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1. **Introduction** 
   1. **Purpose**

The purpose of this document is to describe the software requirement in developing the web application “**Banasthali Notification Zone** ” which will reinforce and maintain details about : –

* Communication held between faculty members and students.
* This web application will be designed for Banasthali members in order to provide them facility of notifying students about class ongoings and solving their related queries.
  1. **Scope:**

“**Banasthali Notification Zone**” is a web-based service which intends to connect students and faculty of Banasthali University. It will also help:

* In constructing connection beyond the boundaries of classroom between the users.
* In maintaining an online schedule.
* Users can update themselves with the recent and important information.

The scope of the project can be listed as under:-

* This site aims to provide a special functionality to students to be informed about the followings:

1. Handouts Updations.
2. Notes Availability
3. E-books
4. Schedule Updations
5. Assignments
6. Query related to above.

* Teachers will be able to add or update different notices to inform the students about the activities going on.
* Administrator will be responsible to update overall database of the website.

Three types of users will be using this website .User can be **Student, Faculty and Administrator.** All the users will have different access and rights granted by this web application

* 1. **Definitions, Acronyms and Abbreviations**:

**Title**: **Banasthali Notification Zone**

* **HTML:** Hypertext Markup Language is a markup language used to design static web pages.
* **HTTP**: Hypertext Transfer Protocol is a transaction oriented client/server protocol between web browser & a Web Server.
* **HTTPS:** Secure Hypertext Transfer Protocol is a HTTP over SSL (secure socket layer).
* **www:** World Wide Web
* **DB:** Database
* **RAM:** Random Access Memory
* **HDD:** Hard Disk Drive
* **IIS:** International Information Server
* **IE:** Internet Explorer
* **IEEE:** Institute of Electrical and Electronics Engineers.
* **OS:** Operating System

**1.4 Overview**

““**Banasthali Notification Zone**”” is a service with advanced features that provides Internet based academic spaces designed to facilitate communication, collaboration, and content sharing across networks of users.

It aims to allow users to manage and to be informed about the academic activities.

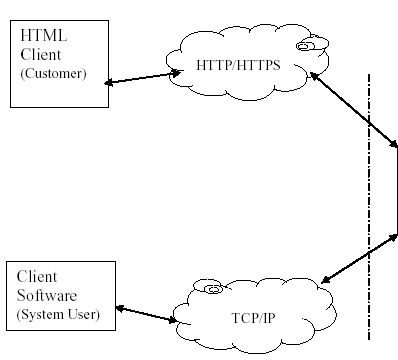
Permissions will be a very important feature in this application. It will allow administrator to control who will get access to their profile, information, connections and spaces, as well as degree of access.

**2. General Description:**

**2.1 Product Perspective**

This website is mainly aimed towards students and faculty of Banasthali.

This website will be user friendly, and reliable



IIS

SQL Server

**Client Side Application Server Database Server**

**2.1.1 Product Functions**

““**Banasthali Notification Zone**”” will allow:

1. Login to the system through the first page of the application.
2. OTP will be sent to the concerned person about the confirmation of the creation of the account.
3. Users can have their profile.
4. Students can check the post and replies of query updated by faculty.
5. Teachers can broadcast the information through BNZ.
6. Students can query about the teacher’s post.
7. Sign Out from the system.

**2.1.2 Hardware Interface**

**Server Side:**

* **RAM: 1GB**
* **HDD:** 20 GB or more (Free space excluding data size)
* **Processor:** 1-2 GHz (P4) or onwards

**Client Side:**

* **RAM:** 512 MB
* **HDD:** 10 GB or more (Free space excluding data size)
* **Processor:** 450 MHz (P2)

**2.1.3 Software Interface**

**Server Side:**

* **OS:** Windows Server 2007 or onwards
* **Web Server:** IIS 5.0 or onwards with ASP.Net framework

**Client Side:**

* **OS:** Any OS
* **Browser:** Any browser supporting javascript , css , xml.

**2.1.4 Communication Interface**

* Client on Internet will be using HTTP/HTTPS protocol.

**2.2 User characteristics:**

The users of “**Banasthali Notification Zone**” should be computer literate.

Users of this software can be categorized as following:

* STUDENTS

These types of users are the pupil enrolled in different courses provided by Banasthali University. Students may be day scholars or hostellers.

* FACULTY

These types of users are the teachers of various departments of Banasthali University.

* ADMINISTRATOR

These types of users are basically the administrator of whole web application. They can change any data at any time without creating any conflict or any confusion for the rest of users.

**2.3 General Constraints**

1. **Higher Order Language Functions:** The Asp.Net will be used for developing the web-pages with the help of Visual Studio 2010 and for the database information SQL Server 2008 will be used.
2. **Safety and Security Considerations:** The password and a valid username are the security issue.
3. Any substantial enhancement in website will require approval of the administrator.

