

# A Knowledge Community Website Mode Based Analysis System on Web Game

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*Abstract:* - Owing to the mature developed skills of information technology and widely used of internet today. Many teenagers or students spend much of their time in internet. There is a high ratio of these users spending much of their time in playing games. And many of the students' grades are far behind at school. Lots of their parents and teachers appear opposed objected their children involving in playing network games. In this paper the author present an 'Apply Knowledge Community Website mode based analysis System on Web Game' in which embed the history learning in one of the types of internet game: web game. The knowledge management is mode is employed in our research. The content of this research is centered on China History. After numerous simulations, we find that there is a huge ratio of the network game users are students. The topic of fighting, war or other topics those wouldn't help the students in increasing knowledge creation. Therefore, in order to help the students gain real harvest in playing the network game. Our knowledge community website mode based analysis system on web game plays an important role in game world.

*Key words:* knowledge, game, web game, China history, community website mode based analysis system

## 1 Introduction

### 1.1 Research Background

Based on the investigation of Research, Development and Evaluation Commission Executive Yuan in January 4th 2008, the amount of internet users has made the highest record in 2007 and has exceeded thirteen million users. The result appears there are 65.6% internet users for those people over twelve years old. There are 74.8% internet users for those people over 6 years old.

The investigation of Taiwan ADSL using record in 2008 appears that the amount of people who are using internet increase yearly, as shown in Fig.1. For those people who are under 12 years old, there are about 1.98 million people who have been using internet these years. There are about 13.56 million people who have been using internet over 12 years old. As shown in Fig.2.

The Institute for Informatio Industry ACI-FIND has executed a program: The Investigation of Taiwan Family Information Telecommunication Technique Application Situation in 2003. The further analysis focused on different groups in playing on-line games are on the basis of the following variation elements: sex, age, and education. The result appears the young people and with lower education background are involved in on-line games widely.

The average years of the young people who use internet are about one to two years. Over half of those users use internet above one hour each day. Theirs interesting activities are 'on-line game, searching data, viewing entertainments and chatting.' (Chwung, Yuan-Yu, 2002)

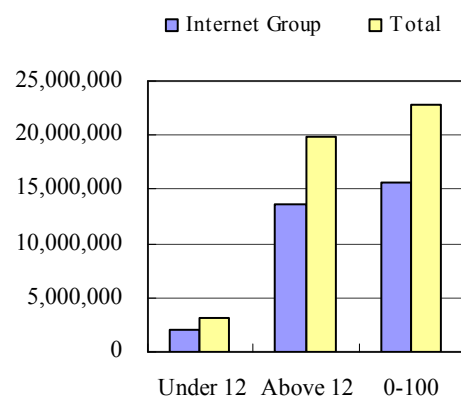


Fig.1 The ADSL users in Taiwan in 2008.  
(Source from: Research, Development and Evaluation Commission, Executive Yuan)

### 1.2 Research Motivation

The widely using of internet and basic computer knowledge has been matured in present society. The complicated game method or advanced computer

knowledge are forbidden by general users. Today, the web-page skills have been developed rapidly. Various kinds of platforms achieve mature and humanization.

The commercial web games represent apparent difference in story background and game playing method. The web game doesn't have to be downloaded and installed. Only while the internet explorer has been accessed to the internet, the game can be used.

Owing to the simple scene and command, the high-quality software and hardware equipments are not required, either. Many of the web games are free. But some of the web games lack story content and education induction. Then, some web games are probably prohibited by the parents due to the weakness.

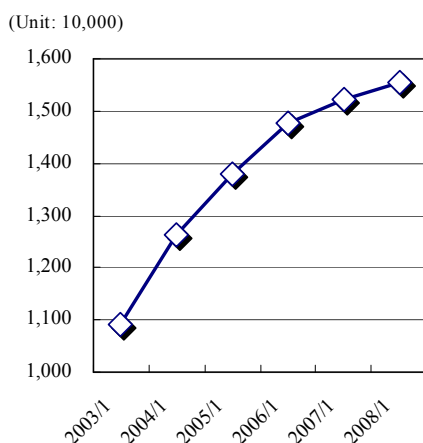


Fig.2 The Internet users in Taiwan in 2008.  
(Source from: Administration of R.O.C.)

