

**WORD MASTER COMPUTER EDITION**

**ANTONETTE JOYCE R. MELENDEZ  
REEMARK JHONNE H. UGALDE  
JOHN PAUL G. GONZAGA  
JETHER M. DAPROZA  
RONEL R. SANTUA**

**A CAPSTONE PROJECT PRESENTED TO THE FACULTY OF THE  
ILOCOS SUR POLYTECHNIC STATE COLLEGE  
INSTITUTE OF COMPUTING STUDIES  
STA. MARIA, ILOCOS SUR**

**IN PARTIAL FULFILLMENT  
OF THE REQUIREMENTS  
FOR THE DEGREE**

**BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY**

**MARCH 2015**

**TABLE OF CONTENTS**

<b>PRELIMINARIES</b>	<b>PAGE</b>
Approval Sheet	i
Acknowledgment	ii
Dedication	iii
Executive Summary	viii
Table of Contents	ix
List of Tables	xii
List of Figures	xiii
<b>Chapter</b>	
<b>I      INTRODUCTION</b>	
Project Context	1
Purpose and Description	4
Objectives of the Study	5
Scope and Limitation	5
<b>II     REVIEW OF LITERATURE</b>	6
<b>III    TECHNICAL BACKGROUND</b>	
The Iterative Waterfall Model	22
Requirements Gathering and Analysis	23
System Design	23
Implementation	24
Verification	24



Maintenance of the System	24
<b>IV METHODOLOGY</b>	
Project Schedule	26
Project Staff and Function	27
Data Gathering Procedures	29
Library Research	29
Internet Research	29
Interview	29
Questionnaire	30
Sources of data	31
<b>V RESULTS AND DISCUSSION</b>	
Requirements Documentation	32
System Model	32
Process and Data Model	32
Data Flow Diagram	32
Use Case	34
Relational Schema	35
Features of the System	36
SUMI results	49
<b>VI SUMMARY, CONCLUSION, AND RECOMMENDATIONS</b>	
Summary	55
Conclusions	56
Recommendations	57

---



<b>BIBLIOGRAPHY</b>	<b>58</b>
<b>APPENDICES</b>	
A Approval Sheet	65
B Interview Guide	68
C SUMI Questionnaire	69
D Wire Frames	73
<b>CURRICULUM VITAE</b>	<b>86</b>

**LIST OF TABLES**

<b>Table No.</b>	<b>Title</b>	<b>Page</b>
1	Role Requirements and Responsibility	28
2	Usability of the System Along Efficiency	50
3	Usability of the System Along Affect	51
4	Usability of the System Along Helpfulness	52
5	Usability of the System Along Controllability	53
6	Usability of the System Along Learnability	54

**LIST OF FIGURES**

<b>Figure No.</b>	<b>Title</b>	<b>Page</b>
1	Iterative Waterfall Model (Gawasane, 2012)	17
2	Iterative Waterfall Model	23
3	Gantt Chart	26
4	Data Flow Diagram (DFD)	33
5	Use Case Diagram	34
6	Relational Schema	35
7	Loading Form	36
8	New Player Form	37
9	User Log-in/Selection	38
10	Main Form	39
11	Adventure Form (Map)	40
11.a.	Regular Form (Adventure)	41
12	Survival Mode Form	43
13	Time Attack Form	44
14	Instruction Form	45
15	High Score Form	46
16	Setting Form	47
17	About the Game Form	48
18	Exit Form	49



## Chapter I

### INTRODUCTION

#### **Project Context**

Everything around us has been designed by someone. Everything you see around you came from planning of others. Almost everything you see is a product of Information Technology. Information Technology is a gift for human beings. It plays a wonderful role in people's daily life. It is impossible to imagine life without technology.

Computer has now become a part of man's everyday life. Like gadgets that can do all the things you want anytime in need. For instance in documenting, making PowerPoint for the business, in our studies, special effects in movies and many more. It sustains and lightens up our work. This is also one of the popular and successful sources of entertainment among people especially the students. This refers to the games that are played in a computer network, typically the internet.

A game is an activity that can help people to create context in which the language is useful and meaningful.

Game development focuses on developing original content that will showcase people's talent on programming, designing, structuring of games for the purpose of enjoyment. However, this should meet the



standards not only in the local areas but also on the global game development industry.

Cucumber (2006) stressed that computer/video games is used for entertainment, education/training, brain development, and international relations.

✓ Rudon (2009) mentioned that gaming is important because; it helps children who are ill or have injuries, helps children with attention deficit disorders, used as a form of physiotherapy, improves hand-eye co-ordination, induces decision making, create team players, enhances creativity, improve language and math skills, helps children gain self confidence, and teaches players problem solving, motivation, and cognitive skills.

✓ Kharbach (2012) stated that in education, computer/video games can help develop problem solving skills and negotiation, judgement, analysis and strategic thinking, communicating skills and networking, narrative skills and transmedia navigation, non-linear thinking patterns, improved attention,vision and cognition.

