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**ILOCOS SUR POLYTECHNIC STATE COLLEGE**

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**QUALITY MEDICAL SERVICES THROUGH A COMPUTERIZED  
PATIENT INFORMATION SYSTEM**

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## TABLE OF CONTENTS

<b>PRELIMINARIES</b>	<b>Page</b>
Title Page .....	i
Approval Sheet.....	ii
Adviser's Recommendation Sheet.....	iii
IT Coordinator's and Dean's Acceptance Sheet,.....	iv
Acknowledgment .....	v
Dedication .....	vii
Abstract .....	x
Table of Contents .....	xi
<b>I. Introduction</b>	
Background of the Study .....	2
Statement of the Problem.....	3
Statement of the Objectives .....	3
General Objectives.....	3
Specific Objectives .....	4
Significance of the Study .....	4
Scope and Limitation .....	4
Theoretical and Conceptual Framework .....	5
<b>II. Review of Related Literature.....</b>	
	6

**III. Methodology**

System Development Life Cycle .....	8
Planning .....	8
Analysis.....	9
Design .....	10
Implementation .....	10
SDLC Diagram .....	11

**IV. Data Gathering and Procedures**

Interview .....	13
Observations .....	13
Research.....	14
Output .....	14

**V. Documentation of the Current System**

Description of the Current System.....	15
Personnel.....	15

**VI. Requirements Analysis and Specification .....**16**VII. System Design Specification.....**20**VIII. System Implementation**

• Programming Consideration Issues and Tools .....	22
System Requirement Specification .....	22
Hardware Requirements.....	22
Software Requirements.....	23



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Human Resource Requirements.....	23
<b>IX. Conclusions and Justification.....</b>	<b>24</b>
<b>X. Recommendation.....</b>	<b>25</b>
<b>BIBLIOGRAPHY .....</b>	<b>26</b>
<b>APPENDICES.....</b>	<b>27</b>
Appendix A -- Letter of Request	
Appendix B – Transcript of Interview	
Appendix C – User's Manual	
<b>CURRICULUM VITAE.....</b>	<b>36</b>

## **Chapter I**

### **INTRODUCTION**

In designing a patient information system, one must be certain the business goals match the goals of the patient. For instance, reducing costs indiscriminately may clash with patients who see the services a free information to be trusted; for example, using a nurse hot linen for “free information” that is really part of a hospital-sponsored physician-referral service. This will ultimately be exposed by patients in a non-capitated market. Imagine your 80 year old mother calling the “chest pain hot line” thinking she is really getting medical advice, only to realize after her P 150,000 cardiac workup that the service actually was a marketing effort... or worse yet, have your mother die of a heart attack because she received biased or incomplete information through the “hot line” service.

The importance of the research is based on the creation of the computerized patient information system of the Sto. Niño Hospital. The system provides more easier and convenient way of managing files such as locating and storing of the patient's data. It is more organized and safety to use because the user can retrieve data easily in case of emergency. It can lessen or minimized the time of the user by simply input the data being needed by the system.

By the used of computerized patient information system, it can eradicate the unnecessary documents.

The advantage of computerized patient information system is extensive and there is an abundant literature on how to implement this information system. Nevertheless, the

efficient implementation of computerized patient information system is yet to be achieved at many institutions. Most systems are dedicated to specific medical fields or tasks and must integrate into a hospital wide information system.

Successful patient information systems must have user-friendly services to transfer vast amounts of information. Whether it is preprinted discharge instruction for standard wound care, an algorithm-based triage discussion of one's chest pain, or simply a database to search out the current recommendations for flu shots or pediatric immunizations, the challenge for patient education in the communication revolution is high stakes indeed.

This study was conducted to provide an easier and more convenient way of storing files through the computerized Patient Information System(PIS) of the Sto. Niño Hospital. Data were gathered through an interview.

The respondents are the doctors and the nurses of the said hospital, who in their capacity has been serving the hospital it was established.