### 1.3 Research Purpose

Most of the internet users are students. Usually, most of the internet users' parents objected their children involving in playing network games. Therefore, we would like to submit a learning mode that would apply knowledge community website mode based analysis system on web game and embed the history learning in web game platform. This mode will enhance the realization of history for the users. The interesting and colorful scenes and roles will also help the users memorize history faster.

Therefore, our research 'Apply Knowledge Community Website mode based analysis system on Web Game' is created. The knowledge management mode is applied in our research. We constructed a knowledge community website mode based analysis system for the teenagers. The story's content of the web game is centered on China History. We'd like to provide a brand new 'Digital History Classroom' for

young people.

### 1.4 Research Scope

The period of China History in our web game is from the late of Warring States to the Han dynasty. The game background, scenarios, scenes and roles are designed in our research. The detailed introduction is listed in the following sections.

#### 1.4.1 The Background of the Game

The background of the game is from the Warring state to the Han dynasty. The Warring States is the beginning dynasty in our web game. The Han dynasty is the last dynasty in our web game. The period is listed in Table 1.

Table 1 The period in our web game.

Period	Dynasty
BC230 ~BC221	the late of Warring States
BC221 ~BC206	the Feudal State of Chin in the Chou Dynasty
BC206 ~AD23	the West Han dynasty
AD25 ~AD220	the East Han dynasty

Source from: Analyzed from the references listed in this paper.

#### 1.4.2 The Scenario of the Game

The missions designed in our web game are referred from the real important history stories in each dynasty. The real important history stories are abstracted in Table 2.

Table 2 The real important history stories in each dynasty.

Dynasty	Important History Stories
the late of Warring States	Chin destroyed six small countries.
the Feudal State of Chin in the Chou Dynasty	Established united nation and implemented centralization system.
the Han dynasty	The King of Bang Liu destroyed Chin and established the Han dynasty.

Source from: Analyzed from the references listed in this paper.

#### 1.4.3 The Roles and Scenes of the Game

In our research, the user may create a 'role' that turns to be as the leading role in the scenario. Then, the 'role' can select the dynasty what the 'role' wants to play in. Once the dynasty has been selected, the 'role' would be asked to assist the King of the specific dynasty finishing many difficult missions. This participation would make the user clearly understanding the development of the history. The period of each dynasty in our research are shown in Fig.3.

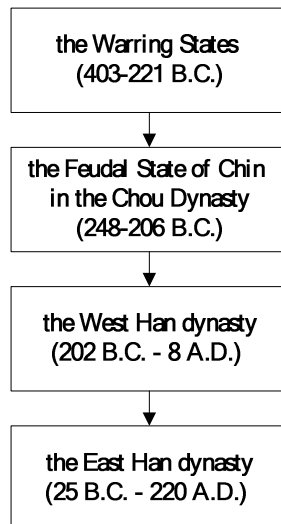


Fig.3 The period of each dynasty in our research.

## 1.5 Paper Organization

In Section 2, we present the Literature Review. The System Research Methodologies are introduced in Section 3. The System Research Result is listed in Section 4. And the Conclusions are introduced in Section 5.

## 2 Literature Review

In this session, we introduce the development of web game, the classifications of web game, the influence of web game users, the research of addicting to network game, the influence of the internet using by teenagers, the network discussion by parents and teachers and the exploration of related researches.

