Brian Rolfe Solutions Hiring System

by

Mehvash Ansari



Supervised by

Mr. Kashif Khan

This report is submitted to the Department of Computer Sciences, Bahria Institute of Management & Computer Sciences, Islamabad, in partial fulfillment of requirements of the degree of MCS Software Engineering

Department of Computer Sciences

Bahria Institute of Management and Computer Sciences, Islamabad

Bahria University, E-9.

Islamabad

ABSTRACT

This report contains my efforts at developing software on a "Hiring System" for M/s Brian Rolfe Solution Software Company. The project is part of the requirements of the Master's Degree in Computer Sciences of the Bahria University, Islamabad

The aim for this project is to develop a generic online Hiring System according to the requirements of the above company. The proposed system provides customized services to address the peculiarities of the company's organizational requirements.

The application has been initially built and implemented for M/s Brian Rolfe Solution Software Company with the prospect of converting it to a generic form. Main idea behind the project is to facilitate the hiring process of the organization. Keeping in mind the benefits of Microsoft Solution Framework 3-tier architecture, the project has been built to cater to the modern business needs and trends.

The project life cycle has been designed by using the modern design modeling with the help of Unified Modeling Language Techniques (Chapter 6). Having been put to rigorous testing, the project has been found to be capable of trouble-free implementation.

ACKNOWLEDGEMENTS

All praise be to Allah Almighty for the successful completion of my current endeavor. I owe a deep debt of gratitude to my reverend teacher, Dr. Fazal Wahab, Head of the Computer Sciences Department, Bahria University, Islamabad, for his indispensable guidance and keen interest in my project work.

I deem it a pleasure to place on record my obligations to Mr. Kashif Khan, member visiting faculty, BIM&CS, Islamabad, for providing me the facilities to carry out the present work, which owes its completion through various stages due to his sagacious guidance and constant supervision.

My hearty thanks are also due to the teachers of Computer Sciences Department of Bahria University, Islamabad, for their continued interest and advice, throughout my academic life at the university.

I would be failing in my duties if I do not express my sincerest thanks to my parents for the fortitude they have shown during all this time. Their encouragement and support have helped me at lot at difficult times.

Last, but not the least, I remain grateful to all my friends and class fellows for their good wishes and help.

APPROVALS

We accept the work contained in this report as a confirming to the required standard for the partial fulfillment of the degree of MCS degree with specialization in Software Engineering.

Head of Department

Supervisor

Internal Examiner

External Examiner

List of Figures

Figure 3.1	The 3-tier Architecture	17
Figure 4.1	ASP creating an instance of Active Scripting to execute ActiveX	34
riguic 1.1	code	
Figure 4.2	Work Breakdown of the Hiring System	46
Figure 4.3	Task Sheet View of Gantt Chart	47
Figure 4.4	A detailed view of the development tasks	47
Figure 4.5	Gantt chart of the System Tasks	48
Figure 4.6	Mutual Relationships among the tasks	49
Figure 4.7	The waterfall model for software development	51
Figure 4.8	The reality of the waterfall process	51
Figure 4.9	The Spiral Model	54
Figure 5.1	DFD of the Applicant Section	62
Figure 5.2	DFD of the Admin Section	63
Figure 5.3	ERD Diagram	64
Figure 5.4	Basic Level Use Case of the system	72
Figure 5.5	User Registration Use Case Diagram	73
Figure 5.6	User Login Use Case Diagram	73
Figure 5.7	Detailed User Registration Use Case Diagram	74
Figure 5.8	Detailed User Login Use Case Diagram	75
Figure 5.9	Initial Level Use Case Diagram of the Admin Section	76
Figure 5.10	Detailed Use Case Diagram of the Admin Search Section	77
Figure 5.11	Use Case for Processing Applicant Information	78
Figure 5.12	Use Case for Different Views after Search	79
Figure 5.13	New User Registration Sequence Diagram	81,82
Figure 5.14	Admin Section Sequence Diagram	83
Figure 5.15	Detailed Class Diagram for the System	85
Figure 5.16	Main Page	86
Figure 5.17	Login Page	87
Figure 5.18	Personal.asp Page	88
Figure 5.19	Furtherinfo.asp Page	89
Figure 5.20	Selfrating.asp Page	90
Figure 5.21	Online Quiz Page	91
Figure 5.22	CV.asp Page	92
Figure 5.23	Reset Password Page	93
Figure 5.24	Default Admin Page	94
Figure 5.25	Search Results Page	95
Figure 5.26	Different Views Page	96
Figure 5.27	Save Search Page	97
Figure 5.28	Save Search Description Page	98
Figure 5.29	Summary Page	99
Figure 5.30	Advance Search Page	100
Figure 5.31	New Applicant Page	101
Figure 5.32	Online Interview pop-up	102

