P-1760

K C T
LIBRARY
COIMBATORE - 641 006

COURSE ORGANIZATION

By

Vidhya.K.G

Reg No 71203621060

of

KUMARAGURU COLLEGE OF TECHNOLOGY

COIMBATORE

A PROJECT REPORT

Submitted to the

FACULTY OF INFORMATION AND COMMUNICATION ENGINEERING

In partial fulfillment of the requirements
for the award of the degree

of

MASTER OF COMPUTER APPLICATIONS

Kumaraguru College of Technology

Coimbatore-641006

Department of Computer Applications

Bonafide Certificate

Certified that this project report titled **Course Organization** is a bonafide work of **Miss.Vidhya.K.G (Reg No. 71203621060)** who carried out the research under my supervision. Certified further, that to the best of my knowledge the work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

C. Rajan Krupa

GUIDE

HEAD OF THE DEPARTMENT

Submitted for the University Examination Held on 29/6/2006

Hexaware
TECHNOLOGIES

Certificate

This is to certify that **Ms. Vidhya K G**, final year student of Kumaraguru College of Technology, Coimbatore, Completed the project titled **"Course organization"** for our organisation towards partial fulfillment of the requirements of the degree of MCA, under the Guidance of Ms. Radha Parameshwara, Hexaware Technologies

The duration of the project was from January 2006 to April 2006; her performance during the period was good.

We wish her success in her future endeavors.

For Hexaware Technologies Ltd

V. Ramganesh

for Dr.Sridharan P.N
Vice President – HexaVarsity
Hexaware Technologies
Chennai

ABSTRACT

The project entitled "**Course Organization**" is developed for the training department to suggest the employee to take up necessary training. The project is carried out with .Net as front end and SQL server as back end.The project has three main phases they are listed below

- Mapping the employee skills to a particular chamber
- Finding the skilgap
- Suggest the needed training

In the first phase the system receives skills of employee.The organization defines chamber for each technology. The skills entered by the employee are mapped in to a particular chamber based on his experience in that technology. This mapping allows the system to find the lagging skill gap.The output skill gap is viewed by the reporting head who nominates the employee to take up the training.

Chamber administrator includes defining new chambers for each technology with appropriate mandatory skills and optional skills. The display of training calendar allows the head to view the training schedules with necessary

ACKNOWLEDGEMENT

I wish to acknowledge my sincere gratitude and heartfelt thanks to our beloved principal **Dr.Joseph.V.Thanikal Ph.D.**, and our former principal **Dr.K.K.Padmanaban B.Sc., (Engg), M.Tech, Ph.D.**, for having given me the adequate support and opportunity for completing this project work successfully.

I express my sincere thanks to **Dean Dr.S.Thangasamy Ph.D.** and **Dr. M.GuruRajan Ph.D.** Head of the Department of Computer Applications, Who with his careful supervision has ensured me in attaining perfection of work.

I extend my sincere thanks to **Ms.V.Geetha MCA, M.Phil.** Asst. Professor, Project Coordinator Department of Computer Applications for regarding us all the timely helps through out the project.

I regard my heartfelt thanks and everlasting gratitude to my Project guide **Mr.C.Rajan Krupa MCA.** Senior Lecturer, Department of Computer Applications for his uplifting ideas and inspiring guidance which have been very helpful in refining up the project.

I would like convey my sincere thanks to **Ms.RadhaParameshwara**, Hexaware Technologies, Chennai for giving me the opportunity to do the project

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1
INTRODUCTION

1.1 ABOUT THE PROJECT

The objective of "Course Organization" is to develop framework that provides a consistent competency to the employees which includes Intelligence in analyzing the Technical skills based on the employee experience and suggest employee to take up training, capturing feedback, dialogue based system based on the intelligence (KSPM) where K stands for Knowledge, S stands for Skills, P stands for Process, M stands for Managerial.

Employees are mapped into particular chamber through their experience in that technology. The employee who needs training is identified by various sources. The technology can have 1 – n chambers. The chamber contains both mandatory skills and optional skills. Mandatory skills are expected to be known compulsory for an employee. The mandatory skills which the employee does not posses is identified as skillgap. The software highlights the skillgap and suggests necessary training.

Main objective of this project is to provide a more fast, secure, reliable, cost-effective & user friendly system which analyze the skills of an employee and map it to the required chamber to achieve its business objectives.

1.2 ORGANIZATION PROFILE

Hexaware is the No 1 People Soft service Providers in India and specialized in Enterprise Solutions, Application Management, e-commerce and Embedded System.Hexaware is ranked 11 in the latest Nasscom Top 20 List of IT software and service exports in India. Hexaware is ranked 6 among the Top 10 IT Employees in the country.

Hexaware is a global provider of IT and Process outsourcing services. We focus exclusively on maximizing client returns from outsourcing and off-shoring. We have extensive experience in managing large IT applications in real time as well as in providing high value services around packaged enterprise applications such as SAP and PeopleSoft. Our experience in the business process outsourcing arena fully complements and strengthens our service spectrum and allows us to operate as an enterprise-class solution delivery company. Our solutions aim to provide high value by optimizing cost of ownership of technology investments for customers.

Hexaware has a client base comprising several Global 1000 organizations. Our commitment is to provide solutions that translate into tangible business outcomes for our customers. Our 'partner-in-business' approach generates high business value for customers and rich dividends to Hexaware in the form of a continual stream of repeat business. Hexaware's domain capability, expertise and reduced learning curves enables significant compression in time-to-value deliverables.

CHAPTER 2
SYSTEM STUDY

2.1 SOFTWARE REQUIREMENT AND SPECIFICATION

The Software Requirements Specification is a technical specification of requirements for the software product. The goal of software requirements definition is to completely and consistently specify the technical requirements for the software products in a concise and unambiguous manner.

The Software Requirements Specification is based on the system definition high level requirements during initial planning are elaborated and more specific in order to characterize the features that the software product will incorporate the requirement specification is primarily concerned with functional and a performance aspect of the software product and emphasis is placed on specifying product characteristics without implying how the product will provide those characteristics.

Desirable properties of a Software Requirements Specification

- Correct
- Complete
- Consistent
- Unambiguous

References

The process followed while preparing the course plan includes,

- Resources Available for conduct training
- Level of Training needed based on their skills
- Documents containing pre and post test result

Project Functions

The system provides functionalities to add, delete, view courses and to nominate employees to attend training sessions and assigning the chambers based on their skills.

User Characteristics

The system allows user to view and modify information based on their designations.

List of Inputs

- Content for training courses
- Nominations for attending course
- Availability of training rooms and trainees
- Request to conduct course

List of Outputs

The output is a course plan which is published in the calendar and mails are sent to respective persons.

User Interface

The system allows the user to view and edit data based on their roles and access privileges.

Security

The user names and passwords are maintained internally in the database. Without authentication no one can be entered into the system. The level of the system users are maintained by administrator. System finds the users level when they logged in and provides privileges according to their levels.

Availability

This is the place where the system strictly concentrates. User updating is provided for availability of information's.

Capacity

Information Security followed in Hexaware

Introduction

To retain a competitive advantage and to meet basic business requirements, Organizations must:

- Ensure the integrity of the information stored on various media
- Preserve the confidentiality of sensitive data
- Ensure the continued availability of information

Process Areas include the following

Information security

Covers the information security organization, Information security management Reviews and segregation of duties and authorization process for information processing facility.

Human resources security

Covers personnel process, Third party access, delivering training and Awareness and disciplinary action.