### 2.1 The Development of Network Game

The network game is created by Roy Trubshaw and Richard Bartle in British Asaska University in 1978. It is called Multi-user Dungeon Dimension (MUD) and is a character on-line game. MUD means Multi-user Dungeon, Multi-user Dimension or Multi-user Dialogue. MUD represents a virtual reality environment where exists in network, allows multi-users participate and expands the amount of users. The interface of MUD is 'character'. MUD is a kind of adventurous game that allows many users access at the same time. The story of MUD is based on the famous game 'Dungeon and Dragon'. The users may gain points after they kill the monsters or dig out the treasure. All the users own the equal condition in the beginning of this game. But, after accumulating a certain experience value, the users

are allowed to upgrade their status to own the opportunity gaining more power and resources. The social levels are created under this game rules.

MUD provide multi-users function. Each user can act or control a role. The role can choose the game path freely, communicate with other roles and even create favorite items and environment. The interactive functions are more and more emphasized by the users today.

### 2.2 The Classifications of Network Game

There are three types of popular network games today. The introduction is listed in the following sections.

#### 2.2.1 The Online Game

The on-line game can accomodate thousands of users at the same time. All the users can communicate with the others at the real time. Each user must select specific sex, career, race and ability. In order to upgrade the role's ability, each user also has to complete the assigned missions or destroy the monsters. The achievement resulted from upgrading and the interacting among users become the most attractive issues in this type of game.

Anyone who want to join this game, they must purchase the game CD and install into personal computers. Then, the user should register and become a member of this game. Only members are allowed to attend the interactive game with other users.

#### 2.2.2 The Network Game

Network game is usully used in local area network. The users can also link to other servers those are played as the medium status. While the users find other users, they play the game on internet instead of using the server. Many users like to play the 'fighting' network game. The user select their partners and attack specific enemies together. The user can fight against the other user or fight against the war. The network game has specific attack target and time limit.

#### 2.2.3 The Web Game

The web game uses web site method to display common game. Such as the Microsoft's internet game field provides the network linking method for all the users can compete with all the users all over the world. The characteristics of web game is so convenient and without constraints of space and time. The users can join the web game in the virtual world whenever they want to.

### **2.3 The Influence of Network Game Users**

Network game is a pure entertainment game in the beginning. But, the nature of the network game is changed today. The network game creates the virtual money and displays its value today. All the types of crimes are designed in the game and brings out the real value of the law.

Some students skip from schools and spend most of their time and money in the network coffee shop. Some people force themselves fighting for the virtual treasure without resting and working. The popularity of network game not only appears strange behavior but also creates new modern characters.

Shyau-Jung Lee observed network game brings strong influence today. It appears not only in users' concept, but also in language point. Network game also appears the positive effect. It provides a good place to make friends and shorten the distance among others.

### **2.4 The Research of Addicting to Network Game**

In this section, we would like to introduce the definition and the reasons of addicting to network game.

#### **2.4.1 The Definition of Addiction to Network Game**

Chwan-Yi and Yi-Hwei defines the addiction to network games is anyone who spends a long time in computer and network games that made the users living away from normal life. Even the school work, social relationships, families or work are put aside by the users. And the users also have problems while being alone.

#### **2.4.2 The Mental Reasons of Addicting to Network Game**

While the users lack of dignity, social support or emotional reliance in the real world, the users might escape from real world and move into the network environment. Some users are seeking achievement satisfaction, control, belongings and virtual reputation in the network game (Shin-De Wu, 2003).

### **2.5 The Influence of the Internet Using by Teenagers**

The influence of the internet using by teenagers are discussed in two points: A fast communication channel for teenagers and the reduction of gaining real social life.

#### **2.5.1 A Fast Communication Channel for Teenagers.**

Yi-Ann Chen pointed that the popular medium of the relationship communications on internet is 'characters'. The type includes e-mail, talk(MSN, ICQ and chat room), username(BBS, Newsgroups, Blog and Forum). Dzung-Ying Chen observed that the network owns the characteristics of activity and two-way communications those attract people getting used to this human relationships mode. People can establish the scope of their human relationships based on their own interesting and willings. The creation of network broke the distance of time and space and create a brand new way for people to widen human communication channel.

