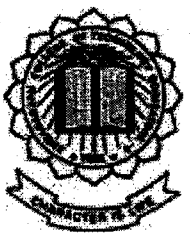

BUG SOLUTION PROVIDER ONLINE

By

ROHINI . P
Registration Number: 71205621036

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
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ANNA UNIVERSITY
CHENNAI 600 025

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KUMARAGURU COLLEGE OF TECHNOLOGY

COIMBATORE-641006

BONAFIDE CERTIFICATE

Certified that this project report titled **BUG SOLUTION PROVIDER ONLINE** is the bonafide work of **MS. ROHINI.P** (Registration Number: **71205621036**) 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.

Supervisor 26/6/08

Head of the Department

Submitted to Project and Viva Examination held on 1.7.08

Internal Examiner 1/7/08

External Examiner

everonn

Everonn Systems India Limited

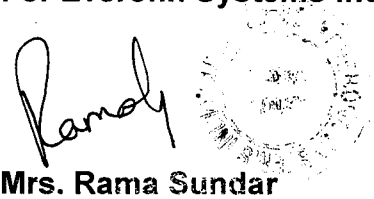
16th April 2008

CERTIFICATE

This is to certify that Ms. P. Rohini (Reg No: 71205621036), a student of Master of Computer Applications (M.C.A) from Kumaraguru College of Technology, Coimbatore has completed the project work on **Bug Solution Provider Online**, at **Everonn Systems India Limited, Chennai** during the period December 2007 to March 2008.

We wish her all success in her future endeavor.

For Everonn Systems India Limited



Mrs. Rama Sundar

Assistant General Manager

ABSTRACT

The Project **"Bug Solution Provider Online"** is a bug tracking software is a 100% web-based bug and defect tracking software engineered to provide a scalable, customizable, easy-to-use solution for any development tracking need. The bug tracking software is easily installed on any standard web server, is compatible with all ODBC compliant databases, and can be accessed by any internet or intranet enabled platform - regardless of OS - from anywhere in the world. Using our bug tracking software will enable you to manage your project's bug (s) and defect (s) more efficiently. Web-based task (defect) and bug tracking software allows you to document manage and assign all of your bugs and tasks and empowers you to organize your bug (s), defect (s) or issue (s) into distinct projects. With our advanced security settings options, users are given access only to projects they need to work on.

It is a web-based defect tracking software, developed using java and jsp and it can run on virtually any web-server like Microsoft, Linux, Unix, etc...For easier archiving of old bugs, lookup values can now be made obsolete to prevent them from being used when creating new bugs.

ACKNOWLEDGEMENT

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CHAPTER 1

INTRODUCTION

1.1 ABOUT THE PROJECT

Bug solution provider online is a methodology used by software tester to collect reports of defects or "bugs" in software programs. A Bug solution provider online system is what teams use to keep track of reported bugs, who's assigned to fixing them, and when and what was done to fix the bug.

This system provides bug tracking solutions for IT enabled departments. It is a fully web based system which allowed the developers to report their new bugs and prioritize through web interface. It avoids all the difficulties in manual bug tracking. This application helps the IT enabled organizations as well the software companies to report the bug. This application has a facility to report about the bug. Then the application should keep track the bug types and severity types.

Based on the types the system will intimate the importance of the bug also it will intimates test team to give priority for the particular bug. Also it will store the bug details in the database for future reference. This tool will help the test engineers to reduce the work of developer as well as the test engineers. Since a web based application developer can send the bug report and will get solution through online. It is a multi access system as this application is online. Since a web based application it will have the facility to reply to the developer by auto mail. Receipt of the bugs will be numbered automatically by the system. The developer should give the auto generation number facility and it should store in the database. Report generation is the importance of this module. The report will be generated based on date wise or technology wise.

The Project consists of four modules

- Authentication Module
- Bug Submission Module
- Bug Solution Module
- Report Generation Module

Authentication Module

In this module the developers are going to register their primary details. They should provide the name, address, contact numbers, password, mailid, company name, and position. The developer should design the database to keep the bulk data from the participants. If he is already a user, then they will directly log on to their home page where bug submission form, inbox, my account are present.

Bug Submission Module

In this module the developer can submit their bugs by clicking the bug submission link in the home page. If the result for the bug is already present in the database it will provide the result immediately. The bug posted by the developer will automatically come to the inbox of Tester. All the bug details are stored in the database for future reference and will be automatically numbered by the system based on the bug priority.

Bug Solution Module

In this module the Tester can send solution for the particular bug given by the developer based on the severity of the bug present in the database.

Report Generation Module

Report generation is the importance of this module. The report will be generated based on the date wise, priority wise, technology wise, developer wise and tester wise.

1.2 ORGANIZATION PROFILE

"Everonn Systems India Limited" started in 1947, is a fully integrated Knowledge Management, Education and Training Company, offering a wide range of services that include Creating Educational and Training content, designing and executing large learning initiatives, setting up the needed infrastructure for learning and training. Everonn is one of the leading players in setting up satellite based Virtual and Interactive learning solutions across India to deliver quality and affordable solutions. Everonn is one of pioneers in IT education in schools and colleges partnered with various state Governments to bridge the digital divide.

Everonn has a presence in 14 states covering more than 2000 schools for providing IT education. Everonn was a Lead Partner of Hughes for satellite based learning, where management courses from premier management institutes like IIMC, IIMK, XLRI, IITD, LIBA, MICS, MAHE and NMIMS are offered to working executives and students. Everonn has presence in 10 locations across South India and in Kolkata, where around 1500 working professionals from various Corporate have enrolled in satellite based Virtual Tech Enabled Learning Solutions (ViTELS).

Everonn is a pioneer in bringing this service and has set up "Virtual Classrooms" at different schools and colleges that are connected through VSAT network. Everonn has already has a network of 125 schools and 190 colleges across south India and growing. Everonn satellite based service solutions are also offered to reputed corporate like Cognizant Technology solutions, Cholamandalam DBS, Indian Bank.

CHAPTER 2

SYSTEM ANALYSIS

System analysis is the process of gathering and interpreting facts, diagnosing the problems and using the information to recommend improvements on the system. The objectives of the study phase are the establishment of the requirements of the system to be acquired and installed. System analysis or study is a problem solving activity that requires intensive communication between the system users and system developers. The system is studied to the minutest detail and analyzed. . A structured approach has been used in the study phase to identify the needs of the user.

System study includes both a preliminary and detailed stage. During preliminary analysis, the analyst takes quick look at what is required and its costs and benefits justify the perceived need. Detailed analysis include an in depth look at what is needed and cost is more refined.

2.1 EXISTING SYSTEM ARCHITECTURE

In existing system any employee can post their Bugs into that organization. Any employee from any division can view that bug and can provide a solution to that corresponding bugs. If thousands of employees have seen that bug means all that employee will provide a solution.

So the employees who have posted the bug have to view thousands of solution. Even though the employee can get the optimal solution but he wants to view all solution.

2.1.1 Drawbacks of Existing System

- Time Consuming.
- Less security
- Solution can't taken from existing database.

2.2 PROPOSED SYSTEM ARCHITECTURE

Our Bug solution provider online software is a web-based bug and defect tracking software engineered to provide a scalable, customizable, easy-to-use solution for any development tracking need. Bug solution provider online software is easily installed on any standard web server, is compatible with all ODBC compliant databases, and can be accessed by any internet or intranet enabled platform - regardless of OS - from anywhere in the world. Using our bug tracking software will enable you to manage your project's bug (s) and defect (s) more efficiently. Web-based task (defect) and bug tracking software allows you to document manage and assign all of your bugs and tasks and empowers you to organize your bug (s), defect (s) or issue (s) into distinct projects. With our advanced security settings options, users are given access only to projects they need to work on.

- Application
- Advanced security
- Easy Access to Bugs and Tasks
- Easy Deployment
- Email Notification
- Reports

- Application
  - Web-based application
  - Runs with MySQL and MS-SQL server 2000 & 2005

- Advanced security

  - Complete per project security scheme
  - Multiple user roles and user security settings per project
  - Supports public and private projects

- Easy Access to Bugs and Tasks

  - Customizable bug list per project using selected fields
  - Multiple order by options
  - Drill-down and drill-up on specific field values
  - Saved queries per project
  - Full text search
  - Quick access using bug numbering scheme

- Easy Deployment

  - It will run on virtually any machine and operating system
  - Runs as a Windows service
  - No client set-up required with our browser-based solution.
  - Easy to upgrade
  - Can be further customized to meet your corporate needs

- Email Notification

  - HTML emails
  - Event-based notifications
  - Task exchange and logging
  - Easy link technology, allowing users to go directly to a specific bug or task from an email

- Reports

  - View reports in HTML
  - Customizable reports per project using selected fields
  - Management reports
  - Ad Hoc reports
  - Multiple projects reporting
  - Flexible data grouping

CHAPTER 3

SYSTEM REQUIREMENTS

3.1 HARDWARE ENVIRONMENT

COMPUTER	:	HCL
PROCESSOR	:	Intel Pentium IV
RAM	:	512 MB
HARD DISK	:	20 GB
MONITOR	:	SVGA
KEYBOARD	:	108 keys
MOUSE	:	Logitech
PRINTER	:	LaserJet

3.2 SOFTWARE ENVIRONMENT

OPERATING SYSTEM	:	Windows XP
PLATFORM	:	J2EE
WEB SERVER	:	Apache Tomcat Server
BACK END	:	SQL Server 2000
BROWSER	:	Internet Explorer 5.0+
FRONT END	:	JSP, HTML, JavaScript

3.3 SOFTWARE DESCRIPTION

Introduction to J2EE

This part describes the J2EE context of an overall enterprise systems environment. We discussed the needs of an enterprise system, Enterprise Architectural Overview, Object-Oriented Software Development for the enterprise and Component-Based Software Development for the Enterprise presented arguments for the use of object-oriented technologies and component-based technologies in building such systems.

Java Foundation for Enterprise Development presented the basic features of Java that make it such an excellent language and platform for use in building enterprise systems. The J2EE model and Java enterprise technologies, means for data connectivity, client and user interfacing, communications enabling, systems assurance, web enabling, and application enabling are considered part of an overall enterprise architecture.

The J2EE Model

The original standard platform defined by Sun is to create standalone Java-based applications and Web-based Java applets. The JDK indeed offer many advantages for use in enterprise development projects by providing an easy-to-use and platform-independent approach to rapidly building enterprise systems.

J2EE Features

The J2EE is defined as an umbrella platform and programming model for building Java enterprise systems for use with different underlying vendor implementations of an enterprise system infrastructure. The J2EE is most accurately defined and scoped according to the following standard documents and software libraries:

Specification: The J2EE specification defines the requirements that a J2EE vendor product implementation must specify.

Programming model: The programming model is cast in the form of a developer's guide explaining how application developers might use various aspects of the J2EE. The guide is primarily described at a conceptual and very high level with a sample application at the end of the guide.

Platform: The J2EE platform is the set of integrated enterprise API library software and development tools. The J2EE platform depends on installation of the J2SE v1.2platform.

Model View Controller

The MVC architectural pattern is not directly related to web applications. Allowing a JSP page to handle the responsibilities of receiving the request, executing some business logic and then determining the next view to display cab become and unconstructive JSP page.

Model: Responsible for the business domain state knowledge.
View: Responsible for a presentation view of the business domain.
Controller: Responsible for controlling the flow and state of the user.

The MVC Model:

Depending on the type of architecture your application uses, the model portion of the MVC pattern can take many different forms. In a two-tier application, where the web tier interacts directly with data store such as a database, the model classes may be set of regular Java objects..

The MVC View:

The view within web tier MVC pattern typically consists of HTML and JSP pages. HTML pages are used to serve static content, while JSP pages can be used to serve both static and dynamic content. Most dynamic content is generated in the web tier. However, some applications may require client-side JavaScript. This does not interfere with or infringe upon the MVC concept.

The MVC Controller:

The controller portion of the web tier MVC design generally is JAVA servlet. The controller in a web tier application performs the following duties:

1. Intercepts HTTP request from a client.
2. Translates each request into a specific business operation perform.
3. Either invokes the business operation itself or delegates it to handler.
4. Helps to selects the next view to display to the client.
5. Return the view to the client.

JSP Basics

JSP is a presentation layer technology that sits on the top of a Java Servlets model and makes working with HTML easier. Like SSJS, it allows you to mix static HTML content with server-side scripting to produce dynamic output. By default JSP uses Java, as it's scripting language; However, the specification allows other languages to be used, just as ASP can use other languages (such as JavaScript and VBScript). While JSP with Java will be more flexible and robust than scripting platforms based on simpler languages like JavaScript and VBScript, Java also has a steeper learning curve than simple scripting languages.

MICROSOFT SQL SERVER 2000

Microsoft SQL Server is a significant release of SQL server. Microsoft® SQL Server™ 2000 extends the performance, reliability, quality, and ease-of-use of Microsoft SQL Server version 7.0. Microsoft SQL Server 2000 includes several new features that make it an excellent database platform for large-scale online transactional processing (OLTP), data warehousing, and e-commerce applications.

Microsoft SQL Server is a client/server database management system. A client/ server database management system consists of two components: a front-end component (the client), which is used to present and manipulate data; and a backend component (the database server), which is used to store, retrieve, and protect the databases. For example, you can use Microsoft Access or a custom application written in Visual Basic on a client workstation to access databases on a Microsoft SQL server. In a client/server system, the majority of the data processing is done on the server instead of the clients. This means that a client/server system can reduce your network traffic (because only the results of queries must be sent to the clients). In addition, client/server systems are easier to scale because you can upgrade their performance simply by upgrading the server's hardware.

- We can define XML views of SQL Server 2000 databases by annotating XML-Data Reduced (XDR) schemas to map the tables, views, and columns that are associated with the elements and attributes of the schema. The XML views can then be referenced in XPath queries, which retrieve results from the database and return them as XML documents.

The results of SELECT statements can be returned as XML documents. The SQL Server 2000 Transact-SQL SELECT statement supports a FOR XML clause that specifies that the statement results be returned in the form of an XML document instead of a relational result set. Complex queries, or queries that you want to

P-2284

Features of SQL Server 2000

SQL Server includes many features that make it a powerful database management system for enterprise networks and smaller networks.

Scalability

Microsoft SQL Server is scalable, which means your database management system can grow with your company. SQL Server is multi-threaded and can take advantage of Windows 2000's threading and scheduling services. Microsoft SQL Server also supports a parallel database architecture. If your server has multiple processors, SQL Server will issue database commands to all processors simultaneously. Finally, the Standard edition of SQL Server 2000 can address up to 2 gigabytes (2 GB) of RAM and 32 terabytes (32 TB) of hard-disk space.

Replication

Depending on your network, you might find that you need more than one SQL server. For example, you'll typically need multiple SQL servers if your network consists of two or more sites connected by WAN links. You might also choose to configure more than one server for fault tolerance. If you find that you need more than one SQL server for your network, you can configure SQL Server to automatically copy information from one SQL server to another. server is called the standby server. With log shipping, SQL Server automatically copies all changes to a database on the production server to your standby server.SQL Server 2000 supports Windows Clustering (a feature of Windows 2000 Advanced Server and Datacenter Server). This feature enables you to configure two servers (called enables SQL Server to continue running in the event of a failure.

Centralized Management

You can manage all of your SQL servers by using the Microsoft SQL Server Enterprise Manager utility. This utility provides you with a graphical interface for performing such management tasks as creating and maintaining databases and their objects, optimizing the server, and configuring replication.

Reliability

SQL Server includes reliability features such as transaction processing, online backups, and log shipping. Transaction processing enables SQL Server to detect and roll forward or back any incomplete transactions in a database. An incomplete transaction can occur if your server shuts down improperly (like when the power fails). SQL Server uses transaction processing to prevent databases from becoming corrupt. Online backups enable you to back up your server's databases without shutting down the server or disconnecting users. The log shipping feature makes it easy for you to set up mirrored SQL servers. Your primary server is called the production server, and the backup server is called the standby server. With log shipping, SQL Server automatically copies all changes to a database on the production server to your standby server.
SQL Server 2000 supports Windows Clustering (a feature of Windows 2000 Advanced Server and Datacenter Server). This feature enables you to configure two servers (called nodes) into a cluster. This capability is referred to as failover clustering, because it enables SQL Server to continue running in the event of a failure.

Graphical Tools

SQL Server 2000 includes several powerful utilities you can use to administer almost every component of your server. The following table describes the graphical utilities included with SQL Server 2000.

CHAPTER 4

SYSTEM DESIGN AND DEVELOPMENT

4.1 FUNDAMENTAL DESIGN CONCEPTS

Design is the first step in the development phase for any engineered product or system. Design is a creative process; a good design is the key to effective system. The term "design" is defined as "the process of applying various techniques and principles for the purpose of defining a process or a system in sufficient detail to permit its physical realization". Software design sits at the technical kernel of the software engineering process and is applied regardless of the development paradigm that is used.

From a project management point of view, software design is conducted in two steps. Preliminary design is concerned with the transformation of requirements in to data and software architecture. Detail design focuses on refinement to the architectural representation that lead to detail algorithm data structure and representation of software.

Design starts with the system requirement specification and converts it to a physical reality during the development. Important design factors such as reliability, response time, throughput of the system, maintainability, expandability etc should be taken into account.

4.1.1 Modular Design

It is always difficult for any System Development team to grasp a system without breaking it into several smaller systems. These smaller systems will be a part of the original system yet they will be independent in the sense that they will incorporate within them the major functionalities of the proposed system. A software system is always divided into several subsystems which make it easier to develop and perform tests on the whole system. The subsystems are known as the modules and the process of dividing an entire system into subsystem is known as Decomposition.

The modules identified for this project are

Authentication Module

In this module the developers are going to register their primary details. They should provide the name, address, contact numbers, password, mailid, company name, and position. The developer should design the database to keep the bulk data from the participants. If he is already a user, then they will directly log on to their home page where bug submission form, inbox, my account are present.

Bug Submission Module

In this module the developer can submit their bugs by clicking the bug submission link in the home page. If the result for the bug is already present in the database it will provide the result immediately. The bug posted by the developer will automatically come to the inbox of Tester. All the bug details are stored in the database for future reference and will be automatically numbered by the system based on the bug priority.

Bug Solution Module

In this module the Tester can send solution for the particular bug given by the developer based on the severity of the bug present in the database.

Report Generation Module

Report generation is the importance of this module. The report will be generated based on the date wise, priority wise, technology wise, developer wise and tester wise.

4.1.2 Input Design

Input design is the process of converting user originated inputs to the compute based format. All the data entry screens are of interactive nature so that the user can directly enter input data according to the prompt messages.

In accurate input data are the most common causes of errors in data processing. Errors committed by data entry operators can be controlled by the input design.

4.1.3 Output Design

In output design the emphasis is on producing a hard copy of the information requests or displaying the output on the screen in a predefined format. Computer output is the most important and direct source of information to the user. Efficient, intelligible output design improves the system's relationship with the user and helps in decision-making. A care must be taken while delivering the content to the user.

4.1.4 Database Design

A Database is a collection of inter- related data stored with minimum redundancy to serve many users quickly and efficiently. The general objective of database design is to make the data access easy, inexpensive and flexible to the user. An elegantly designed database can play a strong for the whole system.

The details about the relevant data for the system are first identified. According to their relationship, tables are designed. The tables are normalized so that they can provide better response time, have data integrity, avoid redundancy and be secure.

The tables for the Bug Solution Provider Online have been Normalized up to the Second Normal Form (2NF).