Information Security audits

Information Security in Project Management

Covers the activities projects need to perform to ensure Compliance to security requirements.

Physical and Environmental Security

Covers physical access controls, data center security, Environmental controls and clear desk policy and clear screen policy.

Logical access Control

User Access Management, System and Network access control, Application Access control, Monitoring System Access and Mobile Computing

Operations Management

Covers Operational procedures, System Planning and Acceptance, Virus Control, Help Desk, Housekeeping, Network Management, Media Handling and Information Exchange.

Security in Internal Systems

Covers validation of inputs and outputs and processing controls.

Standard Compliance

The standards are completely followed for each phase as in the SDLC, which is currently followed in Hexaware Technologies to brief more about the SDLC that is followed in hexaware at highlighted below.

The scope of this process overview describes all the Life Cycle Activities followed in Hexaware. Software Development Life Cycles- Eight Life Cycle Models are available or used as template in Quality Management systems at hexaware.

Requirements Engineering

Describes the procedures for gathering and documenting customer requirements.

Requirements Study & Analysis

Covers the initial gathering of customer requirements.

Customer Requirements Specification

Covers the preparation, review and baselining of the Technical Requirements Document.

Prototype Development

This procedure describes the process for creating Prototype of requirements through the project life cycle. The Prototype can be a throwaway prototype, proof of concept, initial prototype to convince the customer who can be reused and built on it.

Design

Describes the process for documenting Architecture level design, Detailed level design and Service Design

Architecture Design

The Architecture design talks about transformation of the functions identified in the Functional Specifications into architectural design, which is independent of the physical environment. Preparation of Application Integration Strategy and Integration Test Plans.

Detailed Design

In detail design lower level components of the architectural design are decomposed until they can be expressed as modules in the selected programming language. Preparation of Unit Test Plan.

Application Integration

This phase actually starts during the Architecture Design phase by identifying the sequence of component for integration, Review and manage the interfaces. Then it spans through end of construction phase by Building the package and Integration environment preparation before the testing phase. And during the Integration phase the Integration readiness review will be done before starting the actual testing.

Technical Documentation

Describes the procedures for preparation of installation manual and user manual and other technical documentation at and after post implementation some times along with training.

Note: Each phase of the cycle must go through formal sign process off by the customer in form of mail.

Training Cycle in Hexaware

The scope of this process overview document involves all the activities performed by the Training Group. Training is provided to all members to build skill base to fill the specific needs of the projects and to develop skills of members.

Process Areas include the following:

Training Material Preparation

Covers the process for preparation of training material for internal training programs. All training material needs to follow the standards for training.

Conducting Training

Describes the process to be followed for conducting internal and external training.

External training

External faculty conducting training for Hexaware staff or hexaware members being nominated for external training /seminars etc.

Training Evaluation

Covers evaluation of training by members who have attended the training and assessing the effectiveness of training of members who have attended the training by Project Managers based on members performance.

2.2 HARDWARE REQUIREMENT

Processor	: Intel Pentium 4
CPU Speed	: 2.9 GHz
RAM capacity	: 512 MB Ram
Display Card	: SVGA
Monitor	: Samsung Color
Hard Disk Drive	: 40 GB
Operating System	: Windows XP

2.3 SOFTWARE REQUIREMENT

Front End	: Microsoft Visual Studio.Net 2000
Code Behind	: C#
Back End	: Microsoft SQL Server 2000

Features of ASP .NET

Compiled Code

Code written in ASP .NET is compiled and not interpreted. This makes ASP .NET applications faster to execute than other server-side scripts that are interpreted, such as scripts written in a previous version of ASP.

features of this powerful tool are the WYSIWYG (What You See Is What You Get) editor, drag – and – drop server controls, and automatic deployment.

Power and Flexibility

ASP .NET applications are based on Common Language Runtime (CLR).Therefore, the power and flexibility of the .NET platform is available to ASP .NET application developers ASP .NET applications enable us to ensure that the .NET Framework class library, messaging, and data access solutions are seamlessly accessible over the Web ASP .NET is also language-independent. Therefore, we can choose any .NET language to develop our application.

Simplicity

ASP .NET enables us to build user interfaces that separate application logic from presentation content. In addition, CLR simplifies application development by using managed code services, such as automatic reference counting and garbage collection. Therefore, ASP .NET makes it easy to perform common tasks ranging from form submission and client authentication to site configuration and deployment.

Manageability

ASP .NET enables us to manage Web applications by storing the configuration information in an XML file. We can open the XML file in the Visual Studio .NET IDE.

Security

ASP .NET provides a number of options for implementing security and restricting user access to a Web application. All those options are configured within the configuration file.

SQL SERVER 2000

Microsoft SQL Server 2000 is a set of components that work together to meet the data storage and analysis needs of the largest Web sites and enterprise data processing systems, at the same time can provide easy-to-use data storage services to an individual or small business.

Features of SQL Server 2000

- Internet Integration.
- Scalability and Availability.
- Enterprise-Level Database Features.
- Ease of installation, deployment, and use.
- Data warehousing.

CHAPTER 3
SYSTEM ANALYSIS

3.1 EXISTING SYSTEM

Chamber

The organization defines competency for each possible role (chamber) into which an employee would fit in, by assigning a role based on their experience in technical, behavioral and managerial skills. For each chamber mandatory and optional skills are defined. An employee who fit into a particular chamber is expected to possess all the defined mandatory skills. Work Flow Competency involves the following,

Knowledge

In depth understanding of a particular technology.

Skills

- Ability to map requirement to a technology.
- Ability to map customer requirements and suggest changes to code.
- Ability to manage team or project.

Process Ability

- Ability to understand coding standards of Hexaware Technology.
- Ability to follow standard procedures for installation, upgrades in a particular technology.

Managerial Traits

- Managing people.
- Project Management Process (PMP).
- Managing Customers.
- Communication Skills.
- Managing Quality, Information and Finance.
- Time Management.
- Customer Interfacing.

Mandatory Skills

The skills which are compulsory for particular chamber or grade.

Optional Skills

The skills which are not mandatory for particular grade.

Skill gap

Required technical as well as non- technical ability of an employee based on the project requirements and training plan.

Course

The organization provides an organized way of training for an employee at various levels with course having the following.

- Course contents
- Course schedule and
- Course objectives

Backlog

When an employee is assigned a role and said that he is in chamber n, he is expected to possess all the mandatory skills for the entire chamber from 1 to n-1, also that it is verified.

If there is any skill gap identified, they are defined as back logs. Backlogs allow an employee to attend the needed training for the prior chambers.

3.2 PROPOSED SYSTEM

- Course listing with schedules, sessions and course objective.
- Capturing feedback.
- Dialogue based system.

Benefits

- A user friendly system is established.
- Analysis of needed training to employees.
- The software is installed in the intranet.

3.3 MODULE FUNCTIONALITIES

Employee Module

Every employee who joins the company enters his information, which includes personal and technical details. He is mapped in to particular chamber through his experience in that technology. The functionalities of the module are separated as, when the employee enters for the first time through his employee id, he is allowed to enter his details. When he enters for the second time he is allowed to view his skill gap.

Chamber Administrator

The company provides training for employees based on certain standards and procedures. Chambers are defined for each technology. The purpose is to achieve a

Reporting Head

This is the person who extensively uses the system. The target of this user is to view the skillgap as and when he finds an employee to include in a new project, complications involved in existing project. Immediate supervisor or the reporting head selects the employee under his supervision view his skill set and skillgap and if he finds the gap as a backlog, nominate the employee to attend training by viewing the training schedule prepared by Hexavarsity training department.