#### **2.5.2 The Reduction of Gaining Real Social Life**

The personal computer provides people using the computer individually. Therefore, some researchers worry the usage of computer might reduce the chance for the teenagers to contact people and develop their human relationships and neglect the importance of establishing real social activity. And while the teenagers spend most of their time on the computers, they have no much spare time developing their social activity skills. Yu-Ling Liu found that the use of network provides teenagers a new space on developing human relationships. But the sincere and the precious emotional transition of human relationships couldn't represented today. Therefore, how to help the teenagers establish correct social activity method is an important point to work on it.

### **2.6 The Network Game's Discussion by Parents and Teachers**

As to network game, Feng-Jyan Lee pointed that the parents and teachers worry about the following three phases: the behavior phase, the emotion phase and the health phase.

#### **2.6.1 The Behavior Phase**

In order to forbid the negative influence on teenagers, the parents and teachers should observe where and when the teenagers choose to play the on-line game, their motivation and the types of on-line games. The parents and teachers should also observe whether the teenagers begin appear less interesting in daily affairs and the change of daily schedule.

### 2.6.2 The Emotion Phase

The parents and teachers should observe whether the on-line game appear the emotional influence on the teenagers. Such as, whether the teenagers become less patience, extremely involve in on-line game without self-control and skip from school.

### 2.6.3 The Health Phase

Spending a long time sitting in front of the monitor may suffer serious influence on people's health. Therefore, the parents and teachers should observe if the teenagers can't concentrate in the class and in the day time. Besides that, the change of eating habit also a sign of spending much time in on-line game.

## 2.7 The Exploration of Related Research

As we observed, only few history games are based on the real history and are focused only on single event. The introduction of history process are seldom included in these kinds of history game. Those games are designed by Flash software that might limit the degree of participation for the user.

In our research, we apply knowledge community website mode based analysis system on web game. A master mission attached with many branch missions are designed from the Chin to the Han dynasty. We select important real events occurred in these dynasties. The users follow the history process in our web game. The user learn the important real events occurred in each dynasty and opens a broad view of history.

## 3 System Research Methodologies

In this section, the research process, research method, SWOT analysis and system developing tools are introduced.

### 3.1 Research Process

Many literatures are reviewed in the beginning and the questionnaires are designed then. The analysis result of the questionnaires are used as the guidelines in designing knowledge community website mode based analysis system on web game. The research process is shown in Fig.4.

### 3.2 Research Method

Literature analysis method, questionnaire investigation method and practical design method are used in this research.

First, many literatures are collected and analyzed as the basis of research. Then, the questionnaires are spread out through the network. After the statistical analysis of the investigation results, the useful related data represent a positive index in developing knowledge Community website mode based analysis system on web game.

There are three points of questions in developing knowledge Community website mode based analysis system on web game designed in a questionnaire. After completing the data analysis of the returned questionnaires, a few statistical graphs are listed below.