4.2 TABLE STRUCTURE

The various tables used in the system are given in tables 4.2.1 to 4.2.11

Table Name : Login

Purpose : To maintain login user details

Field Name	Data Type	Constraints	Description
empid	varchar	Foreign Key	The id of the developer
pswd	varchar	Not Null	The password of the developer

Table 4.2.1

Table Name : Registration

Purpose : To register the information's of developer

Field Name	Data Type	Constraints	Description
empid	varchar	Primary Key	The id of the developer
pswd	varchar	Not Null	The password of the developer
rpswd	varchar	Not Null	To confirm password of the developer
email	varchar	Not Null	The email id of the developer
firstname	varchar	Not Null	The first name of the developer
lastname	varchar	Not Null	The last name of the developer
country	varchar	Not Null	The country of the developer
state	varchar	Not Null	The state of the developer
zcode	varchar	Not Null	The zip code of the developer
company	varchar	Not Null	The company name of the developer
tech	varchar	Not Null	The current industry of the developer

post	varchar	Not Null	The role of the developer

Table 4.2.2

Table Name : Change password

Purpose : Details about the change password

Field Name	Data Type	Constraints	Description
empid	varchar	Foreign Key	Name of the user
Curr_ password	varchar	Not Null	Current password of the user
Confirm_password	varchar	Not Null	Confirm to change password

Table 4.2.3

Table Name : Bug Submission

Purpose : Details about the bug submission

Field Name	Data Type	Constraints	Description
empid	varchar	Primary Key	Id of the developer
empname	varchar	Not Null	Name of the developer
emailid	varchar	Not Null	Email Id of the developer
date1	datetime	Not Null	The date of posted bug
priority	varchar	Not Null	Priority of the bug
technology	varchar	Not Null	Posted bug in technology
version	real	Not Null	Version of technology
sevirity	datetime	Not Null	severity of bug
opsys	varchar	Not Null	Operating system
testid	varchar	Not Null	Id of the tester
testname	varchar	Not Null	Name of the tester
bugid	int	Not Null	Id of the Bug

bugname	varchar	Not Null	Name of the bug
description	varchar	Not Null	Description of the bug

Table 4.2.4

Table Name: Tester Login

Purpose : To maintain tester login details

Field Name	Data Type	Constraints	Description
username	varchar	Foreign Key	The name of the tester
password	varchar	Not Null	The password of the tester

Table 4.2.5

Table Name: Registration

Purpose : To register the information's of tester

Field Name	Data Type	Constraints	Description
username	varchar	Primary Key	The id of the tester
password	varchar	Not Null	The password of the tester
Confirm password	varchar	Not Null	To confirm password of the tester
jsemail	varchar	Not Null	The email id of the tester
name	varchar	Not Null	The name of the tester
gender	varchar	Not Null	The gender of the tester
dob	datetime	Not Null	The date of birth of the tester
country	varchar	Not Null	The country of the tester
statecity	varchar	Not Null	The state of the tester
residence_ area	int	Not Null	The area code of the tester

residence_phoneno	int	Not Null	The phone no of the tester
mobile	int	Not Null	The mobile no of the tester
exp	int	Not Null	The experience of the tester
industry	varchar	Not Null	The industry of the tester
functionalarea	varchar	Not Null	The functional area of the tester
role	varchar	Not Null	The role of the tester

Table 4.2.6

Table Name : Change password

Purpose : Details about the change password

Field Name	Data Type	Constraints	Description
username	varchar	Foreign Key	Id of the tester
pswd	varchar	Not Null	Current password of the tester
Confirm password	varchar	Not Null	Confirm to change password

Table 4.2.7

Table Name : Inbox

Purpose : It contains details about bugs posted by developer.

Field Name	Data Type	Constraints	Description
empid	varchar	Foreign Key	The Id of the developer
empname	varchar	Not Null	The Name of the developer
emailid	varchar	Not Null	The Email id of developer
testid	varchar	Foreign Key	The Id of the Tester

testname	varchar	Not Null	The Name of the Tester
jsemail	varchar	Not Null	The Email id of tester
tech	varchar	Not Null	technology
version	real	Not Null	Version of technology
os	varchar	Not Null	Operating system
bugid	varchar	Foreign Key	The Id of the Bug
bugname	varchar	Not Null	The Name of the Bug
bugtype	varchar	Not Null	The type of bug
sev	varchar	Not Null	The severity of bug
status	varchar	Not Null	The status of bug
sumary	varchar	Not Null	Description of the Bug
pdate	varchar	Not Null	Posted date of the bug

Table 4.2.8

Table Name : Bug Submission

Purpose : To send (post/reply) the bug solution for developer

Field Name	**Data Type**	**Constraints**	**Description**
too	Varchar	Foreign Key	Email id of Receiver
frm	Varchar	Not Null	Email id of Tester
subj	Varchar	Not Null	Subject for message
bugid	varchar	Foreign Key	The Id of the Bug
bugname	varchar	Not Null	The Name of the Bug
bugtype	varchar	Not Null	The type of bug
sev	varchar	Not Null	The severity of bug

status	varchar	Not Null	The status of bug
message	Varchar	Not Null	The message

Table 4.2.9

Table Name : search

Purpose : Search the details about the bugs

Field Name	Data Type	Constraints	Description
tech	varchar	Primary Key	To enter the technology
ver	varchar	Not Null	The version of the technology
bugtype	varchar	Not Null	The type of the bug
sev	varchar	Not Null	The severity of the bug
report_date	varchar	Not Null	To view the bug from posted date

Table 4.2.10

Table Name : Feed Back

Purpose : Details about the feed back form

Field Name	Data Type	Constraints	Description
type	varchar	Primary Key	Type of the comment
comment	varchar	Not Null	To enter the comments
name	varchar	Not Null	The name of the sender
address	varchar	Not Null	The email address of sender

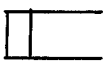
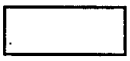
Table 4.2.11

CHAPTER 5
SYSTEM FLOW DIAGRAM

5.1 DATA FLOW DIAGRAM

Data Flow Diagrams are graphical representation depicting information regarding the flow of control and the transformation of data from input to output. The DFD may be used to represent the system or software at any level of abstraction. They are also known as bubble chart. It consists of a series of bubbles joined by lines. The bubbles represent data transformation and the lines represent data flow in the system. In fact, DFD can be partitioned into levels. A Level 0 DFD called Context Level Diagram represents the entire software system as a single bubble with its interactions. The Context diagram shows the overall system with the users who will be interacting with it.

The Table 2.3.3.1 lists the important elements of DFDs.

Symbol	Stands For
Data process 	Data processing
Data flow	Data flow or the exchange of data between processes
Data store 	Data storage
Entity 	Real world Object

DFD Level 0:-

Fig 5.1.1 Level 0 dataflow diagram

In this data flow diagram developer posting their to database with all related details. Admin has all rights to modify all types of bugs. These bugs are saved in database and also in inbox of their mail. Solution will be given by tester and developer can view the solution in their database itself.

DFD Level 1:-

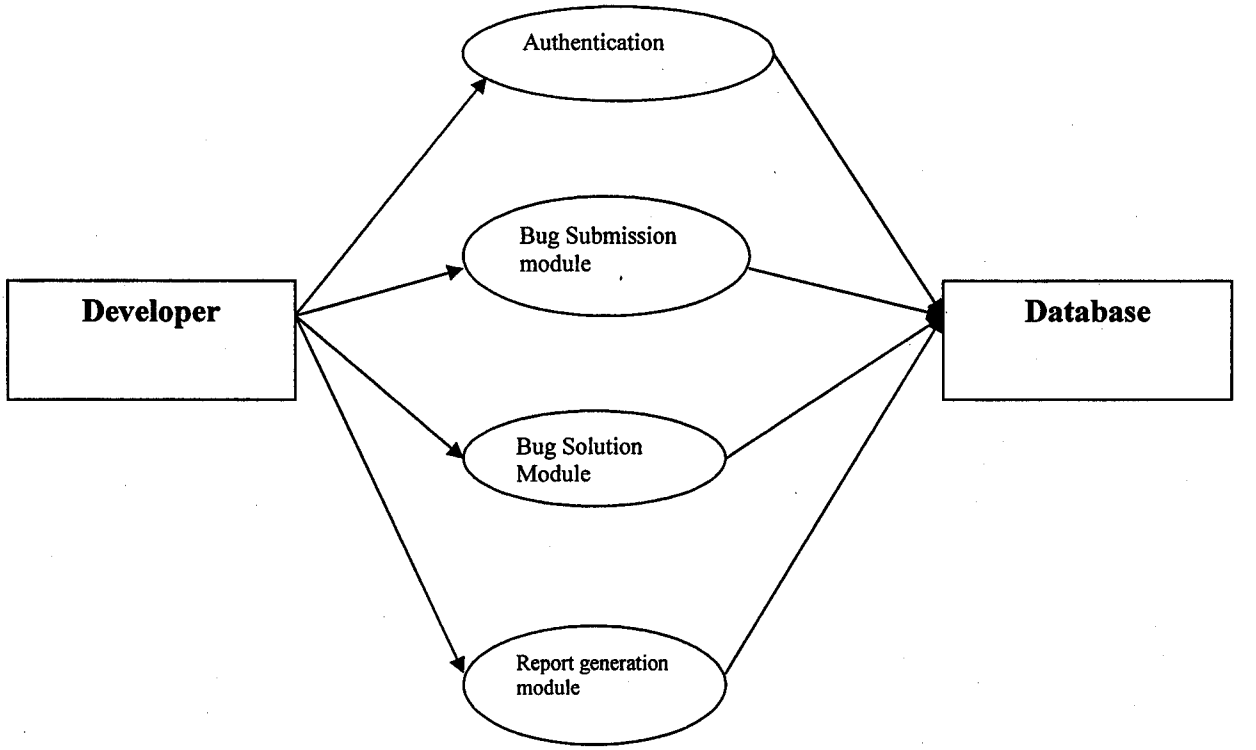


Fig 5.1.2 Level 1 dataflow diagram

In this data flow diagram all module of this project will be shown. In each module admin has all rights to view and modify. Developer has to post their bugs in database. Tester can view that bugs and has to give solution to that bugs. Report module is to view all the bugs in any format like in excel or in any PDF format

DFD LEVEL 2:-

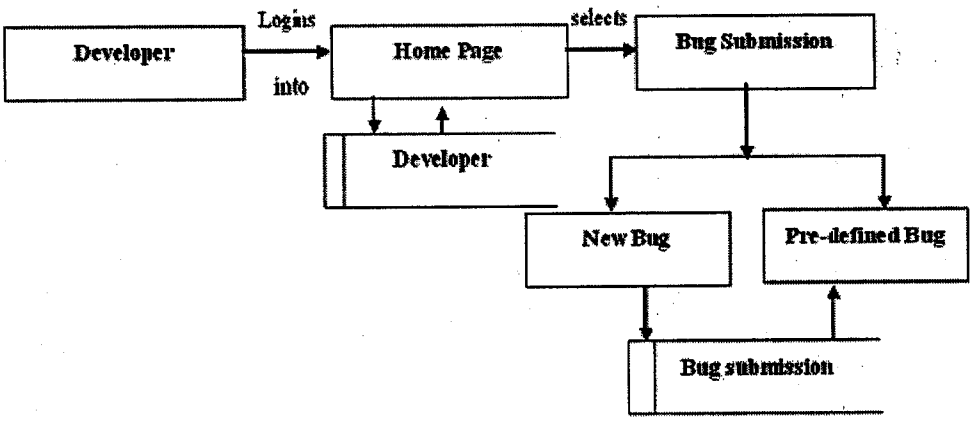


Fig 5.1.3 Level 2 diagram for Bug Submission Process

Through this module the developer can submit their bugs by clicking the bug submission link in the inbox. If the result for the bug is already present in the database it will provide the result immediately. The bug posted by the developer will automatically come to the inbox. All the bug details are stored in the database for future reference and will be automatically numbered by the system based on the bug priority.

DFD LEVEL 2:-

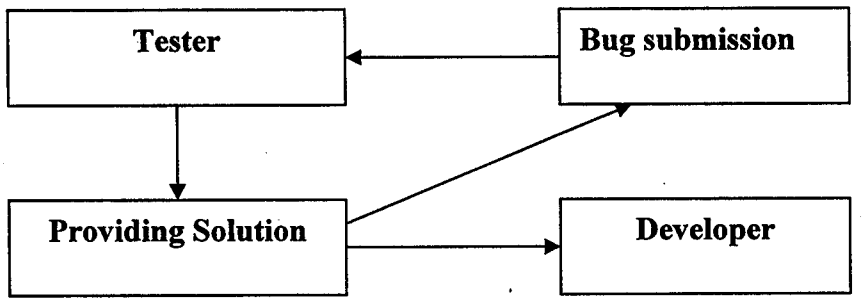


Fig 5.1.4 Level 2 diagram for Bug solution Process

Through this module the tester can send solution for the particular bug given by the developer based on the severity of the bug present in the database. Each tester team will have a passed word, according to their technology like java, php, c++, visual basic and so. According to their pass word that particular team can view the bugs of their technology alone.

5.2 USE CASE DIAGRAM

The Use case diagram is used to identify the primary elements and processes that form the system. The primary elements are termed as "actors" and the processes are called "use cases." The Use case diagram shows which actors interact with each use case. Use case diagrams model the functionality of a system using actors and use cases. Use cases are services or functions provided by the system to its users.

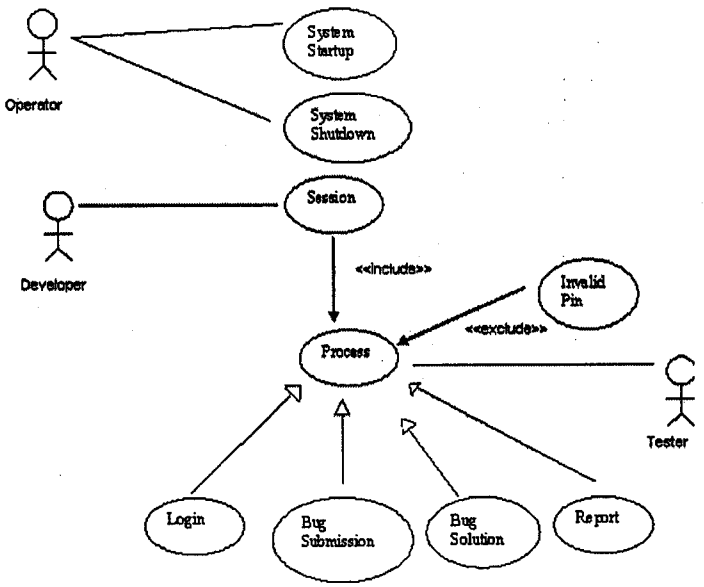


Figure 5.2.1Use Case Diagram

Figure 5.2.1 shows the Use Case Diagram of Bug Solution Provider Online System. Also it shows the relationship among the actors involved in this system. Actors are Developer, Operator, and Tester. The actors are connected to the use cases with lines.

CHAPTER 6

SYSTEM TESTING

Testing is a process of running software in an intention to find errors the software, which has been developed, has to be tested to prove its validity. Testing is considered to be the last creative phase of the whole cycle of system design. In the real sense it is the phase, which helps to bring out the creativity of the phases.

Testing program is the first step in the debugging process. Some people idea of the testing a program consists of running the program a few times to see what happens, each time using slightly different input. This process can succeed when we have a short program, but it is not effective for a long program. In case, even for the simplest program the choice of test data is all important.

A good testing suit is vital because you must tell all the possible path execution inside your code in order to have any hope it will be bug free. Testing program is an art, not a science.

Testing of the system is done to ensure the integrity of the system. Testing is vita for the success of the project, which is the last stage of development.

Software testing is a critical element of software quality assurance and represents the ultimate review of specification, design, and coding. Once code has been generated, program testing begins. The testing process focuses on the logical internals of the software, assuring that all statements have been tested.

Types of Testing

The software, which has been developed, has to be tested to prove its validity. The general two techniques of testing are as follows,

- White box testing
- Black box testing.

6.1 WHITE BOX TESTING

The white box testing is the test case design method that uses the control structure of the procedural design test cases. In this all the independent paths within a module have been exercised at least once. The test case exercises all logical decisions on their true and false sides. It also executes all the loops at their boundaries and within their operational bounds. It ensures the internal data structures to ensure their validity. Conditional testing strategies have two advantages.

6.2 BLACK BOX TESTING

The black box testing which focus on the functional requirements of the software. Therefore, black box testing enables the software engineer to derive sets of input condition that will exercise all the functional requirements of the program. It attempts to find the following errors,

- Incorrect or missing functions.
- Interface errors
- Errors in data structures or external database access.
- Performance errors.
- Initialization and terminal errors.

Software testing strategies

As software has to be tested with pre-planned strategies. Any testing strategies must incorporate test planning, case design, test execution and the resultant data collection and evaluation. This system was tested with the help of the following software testing strategies. The testing strategies are as follows,

- Unit testing
- Integration testing
- System testing.
- Code testing
- Validation testing
- Output testing

6.3 UNIT TESTING

Unit testing focuses verification efforts on the smallest unit of software design, the module independently on one another. This also known as "Module Testing". The modules are tested separately. This enables the tester to detect errors in coding and logic that are contained within that module. Those resulting from the interaction between the modules are initially avoided..

In this project unit testing is carried on when the new customer's details are registered in a form and it checks whether the customer's details are stored in the database.

When the employee details are registered in a form and through this testing it checks whether the employee details are stored in the database. When the branch details are registered in a form and through this testing it checks whether the employee details are stored in the database.

TEST CASE	EXPECTED OUTPUT	ACTUAL OUTPUT	DIFFERENCE	ERROR REPORT
Correct User Id And Password	Forwarded to Home Page	Forwarded to Home Page	Nil	Nil
Correct User Id And Wrong Password	Message with Invalid Data.	Forwarded to Home Page	It Doesn't show the Error Message.	Authentication failed.
Wrong User Id And Correct Password	Message with Invalid Data.	Message with Invalid Data.	Nil	Nil
Wrong User Id And Password	Message with Invalid Data.	Message with Invalid Data.	Nil	Nil
User Id and Password are Empty	Message with Insufficient Data.	Message with Insufficient Data	Nil	Nil
Any one field is empty	Message with Insufficient Data.	Message with Insufficient Data.	Nil	Nil

Table No 6.3 Unit Test for Login

6.4 INTEGRATION TESTING

Integration testing focuses on design and the construction of the software architecture. Data can be lost across an interface; one module can have adverse effort on another sub function and so on. Thus integration testing is systematic technique for constructing tests to uncover errors associated within the interface. In this project, all the modules are combined, and then entire program is tested as a whole. Thus in the integration testing step, all the errors uncovered are corrected for the next testing steps.

In this project all modules are integrated together it will test that all bugs are posted with technology, priority, and with user mail id. Tester can view that bugs only after testing their username and password. This testing carries that whether all bugs are saved in correct database.

TEST CASE	EXPECTED OUTPUT	ACTUAL OUTPUT	DIFFERENCE	ERROR REPORT
Employee Id = integer	Retrieve all the related fields from the DB and fills in the appropriate fields.	Retrieve all the related fields from the DB and fills in the appropriate fields.	Nil	Nil
Employee id = non integer	Message with Enter a valid Employee Id.	Not Displaying anything.	It Doesn't show the Error Message.	Nothing is retrieved from DB
New Group Head Id = integer	Retrieve the related field from the DB and fill it in the appropriate field.	Retrieve the related field from the DB and fill it in the appropriate field.	Nil	Nil
New Group Head id = non integer	Message with Enter a valid Group Head Id.	Message with Enter a valid Group Head Id.	Nil	Nil
All the fields r filled while Submit	Insert into DB and Send Mail to the CGH.	Sending Fail	Mail is not sending to CGH	Connection Refused. Could not connect to SMTP host: BLR-MSG-02.i-flex.com, port: 25;
Some of the fields r missing while Submit	Message with fill the unfilled details.		Nil	Nil

Table No 6.4 Integration Test case for module

6.5 VALIDATION TESTING

Validation testing is where requirements established as a part of software requirement analysis is validated against the software that has been constructed. This test provides the final assurance that the software meets all functional, behavioral and performance requirements. The errors which are uncovered during integration testing are corrected during this phase.

Errors discovered were corrected prior to completion of this project with the help of the user by negotiating to establish a method of resolving deficiencies. Thus the proposed system under consideration has been tested by using validation testing and found to be working satisfactorily.

6.6 OUTPUT TESTING

After performing the validation testing, the next step is output testing of the proposed system since no system could be useful if it does not produce the required output in the specified format. The outputs generated or displayed by the system under consideration are tested asking the users about the format required by them. Here, the output is considered in two ways: one is on the screen and the other is on the printed format.

The output format on the screen is found to be correct as the format designed according to the user needs. For the hard copy also, the output comes out as specified by the user. Hence output testing does not result in any correction in the system.

CHAPTER 7

SYSTEM IMPLEMENTATION

Implementation is a process that includes all those activities that take place to convert from old system to the new system. Implementation is the crucial phase in the system development. The major work involved in the implementation phase is coding. After conducting a feasibility study, analysis, design, the information collected from detailed study will way out for the implementation part.

When the bug is posted manually, the system requires a lot of manpower and consumes lot of time to handle the transaction; this involves more money in maintaining.

In the existing system, human interventions always lead to errors, where accuracy cannot be determined. Where small errors lead to big problem in future, these can be avoided by computerizing the system. Difficulty in maintaining the records, each and every time a separate excel sheet to be maintain for a each test cases and plans and ii is more time consuming, where the efficiency of the system is lost and also there is no proper security in order to maintain the data and involves data redundancy, which leads to accuracy.

This project is implemented using Java Server Pages. When a HTML form is submitted, the JSP files get executed .The JSP files reads all the parameter of the requesting html form .The JSP process with the data read and stores in oracle using JDBC-ODBC. The application retrieves data from oracle and it is displaying the data on the page.

CHAPTER 8

PERFORMANCE AND LIMITATIONS

8.1 MERITS OF THE SYSTEM

Bug solution provider online is a powerful, easy-to-use Web-based System, which is used to help for companies to track bugs and automatically manage them through to resolution. The project "bug solution provider online" is to provide the solution for the bugs. Since a web based application, the developer can send the bug report and get the solution through online. This system provides a bug tracking solution for the IT enabled departments. It's a fully web based system which allow the developers to report their new bugs and severity, through web interface. It avoids all the difficulties in manual bug tracking. This application provides a facility to report about the bug. Then the application has the bug types and severity types. Based on these types the system will intimates the importance of the bug. And also it will intimate the tester (test team) to give priority for the particular bug .This tool will help the test engineer (tester) to reduce the work of developer as well as the tester. Since a web-based application, has a facility to the developer by auto mail.