Word Master Computer Edition is a game wherein students are going to apply and use the application not just for entertainment but for them to learn on something, like any other word games. With this study, the students are expected to learn words about computer.



Word Master Computer Edition is an application that composed of modes namely: First is the adventure mode. It consists of ten stages with ten levels. Second is the time mode where gamer must compete contrary to the clock to get the ideal score. Players who will make it, will get through a lot more levels and can discover the most significant terms from the collection and can eventually end up earning points. Lastly, the survival mode wherein there is a given time to create words from the given letters. The more input you have, the greater the score but; there is only limited life for the player. Word Master Computer Edition can only be played by a single player.

One of the great factor why Word Master Computer Edition is different from other games is that there is a combination of features from other word games. There are new added feature when it comes to its design that could attract users.

The researchers' proposed game will help players learn new words. It will enhance the players critical thinking specially the non-IT courses because this game talks about the different terms used in the IT course. Especially right now that technology is continuing to evolve. This game could help people know more about computers. It can sharpen their brain about technologies. And it could help develop their eyesight to look faster for the words that are being asked to find.



## Purpose and Description

The proposed study is significant to the following:

**Students.** It will help them enrich their knowledge about different words on computer.

**Community.** This game can enhance the users' critical thinking skills about the computer.

**Proponents.** This study will be a proof of a good training given by the institution for another career on their future. It challenged them to explore new ideas that will lead to their skills improvement through researches and knowledge acquired during the development of the study. It will improve their skills for developing a software.

**Future Researchers.** This study will serve as their foundation in coming up with a related study or system as they enhance their computer knowledge and skills.



## Objectives

The general objective of the study is to create and develop a Word Master Computer Edition.

### The Objectives

1. To survey features of existing word games.
2. To design and develop Word Master Computer Edition.
3. To test the usability of the system.

### Scope and Limitation

The study focused on developing a game of a text twist style where it contains exciting modes, stages and levels that only focus about computer. The developed system includes the following features: a) The system has its user's log-in and can be manipulated by the users. b) The system has logically arranged menus, prompts, and information for easy understanding on the part of the user and c) User may use the keyboard keys and strokes in playing.

The game focused only on computer words. The application will only run through personal computers and not for mobile phones and will limit on a single player. The game will only be run in Windows and not on android or linux.



## Chapter II

### REVIEW OF LITERATURE

Computer games can be beautiful, entertaining, social, and sometimes they can be worrying too. Games, after all, are regularly accused of being immature pop cultural products that inspire sexism, aggression, and addiction. Such accusations are often (or atleast sometimes) based on research, but are also hotly contested. As a medium, the computer game is currently in a period of rapid development. From a design point of view, video games are becoming more complex and they are rapidly spreading to new platforms such as mobile phones, pocket computers, and websites. From a cultural point of view, they are becoming more visible and more difficult. From an economic point of view, games are attracting increasing interest with the industry showing rapid growth rates and global turnover of approximately USD17 billion p.a.(ELSPA, 2002).

PC games, also known as computer games, are video games played on a general-purpose personal computer rather than a dedicated video game console or arcade machine. Their defining characteristics include a lack of any centralized controlling authority and greater capacity in input, processing, and output. After years, the developers invented/created a new operating system and it is named Android. One of the great products of a computer is Android Application. Android is an



operating system based on the Linux kernel, and designed primarily for touchscreen mobile devices such as smartphones and tablet computers. Initially developed by Android, Inc., which Google backed financially and later bought in 2005, Android was unveiled in 2007 along with the founding of the Open Handset Alliance: a consortium of hardware, software, and telecommunication companies devoted to advancing open standards for mobile devices. The user interface of Android is based on direct manipulation, using touch inputs that loosely correspond to real-world actions, like swiping, tapping, pinching and reverse pinching to manipulate on-screen objects. Android is popular in technology companies who require a ready-made, low-cost, customizable and lightweight operating system for high tech devices. Despite being primarily designed for phones and tablets, it also has been used in televisions, games consoles, digital cameras and other electronics.

*Overmars (2007)*, quoted that "A computer game is a software program in which one or more players make decisions through the control of game objects and resources, in pursuit of a goal".

According to *LaMothe (2002)*, a computer began sometime in the '60s, when the first mainframe computers came to be. It may be most reasonable to see this as a history of mutual influences, where technology can inspire (or enable) cultural developments and cultural developments can inspire new technology. The computer game was



originally developed on equipment designed for military and academic purposes. But today the computer game is the driving force in the development of much hardware such as 3d graphics accelerators. The first computer game is generally assumed to be the game Spacewar!, developed in 1962 at MIT. Spacewar originally ran on a PDP-1 computer with the size of a large car. By today's standards, the graphics are rather primitive, although less primitive than many games from during 1980's. The game as such is not bad: Two players each control a spaceship circling a planet. The players can shoot each other, turn their ships, and accelerate. The goal is - naturally - to hit the other player before they hit you.