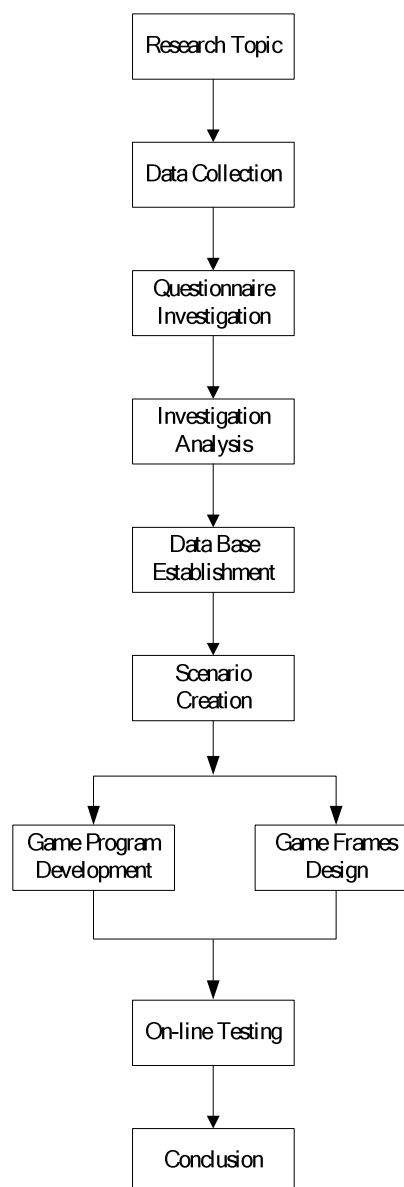


Fig.4 The Research Process

**Point #1. The knowledge community website mode based analysis system on web game represents the users' needs.**

In our research, many users indicate the game can be defined convenient whenever the game can be used while the network is accessed at any time. The ratio is shown in Fig.5.

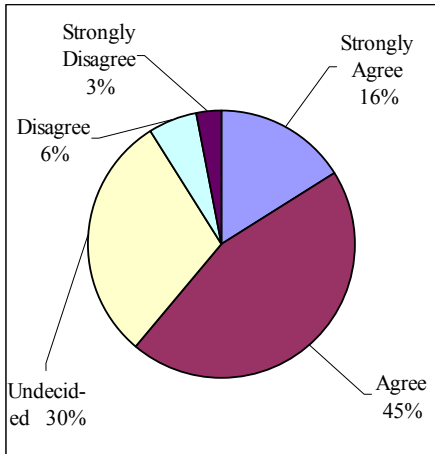


Fig.5 The ratio of the users defined the game is convenient whenever the game can be used while the network is accessed at any time.

In our research, many users would feel highly participation only when the scenario of the game includes the missions those should be implemented by the users. The ratio is shown in Fig.6.

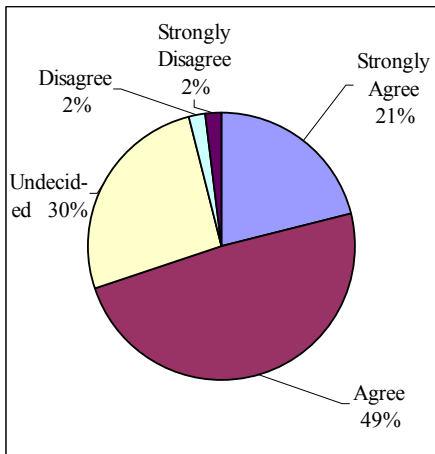
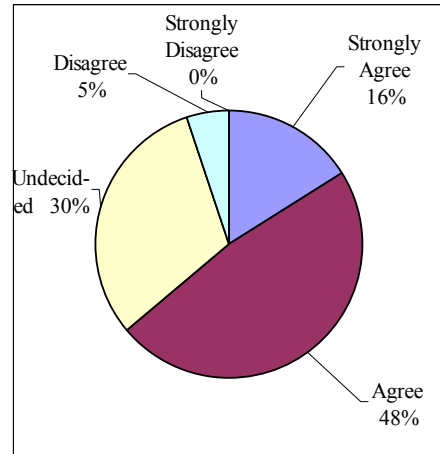


Fig.6 The ratio of the users feel highly participation only when the scenario of the game includes the missions those should be implemented by the users.

**Point #2. The knowledge community website mode based analysis system on web game represents the users' concepts in learning history.**

In our research, many users indicate learning history is good for people at present time. The ratio is shown in Fig.7.



In Fig.7 The ratio of the users indicate learning history is good for people at present time.

In our research, many users indicate they might feel boring while they are reading history text books. The ratio is shown in Fig.8.

