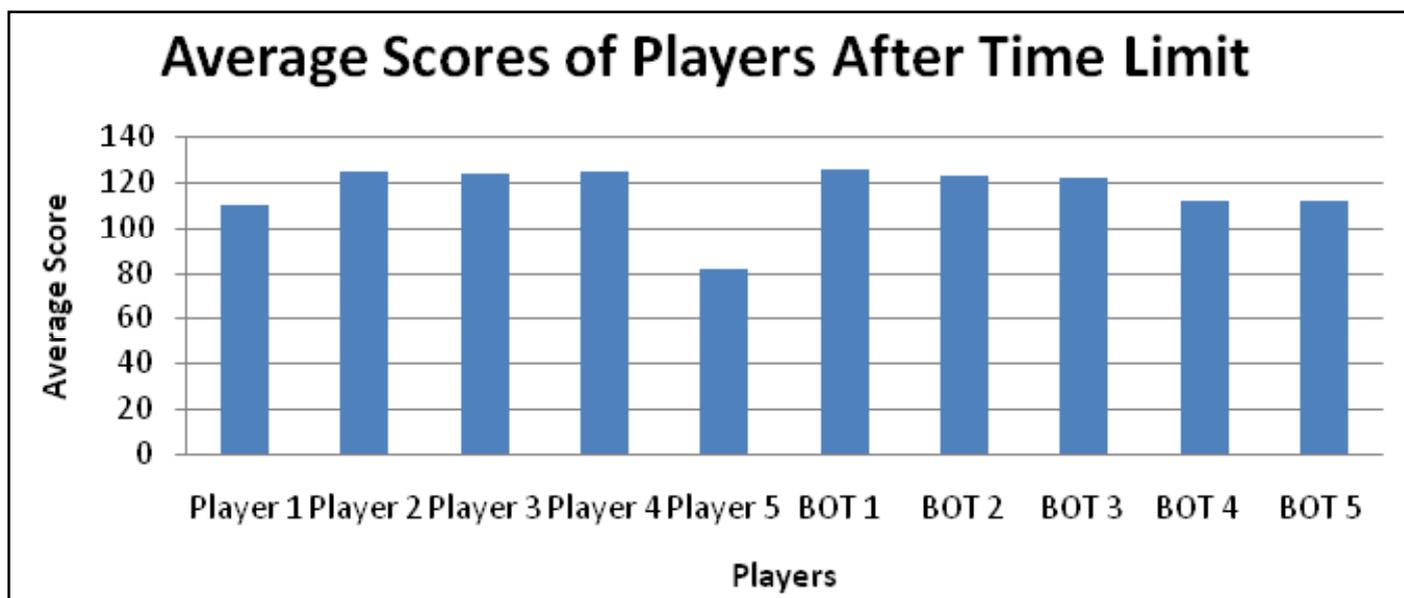


Fig. 2: Shows the Average Score With Time Limit

IV. Benefits of This Approach

1. This approach reduces the huge score difference between bots and humans.
2. The bots programmers will have to write a very large program in order to show variations.
3. As there will be maximum time limit for each player so the players will better skills will have benefit over those who have less skills.
4. Due to neck to neck competition the cost of weapons will not be increased and gold farmers will regain their position.
5. If same bot is used from different PCs then it could be detected

if it shows same behaviour on server end.

V. Drawbacks of This Approach

1. In case the player do want to play more than the maximum time limit it is not possible.
2. This approach fails against Aimbots.
3. This approach only focuses on reducing the effect of bots and is not useful against identifying the bots.

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