The first commercially available video game is Pong. It was introduced 11 years after Spacewar! Pong is a simple concept that has turned out to be surprisingly durable even though the graphics are simply white rectangles on a black background. In the beginning, Pong was placed at entertainment venues, markets, and fun fairs, next to mechanical pastimes and as a supplement to these. This is the same kind of place where the game Space Invaders (*Taito 1977*) was also introduced. Space Invaders defines most of the basic parameters of what is called the classical action game: A player controls an object/an actor against some enemies; a score is kept; the game is real-time and requires fast reflexes; the player has a fixed amount of lives (typically three); the



game is based on successive levels of increasing difficulty; the game (or just the title) places the player's action as part of a minimal narrative (*LaMothe, 2002*).

✓ According to *Overmars (2007)*, games come in many different types. Over the years, number of different genres have been created. If you are very creative you can try to make a game that is completely new, but if you want to be on the safe side you better pick a particular genre and make a game that fits in this genre. The following are some of the most important game genres:

**Puzzle games**, where clever thinking is the most important aspect. Many maze games are actually more based on puzzle solving rather than on reaction speed. Other examples include board games and sliding puzzles. These games are also normally 2-dimensional and are relatively easy to create, unless the game has to be played against a computer opponent in which case it might be difficult to program the way the computer plays the game.

**Simulators**, like flight simulators. Such games will try to realistically simulate some mechanism, like a plane. They are popular because people like to understand how such systems work and like to be able to control them. Creating simulators is rather difficult because you must



implement the internal working of the system you are simulating, e.g. the flying of a plane.

Clearly we did not cover all types of games in this list but it at least gives you some indication of the various genres. You can of course produce a game that has aspects of different genres, but you should be careful with this because games could have effects on the player's behavior. So we might as well pick a genre and stick to it for the whole game (*Overmars, 2007*).

Computer games seldom provide a human opponent, and so they lack the social element that other games offer. They can, however, present an illusory personality against which the player must work. This is one of the most exciting and least developed potentials of the computer as a game technology. And regardless of the computer's successes or failures and synthesizing a social element, the computer can readily make the game a highly interactive experience for the player. It can react to the player's moves with speed and thoroughness (*Crawford, 1982*).

There are also common games that are related in the researchers study, these are the following:

**Text Twist** , it is a word puzzle with a clue, a drawing illustrating the clue, and a set of words, each of which is “jumbled” by scrambling its letters to make an anagram. A solver reconstructs the words, and then



arranges letters at marked positions in the words to spell the answer phrase to the clue. The clue and illustration always provide hints about the answer phrase. The answer phrase frequently uses a homophone or pun *Naydel (1945)*.

**Bookworm Deluxe**, it has similar concepts to Mother Tongue Bookworm. The game utilizes 2D graphic visualization, from a grid of available letters; players connect letters to form words. As words are formed, they are removed from the grid and the remaining letters collapse to fill the available space. The players are given a board filled with lettered tiles, and they have to string them together to form words. The player get points for each word and longer words are worth more points. A major benefit of the game is that it increases player's vocabulary *Mueller (2005)*.

**Scrabble**, has been around for more than half a century now. Scrabble is a word game in which two to four players score points by forming words from individual lettered tiles on a game board marked with a 15-by-15 grid. The words are formed across and down in crossword fashion and must appear in a standard dictionary. There are three ways in which the player could benefit from playing this game. One of which is that it builds vocabulary, second is it helps one improve spelling and lastly in developing the skill of anagramming. The game application made by the proponents used this game as inspiration for the board game concept *Rooni (2010)*.



**Boggle game**, or most commonly known as word factory is a word game designed by Allan Turoff. The game is played using a plastic grid of lettered dice, in which players attempt to find words in sequences of adjacent letters. The game is intended to help children learn to recognize letters and words, to practice hand-eye coordination, and to learn the correct spellings of basic words *Nickerson (2007)*.

**Synthesis**, with the above mentioned related literature and studies, the proponents viewed that the proposed game application would be feasible and would significantly help those students most specially those who are under the K to 12 program of the Department of Education. Children nowadays have access to technology that was not available in previous generations and therefore they have a unique opportunity to use this technology to aid in how they learn. By reversing the negative effects of video games, there are benefits that could be gained by players while having fun at the same time.

Word Master Computer Edition is a good video game. Word Master works in that a gamer will need to piece together a range of alphabets. This is a game which makes it more stimulating as compared with other video games for many different distinct reasons. Initially, Word Master is an activity which is going to simply energize a person's mentality. It demands the player to create as many terms as feasible out from a particular combination of text letters.