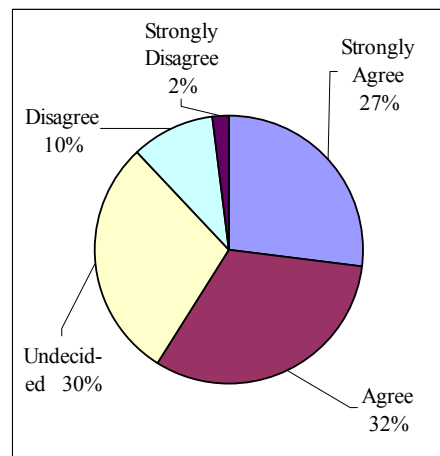


Fig.8 The ratio of the users feel boring while reading history text books.

In our research, many users believe using knowledge community website mode based analysis system on web game in learning history would become easier. The ratio is shown in Fig.9.

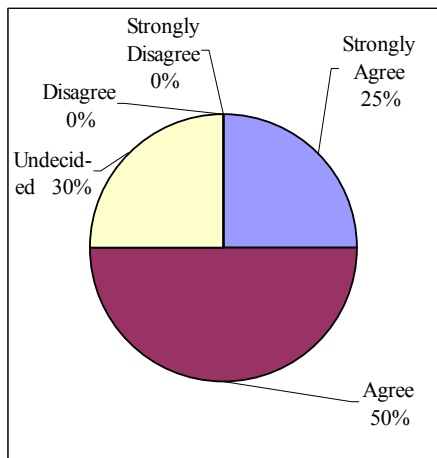


Fig.9 Many users believe using web game mode in learning history would become easier.

**Point #3. The knowledge community website mode based analysis system on web game represents the attraction degree of involving history materials in the game.**

In our research, many users are attracted by the history background designed in web game. The ratio is shown in Fig.10.

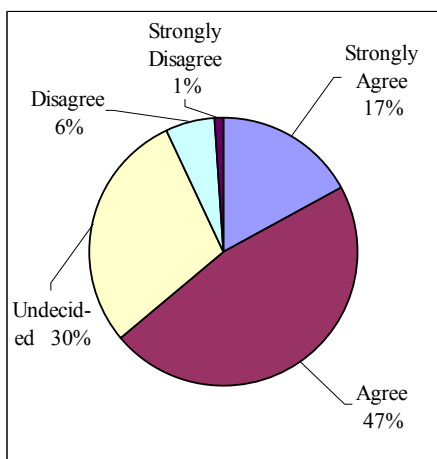


Fig.10 The ratio of the users attracted by the history background designed in web game.

In our research, many users agree that learning history in the web game becomes easier to understand. The ratio is shown in Fig.11.

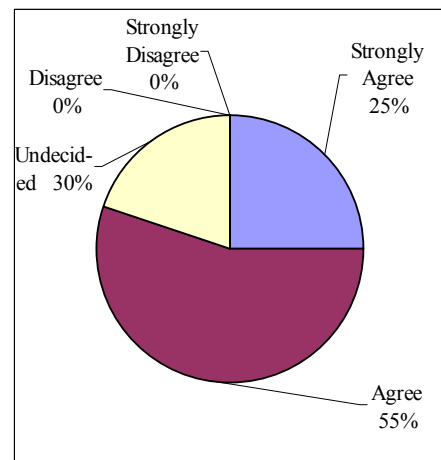


Fig.11 The ratio of the users agree that learning history in the web game becomes easier to understand.

### 3.3 SWOT Analysis

The 'SWOT' Analysis has been made in this research and represents a positive support in developing our web game. As shown in Fig.12.

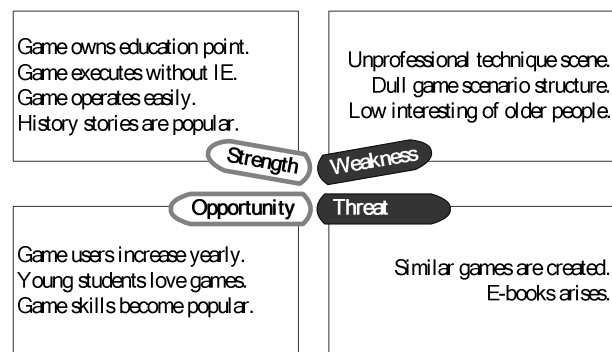


Fig.12 SWOT Analysis

### 3.4 Developing Tools

Three major tools are used in our research.