8.2 LIMITATIONS OF THE SYSTEM

- The initiated process has to be updated with the status, where the time and will be more.
- Bulk amount of Bugs has to maintained, where it can generate a server problem.
- The developer and tester have to fill his details to post bugs and to give solution.
- Defining and enforcing Access Levels is critical, since it handles confidential information.

8.3 FUTURE ENHANCEMENTS

In this project future enhancement includes Linked Bugs function , Copy Bug function , Copy/Link Bug function , Spell Checker , Customizable lists per , projects using any fields , Customizable Reports per projects using any fields , New "Reported On" and "Reported By" Fields , Easy Calendar pop-up for date fields , 3D Charts report , Performance Reports , View Reports in PDF, XML, or XLS , Expanded AdHoc Search Criteria , New Security Roles, Bug Create, Bug Assign , Bug Close , Bug Delete , Read-Only, Ability to delete projects , Ability to delete bugs , Bug Fixes .

CHAPTER 9

CONCLUSION

Bug solution provider online is a powerful, easy-to-use Web-based System, which is used to help for companies to track bugs and automatically manage them through to resolution. The project "bug solution provider online" is to provide the solution for the bugs. Since a web based application, the developer can send the bug report and get the solution through online. This system provides a bug tracking solution for the IT enabled departments. It's a fully web based system which allow the developers to report their new bugs and severity, through web interface. It avoids all the difficulties in manual bug tracking. This application provides a facility to report about the bug. Then the application has the bug types and severity types. Based on these types the system will intimates the importance of the bug. And also it will intimate the tester (test team) to give priority for the particular bug .This tool will help the test engineer (tester) to reduce the work of developer as well as the tester. Since a web-based application, has a facility to the developer by auto mail.

APPENDIX A: SCREEN SHOTS

Home page:-

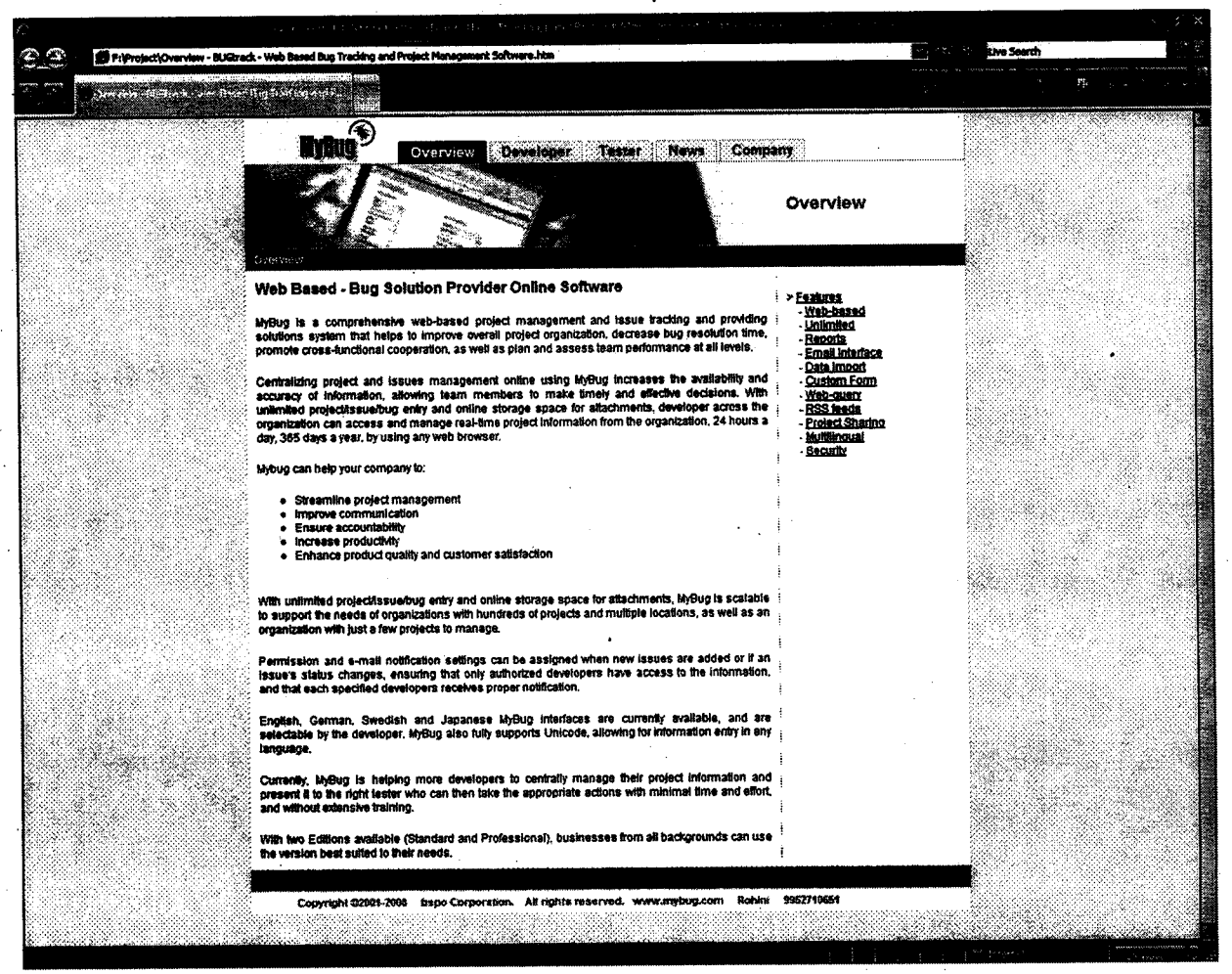


Figure (A.1): Home Page

History:-

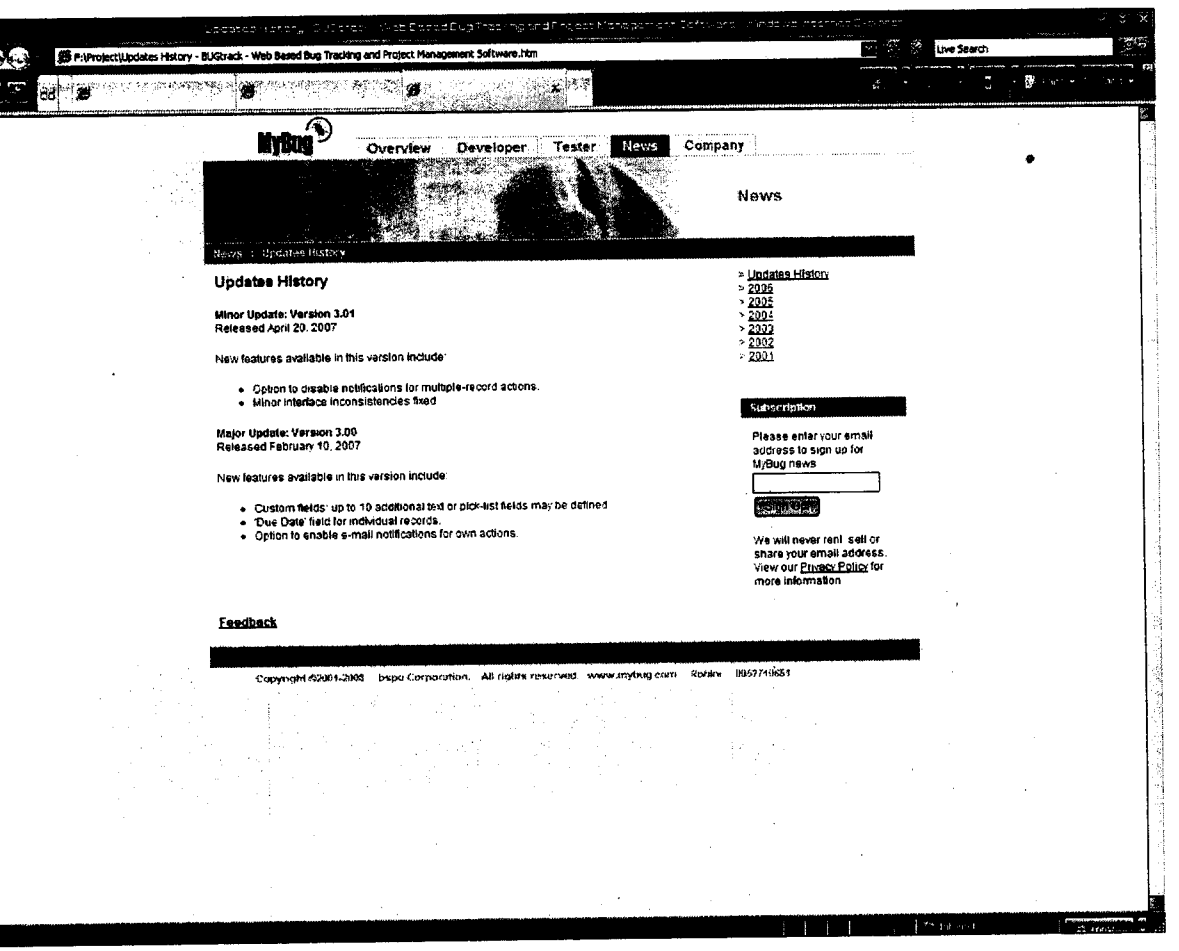
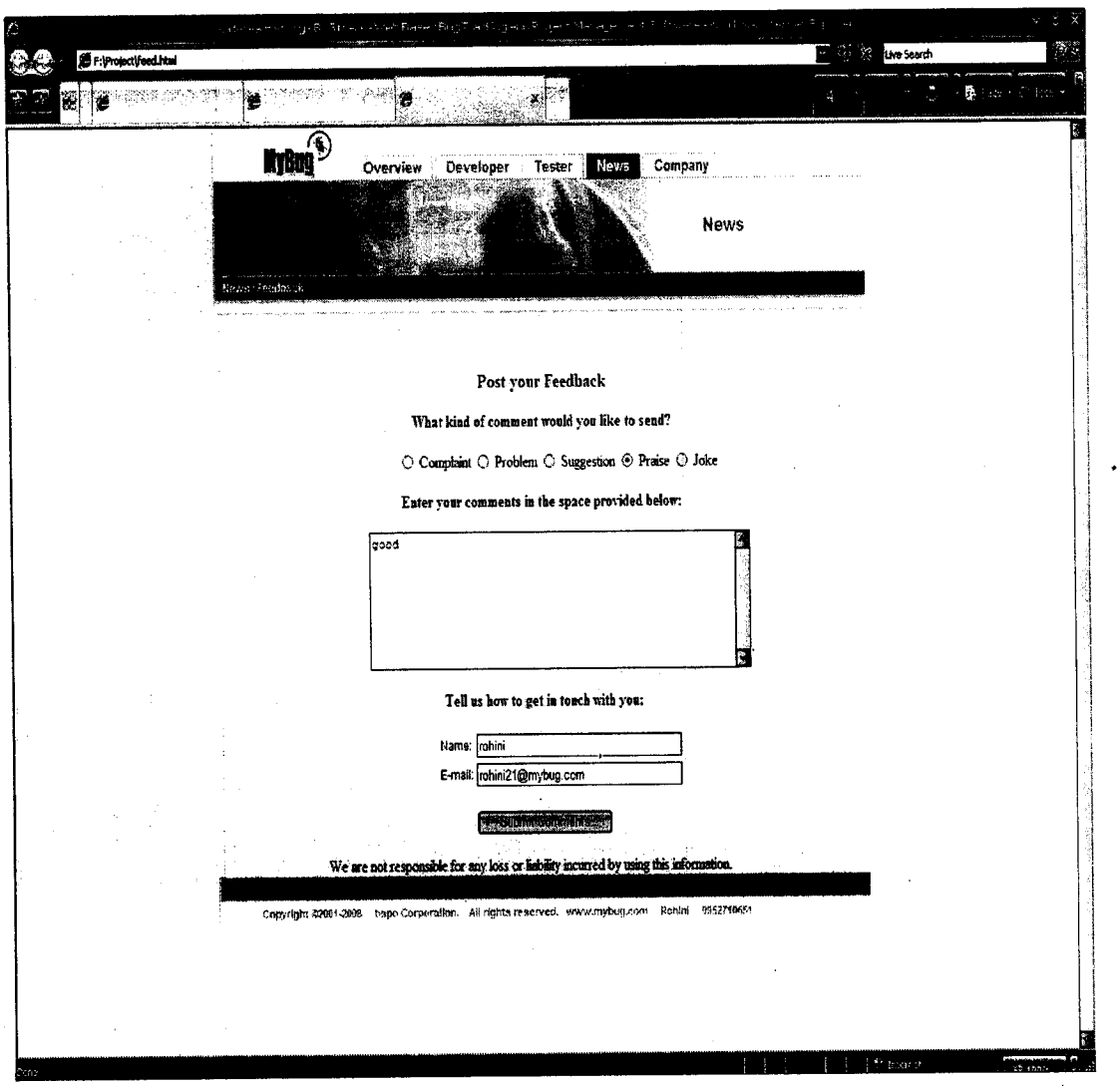


