

ネットワークロールプレイングゲームに関する考察

渡辺英樹

静岡大学大学院理工学研究科計算機工学専攻

飯田弘之

静岡大学情報学部情報科学科

概要

これまでのゲームを題材とした研究は、多くの場合 1対1 対戦型の盤上ゲームを扱ってきた。最近、サッカーのような多人数のダイナミックなゲームが AI の研究題材として注目されている。この傾向の理由として、この種のゲームが現実社会をより反映していることがあげられる。計算機の性能が向上した現在、当然の推移といえる。またコンピュータゲームにおいても、インターネットの普及と計算機の機能向上により多人数型のネットワークゲームが年々非常に盛んになっている。本稿では、多人数ネットワークゲームである DIABLO と ULTIMA ONLINE を題材として、プレイヤーが感じるゲームの面白さに焦点を当てつつ、ネットワークロールプレイングゲームについての考察をする。

Thoughts on Network Roll Playing Games

Hideki Watanabe

Graduate School of Industrial Science and Engineering
Shizuoka University

Hiroyuki Iida

Department of Computer Science
Shizuoka University

Abstract

Most researches of games have been attempted on a two-person board game like chess. Recently, another type of game, that is a dynamic/field game like a soccer, has been a new AI research target. The soccer is a multi-player game. However another different type of a multi-player game which can be played through the Internet, called a network game, has been very popular. In this paper, we focus on two network roll playing games: DIABLO and ULTIMA ONLINE and think about what are the important factors of being much entertainment for the multi-player games. This paper also discusses on general entertaining factors of multi-player network roll playing games based on some experimental results with a question-and-answer inquiry.

1 Introduction

We are investigating the evolutionary changes of any kind of games based on the concept of the *evolution of games*, using game-theoretic analyses aided by computer and/or cognitive psychology approaches. Through such analyses of rules of a given game, we can estimate the historical changes of the game and may predict an advanced or more elaborated game which will appear in the future.

We have reported on such an example of HEIAN SHOGI, an old style Japanese chess [2], which is a two-person perfect-information zero-sum game. The preliminary results on HEIAN SHOGI suggest us several important factors for the evolutionary change of games: the conceptual beauty (e.g., symmetric), perfection of rule, excellence of games, strategic complexity, entertaining factors and so on.

The aim of the present contribution is to apply the idea of the evolution of games into another type of games, i.e., multi-player network roll playing games: DIABLO and ULTIMA ONLINE, which is a multi-player imperfect-information roll playing game respectively [5].

In general, the model of an imperfect-information multi-player not-zero-sum game is more complex than that of a perfect information two-player zero-sum game like chess or shogi. As for imperfect-information not-zero-sum multi-player games, we observe several interesting points from the viewpoint of strategies including a cooperation and a treachery among players, which we do not see in perfect-information zero-sum two-player games. In a game of imperfect-information multi-player, the change of condition/position is in general much more complex than a game of perfect-information two-player. Moreover, a game of imperfect-information multi-player is reflecting a society/world much better than a game of perfect information

two-player [1]. Both DIABLO and ULTIMA ONLINE on which we focus here is a roll playing game of imperfect-information multi-player respectively.

In this paper, first the historical changes of Role-Playing-Game (RPG) is described since both DIABLO and ULTIMA ONLINE is a kind of RPG. Then effective factors of games for being entertaining on DIABLO and ULTIMA ONLINE are explored. We describe an investigation with a question-and-answer inquiry and discuss on what are the greatly entertaining points of network RPGs.

Through these investigations and analyses, we observe that the indefinite change, derived from the actions of other players, is the most important factor of the entertainment in multi-player games [6].

2 Evolutionary History of Network RPG

DIABLO and ULTIMA ONLINE are both Role Playing Games (RPG), while being played through the Internet. In this section, we consider what RPG is, and its historical birth/changes.

2.1 From TRPG to RPG

The origin of RPG was a game which has been played by players themselves, neither through the Internet nor on any computers. In that game, there is a player called Game-Master (GM), who writes a scenario according to the rule in a given world. According to the scenario, the several players play each role and will accomplish the scenario. The origin of RPG is literally a game in which each player plays his role, originally the game was called *table talk Role Playing Game* (TRPG). There are many types of TRPG in which a new world is created.