It is really a significant advantage that makes it a bit quicker for anyone to have fun and be challenged at the time trying to play this word game. A person who gets into Word Master can enjoy levels that get to be much harder as the game continues. A gamer can function with a lot more alphabets in a level as that individual goes through a lot more stages. It is actually a fantastic characteristic that includes to the task. You can even find distinctive quests which can be used in the word game. A player who gets a greater phrase can conveniently qualify to the subsequent level. Word Master functions differently for the reason that a gamer must compete contrary to the clock to get the ideal score. A player who seem to make it through a lot more levels and can discover the most significant terms from a collection can end up with essentially the most points.

The game supports:

- a.)active learning, wherein students become the driver of the learning activity itself instead of being a mere passenger,
- b.)experimental learning in which it gives students the look, feel, and decision-making challenges of the real world, and doing it so, can help them better prepared for the real-world arenas in which they have been trained,
- c.)problem-based learning which encourages progress in students by presenting them with the series of problems which must be solved prior to the student advancing to the next step of his or her learning or training,
- d.)immediate feedback inspires students to renew



their efforts to solve the learning problem at which they might have failed on the first attempt, and e.)learner-centered learning wherein it mandates the student to be focus of the learning process and a good interaction of the machine and the game front end that is devoted entirely to him or her.

The gaming environments includes:

**Problem-solving in Complex Systems**, are systems, organizations, groups, organisms, etc., this exhibit characteristics which cannot be found among any one of their component parts. Computer games are ideal tools to both present complex systems, and then to introduce problems that can only be solved with a true understanding of the system itself.

**Creative Expression**, is very closely tied to play, and computer games are very sophisticated tools for creative expression. Through the device of a game, learning can be a product of the player's observation, analysis, and action, and often the players, even of the most narrowly defined learning games, will devise winning strategies and methods that are not intended by the original designer.



## Iterative Waterfall Model

The researchers used a system development called Iterative Waterfall Model which serves as guide to create the system.

The iterative waterfall model is a sequential design process, often used in software development processes, in which progress is seen as flowing steadily downwards (like a waterfall) through the phases of Requirements Gathering and Analysis , Design, Implementation , Verification, and Maintenance.

The iterative waterfall development model originates in the manufacturing and construction industries in a highly structured physical environments in which after-the-fact changes are prohibitively costly. Since no formal software development methodologies existed at the time, this hardware-oriented model was simply adapted for software development.

The first formal description of the waterfall model is often cited on 1970 article by Winston W. Royce. Although Royce did not use the term "waterfall" in his article, he presented the model as an example of a flawed, non-working model. This, in fact, is how the term is generally used in writing about software development—to describe a critical view of a commonly used software development practice.



## Advantages of Iterative Waterfall Model

The key advantage is that this approach allows developers to break down the task of developing a system into a series of smaller tasks. These can then be completed separately, evaluated, and subsequently re-worked until the system performs adequately.

Knowledge gained from developing and testing these small sections can then be incorporated back into the development of other parts of the project.

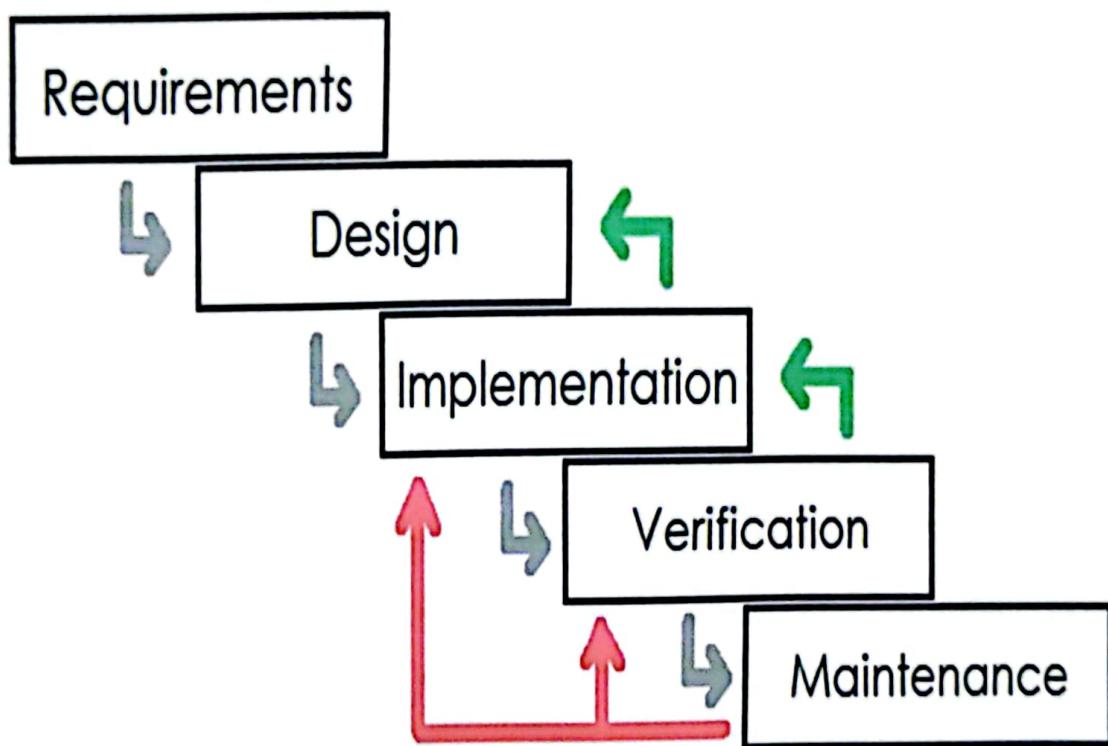
Managing a project using this approach is easier too, since not every consequence and permutation has to be considered at the outset, before the project can get off the ground.