CHAPTER 4
SYSTEM DESIGN

4.1 INPUT DESIGN

Input to the system can be defined as the information that is to be provided to the system that will be used for further processing by the system to obtain meaningful information, which helps in decision making.The objectives followed while doing input design is controlling the data entered that is preventing the entry of invalid data, all the validation checks to be done on the data entered are specified.

Input Screens are designed to accept input from the user. Here the screens are more user friendly. The screen layout is given in the appendix.

In the employee module the inputs are identified as the screens that allow the employee to enter the personal details and his skill set. The chamber Administrator enters the technology with necessary mandatory skills and optional skills. Necessary screens are provided for updation, deletion. Reporting Head mails the employee who is asked to take up the training. This is the only input screen for this module.

4.2 OUTPUT DESIGN

the employee to know what the company expects in this technology and what sort of training he needs to attend to overcome his skillgap.

In case of chamber administrator the output design is just a view which specifies the chamber and its mandatory skills and optional skills. The output screen of the reporting head module is the skillgap of a particular employee which allows the head to take necessary decision of whether the employee needs training in this technology or not. The scheduling details are available which tells on which date the training commences on what technology.

4.3 TABLE DESIGN

4.3.1 Employee

Table Name	Attribute	Data Type	Primary Key	Reference
Employee	EID	Varcahr2(10)	Yes	Technology(TID)
	DateofJoin	Date	No	
	Designation	Varcahr2(10)	No	
	Address	Varcahr2(10)	No	
	Email	Varcahr2(10)	No	
	Experience	integer	No	

4.3.3 Chamber

Table Name	Attribute	Data Type	Primary Key	Reference
Chamber	CID	Integer	Yes	
	Mandatory Skill	Varcahr2(10)	No	
	Optional Skill	Varcahr2(10)	No	
	Experience	Integer	No	
	Level	Integer	No	

4.3.4 Feedback

Table Name	Attribute	Data Type	Primary Key	Reference
Feedback	EID	Varcahr2(10)	Yes	Employee(EID)
	TID	Varcahr2(10)	No	
	CID	Integer	Yes	Chamber(CID)
	Fdate	Date	No	
	Feedback	Varcahr2(100)	No	

4.3.5 CourseMaster

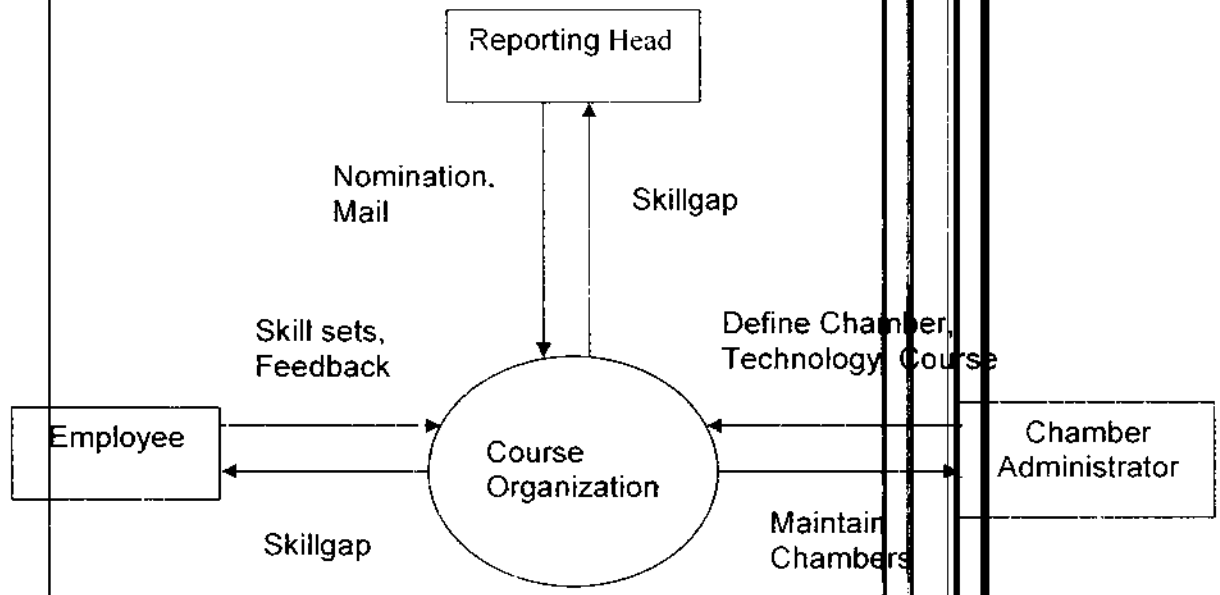
Table Name	Attribute	Data Type	Primary Key	Reference
CourseMaster	CourceId	Varcahr2(10)	Yes	Calendar(CourceId)
	CourseDes	Varcahr2(10)	No	

4.3.6 Calendar

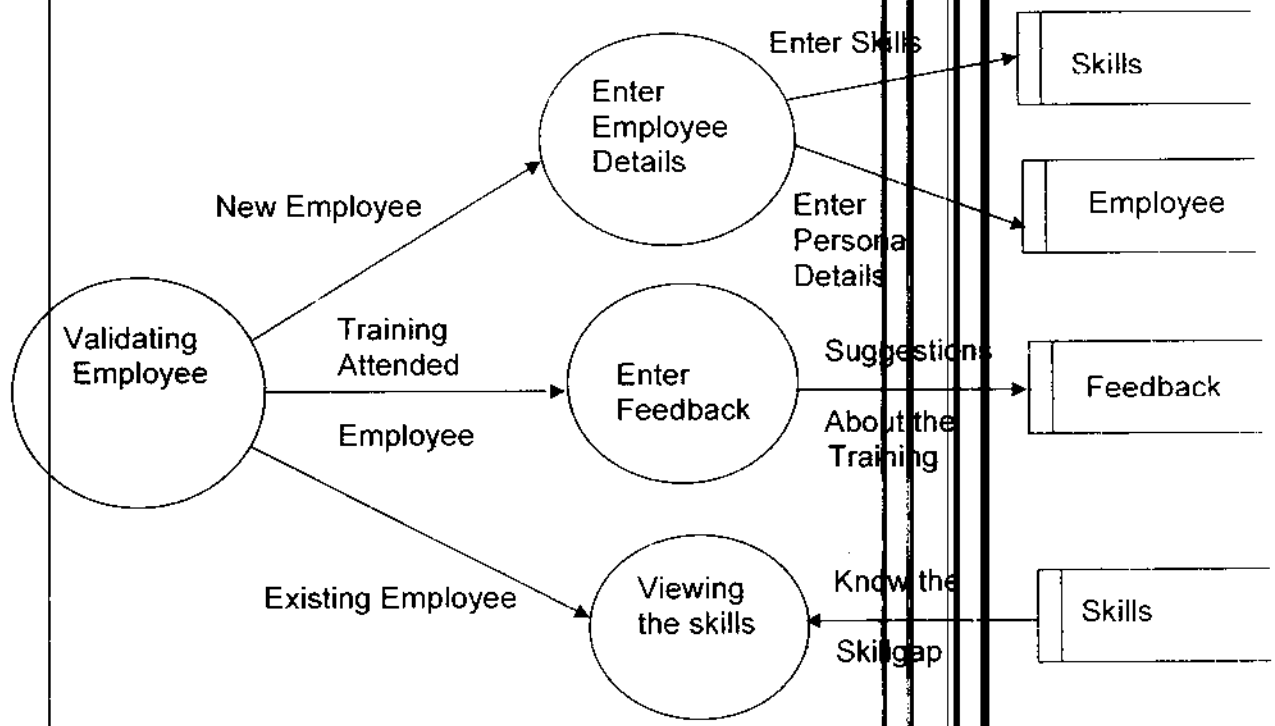
Table Name	Attribute	Data Type	Primary Key	Reference
Calendar	CourceId	Varcahr2(10)	Yes	
	Startdate	Date	No	
	Enddate	Date	No	