In TRPG, several players play with various dices, e.g., tetrahedron and hexahe-

dron, on the table. What a player is given is only the world and the rule. GM has to create the scenario and the characters. When a player makes his decision, the result (success or failure) is given with a dice. In this world, the role of GM is a God, None-Player-Character (NPC), and an enemy for the other normal players. The others play their roles as a adventurer, and they will live in the world. GM manages a battle system and may change the condition of the world by many adventurers' progress. Thus, this game would be much flexible, depending on the ability of GM.

2.2 Private RPG

As personal computers and family-game machines appeared, Most TRPGs have been replaced with the present style of RPG on computers. A GM of a given RPG is programmed initially and various judgements during the game proceedings can be managed by a computer itself. Any communications with NPC are prepared in advance, which is a repeat message. The battle has no complex terms, and a player has a choice to decide a scene and a space.

However, this type of RPGs has been largely improved. It had a beautiful graphic scene, a good sound and various actions. The best point of the RPG is that the game was able to be played by only one player, then we call it a *private RPG*. The role of all management of the world was given to a computer, so it is very easy to play a RPG and enjoy the game. Thus, such a RPG on a computer is currently most popular.

Then RPG has changed little by little, as family computer game machines improved while using a mass storage ROM. RPG has not only one but several scenarios, and various communications with NPC. Moreover, NPC is given characteristics and various events.

2.3 Entertaining points of TRPG

According to the development of computers, the scenario of RPG has been changed to be more complex and a subevent has been also improved so that a player might not lose his favour in the game. However, there were critical limitations of a scenario and a communication, even though the computer game itself was improved.

Now TRPG is *still alive* as a game genre. This is because of the dimension of flexibility. An entertaining point of TRPG is that all characters are human being, so the capacity of world in TRPG is much larger than RPG, according to the application ability of GM. Although GM has many roles to play in a game, now TRPG is provided with a basic rule, a world and a world map initially. These are created by RPG composers, then all that GMs have to do is just thinking a simple scenario. In TRPG, a player uses a dice for the judgment of various choices. The slow progress as an evolutionary changes maybe one of the fascination of TRPG.

2.4 Birth of Network RPG

As a personal computer has improved more, it became possible for players to play a RPG with other players through the Internet. This does not require any players to be in the same room. At the early stage, the network RPG is a game where a player is just fighting with others like a normal two-person game.

2.5 Toward a final elaborated game

After the birth of a network game, it had been popular only for a small group. However, a network game became very popular after DIABLO appeared. DIABLO is a RPG which is played with four (max number) players. During the game progress, four

players may cooperate each other, then finally they will beat DIABLO, the final goal. It is indeed a very simple game.

In order to play DIABLO, a player has to find other players after connecting the server on the Internet, then starts a game together by getting into a hole so called donjon. The donjon of the game changes whenever they get into and partners are not the same with those played with in the past. Thus, a player may not lose his favour in playing the game.

This game has been popularized from a human to a human and then introduced in commercial magazines. So even the people who have never played, became to pay much attention to the network games.

When a network game was more popular, ULTIMA ONLINE has appeared on the market. The scale of the network game ULTIMA ONLINE is larger than any other games. 3,000 players (maximum number) can play a game at the same time. As the game does not give players any goal/purpose and it has a few events, each player only lives in a given world. A player may think out a purpose of his life and events which he wants to do. As many people live in the real world, those who have the same purpose of life eagerly live together and cooperate each other when necessary.

As ULTIMA ONLINE is set up with many small things, a player is able to do almost everything that he wants to do. Since a player can communicate with other players in the game, it is so similar with TRPG. The much better point of the game is that it relies on a computer only for the judgement of many things for the speedy progress of a game so that many people may play together.

3 Entertaining Factors

Consider what are interesting points of network games and it is obvious that these points strongly depend on a player, namely, his emotion/feeling, skill of games and so on. Therefore, we designed a question-and-answer form to explore what kind of elements affect to player's favour in network games, The inquiry form has been sent to five notice boards on the Internet, and we received answers from nearly 80 network RPG players.

In the following discussions, we focus on the five elements: a story of game, characters of each player, growing progress of players, difficulty for ending up a game, and the whole system of a game, which are based on the results of a preliminary inquiry with a question-and-answer form.

3.1 Story of game

In the case where a game has a story, it is important if a scenario of a given game has attractive points so that a player can enjoy much. Recently, a RPG has not only one story, then scenarios have been improved for multi-scenarios and multi-endings. Thus the game can become more complex and more flexible so that each player may enjoy and play more games.

3.2 Characters of each player

Is also important if a game has characters which can attract others. In the case where a game has a story, a player enjoys playing his role as well as possible in the game. Then, he may become to like very much the person whom he plays and feels better for the game. In another case where a RPG is composed based on a comics or animation, players may enjoy their characters in another sense because their characters are already known.