Another advantage of this approach is that, as issues are discovered, they can be fed back to the rest of the team, and solutions found whilst the project is still in development. On the development of Snakes and Ladder, the followed development model was the iterative waterfall model. It is more or less flexible model, which is created with the purpose to guide the development of software application. Snakes and Ladders could provide a realistic but fun way to show how many projects progress through a development process based upon the Waterfall Model.

Waterfall model aims to develop a system by moving through distinct stages in a cycle - each of which can be returned to later, as problems occur which need to be re-worked.

With the afore mentioned scenario, it is clear that Iterative Waterfall Model consisting of five Phases is applicable and can develop the Word Master Computer Edition.

The Iterative Waterfall Model is illustrated by the following diagram.



**Figure 1. Iterative Waterfall Model (Gawasane,2012)**



The Word Master Computer Edition is an application that uses a "cleaned" dictionary of common Computer words. Abbreviations for computer words are allowed and any offensive or obscure terms are removed so you're just searching for normal computer words.

We grab a standard computer dictionary and help you find every permutation of words that can be made. This way, if you're stuck at Word Master Computer Edition you can get a little bit of help to get you through to the next round. If you're really interested, you can just cheat entirely!

There's a good strategy to find the most effective letter twisting unscramble - Keep shuffling your tiles and let your brain absorb the different words present, keep trying different combinations and you'll eventually find them all. For additional help, you should check out for help menu and find tips which will give great ideas on how to improve your abilities at all word games.

Hasbro (2012) stressed that Word Master Computer Edition has a lot in common with Test Twist - they require a similar grasp of anagrams and word unscrambles, as well as the ability to think quickly and get your words in place. Increase your vocabulary and you'll improve your Word Master game.



<b>SYSTEM REQUIREMENTS</b>
<b>MINIMUM PC REQUIREMENTS</b>
<i>Windows</i>
<i>Pentium III 800Mhz Processor</i>
<i>512MB RAM</i>
<i>100MB Hard Disk Space</i>
<i>DIRECTX 7.0</i>
<i>32MB Video Card</i>
<i>DIRECTX 7.0 Compatible Sound Card</i>
<i>8x CD-ROM Drive</i>

## Non-Functional Requirements

### 1. Frames rate

The minimum frame rate must be twenty frames per second. The average frame rate must be greater than 30. Frame rate can be monitored directly from the graphic engine.

### 2. Usability

The maximum number of clicks for any function in the system should not exceed five clicks. This can be achieved by usability testing with random users.

### 3. Response time

The average response time between click and reaction must be less than 0.5 seconds. The maximum response time between click and reaction must be two seconds. Adding some simple classes and methods that will compute and display the time needed to process any operation can test this requirements.



#### 4. Required resources

The game must be able to run with minimum of 1024 MB of RAM. The game must use less than one gig of hard disk space. Checking the total size of the folder in which the game was installed, for the hard disk space can test this requirement. For the RAM used, when playing the game, we can check the physical memory in the Windows Task Manager performance tab.

#### 5. Platform

The game must run in Windows XP. Installing the game in a Windows XP environment and run simple tests to verify if the game properly works can test this requirement.

#### 6. Maintainability

The code written for the game must be maintainable. This can be achieved by collecting metrics, such as DIT (depth in inheritance tree), MPC (message-passing coupling), WMC (weighted method complexity) and DAC (data abstraction coupling). Also adding documentation will improve the maintainability scale of the system.

The **Software Usability Measurement Inventory** is a rigorously tested and proven method of measuring *software quality* from the *end user's point of view*. SUMI is a consistent method for assessing the quality of use of a software product or prototype, and can assist with the detection of usability flaws before a product is shipped. It is backed by



an extensive reference database embedded in an effective analysis and report generation tool.

SUMI contains five different parts namely; efficiency, affect, helpfulness, controllability, and learnability. There are ten statements on each criteria which has three different choices namely; agree, undecided, and disagree.

With the afore-mentioned scenario, it is proven that SUMI measured the level of usability of the Word Master Computer Edition.

The above mentioned literatures and studies have contributed to the present research, the Word Master Computer Edition.



