

FOA- Development and Application in Automating Office Works in Industries



Engineering

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Dakshi Agnihotri

Undergraduate Student, Department of Computer Engineering, University College of Engineering, Punjabi University, Patiala

ABSTRACT

Rapid increase in the number of industrial training institutes and growing competition among them has necessitated the organizations to adopt office automated systems to handle their business functions more efficiently and professionally than before. These systems include application of computers and communication technologies to automate the business functions of an organization. This research deals with developing a management information system called FOA (Front Office Automation), using Java Technologies to automate front office works of any industrial organization that deals with the process of providing industrial training to students.

INTRODUCTION

For making an organization more efficient, a careful examination of the processes that affect its bottom line is required. Many organizations have realized that some of their most important business functions are driven by documents that are trapped in slow, costly and error prone manual processes. To overcome these manual constraints, organizations these days are looking forward to office automation systems that can save on time and money and minimize document loss, while increasing operational efficiency and accelerating data processing.

This research deals with developing a solution called **FOA (Front Office Automation)**. Office automation refers to the varied computer machinery and software used to digitally create, collect, store, manipulate, and relay office information needed for accomplishing basic tasks and goals[1]. FOA is a MIS (Management Information System) application to automate front office works of any organization that deals with the process of industrial training. A management information system (MIS) provides information that organizations require to manage themselves efficiently and effectively. Management information systems are typically computer systems used for managing five primary components: 1.) Hardware, 2.) Software, 3.) Data (information for decision making), 4.) Procedures (design, development and documentation) and 5.) People (individuals, groups, or organizations).

Various companies provide industrial training to the engineers, and these companies follow a process to provide training. This process starts from the enquiry for the industrial training followed by registration for the same and continues till it is successfully completed. It is very hard to maintain all the information regarding enquiries and registration for the industrial training manually. FOA is a system that has been developed using Java technologies to automate this process. It is quite easy to use and has been designed keeping in mind the requirements of Front office.

LITERATURE REVIEW

A lot of research is being carried out to develop more office automation softwares, catering to the needs of different industrial organizations. 'Trust' developed by CS Ltd., is one of the few Software solutions available in the market. It deals in automating treasury operations from the moment of conclusion of transactions till transfer thereof to the bank back office system[2]. Another software called iGATE offers office automation services across the entire lifecycle of software development for devices such as printers, MFPs, scanners, photocopiers and POS[3]. WebERP4 is yet another research in this field to automate the processes of bulk SMS, bulk email, payroll management etc.[4]

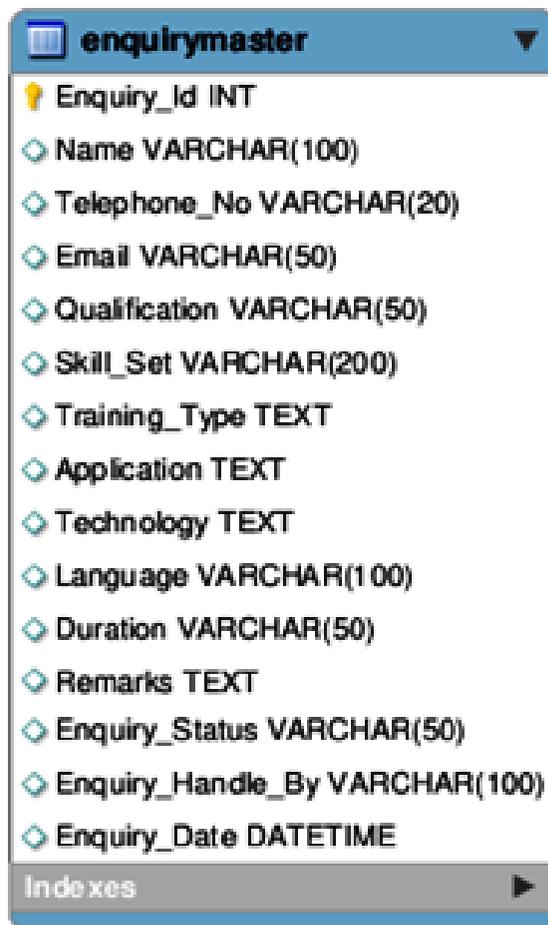
OBJECTIVES OF THE SYSTEM

Development of FOA is done keeping in view the problems in the existing manual system. This solution will overcome the limitations of the present system by providing the following features:

- Managing the information of all employees.