3.3 Growing progress of players

In the case where a character can grow in a game, one player can enjoy the growing progress of the character. A player enjoys to make a character much stronger or collect many items. Fortunately, it is usually much easier to do so in the game than doing in the real world.

3.4 Difficulty for ending up a game

It is not easy to determine the difficulty of a given network RPG because the conditions of a player such as feeling, emotion, skill and so on, are not the same. We observe that an appropriate difficulty of games can provide a player with much entertaining resources. As another observation, it is not good that a player has to repeat easy tasks since he cannot enjoy the progress toward ending up the game.

3.5 The whole system

The whole system of a network RPG is also important to make it more enjoyable. The new system (e.g., the multi-site system) has been developed so that a player may enjoy many stories even in the only one game. Thus developing a new system can provide players with some new entertaining aspects.

4 Experiments and Discussions

We prepared a question-and-answer inquiry form to ask of network RPG (DIABLO and UO) players on entertaining elements.

4.1 What they think of DIABLO?

The inquiry form on DIABLO has been sent to five notice boards on the Internet, and we have received 78 answers. The results of

the inquiry suggest that many players like the item collections and the multi-play.

As shown in Figure 1, 14 % players like the skill up as an entertaining factor of network RPG. Similarly, the item collection 51 %, non-reversibility 15 %, randomization of dungeons/partners 15 %, multi-player playing 73 %.

Based on the results of the question-and-answer inquiry above, we can list entertaining factors in DIABLO as follows;

- Skill up
DIABLO has character's levels as same as the other RPG. Being level up of a character is one of the most entertaining subjects in the game, which may reflect the skill up of a player. At first, it is easy to level up in the early stage, while not easy as the game draws to ending up. In other words, it is easy even for a novice player to start a game but hard to accomplish it.
- Item collections
There are many items to collect in DIABLO, which are totally 481,668 items by their combinations. They appear at random during the game. Since it is difficult for a player to find out his favorite item, getting such an item makes him very happy. There are so-called rare items, usually it is very hard to get them.
- Randomization of dungeons
One player enjoys in a new donjon with a map-random-generator whenever he goes into a donjon. Similarly, he can enjoy the partnership with different partners by making a different group through the Internet each time.
- Non-reversibility
As once the data of characters in a game has been saved at a real-time, a

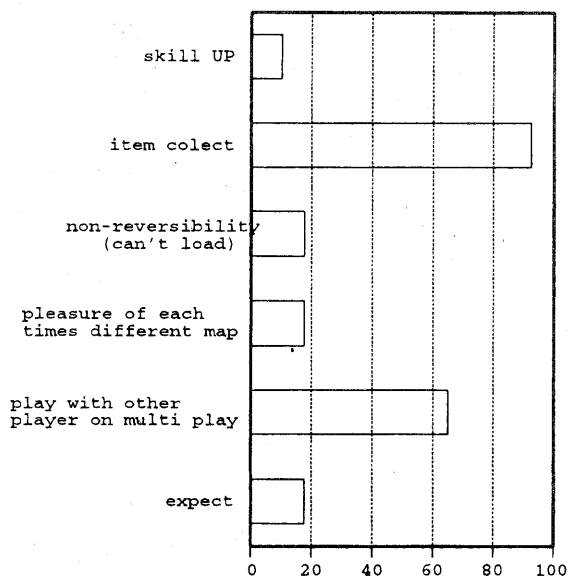


Figure 1: The results of an inquiry on DIABLO

player cannot try again repeatedly although it is possible to do so in a normal RPG. Therefore, a player has to play very seriously, which gives him much attraction in playing the network game.

- Multi-player playing

Since a player can play with other many players through the Internet, the entertaining points given by multi-player playing are counted in the game. For example, a player can get items by which he may change it with others, and also may do buying, selling or scrambling. Having a cooperation with the other players makes the complex stage easier which would not be easy for one player.

4.2 What they think of UO?

In UO, there is not story, defined events and any purpose. The inquiry on UO has been sent to five notice boards on the Internet, and we have received 77 answers. The results of the inquiry suggest that the players of UO enjoy much especially its flexibility and the change of the world.

As shown in Figure 2, 30 % players like the skill up as an entertaining factor of UO. Similarly, flexibility 57 %, non-reversibility 21 %, reality approximation 26 %, changes of the UO world 48 %.