4.4 DATAFLOW DIAGRAM

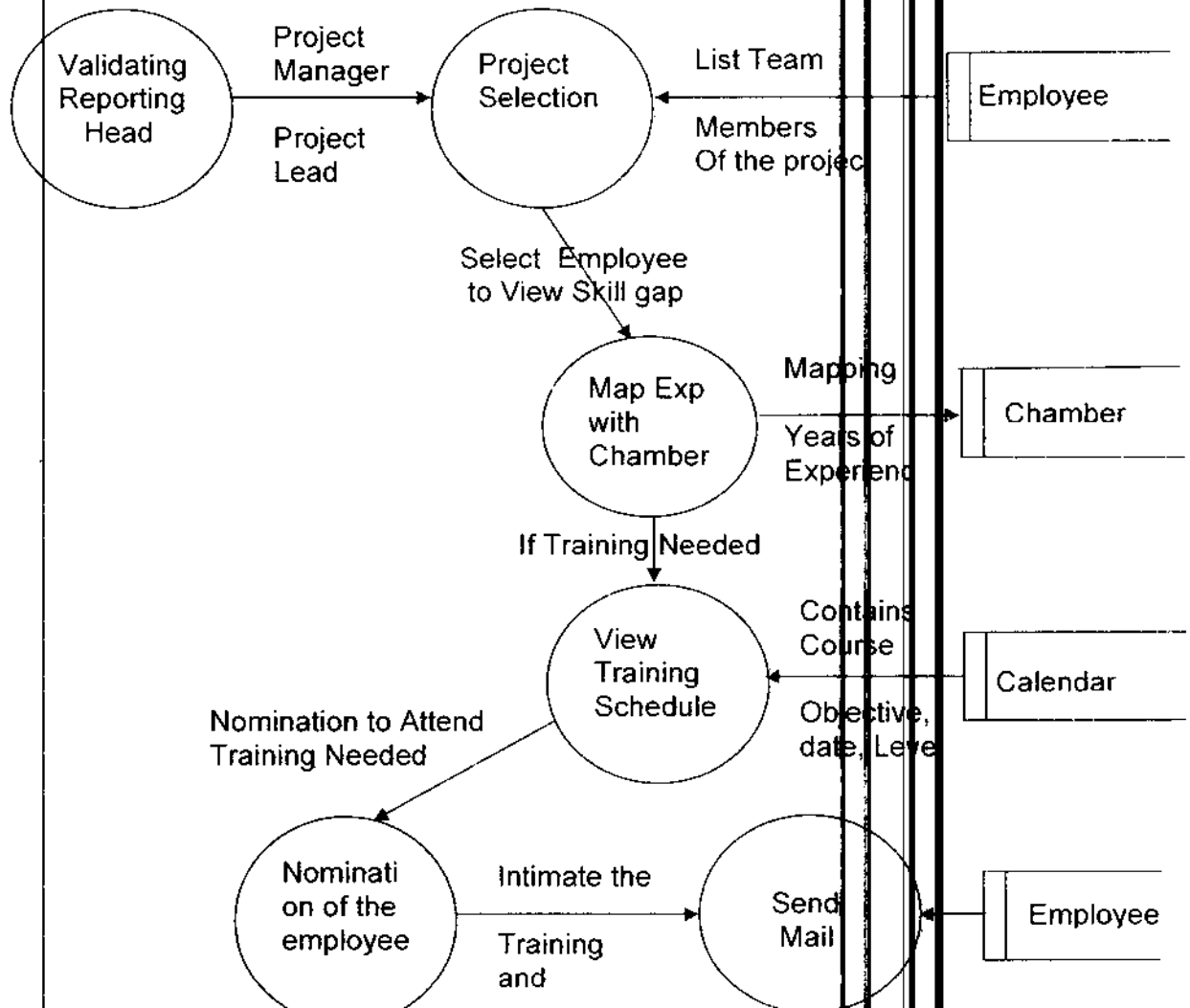
4.4.1 Level 0



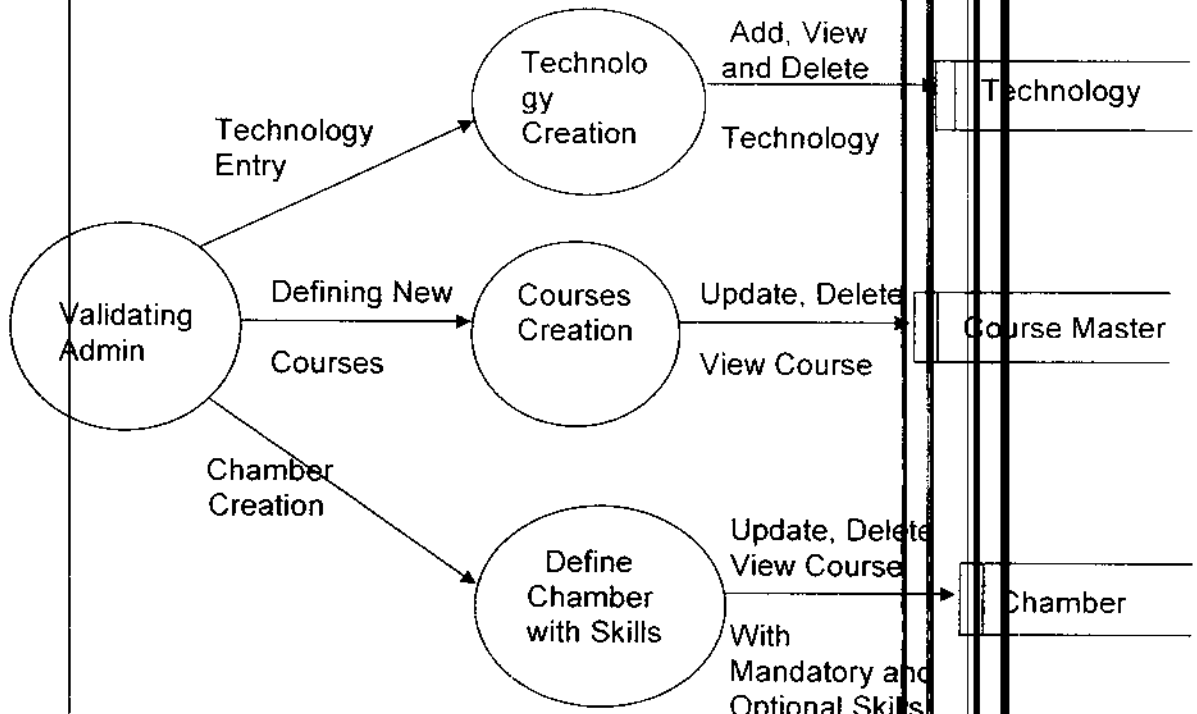
4.4.2 Employee



4.4.3 Reporting Head



4.4.4 Chamber Administrator



CHAPTER 5
SYSTEM TESTING

Software testing is a critical element of software quality assurance and represents the ultimate reviews of specification, design and coding. Testing presents an interesting anomaly for the software. Testing is vital to the success of the system. Errors can be injected at any stage during development.