**2.4 Technologies To Be Used**

* **Front End:** ASP.Net with C#
* **Back End:** SQL Server 2008
* **Design Tool:** Microsoft Visual Studio 2010
* **Web Server:** IIS 5.0 with ASP.NET run time

**3**. Specific Requirements

**3.1 Functional Requirements**

**Admin**

**Student**

**Faculty**

**Sign Up**

|  |  |
| --- | --- |
| Use Case No | 1 |
| Use Case Name |  |
| Actors: | Students and faculty. |
| Descriptions | This module helps the faculty and  students to create new accounts . |
| Input | Name, smart card ID , course , password , department , semester. |
| Normal Course Events | 1. Users enter their smart card id. 2. Users enter their passwords. 3. User enters other required Information. 4. Users click submit button. 5. System connects to database. 6. A message appears which shows the   Account created applied. |
| Alternative Courses | 1. Same smart card id exists in database 2. Error message appears. 3. Continue with step 1 in the normal course   events. |
| 1. An error may occur during the database   operation.   1. System shows error messages. |
| Output | New user account will be created. |

**Table 1: Use Case of Sign Up Function**

**Login**

|  |  |
| --- | --- |
| Use Case No | 2 |
| Use Case Name | Login |
| Actors: | Students, Admin and Faculty. |
| Descriptions | This module helps the admin, faculty and  student to login. |
| Pre-conditions | The user must be a member of the system. |
| Input | Smart Card Id and password. |
| Normal Course Events | 1. Users enter their smart card id. 2. Users enter their password. 3. Users click login button. 4. System connects to database. 5. Homepage displayed. |
| Alternative Courses | 1. User enters incorrect id and/or   password.   1. Error message appears. 2. Continue with step 1 in the normal course   events.   1. An error may occur during the database   operation.   1. System shows error messages. |
| Output | User homepage will be displayed. |

**Table 2: Use Case of Login Function**

**Logout**

|  |  |
| --- | --- |
| Use Case No. | 3 |
| Use Case Name | Logout |
| Actors: | Students, Admin and Faculty. |
| Descriptions | This module helps the administrator, faculty and  student to logout. |
| Pre-conditions | The user must be logged in to the website. |
| Normal Course Events | 1. Users click to Logout button. 2. DB connection terminated. 3. The website users Logout successfully. 4. The website will be directed to Login page. |
| Alternative Courses | In case, user accidentally closes the tab then the user will be automatically logout from her/his account but it is recommended to Logout from the account using “Logout” option for security purposes. |
| Output | Website login page will be displayed. |

**Table 3: Use Case of Logout Function**

**Profile Updation**

|  |  |
| --- | --- |
| Use Case No | 4 |
| Use Case Name | Profile Updation |
| Actors: | Students, Admin and Faculty. |
| Descriptions | This module helps the faculty , admin and student to  update the information about themselves. |
| Pre-conditions | The user must be logged on to the system. |
| Input | Information to be modified. |
| Normal Course Events | 1. The user must be logged on to the system   which is defined in use case 2.   1. User may go to profile view option. 2. The system retrieves user information from   DB and shows the information on new page.   1. The user can update his/her profile in desired   information field.   1. The user clicks on Update Button. 2. The user profile is updated. |
| Alternative Courses | 1. The system cannot access the DB. 2. The system redirects to the homepage. 3. The system puts a message on the top of the window about the problem. 4. Continue with step 2 in the normal course   events. |
| Output | User Profile Information will be updated. |

**Table 4: Use Case of Profile Updation Function**

**Query**

|  |  |
| --- | --- |
| Use Case No | 5 |
| Use Case Name | Ask query |
| Actors: | Students and Faculty |
| Descriptions | This module helps the student to ask query to their faculty . |
| Pre-conditions | The user must be logged on to the system. |
| Input | Query to be asked |
| Normal Course Events | 1. The student must select the post for which   they want to query.  2. The user clicks the Query option.  3. The user types the text in the box provided.  4. The user clicks the Submit Button.  5. The query will be posted. |
| Alternative Courses | 1. The user should enter the query within the   character limit.   1. The user clicks the Submit Button without   entering any query in the textbox provided.   1. Error message appears. 2. Continue with step 3 in the normal course   events. |
| Output | query will be add on the post. |

**Table 5: Use Case of Query Function**

**Post**

|  |  |
| --- | --- |
| Use Case No | 6 |
| Use Case Name | Add and delete posts. |
| Actors | Admin , Student and Faculty |
| Descriptions | This module helps the admin , student and faculty to  add or delete the posts. |
| Pre-conditions | The Administrator , student and faculty should have  appropriate rights to add and delete post. |
| Input | Information about the notices. |
| Normal Course Events | 1. The user click on POST Link 2. The user enters the information about notices   in the textbox provided and image/files if needed in image box.   1. The user clicks the Submit Button. 2. The notices will be posted with the entered   information.   1. If any unappropriate post have been posted by the user, then the   facility to delete the post can be achieved by Delete Button. |
| Alternative Courses | 1. If the user clicks on Submit button without any information in   notice textbox or in select any file then an error message will appear. |
| Output | Notice will be added or deleted. |

**Table 6: Use Case of Post Function**

**3.2 Non Functional(Software System Attributes)**

**3.2.1 AVAILABILITY**

The availability of this web-site is up to the Internet connection of the client. Since this is client-server related web-site shall be attainable all the time. User should have an account to enter the system; if user does not have an account then user can only see the information which will be displayed on the homepage of the web-site.

**3.2.2** **SECURITY**

The authorization mechanism of the system will block the unwanted attempts to the server and also let the system decide on which privileges may the user have. The system has different types of users so there are different levels of authorization.

**3.2.3 RELIABILITY**

A backup file is maintained so that in case of system crash, the data will not be affected.

**3.2.4** **PORTABILITY**

The system is developed using ASP.Net which provides a framework for developing web based applications.

**3.2.5** **MAINTAINABILITY**

This web application will follow the modular structure so it will be easy to maintain.