

Alpha Net Technologies Pvt. Ltd.



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Introduction

Definitions

- **User:** Person(s) who will use the application. User can be Administrator, Registered User and Guest.
- **Employee:** A person who is hired to provide services to a company on regular basis.
- **Question:** An expression of inquiry that invites or calls for a reply.
- **Response:** A response is a reaction to a question, experience or some other type of stimulus.
- **Request:** It refers to the act or instance of asking for something.
- **FAQ:** It is a list of frequently asked questions and their answers about a given subject.
- **Feedback:** Feedback is a process of sharing observations, concerns and suggestions with Administrator with an intention of improving the application.

Overview of the Project

In the present scenario, as of our day to day life we do not have enough time to personally visit tutors for our queries. Also question asking procedures are not systematic so that a person can easily find or figure out the specific required answer which is very much important. This is one of the major problem.

To resolve this cumbersome problem, “BugFix” is becoming a global replacement for traditional bulletins. It is an online teacher that can serve the same purpose as a physical bulletin tutor. In this, questions can be asked by using on screen graphical environment.

This proposed system will become a central repository, which act as broadcaster where every user can ask the question(s) from other registered user(s). In generalized way BugFix will be a MIS application to computerize the question asking procedure. Questions asked will be saved in central database server using which any BugFix client will be able to see the questions asked by other users and also history of question that were asked earlier can be seen. Here, computer acts as a tutor, which is more efficient as any authorized user can provide answers to all individuals with ease.

It is being developed for a ordinary people, to make question asking by its registered users, online. That makes the process of getting answers to questions quiet fast among registered users. BugFix will cater to the needs of educational institutions such as schools,colleges etc. also. Only those users who have rights to access BugFix will be able to view all the questions. It will be enterprise application with windows, web or mobile interfaces, so it will be distributed and data centric. It is designed on the basis of enterprise application architecture. In this application, MySQL database will be used to store data. It will be developed using Java, JEE technologies.

Current System

The current system of processes as well as procedures for asking any question is onerous and manual. This system requires the personal visit of user(s) to tutors to ask various questions. In current system there is no simple way to ask the questions, if user is absent on the day of discussion then it is troublesome for him to find questions from the history of discussion and also it is very time consuming. These methods are not suitable enough for efficient question asking. In the current system, administration involves with a lot of paper work to provide answers to all the users because different users can ask for same questions at different times, but each time tutor has to give answer which again is tiring and time consuming and involves wastage of resources. In the present system, if user want to get answer to any old question then it will take a lot of time to find particular question(s). Once question is discussed, then in the current system there is no way for end user to get the proper details of question after discussion.

Limitations of the Current System

- The question(s) asking procedure in the current system is not suitable for geographically dispersed users.
- Sometimes, important discussions are missed by end user due to absence.
- The current system fails to be centrally maintain all the information of various question(s) asked by various users.
- This system requires the personal visiting of user(s) to the location of administrator.
- In the current system, if the user is absent then he would not be able to get the answer to already discussed question(s).
- In the present system, if user want to get answer to any question(s) from the history then it will take a lot of time to find particular question(s) or this process results in loss of information.

Business Functions Provided in Proposed System

- **Manage Employees:** The system will allow administrator to manage the Employees, where as Employee can update his/her information. System provides the privileges to administrator to activate or deactivate any employee. Also administrator can view or edit their information.
- **Manage Users:** The system will allow employees to manage the Users, where as User can update his/her information. System provides the privileges to administrator as well as to employees to activate or deactivate any user. Also they can view or edit their information.
- **View/Ask Question:** The system will provide an interface to the users to interact with other registered users by asking question(s). He is allowed to post comment on any question asked by any registered users. The system also provides privileges to user to search question on the basis of tags, question etc.
- **Registration:** The system will provide an interface to the user to get registered with the application, whereas administrator or employee is provided with the functionality to approve, activate or deactivate various registered users.
- **Account Maintenance:** The system allows the administrator and employees to manage their own accounts whereas employees accounts will be managed by the user of type administrator. Precisely, following things are maintain by various users:
 - **Change Account Information:** Update Account information like Name, Address, Email ID and other details.
 - **Change Password:** The system allows any user to change own password
- **Login Functionality:** System provides the login functionality for authorization & authentication of Administrator, Employees & Registered Users.