#### i. Visual Studio

Visual Studio is a complete development tool used in constructing ASP.NET Web, XML Web Services, desktop application program and mobile application program. Visual Basic, Visual C# and Visual C++ are using same Integrated Development Environment (IDE). All the tools are shared. The establishing process of mixing language project can be simplified. Besides, these languages can use the strong functions of .NET Scenework in simplifying the development work of ASP Web application program and XML Web Services.

### *ii. CorelDraw*

CorelDraw is the major designing software in the system. CorelDraw is used in designing the roles, the materials, the homepage and all the scenes of the web game. CorelDraw simplifies the designing process and designs the materials concretely, quickly and easily.

Coreldraw also matches the industry's standard file format and supports the Unicode function. After the integration with vector image, page layout, digital image and dynamic image application software, CorelDraw Graphics Suite 12 increases the producing amounts, provides huge efficiency and outstanding value.

### *iii. Photoshop*

Photoshop is a good assistant in designing software. It strenghtens the appearance of the images designed in CorelDraw and strengthens the images' style by using special filtering method.

Photoshop processes the digital images those are constructed by pixels. It owns great editing and drawing functions in image editing. The special history record floating window and editable layer effect help users in testing image conveniently. The various kinds of filter functions support the users creating many incredible effects.

Photoshop is also widely used in processing network images now. The ImageReady software is added to Photoshop's newer version. It strengthens the supporting function in process network image, special in GIF image. The ImageReady is replaced by Fireworks in CS3 virsion. The CS3 versions allows users upgrading to the newest hardware platform easily and supports the Intel core system of Macintosh.

## **4 System Research Result**

The introduction of system research result includes system functions & characteristics, users & environment and system environment. The detailed introduction is listed in the following sections.

### **4.1 System Functions & Characteristics**

Our knowledge community website mode based analysis system on web game uses the web page techniques and involves the nature of game. The inner installed viewer in the operating system supports the execution of our web game. Comparing with the on-line game in the market, our web game's operation is easier. Many of the scenes are appeared as the type of numbers. Once the user makes different

selection, the points will be increased in the game. The changing of increasing numbers encourages the users spending much more time and energy in the game.

Our web game doesn't have to install extra program. Our web game has fluently operating process. The numbers of users are not limited. The elements of history added in our web game help the users understanding history easily. The designing of scenario is based on history. But, the evaluations and comments on each role appeared in the web game should be made by the user alone.

### **4.2 Users & Environment**

The users of our web game are positioned at the level of teenagers, the groups those don't understand history very well and the students under ten years whom use our web game as a simple history learning materials.

The users' environment of our web game is Windows Operating System, MAC System, LINUX System and UNIX System. The view's format should support IE and FireFox.

### **4.3 System Environment**

The main operating system of our web game is Windows operating system. The inner installed IE viewer can support the execution of the game. No other object needs to be installed. The system executing flowchart is listed in Fig.14.

## **5 Conclusions**

In this paper the author presented an 'Apply Knowledge Community Website mode based analysis system on Web Game'. We made numerous simulations and found that there is a huge ratio of the network game users are students. The topic of fighting, war or other topics those wouldn't help the students in increasing knowledge creation. Some of the students who might drop out of school owing to stay in network games all day. Therefore, in order to help the students gain real harvest in playing the network game. Our knowledge community website mode based analysis system on web game plays an important role in game world. Our research is based on knowledge community website mode. We add China history as the web game's background, game scenario and game roles. The users of our web game find a method to loose their pressure and learn related knowledge of China history.



