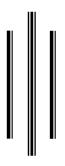


Project Work

Conducting Project Work in

A Qualitative Study of Airline Integration system Technology solutions for the Travel Industry

Project Work to be carried out for the purpose of partial fulfillment of course in Masters Degree in Computer Science and Information Technology



Submitted By: Mr. Murari Acharya

Masters Degree in Computer Science and Information Technology (MSc-CSIT)

Department of Computer Science and Information Technology

Tribhuvan, University

Kirtipur, Katmandu

Nepal

Project Supervisor:

Dr Subarna Shakya, Associate Professor

August, 7, 2008 Kathmandu, Nepal



Tribhuvan University

Institute of Science and Technology

Central Department of Computer Science and Information Technology

LETTER OF RECOMMENDATION

Date:

Mr. Murari Acharya has carried out this Project work entitle "Qualitative Study of Airline Integration System, Technology and Solution for the Travel Industry" under my supervision and guidance. In my best knowledge this is a Project successfully completed which fulfills the requirements for the aware of the Degree of Master's in Computer Science and Information Technology. I therefore recommended the Project for further evaluation.

Dr. Subarna Shakya, Associate Professor Department of Electronics and Computer Engineering Pulchowk Campus, Pulchowk (Supervisor)



Institute of Science and Technology

Central Department of Computer Science and Information Technology

We certify that we have read this Project work and in our opinion it is satisfactory in the scope and quality as a Project as the partial fulfillment of the requirement of Master of Computer Science and Information Technology from Tribhuvan University, Nepal.

Evaluation Committee

Head, Central Department of Computer Science and Information Technology	Dr.Subarna Shakya, Associate Professor Department of Electronics and	
Science and Information Technology	Computer Engineering	
ribhuvan University, Kirtipur	Pulchowk Campus, Pulchowk (Supervisor)	
(External Examiner)	(Internal Examiner)	
Date:		

Acknowledgements

It really gives me a great pleasure to write the acknowledgement on the completion of this M.Sc Project at the Central Department of Computer Science and Information Technology (CDCSIT), Tribhuvan University, Kirtipur. I am very grateful and would like to express my sincere gratitude to Associate Prof. Dr. Subarna Shakya, Institute of Engineering Pulchowk Campus, Tribhuvan University for his kind agreement to supervise my Project, for suggesting a very interesting topic and his scientific guidance and continuous support during this preparation. His inspiration and assistance at all times have been of immense value.

I am thankful to Dr. Tankanath Dhamala (Head, Central Department of Computer Science and Information Technology, Tribhuvan University) for his inspiration and encouragement throughout the work as well as his continuous support throughout during Master degree.

I would like to express my hearty gratitude and sincere thanks to our teachers Prof. Dr Shashidharam Joshi, Min Bahadur Khati, Samujjal Bhandari, Hemanta GC, and all other teachers who have taught us in our Master Degree and encourage in the field of computer science and information technology.

I am indebted to my family members late my father Gyanhari Acharya and mother Bhumadevi Acharya and friends for their understanding and valuable help in computer works and motivating encouragement. I would also like to thank Jyotsna Lamichhane, Mr. Hem Raj Aryal, Kamal Raj Sharma, Hikmat Rokaya, Bishnu Pandey, Madhav Dhakal, Ashok Dhungana and all the staff and colleague of Central Department of Computer Science and Information Technology for their cooperation and well wish.

Murari Acharya

July, 2, 2008

Abstract

This project report deals with the **Qualitative study of Airlines integration system.**Airlines have been one of the fastest and the greatest achievement among the human discoveries. They are the means that integrate the today's world into a global village physically. Many parts of the globe that were not feasible for the mankind to access have been possible through this means of transportation. Improved management of ticketing has been the major issues in this project. From this all the airlines companies branches and their agents dispersed in different areas are integrated in the single system. This system reduces the time limit of ticket reservations, the variability of no-show levels, reducing spoilage, reducing spillage while reserving ticket in aviation industry. Customer can qualitatively study the services of different airlines companies and prefer the best company for the travel in the single platform. They can compare cost of ticket, time of flight, route etc in a single system and select the best one.