- **Maintenance:** The system allows following Maintenance processes like Manage Employees, Manage Users, Manage Country, Manage State, Manage City etc.
- **Other Functionalities:** System will also provide other functionalities like:
 - Request Response Management.
 - FAQ Management.
 - Feedback Management.
 - Security Question Management

Input Requirements of the System

- Geographic Information
- Employee Information
- Registered User Information
- Question Type
- Comments under particular Question
- Security Question
- Request
- Feedback
- FAQ

Output Requirements of the System

- View FAQ
- Management of Geographic Information
- Management of Employee Information
- Proper Management of Questions
- Managing support for Comments under particular question
- Request Response Management.
- Manage Feedback

Special User Requirements

- Automatic Email Generation to the concerned person

Modules

The working of BugFix has been divided into following modules:

- Administrator
- Registered User

BugFix_Administrator encapsulates the administrative part of the application. Administrator can create account for employees, who will handle the operation process of application. This module provides the Administrator with the functionality to manage all the master screens of the application like country, state, city, employees, users etc. An administrator can also maintain the FAQ information. Also, here Employee is responsible for management of Requests, Responses and Feedback. Precisely, BugFix_Administrator targets to cover the following business functions of the application:-

- Manage Profile
- Manage Employees
- Manage Users
- Country Maintenance
- State Maintenance
- City Maintenance
- Change Password
- Manage FAQ
- View FAQ
- Manage Security Question
- Manage Feedback
- Manage Response

BugFix_Registered User encapsulates the user part of the application. In this, user is provided with the functionality to get registered with the application. After registration, administrator can review the user information, activate or deactivate, approve or disapprove newly registered user. After the approval, registered user will be able to view the various questions posted by other registered users. Precisely, BugFix_Registered User targets to cover the following business functions of the application:-

- Registration
- View/Edit Profile
- Manage/Post Requests
- View Response
- View/Ask Question(s)
- Forgot Password

Users of the System

The application has following types of users:-

- Administrator
- Employee
- Registered User
- Guest

Administrator

Administrator is the person who is having the administrative rights over the application. He/she is allowed to manage the employees. Administrator is allowed to manage the core part of application with having all the rights of application. Administrator is the person responsible for managing employee details.

Employee

Employee is the user who works for the administration and is responsible to manage users. Employee is responsible for adding and updating various geographical locations, security question, feedback etc submitted by users.

Registered User

Registered Users of the application are those users who will ask questions, provide answers to various questions asked by various other registered users and can also view all the questions posted by other users. They are allowed to post answer to any question.

Guest

Users, who are not yet registered with application, are Guest Users. Guest Users have limited access of the application. He/she is allowed to view & use the features available on the home page like login, view FAQ etc.

Technologies to be used

1. Java

Java is Platform Independent, Secure, Object Oriented, Scalable, and Robust Programming Language.

It consists of two parts

- JVM stands for Java Virtual Machine, which is run time environment to execute the java programs.
- Java API (Application Programming Interface) that consists of inbuilt classes used in java programs.

2. JDBC

- JDBC (Java Database Connectivity) is an API, which is used for the communication of java programs with different databases.

3. Java Mail API

- The JavaMail API provides a platform-independent and protocol-independent framework to build mail and messaging applications.

4. Servlets

- Servlets are basically a part of Java Platform, Enterprise Edition (Java EE) and is a technology that is used for extending the functionality of the servers that host application access via request-response programming model.

5. JSP

- JSP (Java Server Pages) a technology of Java Platform, Enterprise Edition (Java EE) is used for server-side programming and with the help of JSP we can segregate the work of a web designer and a developer.

6. JasperReports

- JasperReports is an open source reporting engine. Using JasperReports reports can be generated in any type of application i.e. console application, desktop application, web application, enterprise application.

7. MySQL

- MySQL is used as database, used to store data. It is RDBMS.

8. Scripting Languages

- HTML & CSS
- JavaScript
- XML, XHTML
- AJAX

9. Others

- UML
- Ant – Used for deployment
- JUnit – Unit Testing

Software Requirements

1. JDK 1.7

- NetBeans 7.4

2. Database

- MySQL Database Server 5.6.14

3. Reports

- iReport plug-in 5.1.0
- JasperReports 5.1.0

4. Web Server

- Tomcat 7.0

5. Application Server

- GlassFish v4.0

6. Testing Tool

- JUnit 4.8.2

7. Deployment Tool

- Ant 1.9.1

8. Operating System

- Windows 7 / Vista / XP sp3 / Linux Fedora 14

Hardware Requirements

1. Intel P4 processor with minimum 2.0Ghz Speed or any equivalent processor
2. RAM: Minimum 512MB
3. Hard Disk: Minimum 30GB

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