## BIBLIOGRAPHY

### Books

- Galloway, J., Valster, G., & Ivey, L. (1990). *Daily plans for active preschoolers*. Paramus, NJ: The Center for Applied Research in Education.
- Goodnight, M., Margolis, I., & Salkind, N. J. (2002). *Child development*. New York, NY: Gale Group.
- Hromek, R. (2005). *Game time: Games to promote social and emotional resilience for children aged 4 to 14*. Trowbridge, Wiltshire: Cromwell Press.
- LaMothe, A. (2002). *Tricks of the windows® game programming gurus*. (2<sup>nd</sup> ed.). Indianapolis, IN, USA: Sams Publishing.
- Porter, N. (2005). *The handbook of training and practice in infant and preschool mental health*. (2<sup>nd</sup> ed.). San Francisco, CA: John Wiley.
- Praeger , (2007). *Early childhood education: An international encyclopedia* (Vol. 1, R. S. New, & M. Cochran, Eds.). West, Westport, CT, United States of America: Praeger Publishers.
- Proulx, L. (2003). *Strengthening emotional ties through parent-child-dyad art therapy*. New York, NY: Athenaeum Press.
- Sevilla, C. G., Ochave, J. A., Punsalan, T. G., Regala, B. P., & Uriarte, G. G. (1992). *Research methods*. (rev. ed.). Manila, Philippines: Rex Book store
- Shaffer, D. W., Squire, K. R., Halverson, R., & Gee, J. P. (2004). *Video games and the future of learning*. Madison, Wisconsin: University of Wisconsin-Madison.
- Skinner, C. E. (1941). *Child psychology: Child development & modern education*. New York, NY: Macmillan.
- Smith J. (Ed). (2008). *Preschoolers: Social and emotional development*. Chicago, IL: Magna Systems.



Wright, M. A. (2000). *I'm chocolate, you're vanilla: Raising healthy black and biracial children in a race-conscious world.* New York, NY, USA: John Wiley.

### Unpublished Materials

Aliban, A., Reyes, T., & Ventua. (2001). *Network based 3D Snakes and ladders.* Undergraduate thesis, University of the East, Manila, Philippines.

Camena, S. D., Ravelo, K. J., Caminay, R. T., Javier, J. A., & Sumaculub, J. T. (2001). *Game knb?(LAN-Based Game).* Undergraduate thesis, University of the East, Manila, Philippines.

Cruz, M. R., Guilao, A. A., Mirador, O. C., & Yoshida, E. R. (2007). *Taktika: A LAN based game.* Undergraduate thesis, University of the East, Manila, Philippines.

Falcatan, R. R., & Geronimo, C. H. (1996). *Computer aided instruction for preschoolers mathematics.* Undergraduate thesis, University of the East, Manila, Philippines.

Magdalena, R., & Villanueva, E. (2002). *Word factory (LAN).* Undergraduate thesis, University of the East, Manila, Philippines.

Perante, J. P., Samarita, N. R., & De Guzman, R. E. (2007). *Ligawan: LAN based dating game.* Undergraduate thesis, University of the East, Manila, Philippines.

### Online Sources

#### Electronic Books

Crawford, C. (1982). *The art of computer game design.* Vancouver: Department of History, Washington State University Vancouver. Retrieved February 3, 2010, from <http://www.vancouver.wsu.edu/fac/peabody/peabody.htm>

Dumbleton, M., & Bennett, H. G. (2009). Music & Social-Emotional Development. *Kindermusik® Classes , 1-15.* Retrieved February 3, 2010, from <http://www.canadamusicsschool.com/kindrermusik.canadamusicsschool.com.html>



## Electronic Journals

- Challenge Newsline. (2009). Make computers fun for all the family. *Challenge Newsline*, 622, 1. Retrieved January 6, 2010, from Academic Source Complete database.
- Newcomb, A. F., Bukowski, W. M., & Pattee, L. (1993). Children's peer relations: A meta-analytic review of popular, rejected, neglected, controversial, and average sociometric status. *Psychological Bulletin*, 113, 99-128.
- Goddard, R. (2005). Building blocks for young children. *Community Coordinated Child Care*, 1-8. Retrieved January 6, 2010, from <http://www.cccunion.org/pages/social.pdf>
- Kusunoki, F., Sugimoto, M., & Hashizume, H. (2000). *Discovering how other pupils think by collaborative learning in a classroom. Paper presented to the Fourth International Conference on Knowledge-based Intelligent Engineering Systems and Allied Technologies*. Brighton, Queensland. Retrieved January 7, 2010, from <http://ieeexplore.ieee.orgXplore/login.jsp?url=http%3A%2F%2Fieeexplore.ieee.org%2Fstamp%2Fstamp.jsp%3Ftp%3D%26isnumber%3D19130%26arnumber%3D884134&authDecision=-203>
- Loton, D. (2007). *Problem video game playing, Self esteem and social skills: An Online Study*. Victoria: Department of Psychology, Victoria University. Retrieved January 7, 2010, from <http://eprints.vu.edu.au/687/1/Problemvideogameplaying.pdf>
- Ostrosky, M., Meadan, H., Cheatham, G., Mills, M., Beneke, S., Gaumer, N., & et. al. (2008). What works brief training kit. *Promoting Positive Peer Social Interactions*, 8, 1-23. Retrieved January 6, 2010, from <http://www.vanderbilt.edu/csefel/kits/wwbtk8.pdf>
- Overmars, M. (2007, February 21). Designing good games. *Game Maker Tutorial*, 1-17. Retrieved January 6, 2010, from <http://www.edparrish.com/>
- Raybourn, E. M., & Waern, A. (2004, April 29). *Social learning through gaming. CHI 2004 Workshop*. Retrieved January 7, 2010, from <http://www.sandia.gov/adaptive-training-systems/papers/p1733-raybourn.pdf>