Figure (A2): History

Feedback:-



Figure(A.3) : Feedback Form

About Us:-

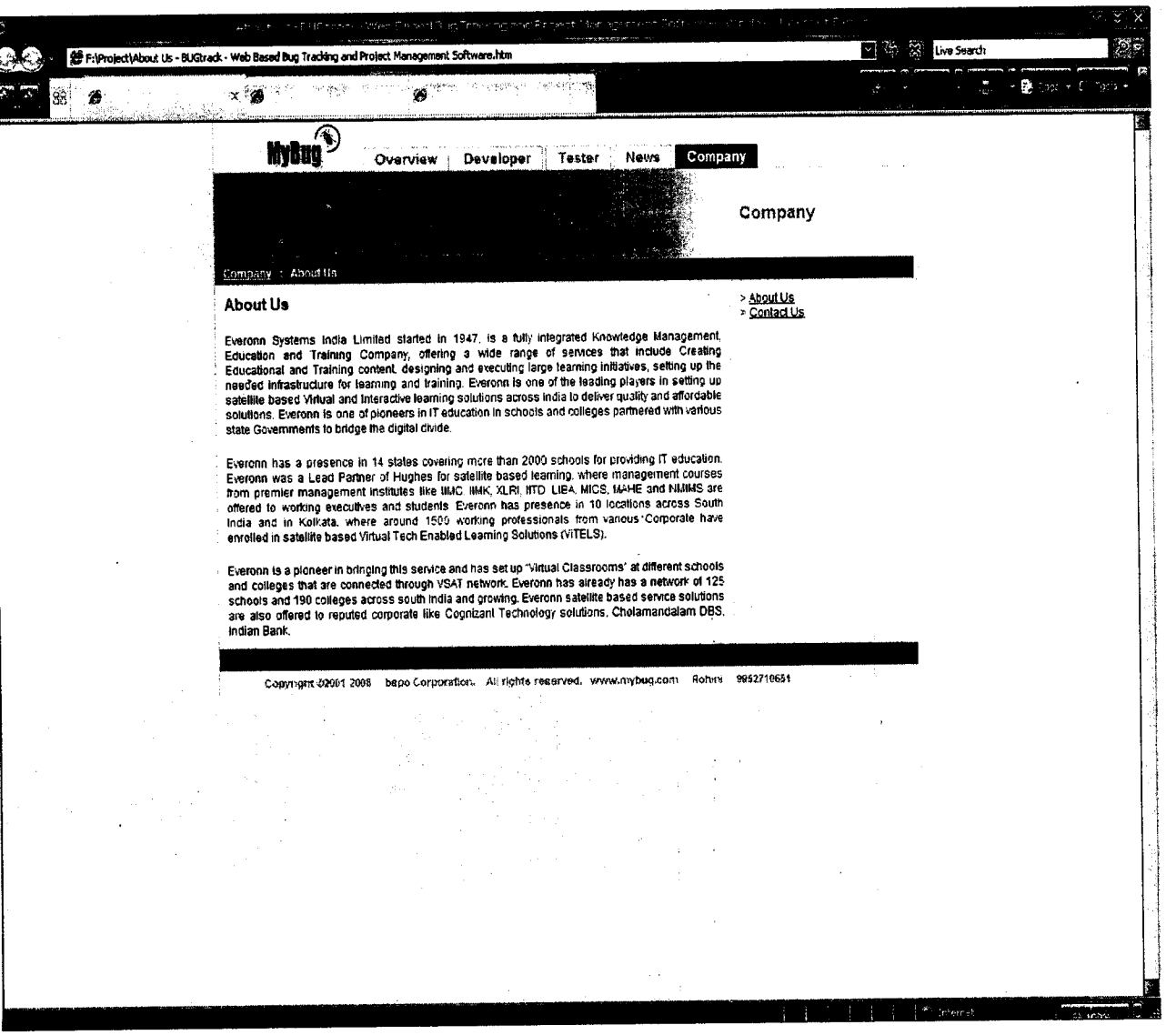


Figure (A.4): About Us

Developer

Login Page:-

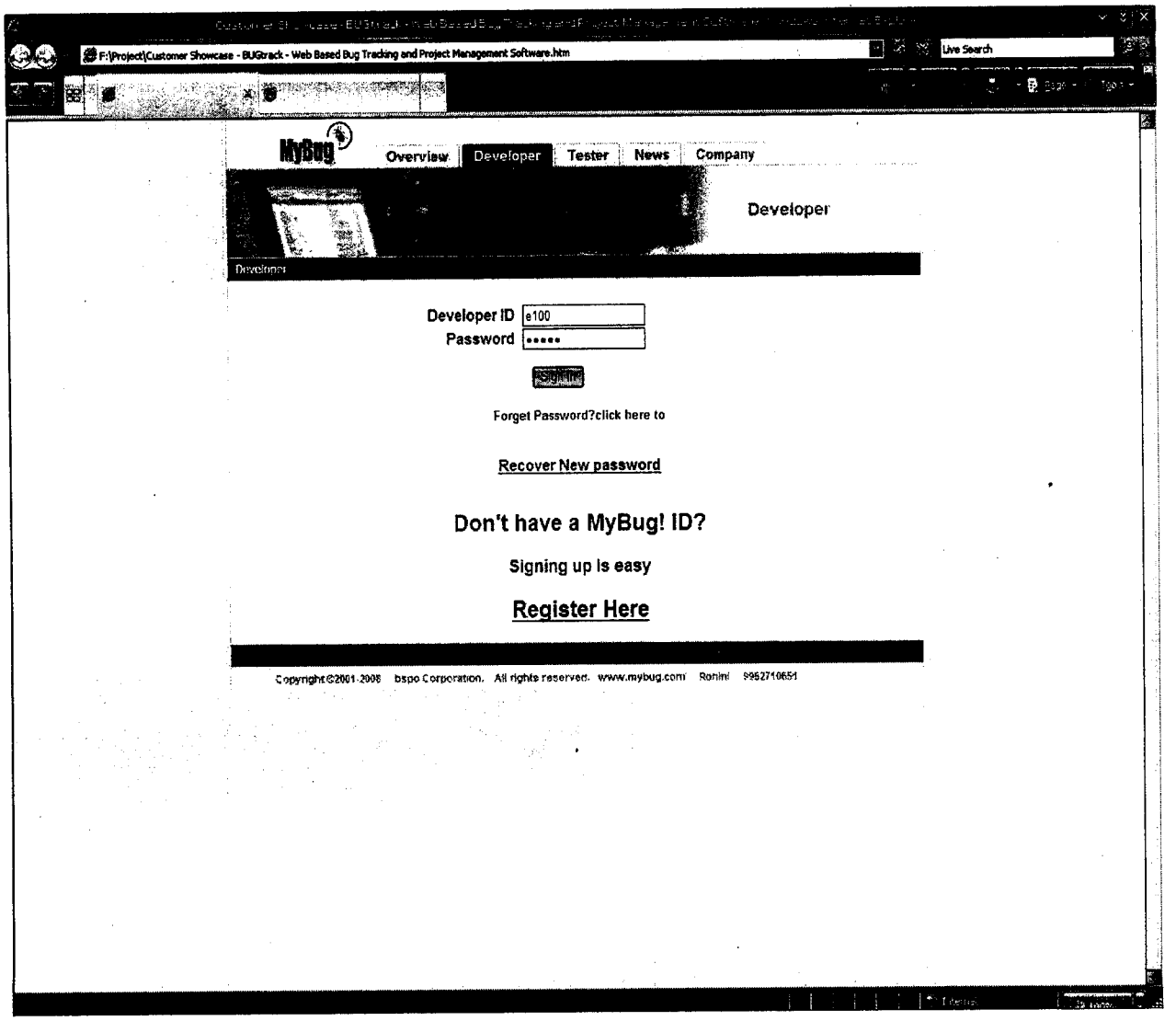


Figure (A.5): Login Form

Home page:-

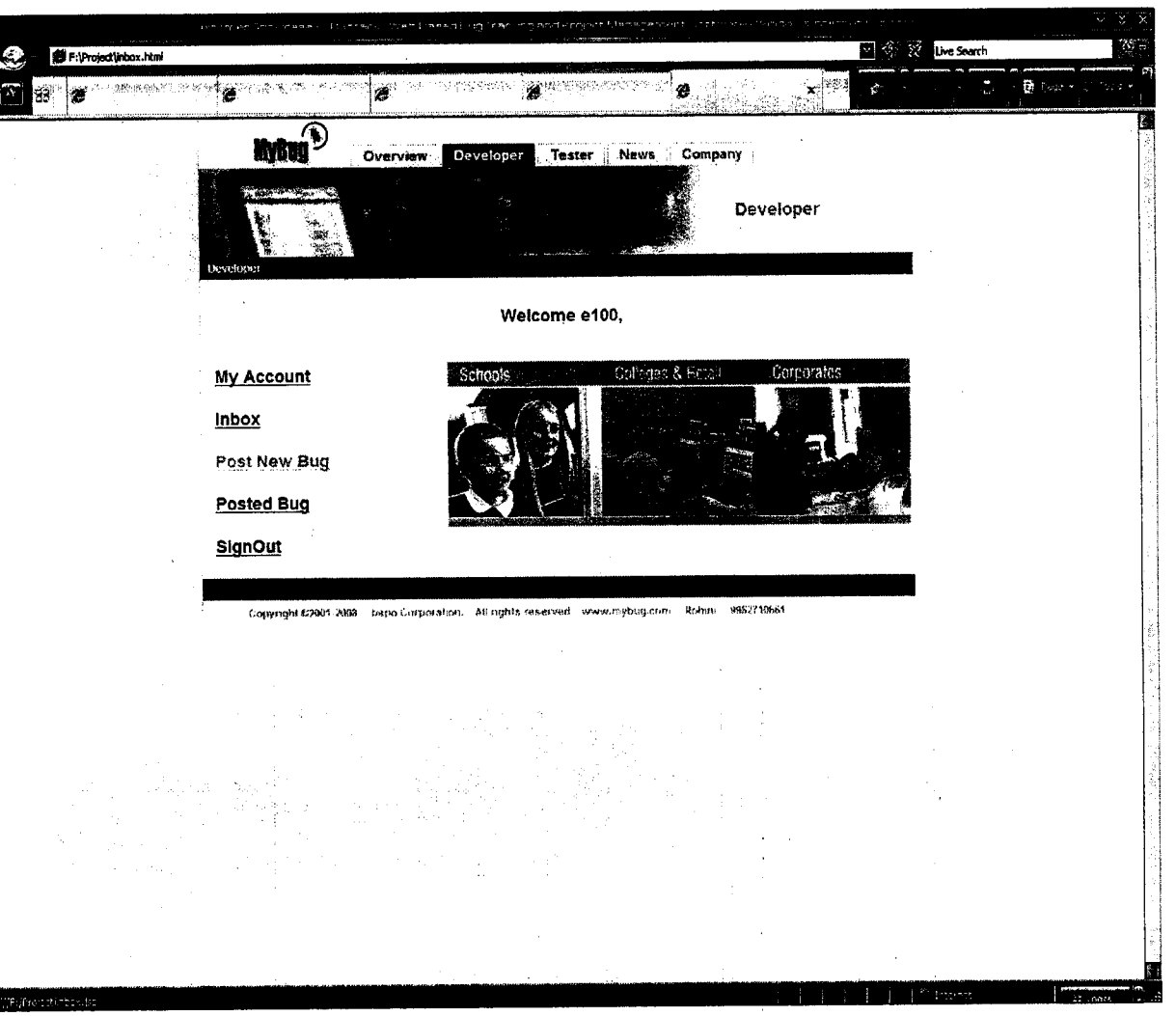


Figure (A.6): Home Page

Bug Submission:-

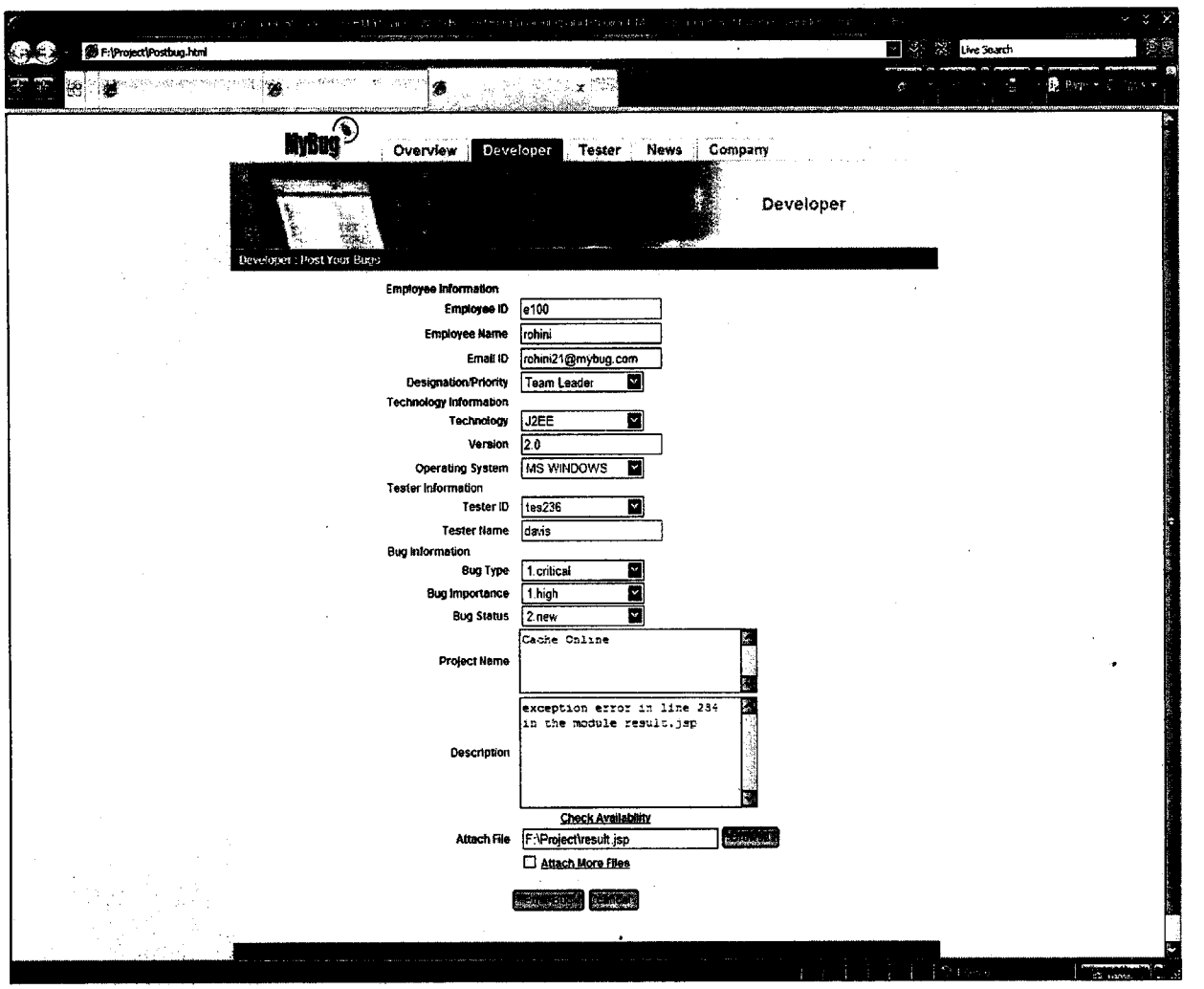


Figure (A7): Post Bug Form(1)

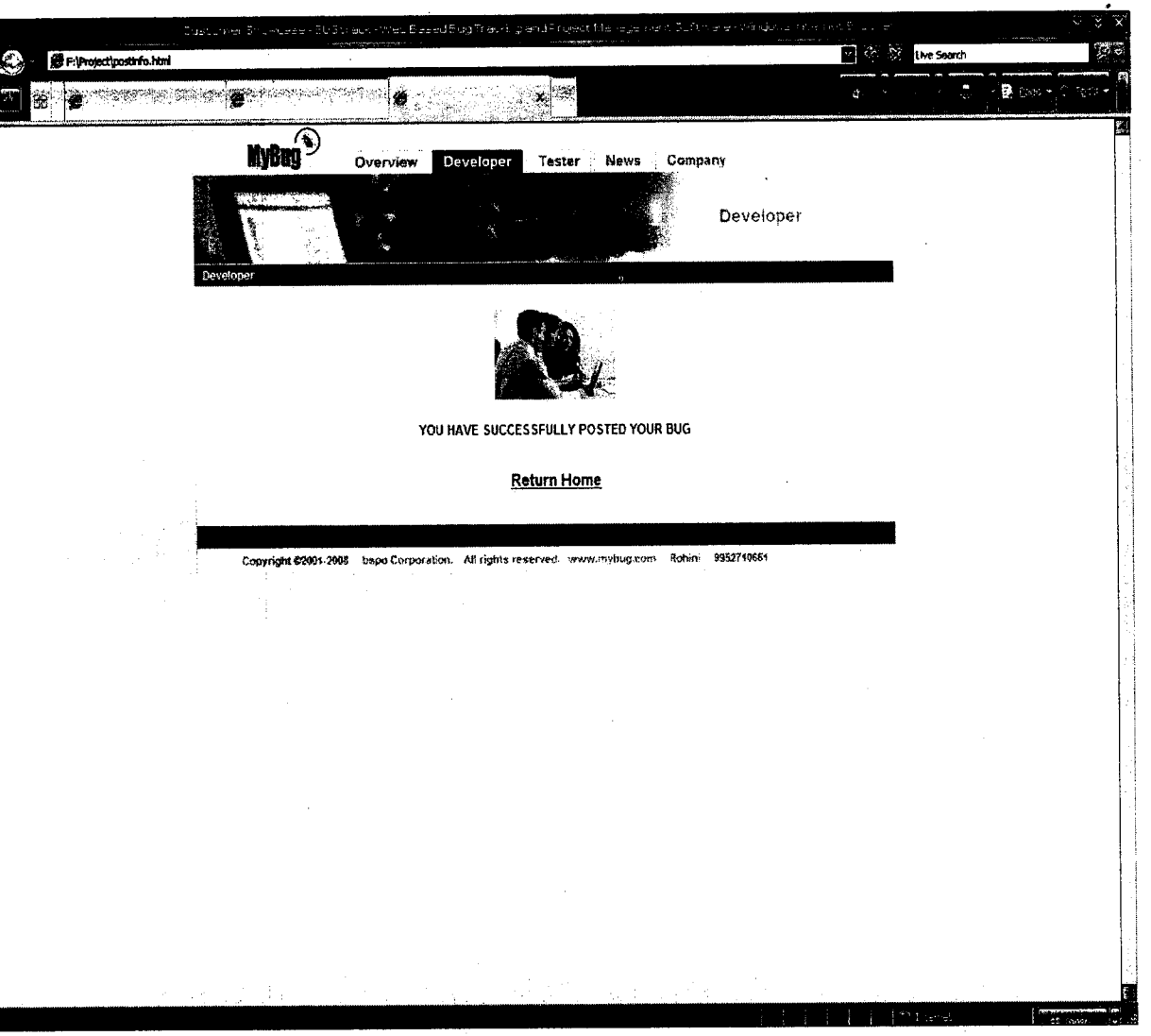


Figure (A7): Post Bug Form(2)

Login page:-

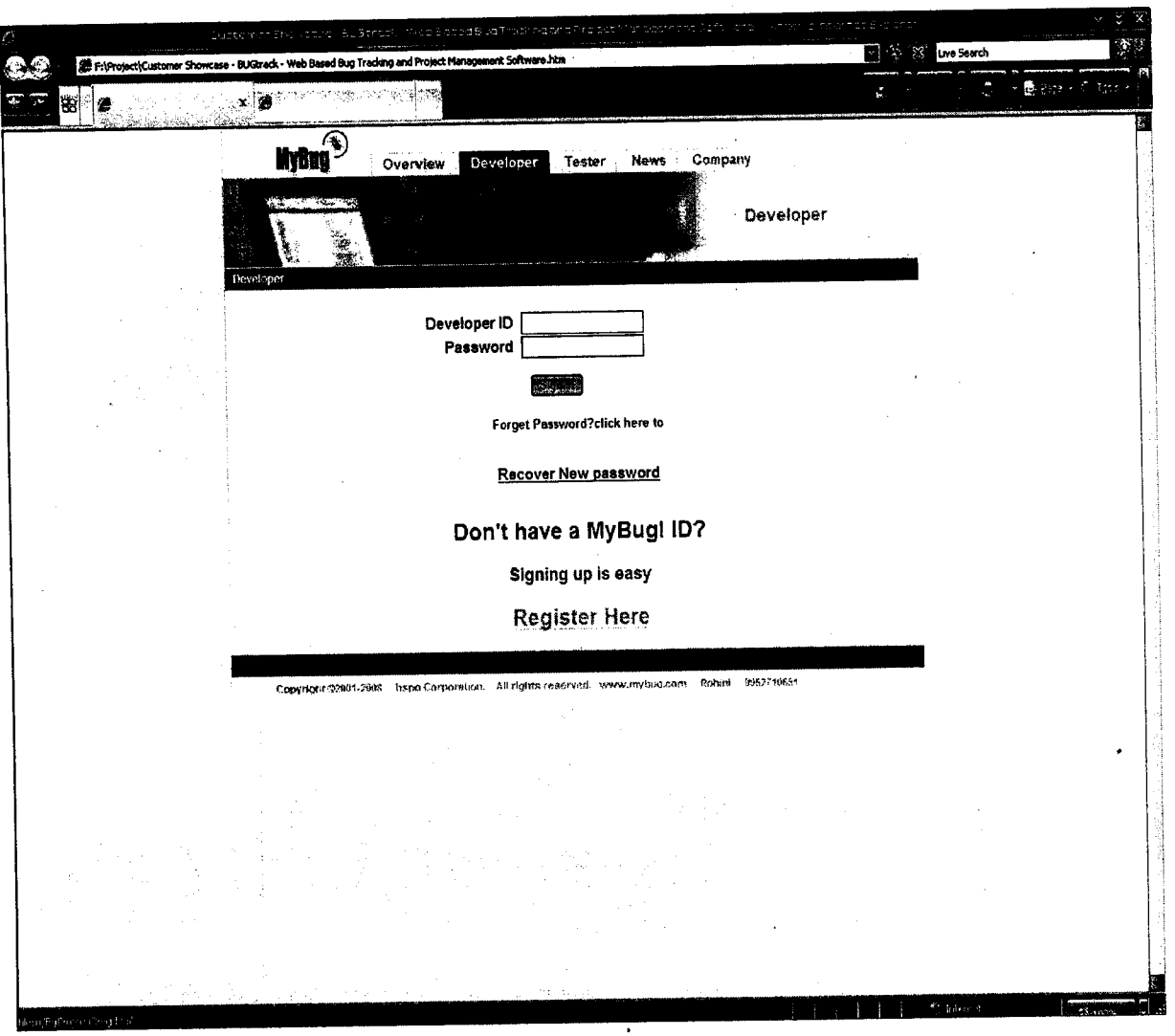


Figure (A8): Login Form

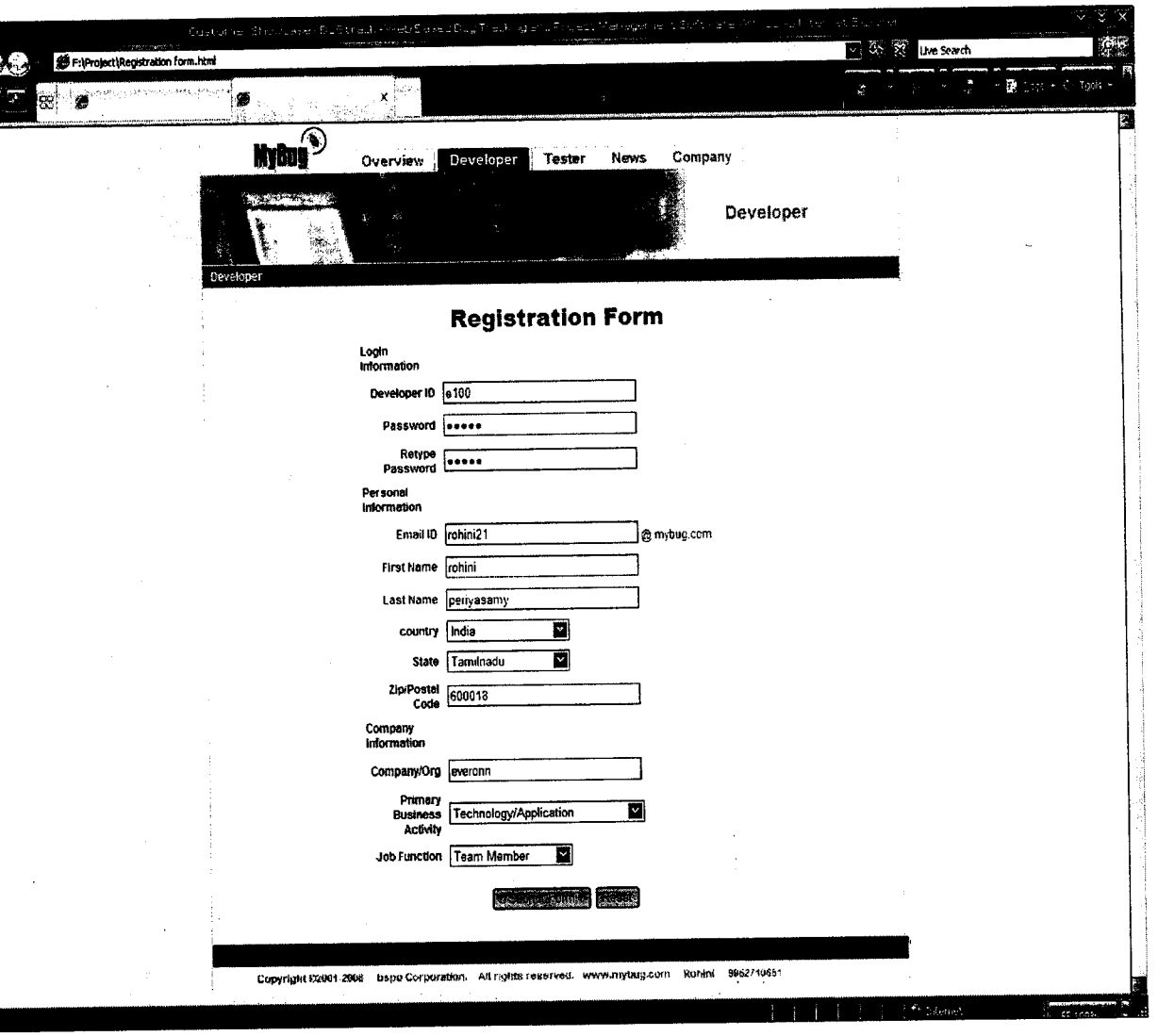


Figure (A8): Registration Form (1)

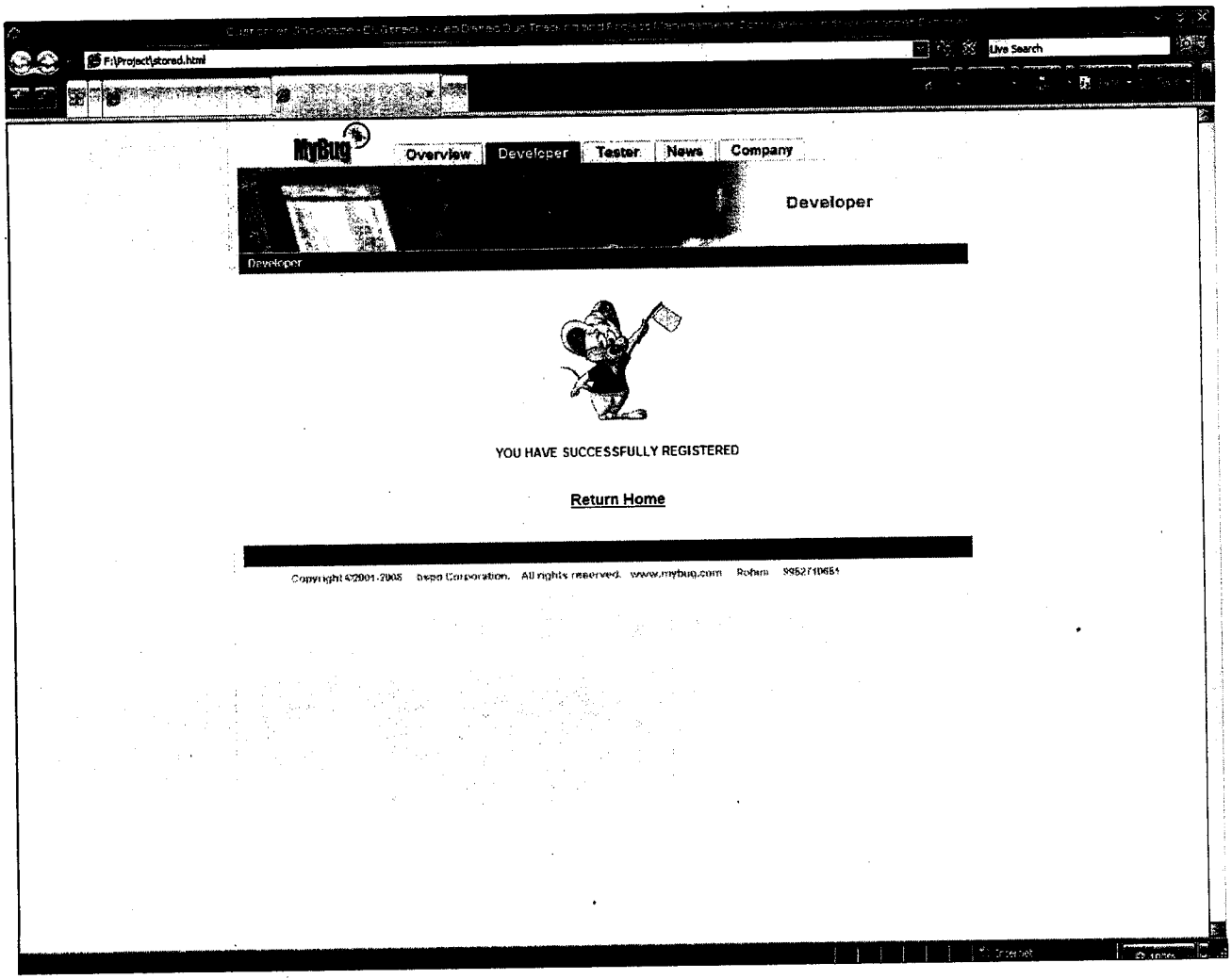


Figure (A8): Registration Form (2)