- Skill up

Though there are no concepts of the character's level in UO, a character has various skills for a battle and a life. There are some skills that a player may not know how to use. Being the many skill is an important element of greatly flexibility in UO. In order to make the skill of one player up, he should pay to NPC or go on using the skill. There is a limit of the skill that a player learned, i.e., if the skill is not used for some period, it disappears. The best skill of a character becomes his job. according to the skill level of the job, a character is named an epithet (i.e., Grandmaster). In the skill system in UO, there is a limit of sum of all the skill in the world, hence it is difficult to skill up while it is easy to make it down. One player may be proud of his character after being a Grandmaster which is the most popular skill.

- Item collections

In UO, there are not generally precious items and rare items. There are also no players to collect items. The capacity of items in which a character can keep is strictly limited, but a

player may collect *money*. It is more difficult to gain money in UO than in any other games including other network RPGs.

- Non-reversibility

In UO, all data is saved on a server, but a player cannot load his own way. Of course a player cannot try again repeatedly. Since the penalty for a mistake is really serious, one player must play very carefully like being in the real world. This tension is also an important entertaining element of UO.

Here we consider what are the significant elements in UO for entertaining aspects which we may not see in other RPG.

- Flexibility

UO does not provide players with any specific goals to accomplish, while many skills for a character are prepared, hence, one player can do anything as he likes. He does not need to repeat a battle although it is often required in other normal RPG. According to the concept of UO, one player is not a special character but merely one of characters in the world.

UO is just an original role playing game. It means that the role of the whole system of UO will approach to a role of GM in TRPG. The merit of UO is that many (at most 3,000) people can play together. Moreover, each player can play alone through the Internet.

- Reality approximation

Since the main subject (if exists) in UO is to live, a virtual society is constructed in the world of UO on the Internet. There are groups called *Guild*.

One player comes to Guild to look for players who have the same purpose with his, and seek for help, make friends and so on.

When a group is organized, a law to live may be created in the group and the behavior in the group is limited. By doing such systematic organizations, it is just to make another *virtual society* in UO [4]. Since the society is of course an imagination society, one player can behave more freely than the real society we live, where rewards for any efforts of one player will return to him. As the character (NPC) who controls the law in the town of UO, if one player behaves out of law in the town, his character should be killed. In the place without any laws, the reputation of one character is checked by a system of reputation.

- Changes of the UO world

The computer system of UO is very big since 3,000 players live there. This means that there are at least 3,000 indefinite factors in UO. This game is very dynamic. Many computer bugs may appear. Recently, some companies have attempted to provide players with changes of the UO world and maintenance. By such helps, players can enjoy much the changes of the world. Indeed, the change of the world is one of the important entertaining aspects.

5 Concluding Remarks

Our current conclusion here is that in multi-player games, having (many) other players is an indefinite element for entertaining games. One game is extended to be more

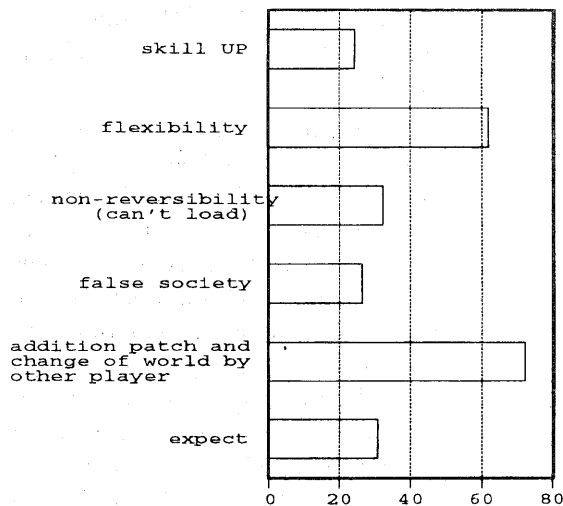


Figure 2: The results of an inquiry on ULTIMA ONLINE

complex that it may reflect the real world more appropriately.

In a virtual world on a computer, there are patterns which are set up in advance. Hence, there are many unchanging matters until the program is changed. It results the mannerism of game playing, which is a critical factor for entertaining games. Thus, a multi-player game gives the increase of the attraction of the game with indefiniteness provided by other players.

In network (RPG) games, there is a certain virtual world. They live in the at least two different world. One of the advantages is that they may learn a lot in such a virtual society [3]; keeping law, living together, making friends, and so on. Such an experience provides players with much pleasantness from various points of view. However, there should be disadvantages, which we investigate as one of future works.

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