- Rideout, V. J., Vandewater, E. A., & Wartella, E. A. (2003). *Zero to six electronic media in the lives of infants, toddlers and preschoolers*. Washington, DC, USA: The Henry J. Kaiser Family Foundation. Retrieved January 7, 2010, from <http://www.kff.org/entmedia/upload/Zero-to-Six-Electronic-Media-in-the-Lives-of-Infants-Toddlers-and-Preschoolers-PDF.pdf>
- Roe, K., & Muijs, D. (1998). Children and computer games - a profile of the heavy user. *European Journal of Communication*, 181-200. Retrieved January 6, 2010, from [http://ejc.sagepub.com/cgi/content/abstract/13/2/181?ijkey=75332b0192b6af55aa4c083f6e588bdea0ceee3e&keytype2=tf\\_ipsec\\_sha](http://ejc.sagepub.com/cgi/content/abstract/13/2/181?ijkey=75332b0192b6af55aa4c083f6e588bdea0ceee3e&keytype2=tf_ipsec_sha)
- Social Skill Builder. (2008). *A preschooler shines by using social skills computer games*. Leesburg, VA: Social Skill Builder Inc. Retrieved January 6, 2010, from <http://www.socialskillbuilder.com/articles/newsletters/interaction-4-spring08.pdf>
- SupportNet. (2008). Computer Games: How to help your kids play safely. SupportNet, 1-3. Retrieved January 6, 2010, from <http://www.careforthefamily.org.uk/pdf/supportnet/ComputerGames.pdf>
- Texas Autism. (2006). Peer-Mediated Interventions. *TexasAutism Resource Guide for Effective Teaching*, 344-353. Retrieved January 6, 2010, from <http://www.txautism.net/docs/Guide/Interventions/PeerMediated.pdf>
- Tomlinson, B. (2005). *Social characters for computer games*. Irvine, CA: International Journal of Interactive Technology. Retrieved January 7, 2010, from <http://www.ics.uci.edu/~wmt/pubs/ITSE05Tomlinson.pdf>
- Young Media Australia. (2004, November). Mind Over Media: Developing good social and emotional skills. *Young Media Australia*, 1-4. Retrieved January 5, 2010, from [http://www.youngmedia.org.au/pdf/fact\\_sheets/MOM3.pdf](http://www.youngmedia.org.au/pdf/fact_sheets/MOM3.pdf)
- Varun Gawasame (2012, December 12)  
<http://www.blurtit.com/2556015/what-are-the-advantages-and-disadvantages-of-the-iterative-model>



Young, J., & Upitis, R. (1999). *The microworld of Phoenix Quest: Social and cognitive considerations*. Education and Information Technologies. USA. Retrieved January 7, 2010, from <http://www.zaeem.com/wp-content/uploads/2007/08/phoenix-quest.pdf>

10 Benefits of Video Games retrieved from <http://skynet.ie/~ogami/projects/SysAnalysisDesign/Swirl.pdf>

A Review of Video Game Effects and Uses retrieved from [caravel.sc.edu/2014/03/a-review-of-video-game-effects-and-uses/](http://caravel.sc.edu/2014/03/a-review-of-video-game-effects-and-uses/)

Alibaba Clone Script B2B Marketplace Alibaba Clone Script retrieved from <http://www.studymode.com/essays/Word-Finder-Flash-Game-743078.html>

BBC News. (2008, September 16). *Computer games drive social ties*. Retrieved December 30, 2009, <http://news.bbc.co.uk/2/hi/technology/7619372.stm>

Beer Factory Game Essays and Term Papers retrieved from [www.studymode.com/subjects/beer-factory-game-page1.html](http://www.studymode.com/subjects/beer-factory-game-page1.html)

Federation of American Scientists. (2008, April 13). *Why Games?* Federation of American scientists. Retrieved January 6, 2010, [http://www.fas.org/programs/ltp/games/why\\_games.html](http://www.fas.org/programs/ltp/games/why_games.html)