System testing makes a logical assumption that if all the parts of the system are correct, the goal will be successfully achieved. During testing, the program to be tested is executed with set of the data and the output of the program for the test data is evaluated to determine if the programs are performing as excepted. A series of testing are performed for the proposed system before the system is ready for user acceptance testing. Testing steps are

- Unit Testing
- Integration Testing
- Validation Testing

5.1 UNIT TESTING

Unit testing are carried out by for each module. In the case of employee, his skill

By this testing each module can be easily traced and errors are removed. The errors may be syntactical or of semantics. This testing was carried out during programming stage itself. In this testing each module is found to be working satisfactorily as regards to the expected output from the module.

5.2 INTEGRATION TESTING

Data can be lost across an interface. One module can have adverse effect on another sub function when combined may not produced the desired function. Integration testing is a systematic for constructing the programs structure while at the same time conducting tests to cover errors associated within interface.

This system is developed to be integrated in to the Helix which is an intranet service of Hexaware Technologies. Each module is developed separately and tested for their flow against other modules.

5.3 VALIDATION TESTING

Validation testing can be defined in many ways, but a simple definition is that validation succeeds when the software functions in the manner that is reasonably expected by the customer. Software validation is achieved through a series of black box tests that demonstrate conformity with requirement.

Validation testing is carried out in every module. The employee module is

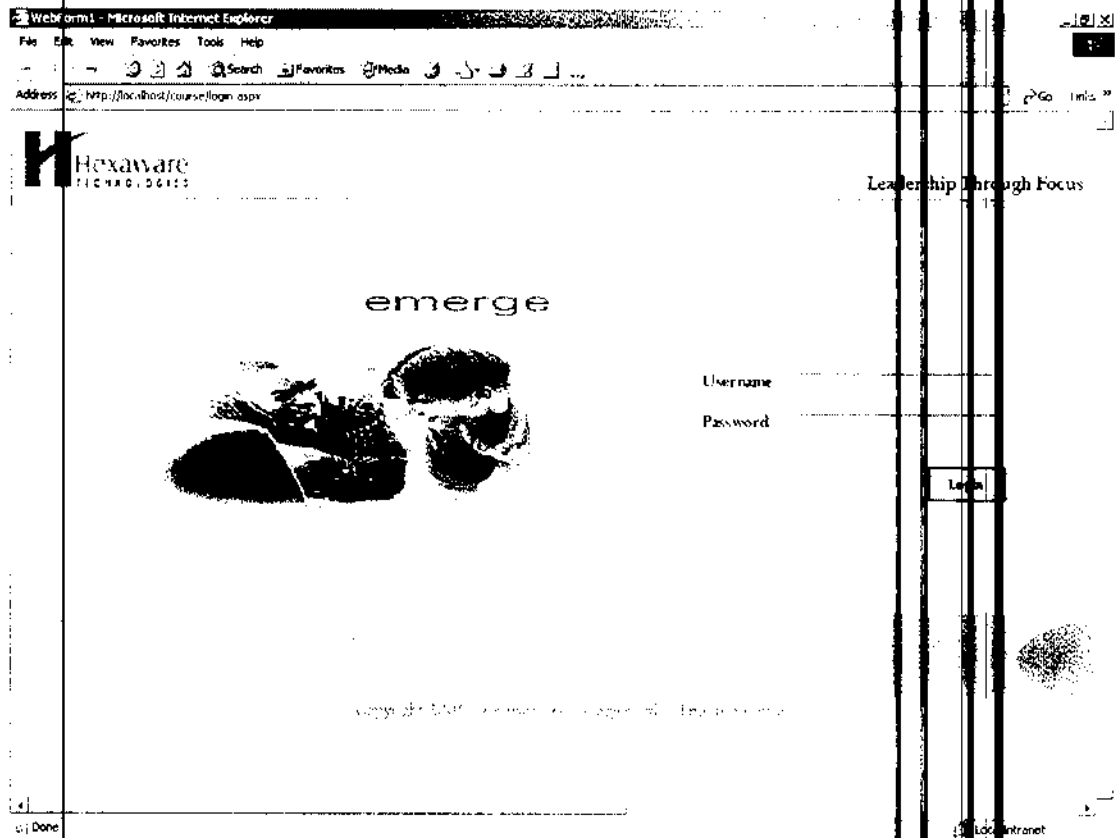
CHAPTER 7
CONCLUSION

An intelligence system has been developed through which an employee, project lead, Reporting Head, Immediate Supervisor, Administrator can analyze their Skills and find their Skills gap and make it Competent towards the Chamber Definition. In this way we had created an open System with facilities like Open Dialog Box System with back logs so that an employee of an Organization can judge their Knowledge, Skills, Process ability and managerial traits that to contribute towards the Organization.This system which is a part of Hexavarsity Portal allows an employee of to know the Respective Standards Followed by a Company to understand the Application Domain of the Organization.