### **Background of the Study**

Today's advancement of different technologies the changes are being viewed by having new technologies in the creation and inventions of computers and machines. More companies or establishments are using computer based system to lessen the time consuming in processing of data most especially in terms of important files of a business transaction.

- To analyzed the current system at Sto.Niño Hospital
- Identify problem in the current system
- Develop and design for the new system
- Construct and test the new system

### **Significance of the Study**

This study provides:

- Easier and faster way of storing and retrieving patients information
- Develop a user-friendly patient information system
- Eradicate inaccurate information about the patient
- Emphasize the patient-centered concept through the quality computerized patient information system

### **Scope and Limitation**

This research is conducted to develop a computerized Patient Information System for Sto. Niño Hospital. The system covers only the specific data or information needed of the patients. The system can manipulate files that are stored in the computer, can minimized the used of manual operation using the index card, and lessen the time to gather information from the patient.

This study is limited to the analysis, design and construction of the Patient Information System. The actual implementation is not included.

### **Theoretical and Conceptual Framework**

Today's evolutions are becoming more progressive and high tech using computers. More advancements and changes coming because of the technologies that help the needs of the people.

The technologies that are introducing to the people are convenient and reliable because of the information given to the people.

Through this advancement of technologies, some changes are made like in the creation of computers that make as the major equipment in the creation of system and other applications. Through these inventions, many aspects are created and discovered.

With this invention and discovery, some of the company are now using computers, especially a system that makes the work easier. The computerized patient information system is a system that makes an easier searching of records for the patient. It provides convenient and efficient keeping records in order to have safety files.

Through these inventions of system makes the hospital a well develop and progressive.

## **Chapter II**

### **REVIEW OF RELATED LITERATURE**

Today's technologies are becoming greater in advancement through the different machine and equipment invented by the expert. Computers are invented in order to develop software which programmers and experts created. Through this inventions, many companies today are using computers and also a computerized system in order to help the transaction faster and easier.

Ilan Modai, M., M.H.A. and company (2002) stated that advantages of electronic patient records have been discussed extensively and there is an abundance of literature on how to implement these information systems. Nevertheless, the efficient implementation of electronic patient record system is yet to be achieved at many institutions. The group further aid that "Most systems are dedicated to specific medical fields or tasks or must be integrated into a hospital-wide information system".

But the implementation of a computerized information system for patient must always be studied and properly handled. Journalist of the American Medical Informatics Association Warren J. Winelman, MD, MBA and Kevin J. Leonard, MBA, PhD (2004) said in the abstract of their book. There are constraints embedded in the medical record structure that limit use by patients in the self-directed disease management. Through systematic review of literature from a critical perspective, four characteristics that either enhance or mitigate the influence of medical record structure on patient utilization of an

electronic patient record (EPR) system have been identified: environmental pressures, physician centeredness, collaborative organizational culture, and patient centeredness. An evaluation framework is proposed fro used when considering adaptation of exiting EPR systems for online patient access. Exemplars of patients accessible EPR systems from the literature are evaluate utilizing the framework. From this study, it appears that traditional information systems research and development methods may not wholly capture many pertinent social issues that arise when expanding access of EPR systems to patients. Critically rooted methods such a action research can directly inform development strategies o that these systems may positively influence health outcomes”



## BIBLIOGRAPHY

### A. Books

Dr. Goran Trajkovski, "Programming Languages", Unpublished.

Michael Davenport, "Programming Environments", Revised Ediction, February 2004

### B. Online References

- <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=129666>
- <http://www.knowledgestorm.com/search/browse/1114/1114/DirectBR>
- <http://www.asmeconference.org/nanobio06/>
- <http://rutlandherald.com/apps/pbcs.dll/article>
- <http://goliath.ecnext.com/comsite5/bin/pdinventory>
- <http://www.thesis.com/>
- <http://www.startvbdotnet.com/sdlc/sdlc.aspx>
- <http://www.masterpapers.com/thesis.ph>