First Video Game retrieved from [en.wikipedia.org/wiki/First\\_video\\_game](https://sites.google.com/site/boonsgmc/game-genres)  
Game Genres retrieved from  
<https://sites.google.com/site/boonsgmc/game-genres>

<https://escholarship.org/uc/item/4zt2k00k.pdf>

<http://mikefridhsc.files.wordpress.com/2010/03/data-flow-diagram-game.jpg>

<http://nptel.ac.in/courses/106105087/pdf/m05L10.pdf>

<http://people.mech.kuleuven.be/~orocos/pub/stable/documentation/rtt/v1.2.x/doc-xml/images/DataFlowTopology.png>

[http://thumb1.shutterstock.com/display\\_pic\\_with\\_logo/699280/699280\\_1331\\_1868714/stock-vector-wooden-signboard-on-the-ropes-97019984.jpg](http://thumb1.shutterstock.com/display_pic_with_logo/699280/699280_1331_1868714/stock-vector-wooden-signboard-on-the-ropes-97019984.jpg)



<http://www.csc.calpoly.edu/~jdalbey/308/ProjectReqs/Hangman/hangmanDFD.jpg>

<http://www.cs.csub.edu/~hwang/CS342/Travis%20Ragle%20Phase%20V.pdf>

<http://www.cs.toronto.edu/~ryanjohn/teaching/csc43s12/lectures/c43-views-indexes-v03.pdf>

Mainframe computer retrieved from  
[en.wikipedia.org/wiki/Mainframe\\_computer](http://en.wikipedia.org/wiki/Mainframe_computer)

McGrath, J. (2009, June 5). *The development of social skills during early childhood: Associated content*. Retrieved December 30, 2009, from [http://www.associatedcontent.com/article/1765552/the\\_development\\_of\\_social\\_skills\\_during.html?singlepage=true&cat=25](http://www.associatedcontent.com/article/1765552/the_development_of_social_skills_during.html?singlepage=true&cat=25)

One Stop Testing. (2003, March 22). V-model. Retrieved February 18, 2010, from <http://www.onestoptesting.com/sdlc-models/v-model.asp>

Problem-Solving Techniques retrieved from [www.mindtools.com](http://www.mindtools.com), Problem Solving

Scrabble Game Pearl Edition retrieved from [www.brookstone.com](http://www.brookstone.com), ... , Board Games, Scrabble Game Pearl Edition

Simulation retrieved from [en.wikipedia.org/wiki/Simulation](http://en.wikipedia.org/wiki/Simulation)

Social Skill Builder, Inc. (2004, October 29). *Teaching social skills*. Retrieved January 6, 2010, from [http://www.socialskillbuilder.com/teaching\\_ss.htm](http://www.socialskillbuilder.com/teaching_ss.htm)

The Importance of Video Games in Education retrieved from <http://www.educatorstechnology.com/2012/06/importance-of-video-games-in-education.html>

Warmerdam, K. W. (2001, July 1). *Socialization*. Retrieved January 18, 2010 from [http://www.soc.ucsb.edu/faculty/baldwin/classes/soc142/scznD\\_EF.html](http://www.soc.ucsb.edu/faculty/baldwin/classes/soc142/scznD_EF.html)

[web.cs.wpi.edu/~imgd1001/a08/readings/Overmars\\_GoodGames.pdf](http://web.cs.wpi.edu/~imgd1001/a08/readings/Overmars_GoodGames.pdf)



What is the importance of computer games? retrieved from  
<http://answers.yahoo.com/question/index?qid=20060615061644AakgzzxA>

[www.pmcgsa.org.nz/wp-content/.../Improving-the-Transition-report.pdf](http://www.pmcgsa.org.nz/wp-content/.../Improving-the-Transition-report.pdf)

[www.researchgate.net/...Player.../53f644f90cf2fceacc7123a7.pdf](http://www.researchgate.net/...Player.../53f644f90cf2fceacc7123a7.pdf)

### **Images**

[http://th06.deviantart.net/fs70/PRE/i/2012/134/0/4/baka\\_to\\_test\\_\\_\\_summons\\_by\\_kagamine06-d4zsg13.jpg](http://th06.deviantart.net/fs70/PRE/i/2012/134/0/4/baka_to_test___summons_by_kagamine06-d4zsg13.jpg)

<https://encryptedtbn0.gstatic.com/images?q=tbn:ANd9GcSFHQmbgvs4wB2bLyhJKVowEbDNL4uzAi9pYIgNf9Enl8BsxRys>

<http://i2.wp.com/i.imgur.com/gkKviRB.gif?w=960>

<https://encryptedtbn0.gstatic.com/images?q=tbn:ANd9GcS7SCeDtqhhhRwvopIPzS90dHsaIdf4NPZcV48P2dmT8rcHv6zBFQ>

[http://media0.giphy.com/media/799GAxGJCmJOw/200\\_s.gif](http://media0.giphy.com/media/799GAxGJCmJOw/200_s.gif)