List of Tables

Table 5.1	Applicants Table	65
Table 5.2	Events Table	68
Table 5.3	Status Table	68
Table 5.4	Static Contents of the Status Table	69
Table 5.5	Notes Table	69

Table of Contents

Serial#	Contents	Page #
	Abstract	I
	Acknowledgements	П
	Approvals	III
	List of Figures	IV
	List of Tables	V
Chapter 1	- Introduction	
1.1	Brief Company Introduction	3
1.2	Project Background	6
1.3	Project Overview	7
Chapter 2	2 – Literature Survey	
2.1	Market Analysis	10
2.2	Technical Analysis	11
2.2.1	Why 3 tier Architecture	11
2.3	Role of Internet	13
Chapter 3	3 - The 3 tier Architecture	
3.1	The 3 tier Development Architecture	16
3.1.1	Presentation Tier	18
3.1.2	Business Tier	18
3.1.3	Database Tier	20
3.2	Why use MSF application model	21
3.3	Creating An ActiveX DLL Object from ASP	22
3.4	Replacing ASP code with VB	24

Table of Contents

Serial#	Contents	Page #
	Abstract	I
	Acknowledgements	II
	Approvals	III
	List of Figures	IV
	List of Tables	V
Chapter 1	– Introduction	
1.1	Brief Company Introduction	3
1.2	Project Background	6
1.3	Project Overview	7
Chapter 2	– Literature Survey	
2.1	Market Analysis	10
2.2	Technical Analysis	11
2.2.1	Why 3 tier Architecture	11
2.3	Role of Internet	13
Chapter 3	- The 3 tier Architecture	
3.1	The 3 tier Development Architecture	16
3.1.1	Presentation Tier	18
3.1.2	Business Tier	18
3.1.3	Database Tier	20
3.2	Why use MSF application model	21
3.3	Creating An ActiveX DLL Object from ASP	22
3.4	Replacing ASP code with VB	24

3.5	Striking a balance between ASP and VB	26	
Chapter 4 – The proposed System			
4.1	About the system	29	
4.2	System goals and objectives	30	
4.3	Application of the 3-tier architecture	31	
4.3.1	Presentation Tier	31	
4.3.2	Business Tier	33	
4.3.3	Database Tier	35	
4.4	Site Disposition	36	
4.5	Work Breakdown	38	
4.5.1	Phase I	38	
4.5.1.1	General Requirements	38	
4.5.1.2	Actor Requirements	38	
4.5.1.3	Process Requirements	38	
4.5.1.4	High Level Testing Requirements	41	
4.5.2	Phase II	42	
4.5.3	Phase III	44	
4.6	Project Scheduling	47	
4.7	Detailed Software Process Modeling	50	
4.7.1	Water Fall Model	50	
4.7.2	Spiral Model	52	
4.8	Tools and Technology	57	
4.9	System Requirements	59	
Chapter 5 – System Design			
5.1	DFD	62	

-			-
	/ 1	а	n
		u	U

5.2	Database Design	64
5.2.1	ERD	64
5.2.2	Database Tables	65
5.3	System Modeling	70
5.3.1	Use Case Diagrams	70
5.3.2	Sequence Diagrams	80
5.3.3	Class Diagrams	84
5.4	Use Case Scenarios (Graphical DFD)	86
Chapter	6 – System Testing and Deployment	
6.1	System Testing	105
6.1.1	Functionality Testing	105
6.1.2	Compatibility Testing	105
6.1.3	Load and Stress Testing	107
6.1.4	Usability Testing	107
6.1.5	Regression Testing	108
6.2	Deployment	109
Chapter 7 – Future Development		110
Bibliogra	phy	112