Home Page:-

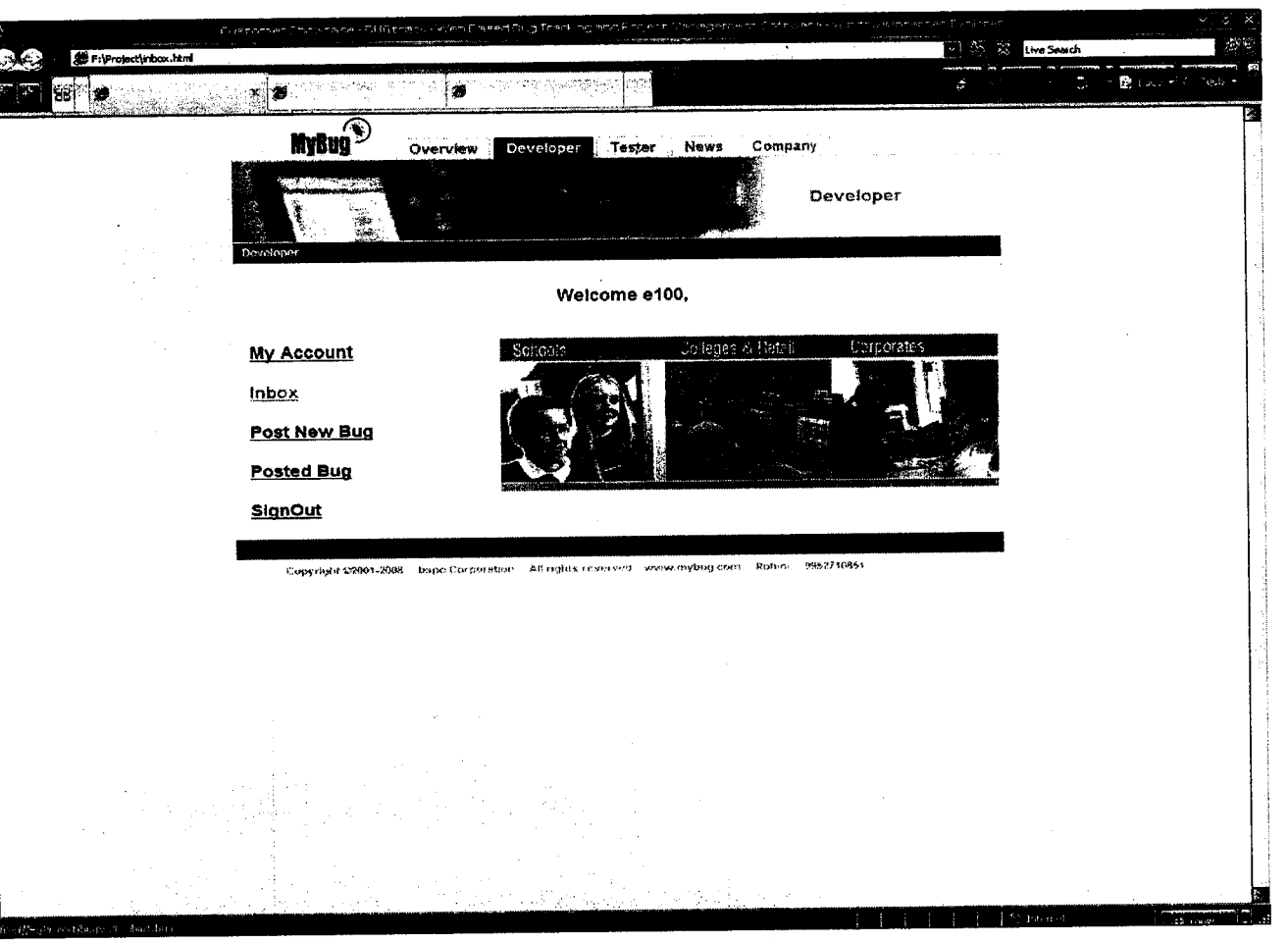


Figure (A9): Home page Form

Inbox:-

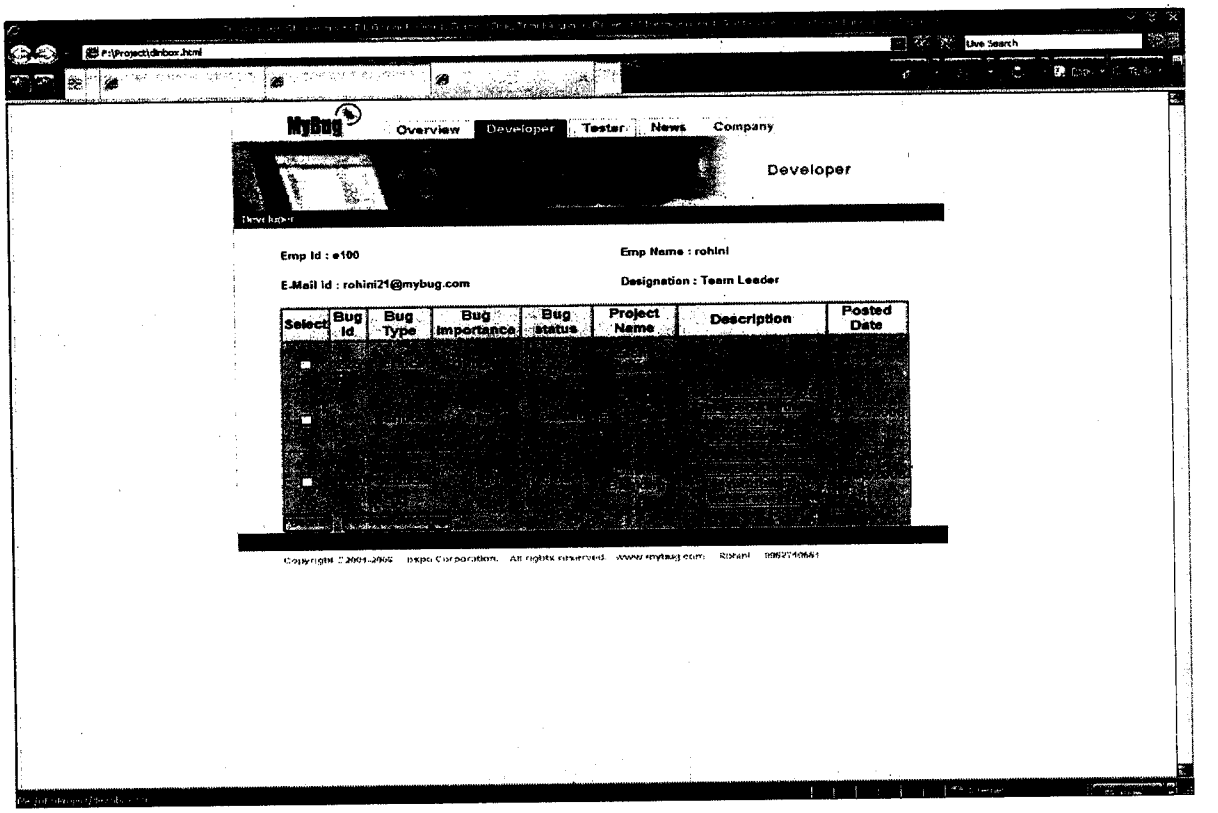


Figure (A10): Inbox Form

Login Page:-

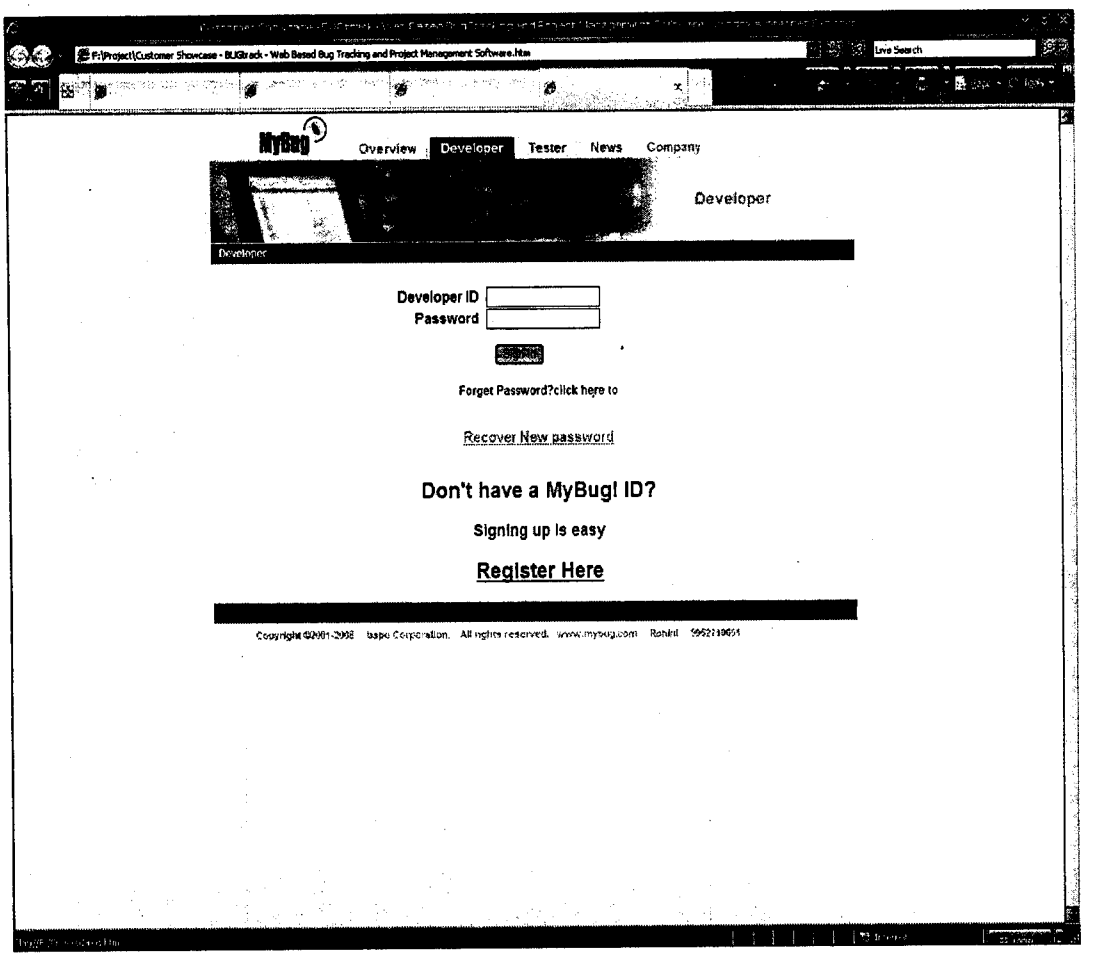


Figure (A11): Login Form

Recover Password:-

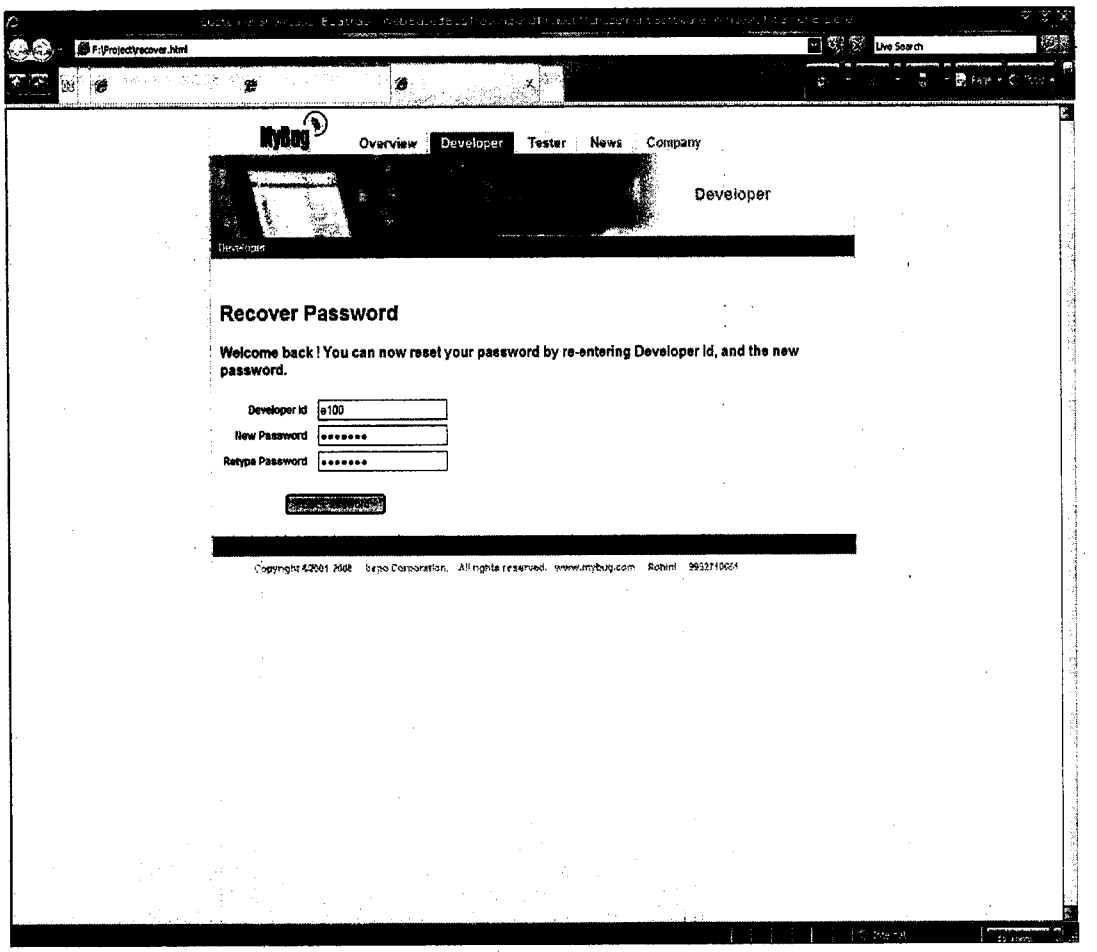


Figure (A12): Recover Password Form (1)

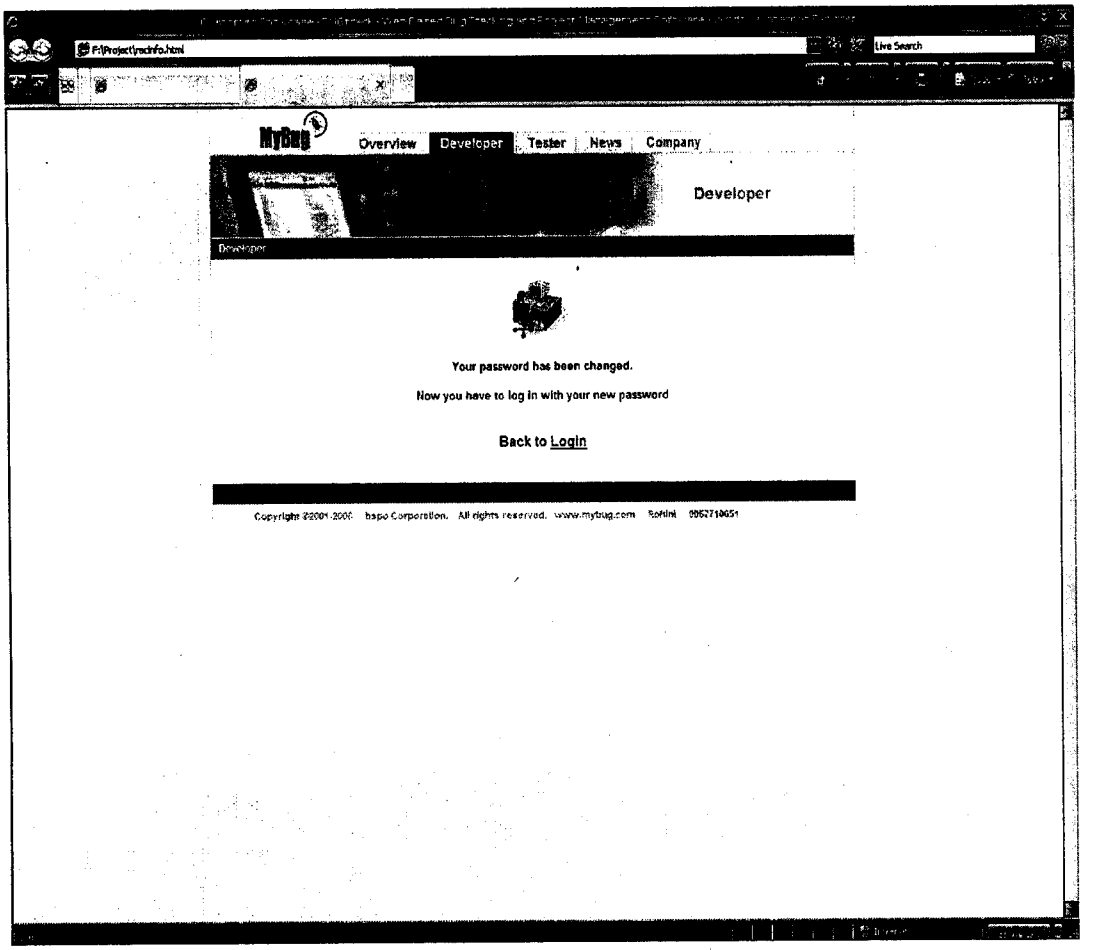


Figure (A12): Recover Password Form (2)