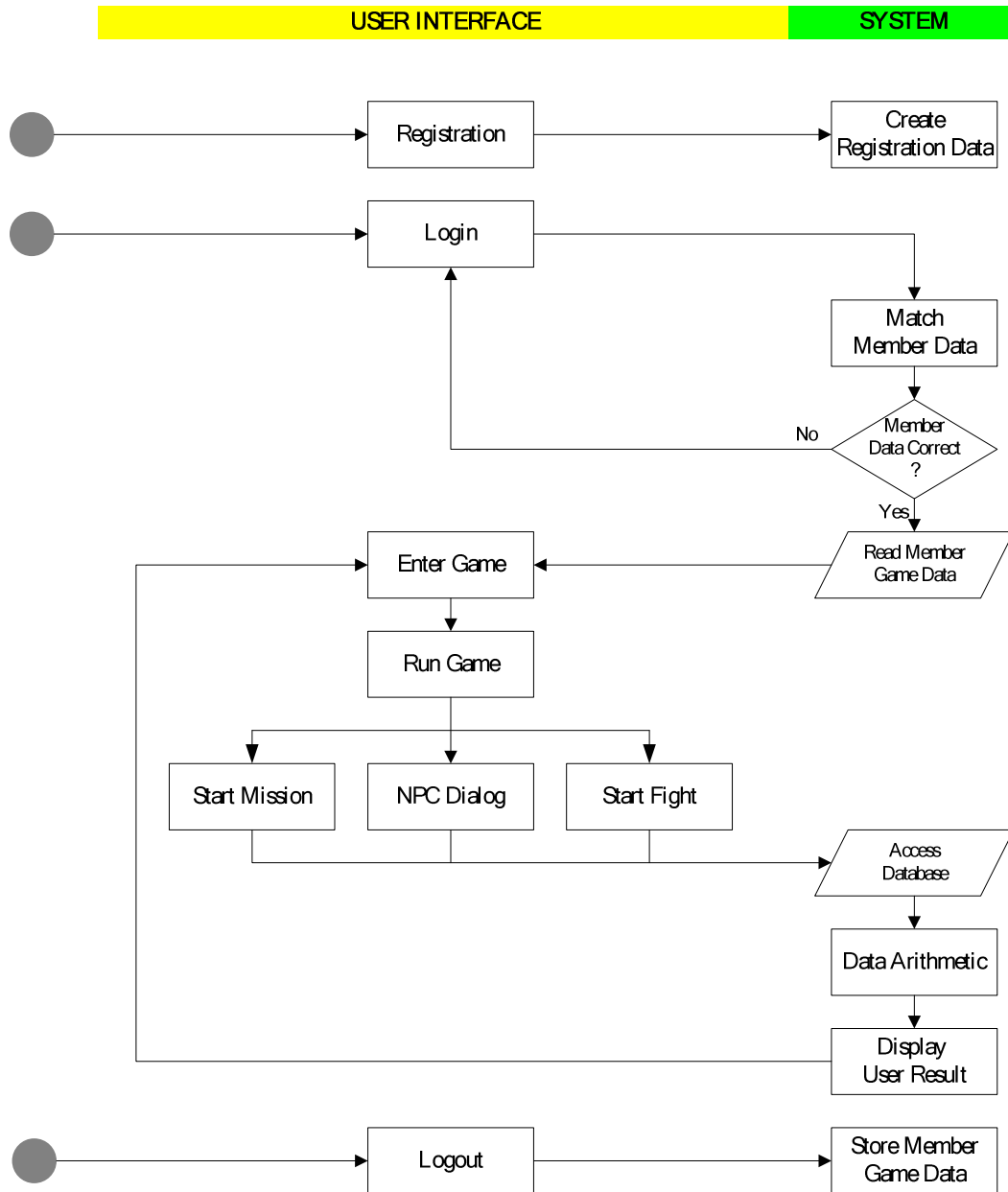


Fig.14 System Executing Flowchart

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