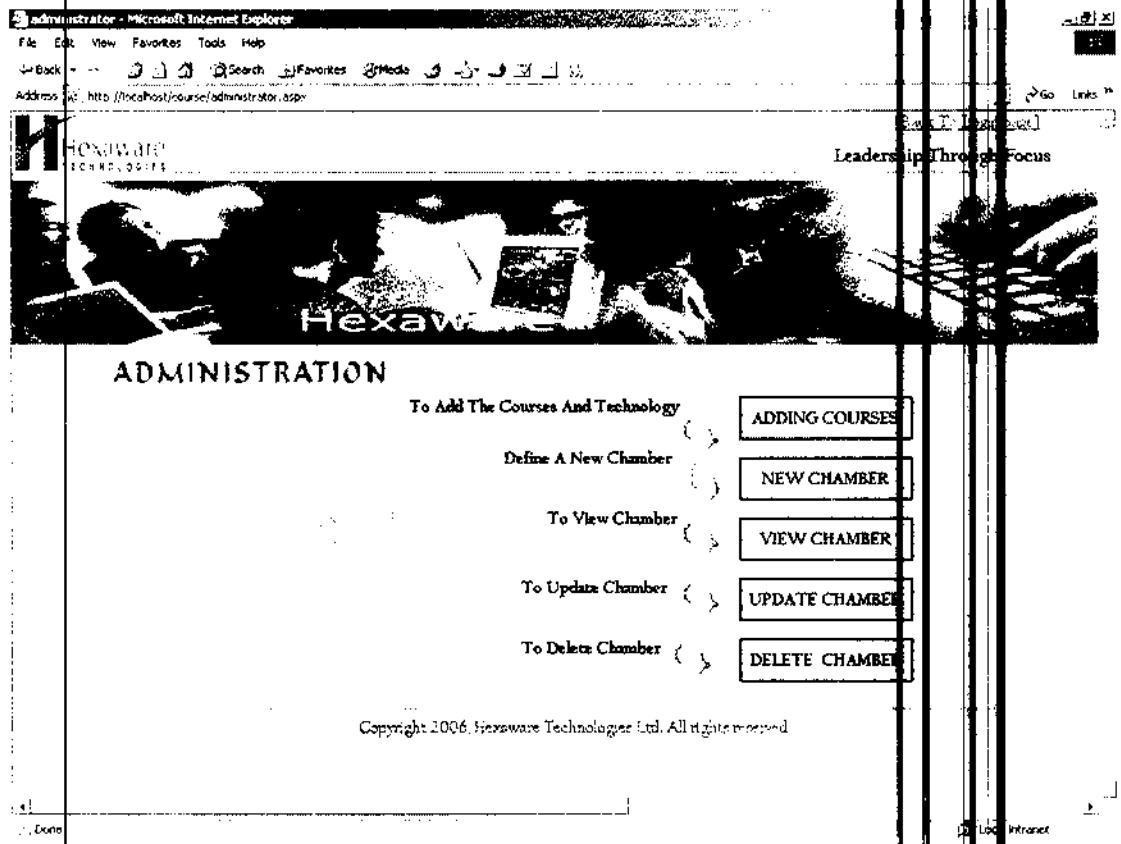
APPENDICES

SCREEN SHOTS

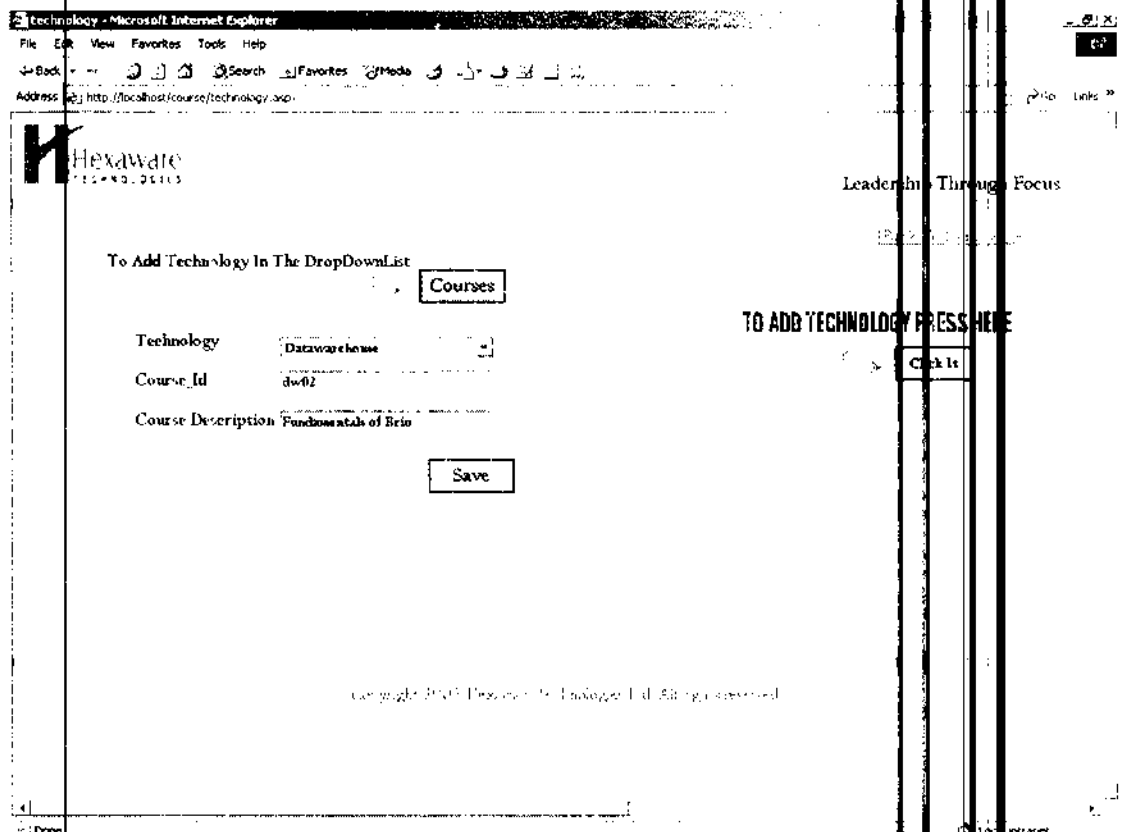
Login Form



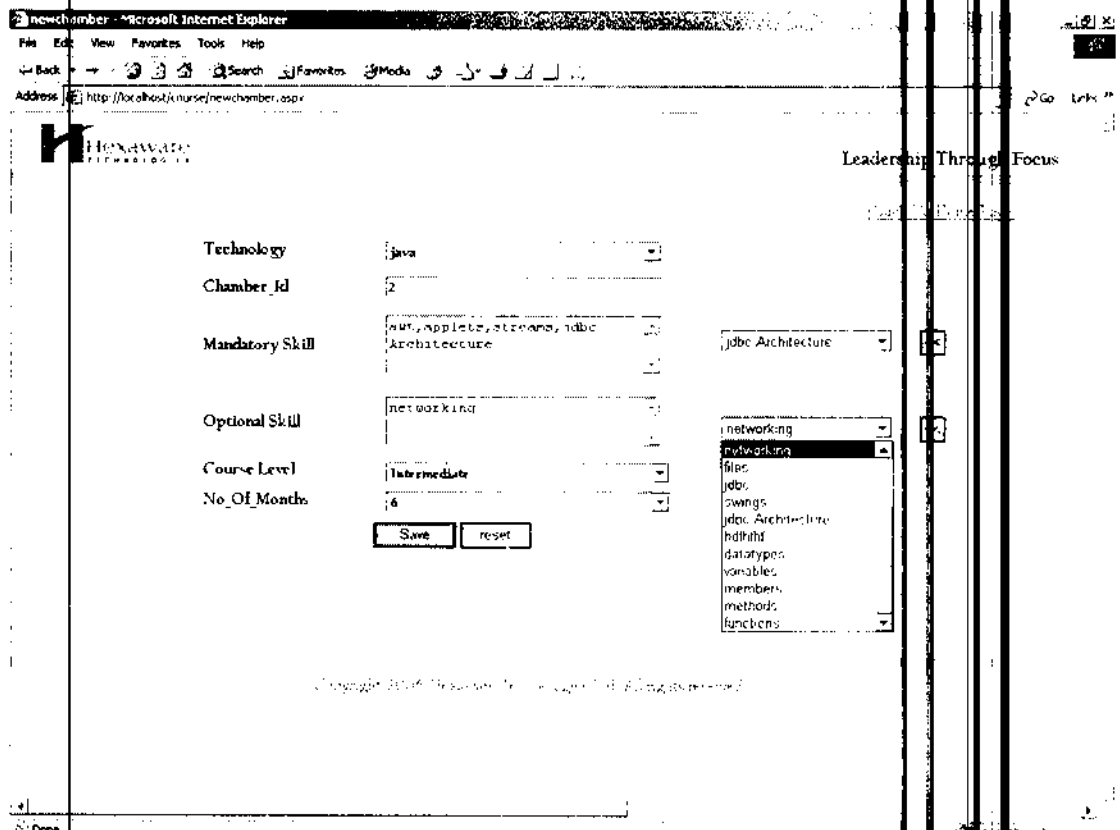
Administrator Home Page



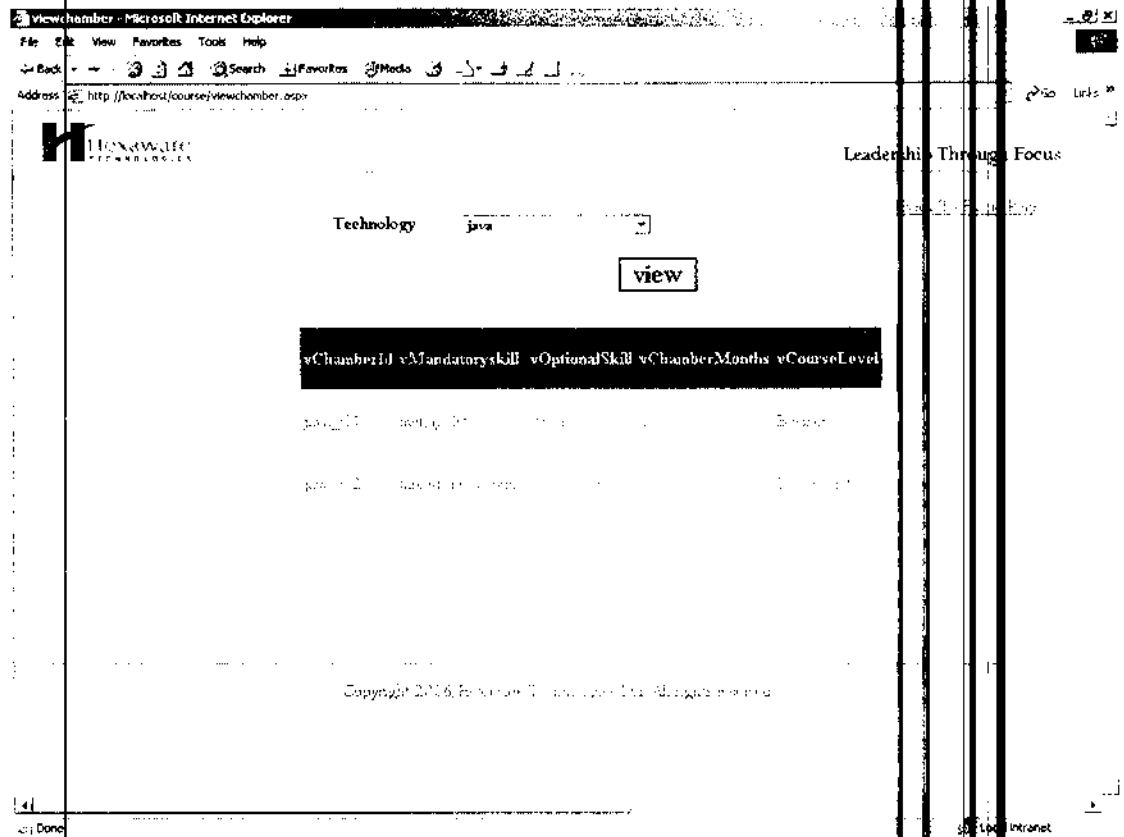
Course Entry Form