Home Page:-

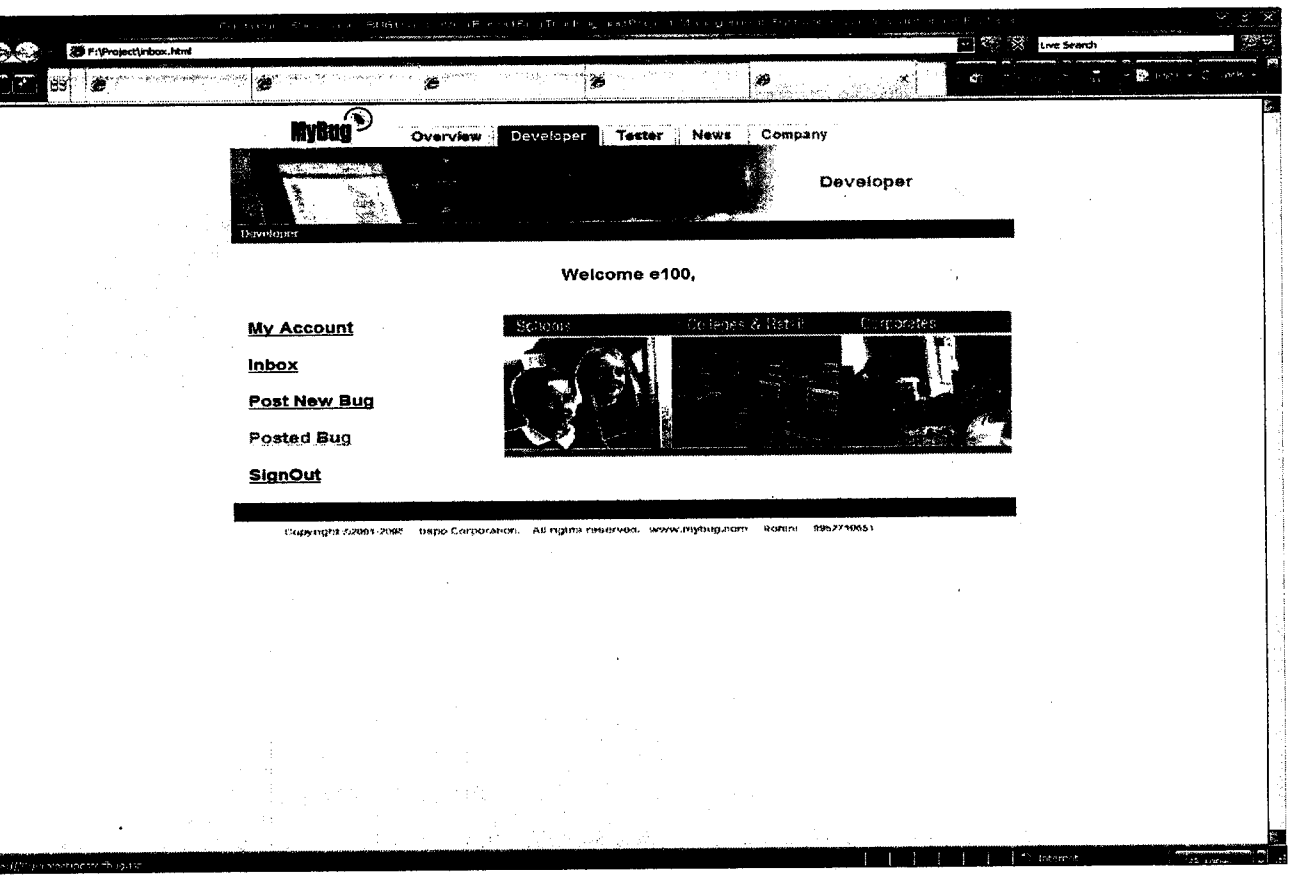


Figure (A13): Home Page

Posted Bug:-

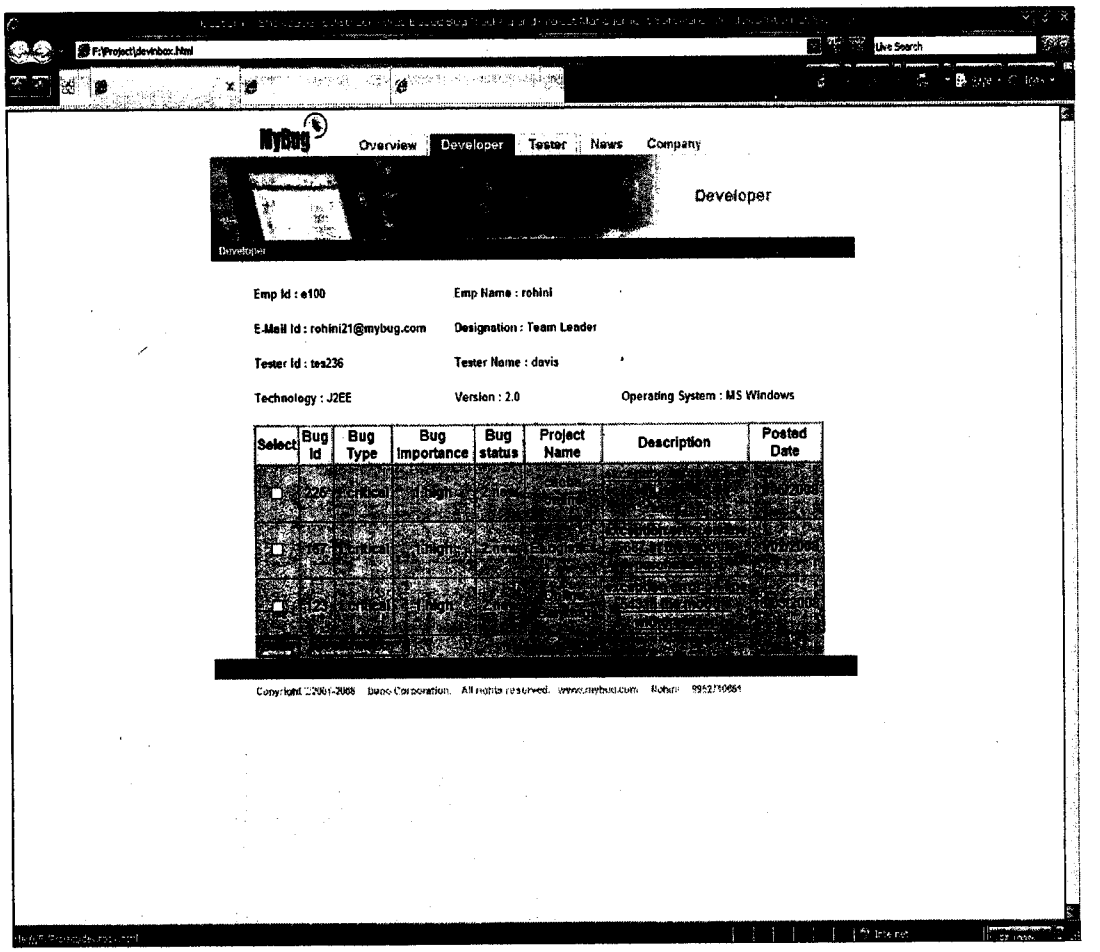


Figure (A14): Posted Bug Form

Home Page:-

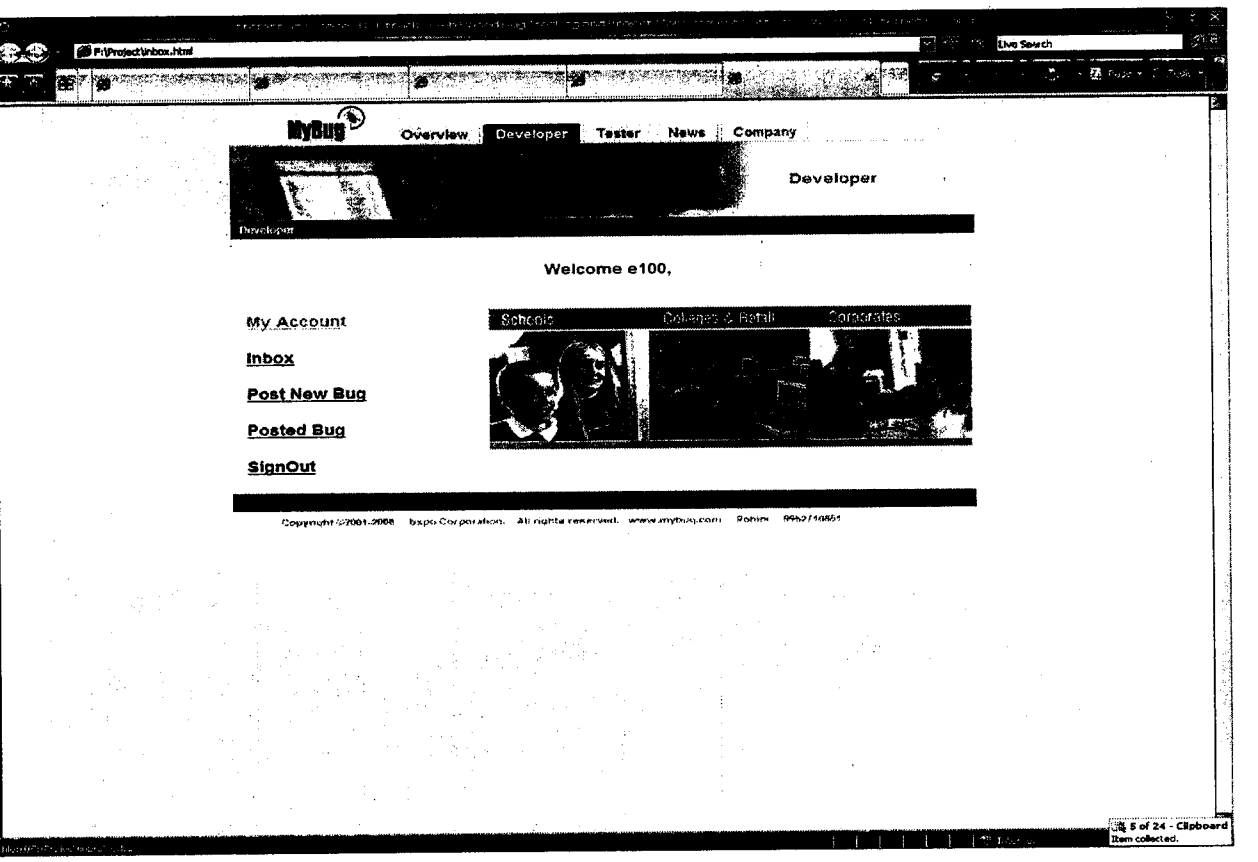


Figure (A15): Home Page

User Information:-

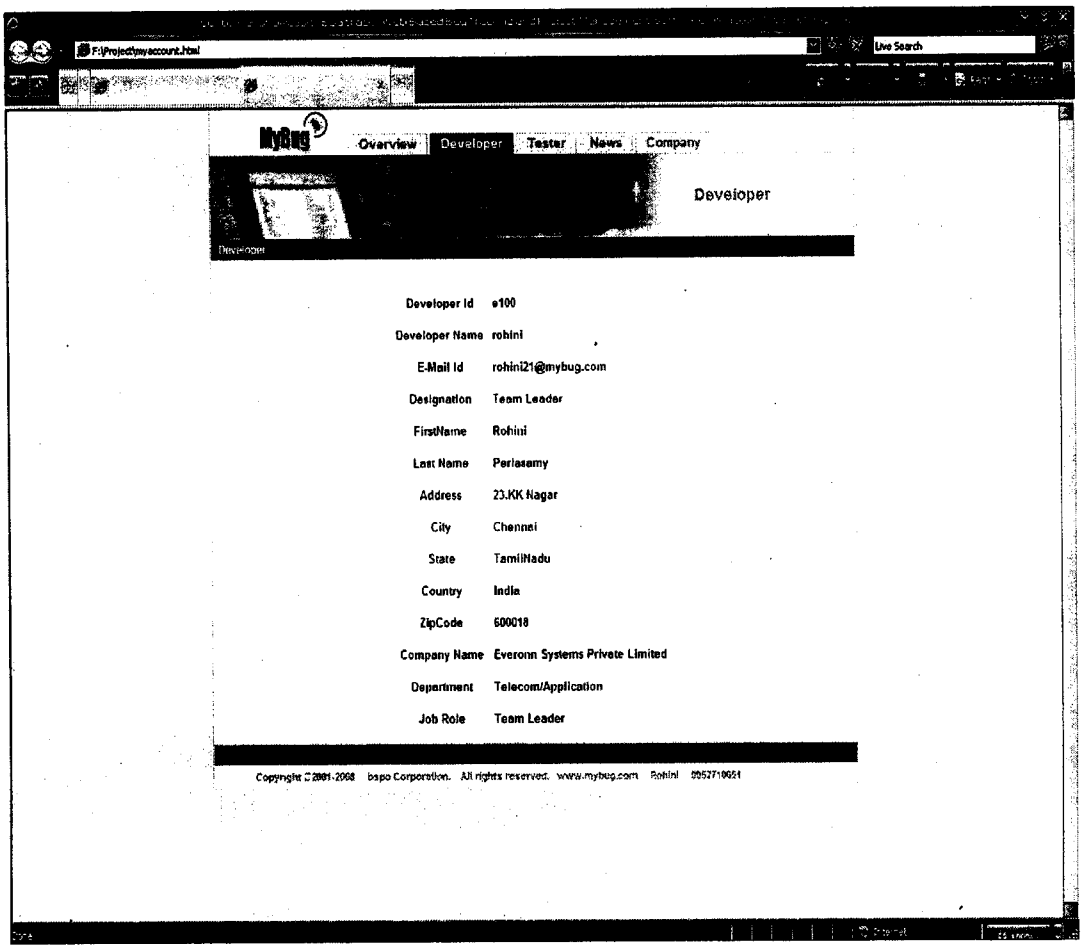


Figure (A16): User Details Form

Tester

Login Page:-

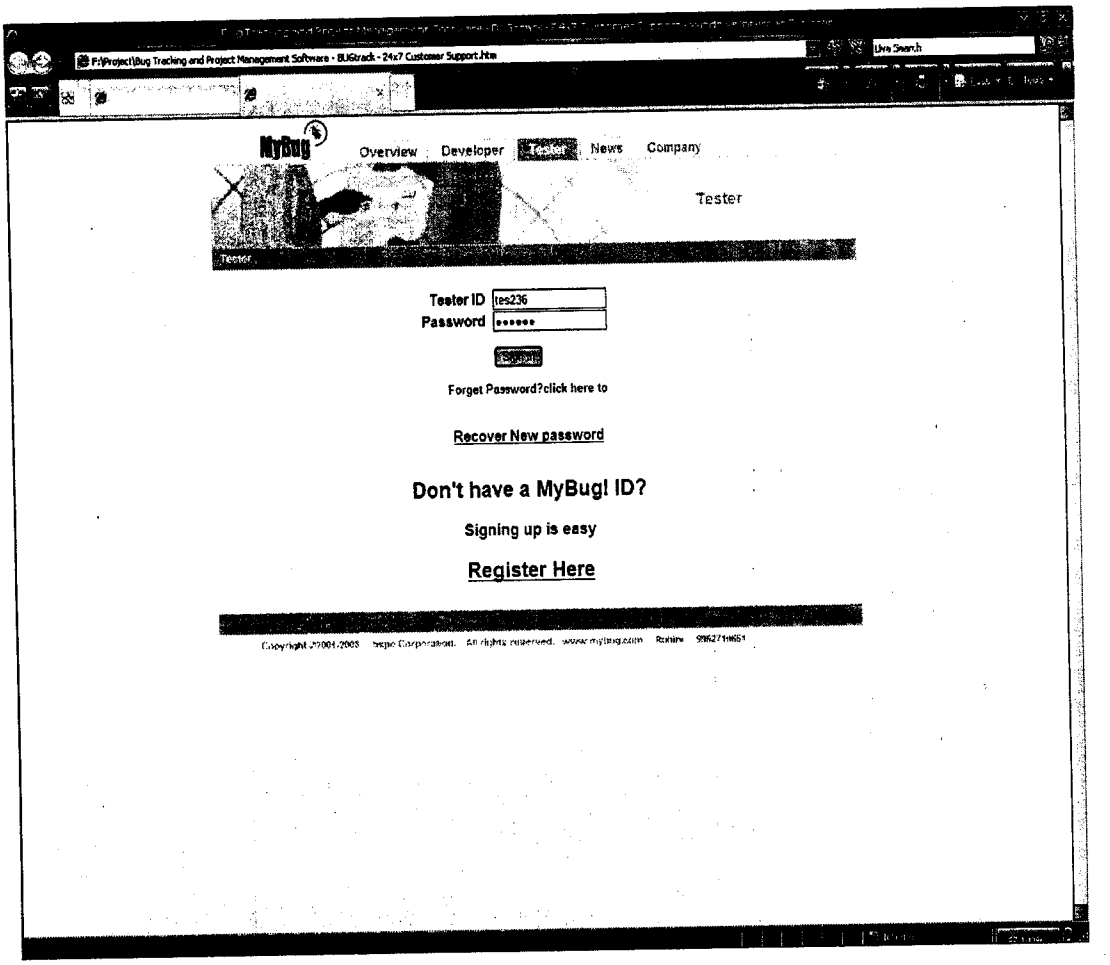


Figure (A17): Login Form

Home Page:-

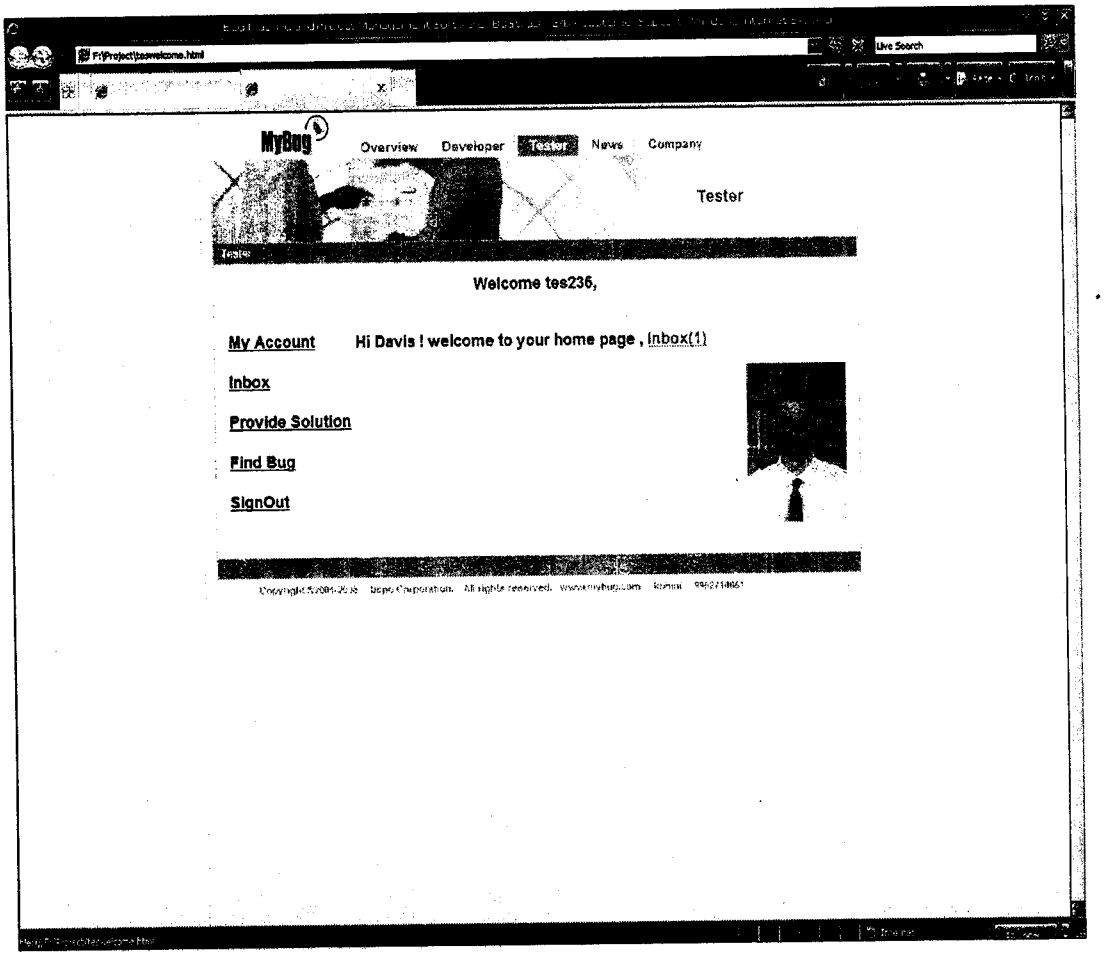


Figure (A18): Home Page

Inbox:-

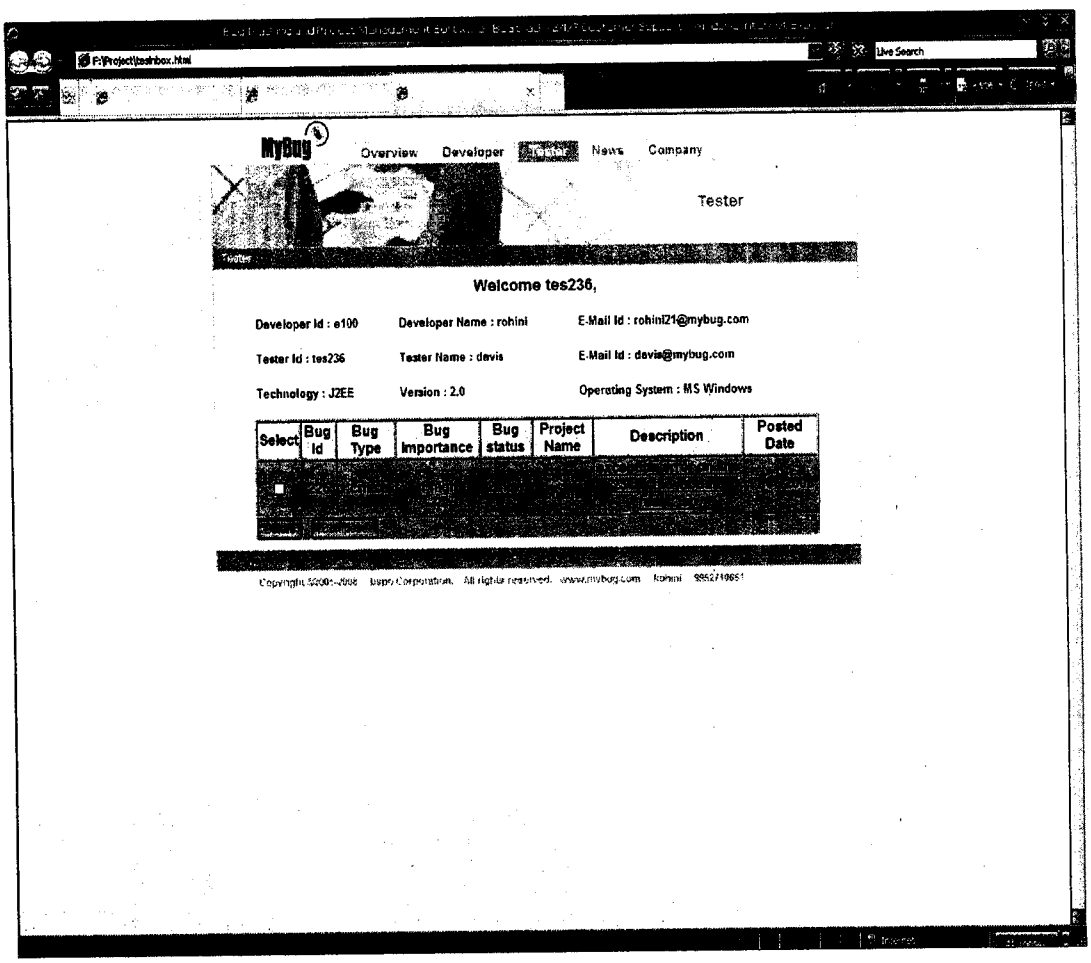