- Keeping the information of all enquiries made for enrolment.
- Maintaining information of all the registered students

The database model for managing this system has been presented in the following figures:-



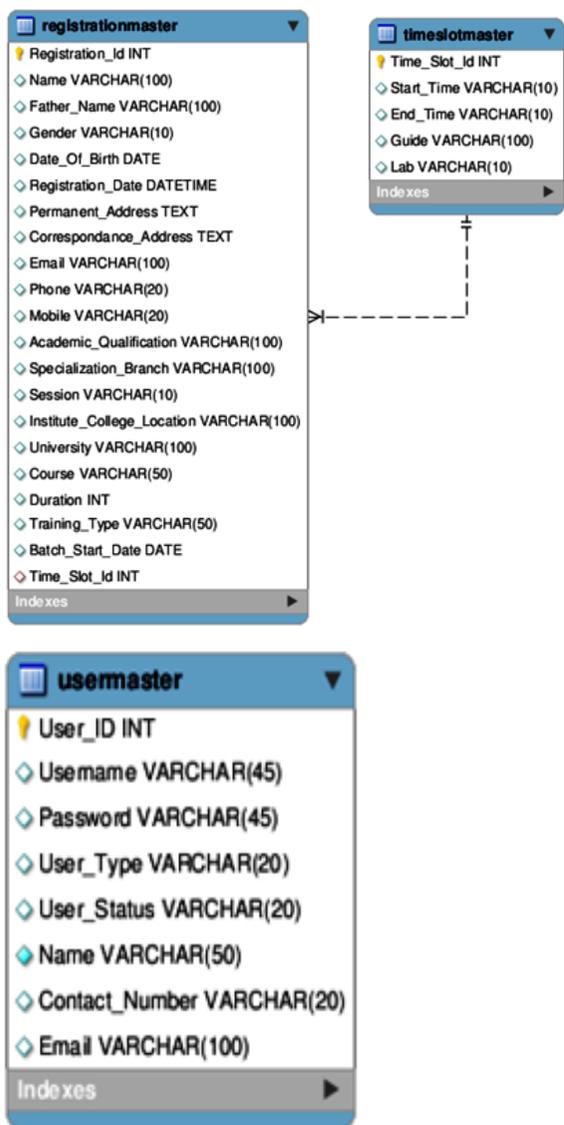


Figure 1: Data base model of FOA.

SYSTEM OUTLINE VIEW

System outline view describes the inputs being considered, outputs being generated, the data being transformed and the main processes involved in the system. The system outline view of FOA is as follows:-

Input requirements of the system are:

Login.

Users details

Time slot details.

Enquiry details

Registration details.

Output requirements of the system are:

Listing of all users.

Listing of all enquiries.

Listing of all the registered students.

Software requirements are:

JDK 1.7

Database(MySQL Database Server 5.5)

Jdbc Driver for MySQL Database Server

Operating system

Hardware requirements are:

Intel P4 processor with minimum 2.0Ghz Speed

RAM: Minimum 512MB

Hard Disk: Minimum 20GB

BUSINESS FUNCTIONS OF THE SYSTEM

Business functions provided by FOA have been described below through the screenshots of the running application.

Login: Users are required to fill in the user name and password to login into this system. The access is granted only after the user name and password is authenticated. This feature ensures the security of data as the enrollment details cannot be modified by any unauthenticated user.

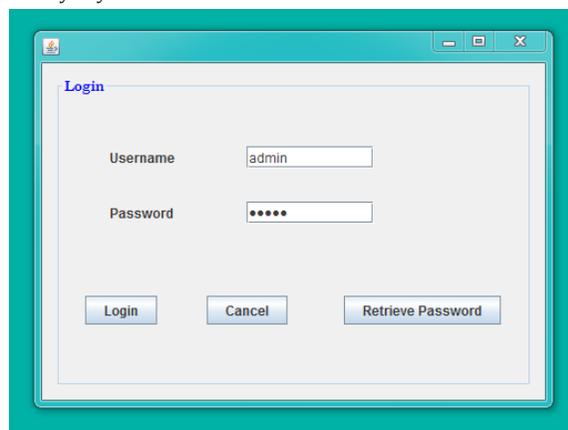


Figure2: Users are required to login through this login screen

Users Maintenance: This feature allows adding or updating the details of all users who are accessing this application.