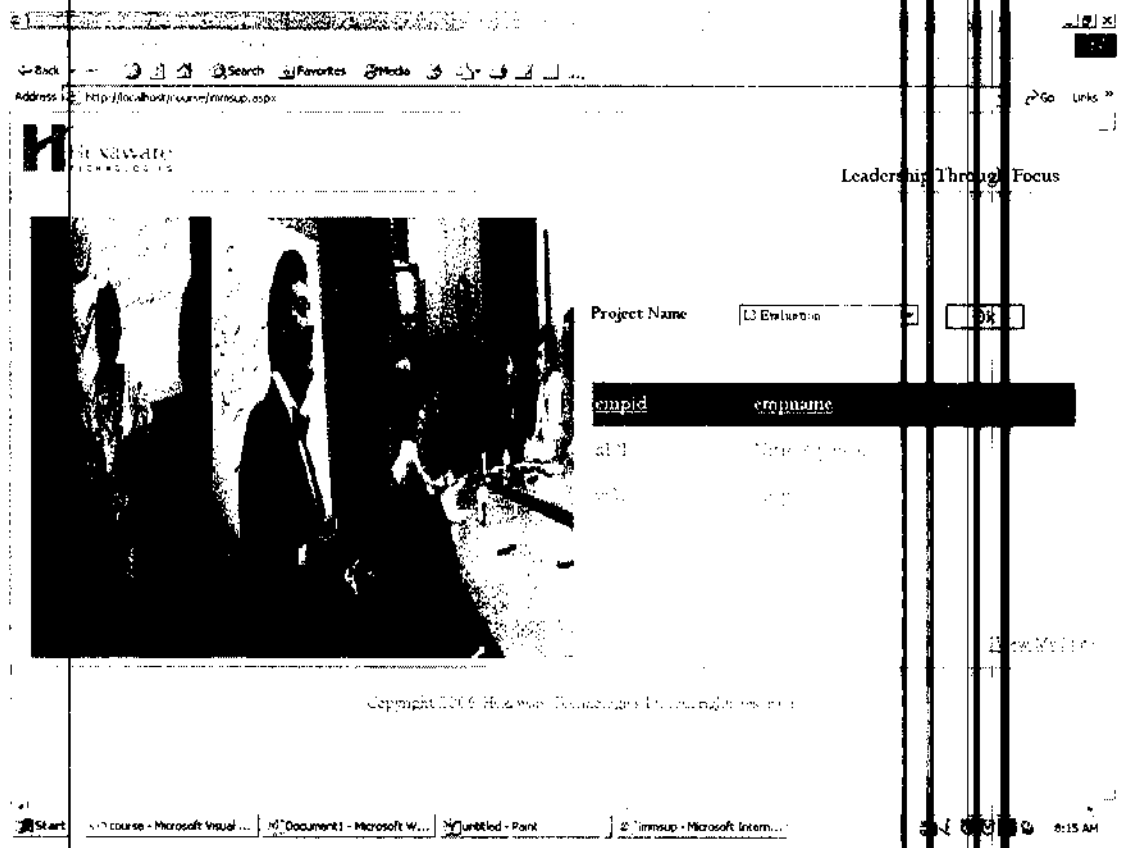
Chamber Creation Form



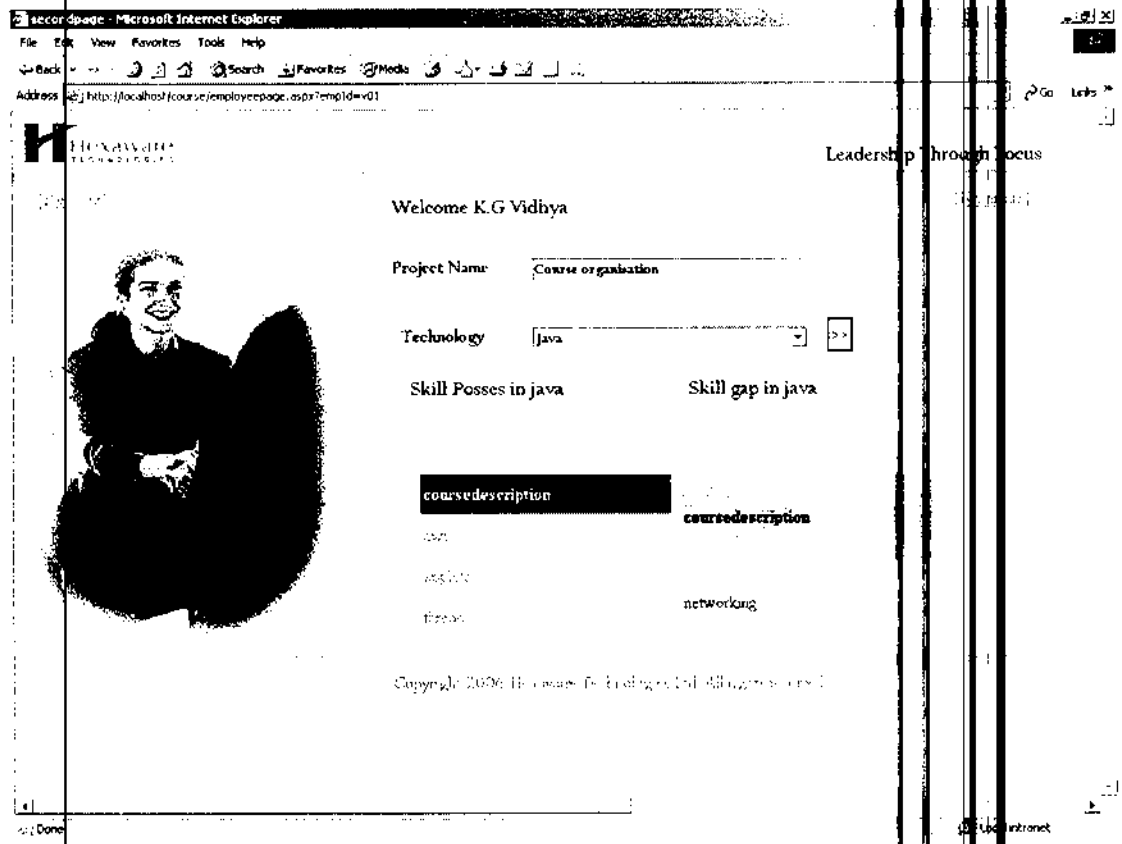
View Chamber Based on Technology



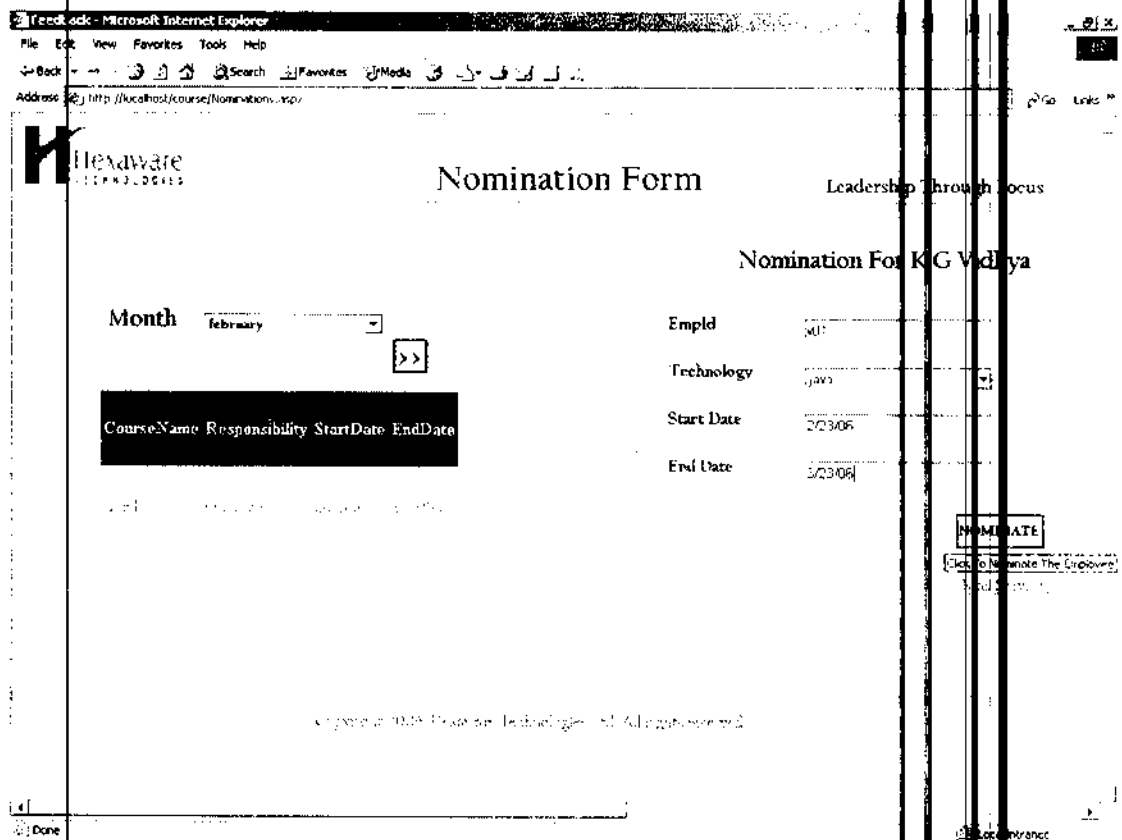
Reporting Head Home Page



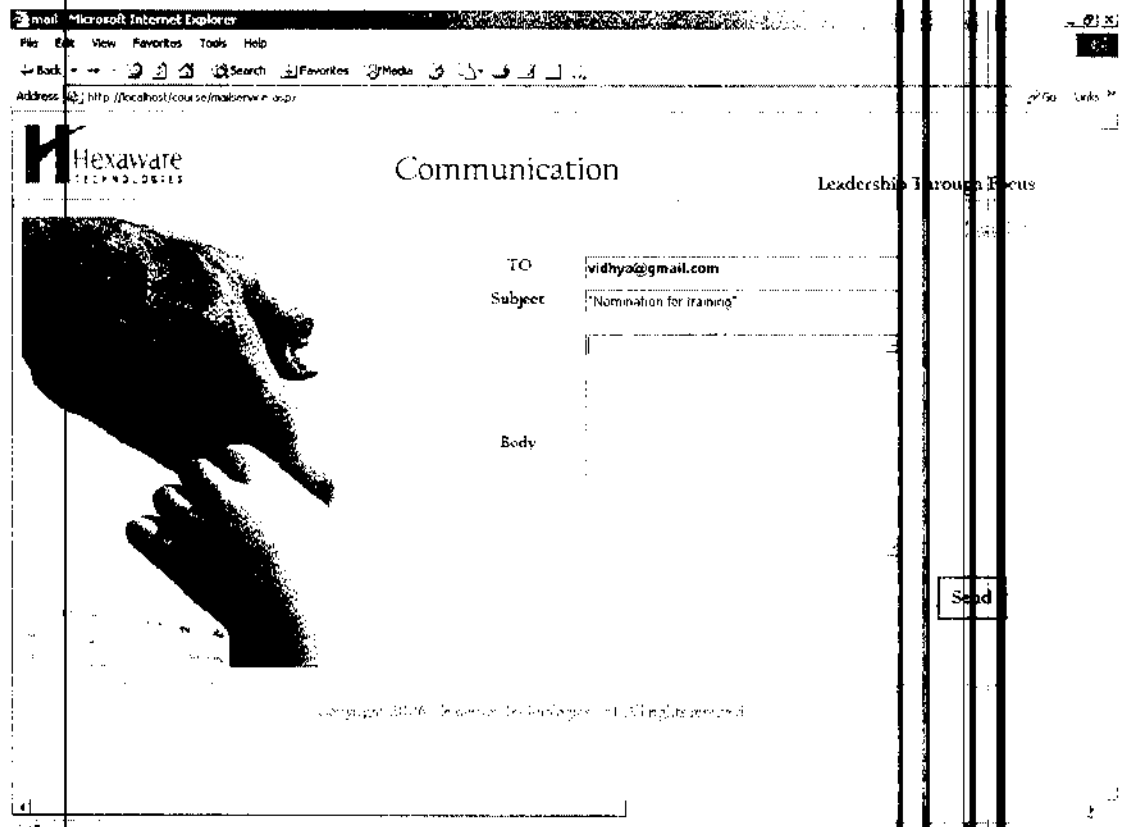
Skill Gap Screen



Nomination Form



Mail Communication



REFERENCES

Books references

1. Stephen, Walther (2002), 'ASP .NET Unleashed'

Web references

1. www.aspnet.com
2. www.csharpcorner.com
3. www.dotnetforums.com
4. www.dotnetjunkies.com
5. www.aspalliance.com