Figure (A19): Inbox Form

Home Page:-

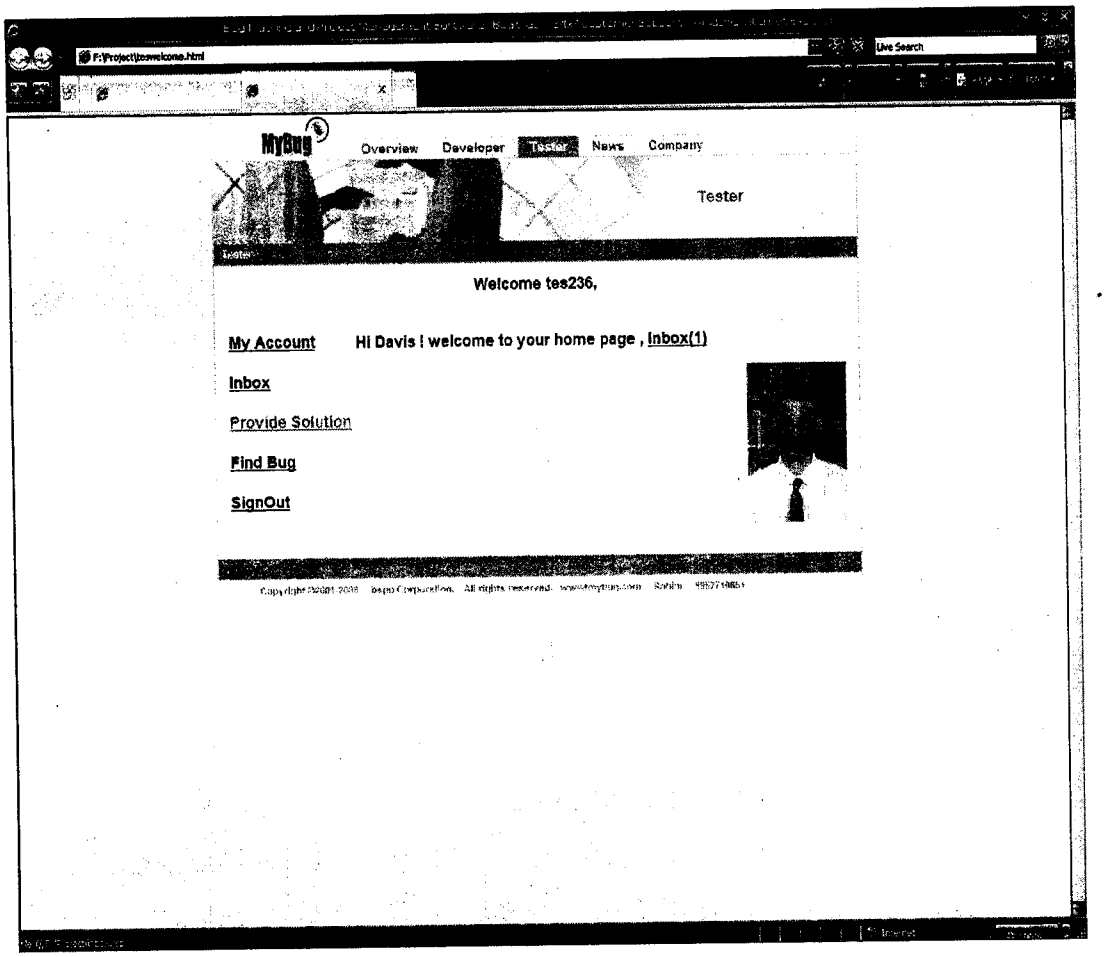


Figure (A20): Home Page

Bug Submission:-

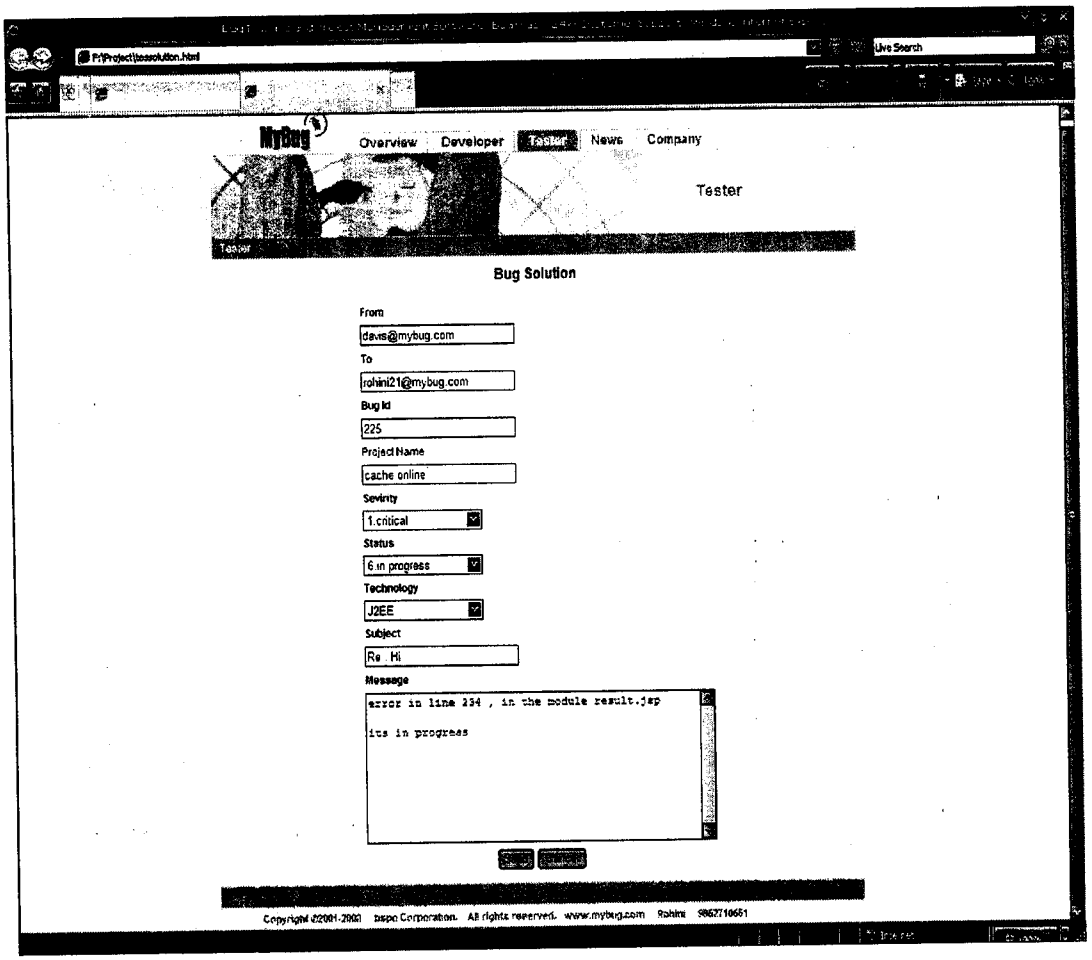


Figure (A21): Bug Solution Form (1)

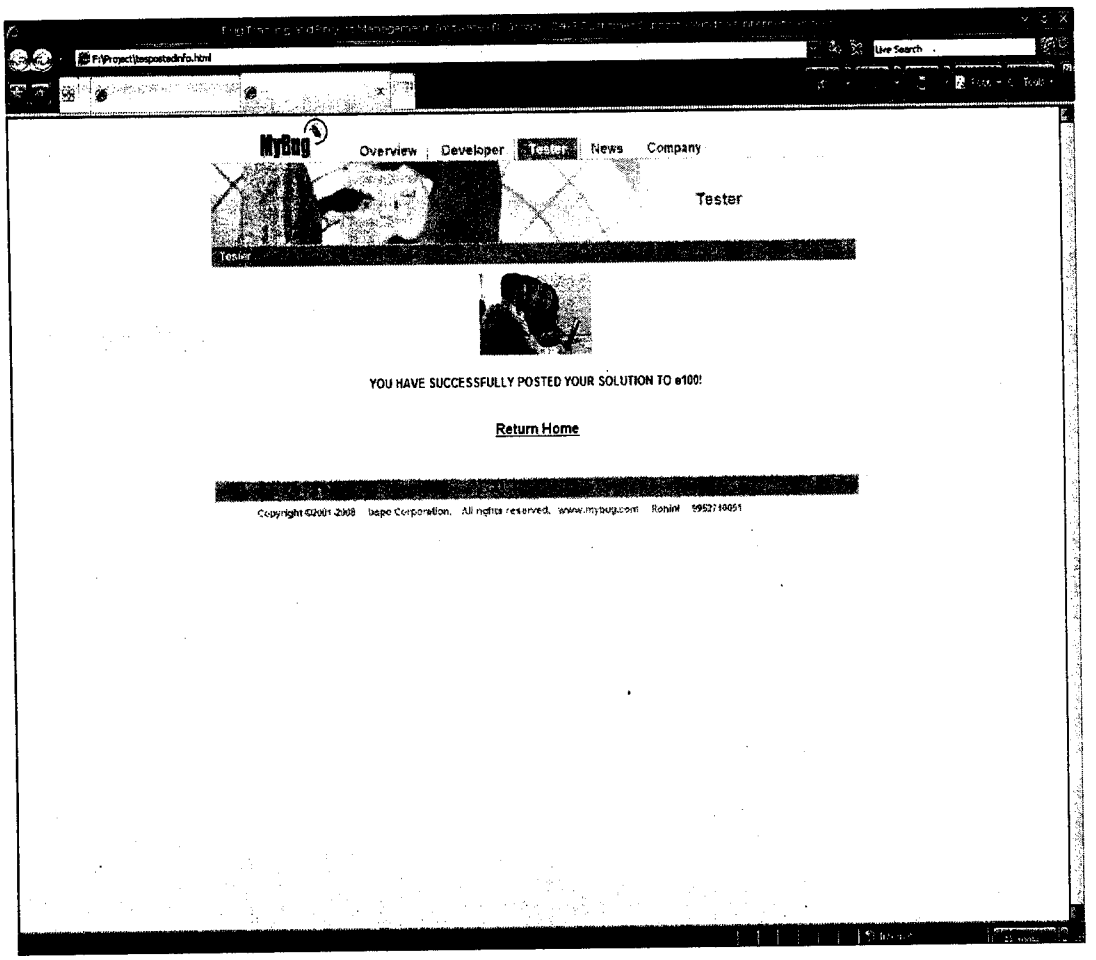


Figure (A21): Bug Solution Form (2)

Login Page:-

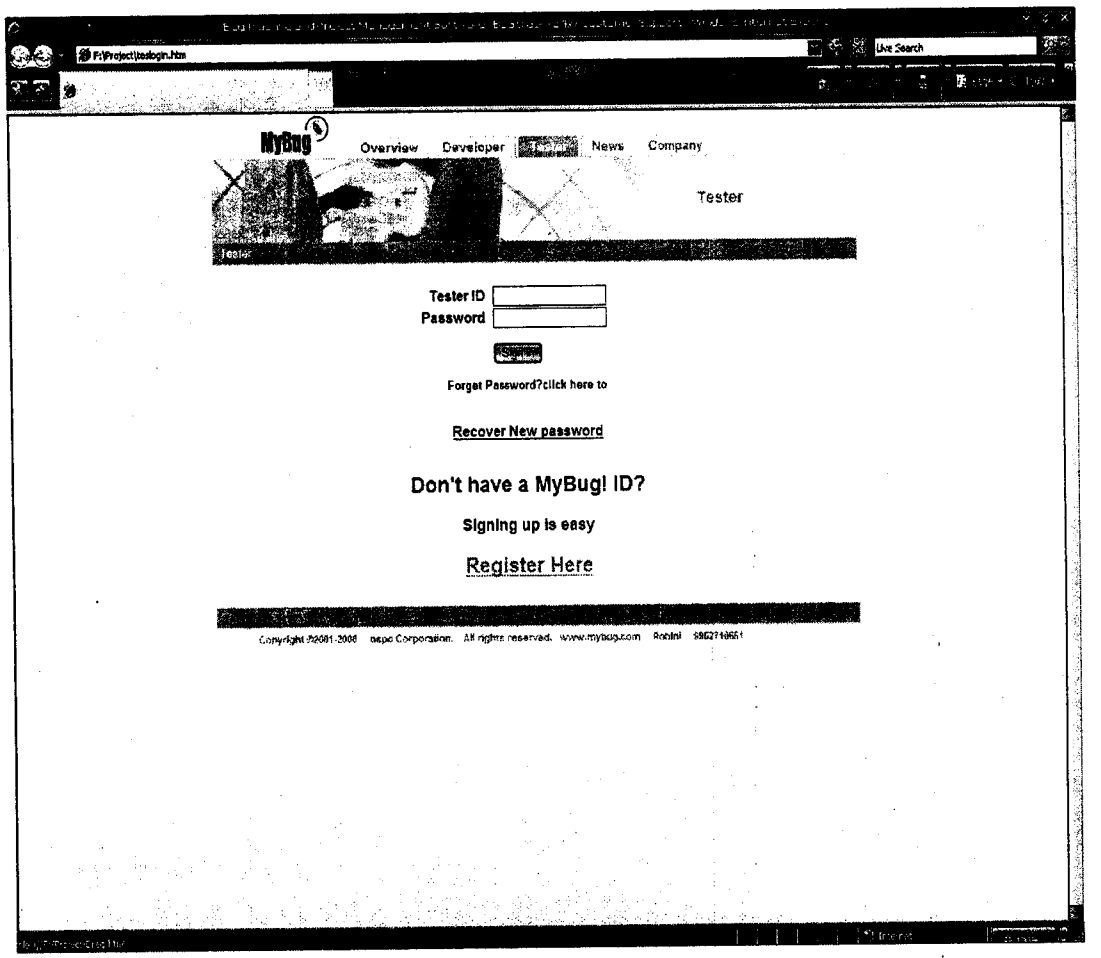


Figure (A22): Login Form

Registration:-

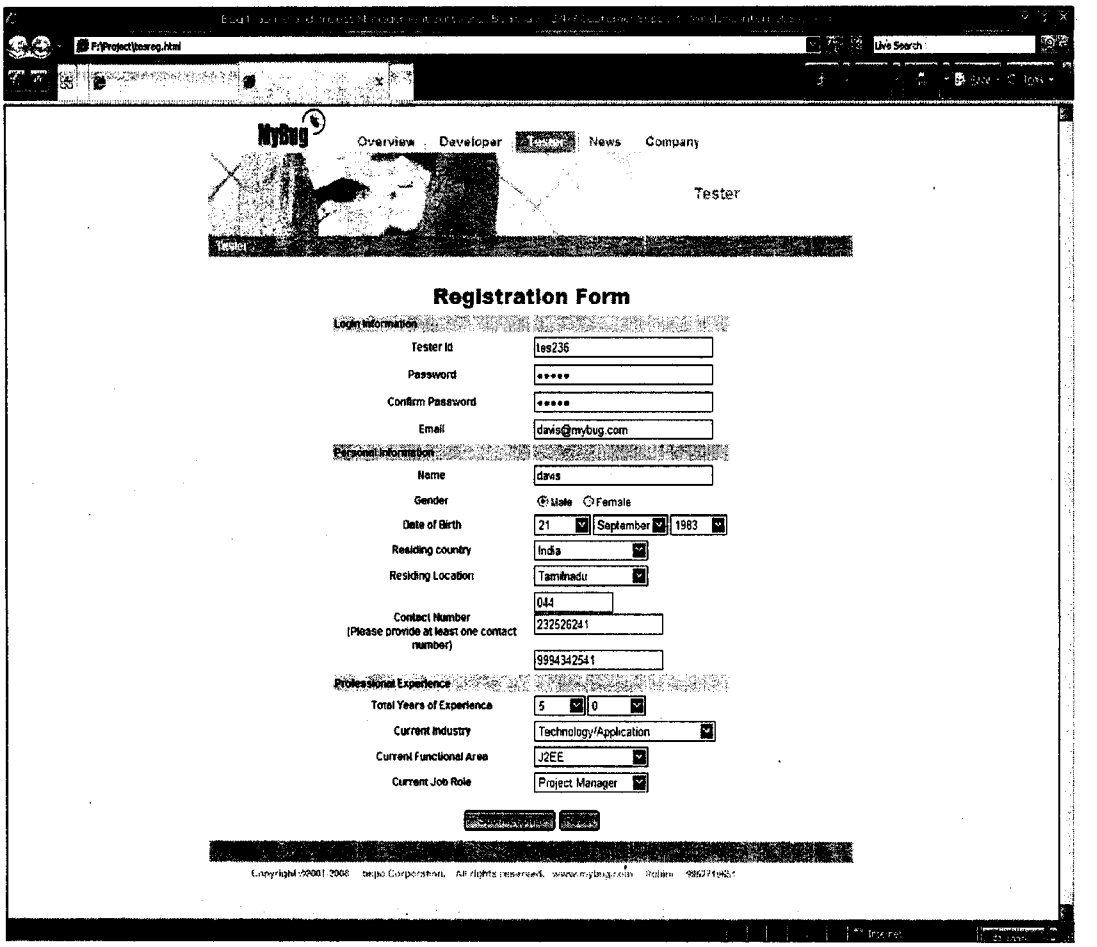


Figure (A23): Registration Form (1)

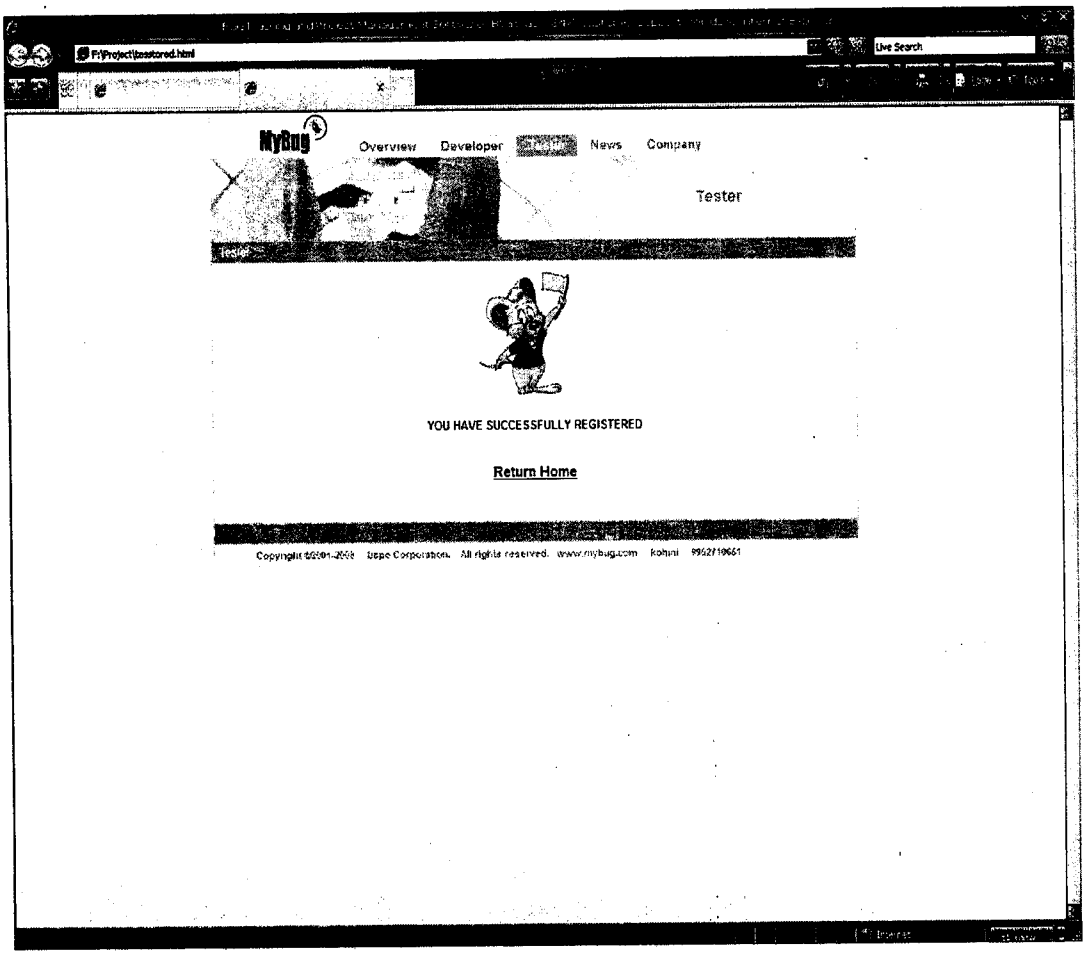


Figure (A23): Registration Form (2)