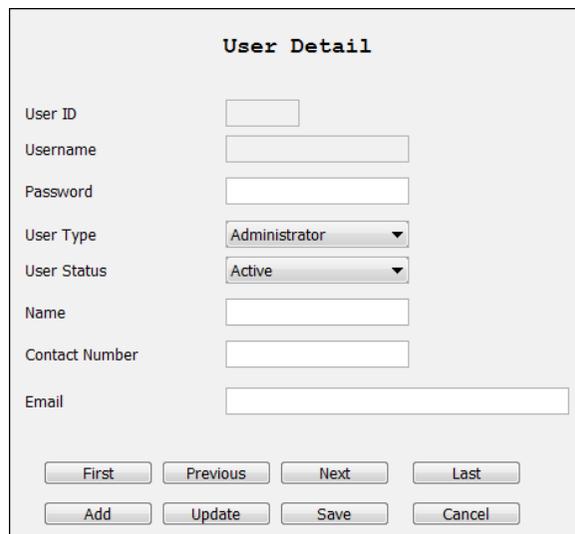


Figure 3: User Details Screen

Enquiry Maintenance: This allows the user to add or update the details of enquiries made by students regarding different courses available.

Manage Enquiry Details

Enquiry Id	<input type="text"/>	Enquiry Date	<input type="text"/>
Name	<input type="text"/>		
Telephone No.	<input type="text"/>		
Email Id	<input type="text"/>		
Qualification	<input type="text"/>		
Skill Set	<input type="text"/>		
Training	<input type="checkbox"/> Course Based <input type="checkbox"/> Project Based <input type="checkbox"/> Industrial Training		
Application	<input type="checkbox"/> Console <input type="checkbox"/> Windows <input type="checkbox"/> Mobile <input type="checkbox"/> Web <input type="checkbox"/> Web Services <input type="checkbox"/> Enterprise <input type="checkbox"/> RIA		
Technology	<input type="checkbox"/> Database <input type="checkbox"/> Graphics <input type="checkbox"/> Network <input type="checkbox"/> System <input type="checkbox"/> Hardware Interfacing <input type="checkbox"/> OS <input type="checkbox"/> Embedded		
Language	<input type="text"/>		
Duration	<input type="text"/>		
Remarks	<input style="height: 40px;" type="text"/>		
Enquiry Handled By	<input type="text"/>		
Enquiry Status	<input type="text" value="select"/> ▼		

Figure 4: Screen to manage enquiry details

Time Slot: System provides the proper functionality to the user to manage various time slots corresponding to guide or lab.

Figure 5: Screen to manage time slots, labs etc allotted to

Manage Time Slot

Time Slot Id	<input type="text"/>
Start Time	<input type="text"/>
End Time	<input type="text"/>
Guide	<input type="text"/>
Lab	<input type="text"/>

students

Registration Maintenance: This allows the user to add or update registration details of all the students who are registered with the company for training.

Figure 6: Screen that allows viewing, adding, updating and saving registration details of all the students enrolled in the institute.

Registration Details

General Information			
Registration ID	<input type="text"/>	Registration Date	<input type="text"/>
Name	<input type="text"/>	Father Name	<input type="text"/>
Birth Date	<input type="text"/>	Gender	<input type="radio"/> Male <input type="radio"/> Female
Permanent Address	<input style="width: 100%;" type="text"/>		
Correspondance Address	<input style="width: 100%;" type="text"/>		
Phone	<input type="text"/>	Mobile	<input type="text"/>
Email Id	<input type="text"/>		
Current Academic Information			
Qualification	<input type="text"/>	Branch/Specification	<input type="text"/>
Session	<input type="text"/>	University	<input type="text"/>
College	<input type="text"/>		
Registration Information			
Course	<input type="text"/>	Duration	<input type="text"/> weeks
Training Type	<input type="radio"/> Course Based <input type="radio"/> Project Based <input type="radio"/> Industrial Training		
Batch Start Date	<input type="text"/>		
Time Slot	<input type="text" value="select"/>		
<input type="button" value="First"/> <input type="button" value="Previous"/> <input type="button" value="Next"/> <input type="button" value="Last"/>			
<input type="button" value="Add"/> <input type="button" value="Update"/> <input type="button" value="Save"/> <input type="button" value="Cancel"/>			

CONCLUSION

It is time that industrial organizations replace their existing mundane clerical systems with faster, newer and easier technologies. With this objective, FOA has been carefully designed to eliminate the need of hiring large staff to accomplish the front office tasks. It ensures quality work by reducing the room

for human errors which exist in manual systems. It can act as a great capital saver for the organizations that deal in providing industrial training to students. It ensures a speedy recording and processing of data. FOA is easy to use, and delivers an expeditious and a fluent experience its users.

REFERENCE

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