CONTENTS

Title	page
ACKNOWLEDGEMENT	IV
ABSTRACT	V
CONTENTS	VI
LIST OF FIGURES	X
ABBREVIATIONS	XI
Chapter1: Overview	1-3
1.1Introduction	1
1.2 Preliminary Investigation	1
1.3 Problem Analysis	2
1.4Project Structure	3
Chapter 2: System Development Concept	4-8
2.1 Objective Definition	4
2.2 Task and Activities	5
2.2.1 Development Phase Definition	5
23 Problem Definition	5
2.4 System Analysis	6
2.4.1 System Design	6
2.4.2 System Development Coding	7
2.4.3 Integrating and Coding	7
2.5 Refining the System Needs	7
2.6 Cost Benefit Analysis	8
Chapter3: System Planning and Requirement Analysis	9-16
3.1 Schedule Planning.	9
3.2 Requirement Analysis	9

3.2.1 Purpose	9
3.2.2 Scope	9
3.3 List of Document	11
3.4 Assumption and Dependencies	12
3.5 Requirement Attributes	12
3.5.1 Client	12
3.5.2 Target Version	12
3.6 Requirements	13
3.6.1 Functional Requirement	13
3.6.2 Non Functional Requirements	14
3.7 Design Constraints	15
3.8 Interfaces	15
3.8.1 User Interfaces.	15
3.8.2 Company Interfaces	16
3.8.3 Agent/Branches Interfaces	16
3.8.4 Software Interfaces.	16
3.8.5 Communication Interfaces	16
Chapter 4: System Design	17-24
4.1 Application Environment Analysis	17
4.1.1 Java Server Pages	17
4.1.2 How JSP Becomes Servlet	19
4.1.3 Blue J	20
4.2 Application Design	20
4.2.1 Input Design	20
4.2.2 Output Design.	20
4.2.3Process Design.	20
4.2.4 Interface Design	

Chapter 5: System Development	25-40
5.1 Database Management System (DBMS)	25
5.1.1 Objective of Database Management	26
5.1.2 A Good Database System	26
5.2 Management Information System	27
5.2.1 Design	28
5.2.2 Implementation	29
5.3 Automation Process	29
5.3.1 Benefits	30
5.3.2 Automated AEROWEB System	30
5.4 Visual Programming API	30
5.5 Java Server Pages	31
5.6 Tools Used For the Developments	33
Chapter 6: System Implementation and Testing	41-48
6.1 Motivation	41
6.2 Installation	41
6.3 Technical Interface	42
6.4 Customer Interface	42
6.5 Administrative Console	43
6.6 System Testing	45
Chapter 7: System Installation	49-54
7.1 System Diagram	49
7.2 Use Class Diagram	51
7.3 Schema Diagram	51
7.4 Context Level Diagram	52
7.5 Dataflow Diagram	53
7.6 Class Diagram	54

Chapter 8: Conclusion and Future Recommendation	55-56
8.1 Introduction	55
8.2 Conclusion.	55
8.3 Recommendation	56
REFRENCES	57
ANNEX A	58-63
ANNEX B	64-67

LIST OF FIGURES

Figure 1: Existing System	2
Figure 2: Web Server Implementation in JSP	19
Figure 3: Life Cycle of JSP/Servlet	19
Figure 4: Database and DBMS Relationship	26
Figure 5: Conceptual System Design	28
Figure 6: Detailed System Design	29
Figure 7: Database Implementation	37
Figure 8: Server and Database Interaction	38
Figure 9: Testing Phases in the Software Process	47
Figure 10: White Box Testing	48
Figure 11: System Diagram	49
Figure 12: Use Case Diagram	50
Figure 13: Schema Diagram	51
Figure 14: Context Level Diagram	52
Figure 15: AeroWeb_DFD	53
Figure 16: Class Diagram	54
Figure 17: Home page	58
Figure 18: New user account sign up Interface	59
Figure 19: Ticket booking Section	60
Figure 20: Active agent display page	61
Figure 21: Company search page	62
Figure 22: Administrative console	63

Abbreviations

API Application Programming Interface

ASP Active server pages
DFD Data Flow Diagram

DTD Document Type Definition

DBMS Database Management System

GUI Graphical User interface

HTML Hypertext Markup Language
HTTP Hyper Text Transfer Protocol

IDE Interactive Environment Development

JAXP Java API for XML Parsing

JRE Java Runtime Environment

JVM Java Virtual Machine

JDK Java Development Kit

J2EE Java 2 Enterprise Edition

JDBC Java Database Connectivity

JSP java server pages

MIS Management Information System

OLAP Online analytical processing
OLTP Online transaction processing
OOP Object Oriented Programming

OOA Object Oriented Analysis
RAM Random access memory
RMI Remote Method Invocation

SGML Standard Generalized Markup Language

SQL Structured Query Language
SQA Software Quality Assurance
XML Extensible Markup Language
V&V Verification and Validation