Recover Password Form:-

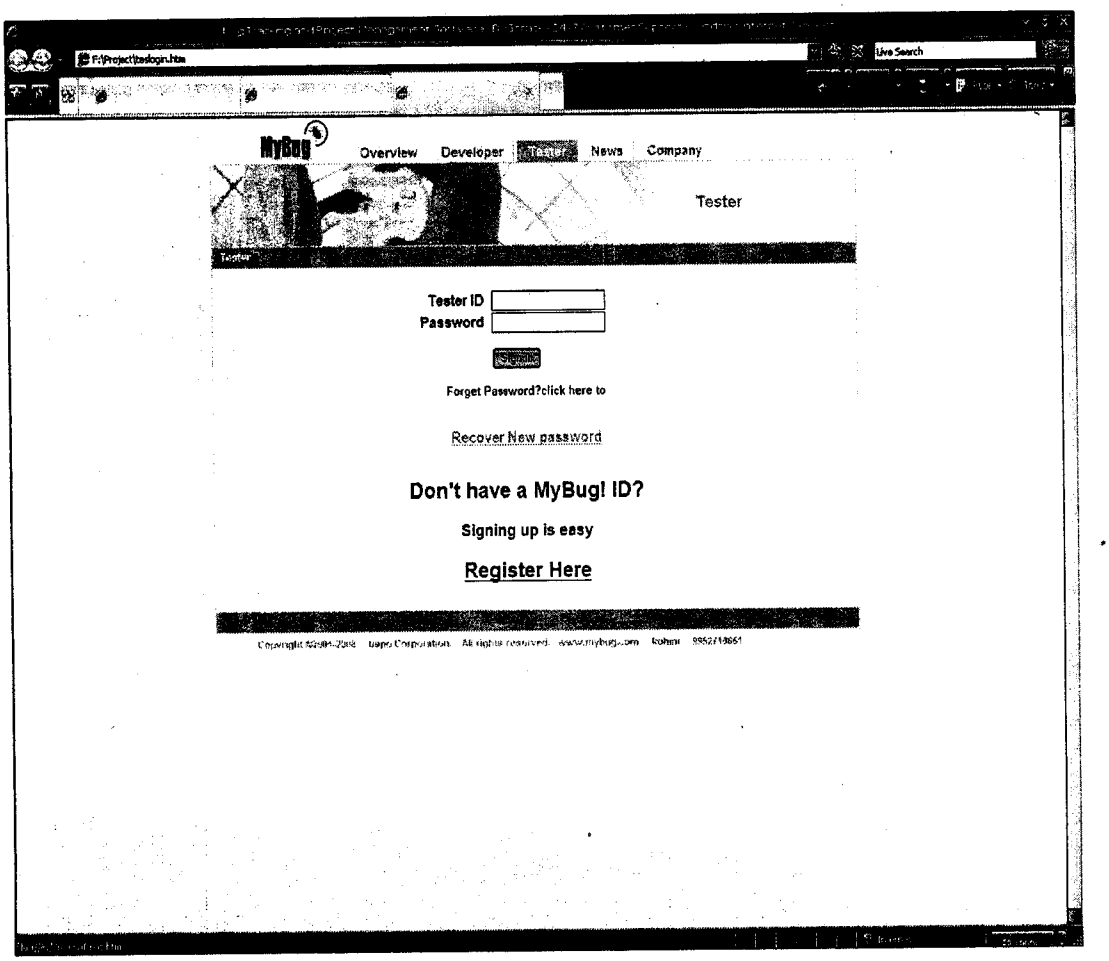


Figure (A24): Recover Password Form (1)

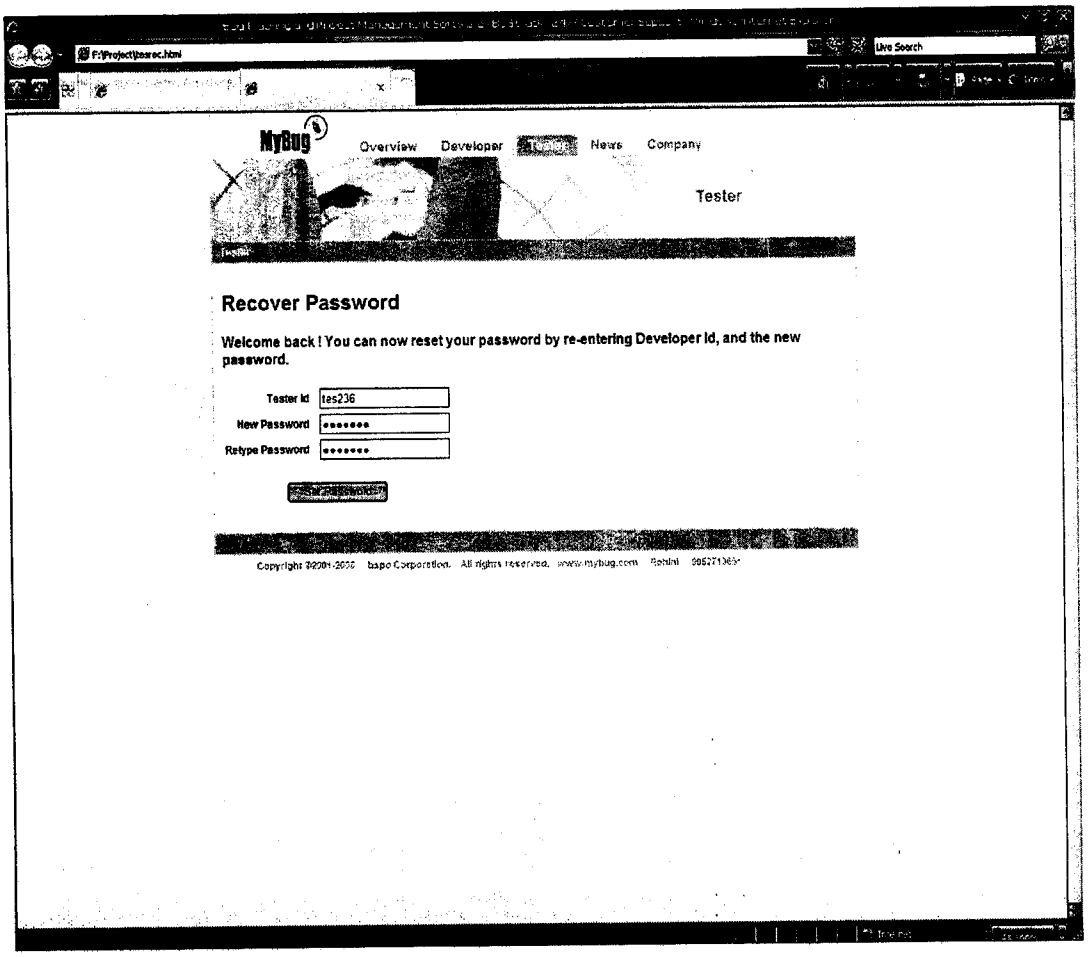


Figure (A24): Recover Password Form (2)

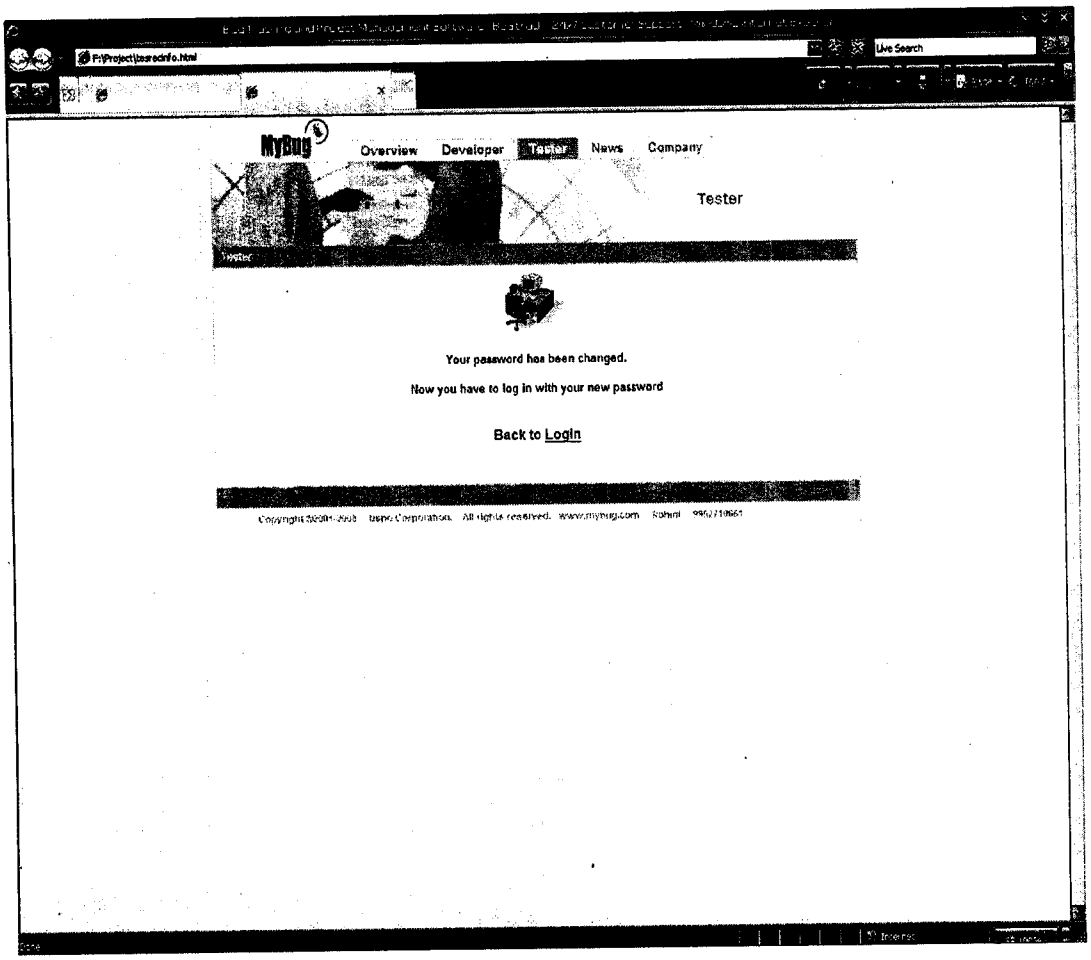
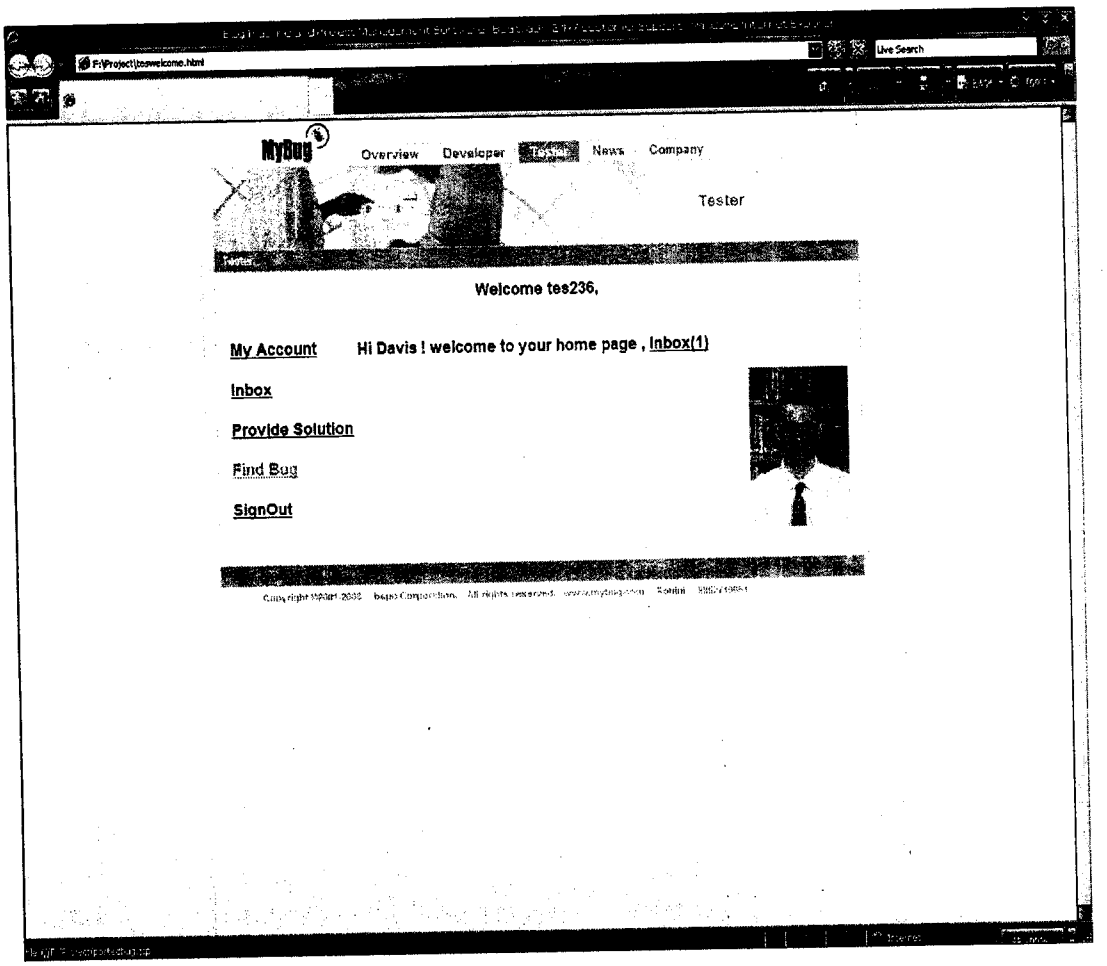


Figure (A24): Recover Password Form (3)

REPORTS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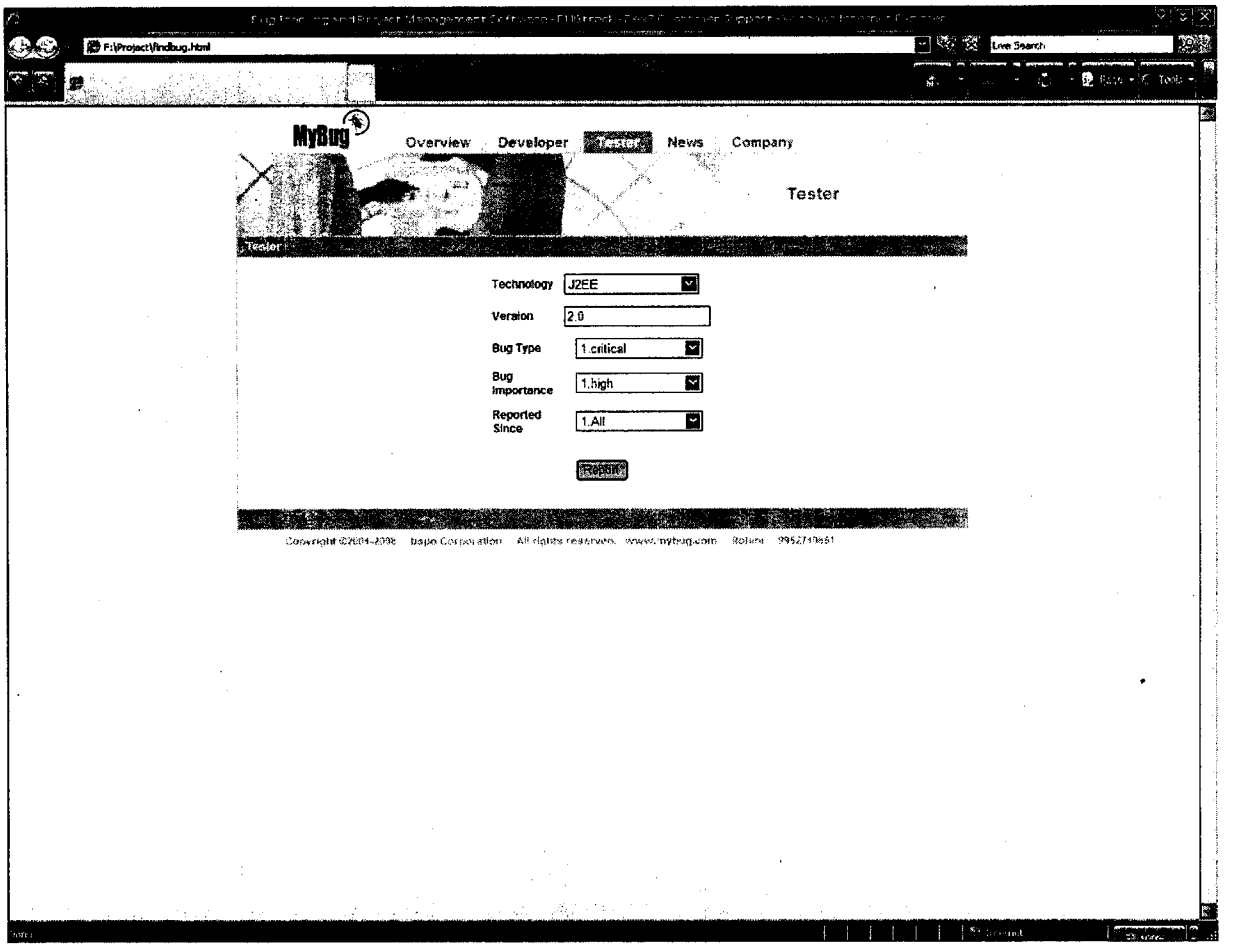
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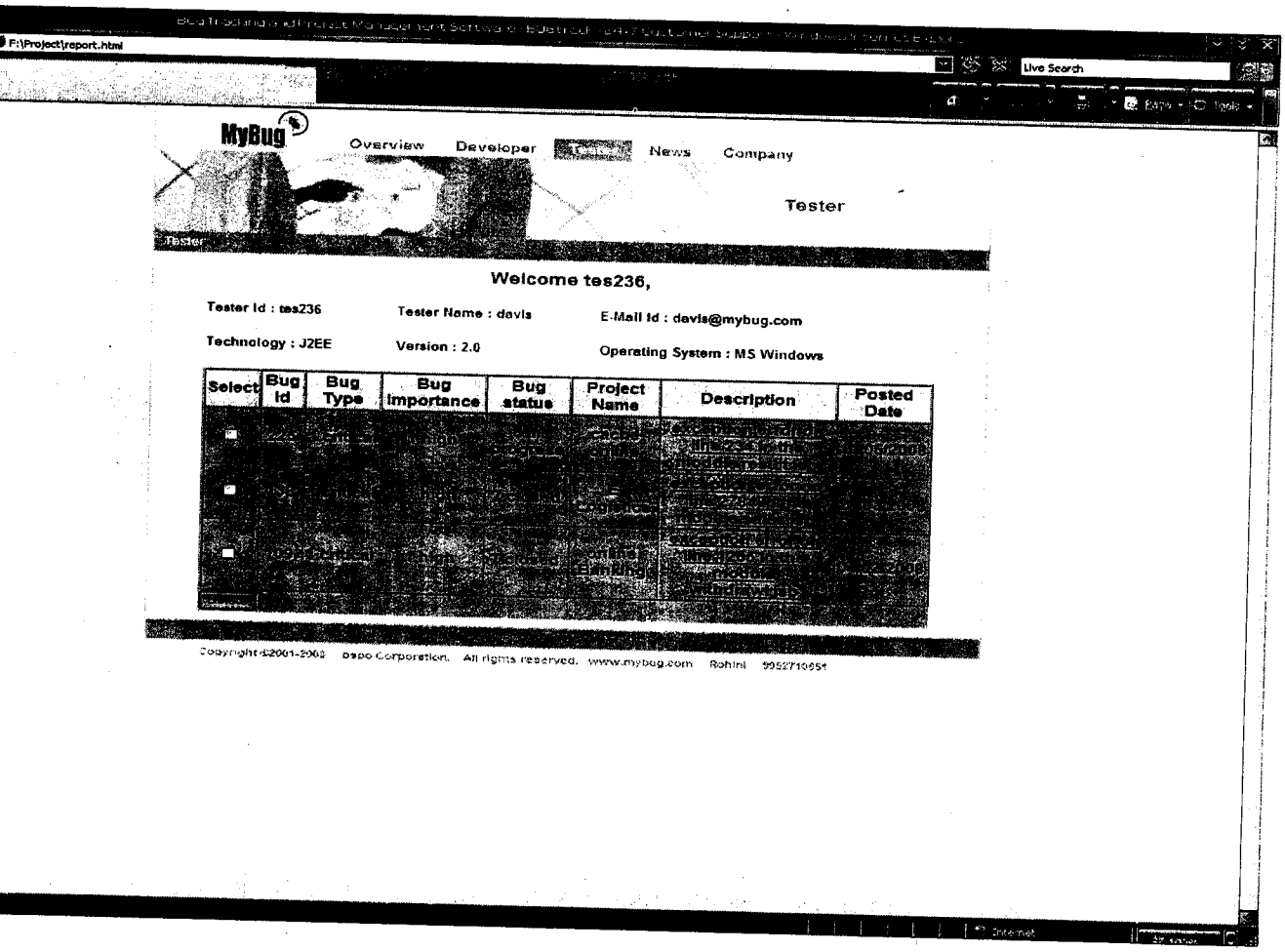
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