The system will be available on the predetermined IP/ localhost. The homepage of the system will hold the noticeboard of the respective residential institute, navigation (option) and a Login panel.

**Contents of the Webpage**

The navigation will house the following information: Institute administration (Provost, House Tutors and Assistant House Tutors, System administrator). The Login panel holds the options to sign into the system, register oneself and signing out (if someone is already signed in at that instance).

**Types of User and Authentication**

The functionalities of the system will vary depending on the user. The system supports 3 types of users: Board Member of Administration (e.g. Provost, House Tutors and Assistant House Tutors),System Administrator (a Board Member or Institute Official) and Student. The authentication module will have 4 subsystems: sign up, sign in, sign out and account recovery. A default system administrator account will be registered into the system. The System Administrator will collect the default username and password from the developer.

**Sign Up**

When the student is signing up into the system, the following information needs to be entered: Registration number, Department, Username, password, confirm password, recovery email. The system checks for empty fields. If any field remains empty, the system will prompt to fill in the particular field. If the entered registration number does not match any of the registration numbers entered into the database by the System Administrator, the sign up attempt will be terminated with a message telling the individual that he/she is not linked with that hall. Otherwise the student will be signed up successfully.

**Sign In**

When the user wants to “sign-in”, he/she must undergo authentication. He/she enters his/her respective username and password. The entered data is matched with the corresponding data stored in Database. If entered data matches the stored data, the user gains access to the system.

**Sign Out**

If a user signs out, he/she will be redirected to the homepage. If account activity remains stalled for 30 minutes, user will be automatically logged out (after the stall duration).

**Account Recovery**

In case a user forgets his/her password or username, he/she will be prompted to enter his/her recovery email address. If the entered recovery email address matches with the email present in the database, a recovery passcode will be sent to that email. Otherwise, a failure message will be sent and the user needs to enter his recovery mail again. When the user enters the recovery passcode, if it is matched with the sent code then he/she will gain access to the system again. Then he will be asked to reset his password. If the entered code does not match with the sent code then the user can request for re-sending recovery passcode for at most 5 times.

**Information System**

Data storing, editing, viewing, searching and account management are handled by the Information System. The information system will have the following subsystems: store information, edit information, search specific student and view student details.

**Store Information**

The System Administrator plays the role of entering the data to be stored in Database. Overall, the Student database will contain the following information: university registration no, name, session, department, class roll, status (resident or non-resident), room no, room history, present address, permanent address, local guardian (name, address and contact number), blood group, photo, co-curricular activity and payment. When entering information if any field is left empty the system administrator must fill that empty field. If the entered information (registration number) matches any existing student record, the system will send message that a similar entry exists and prevent duplication of same record. Otherwise, the information will be stored in database. By default, all the students will be non-resident and account status will be disabled. Room number, co-curricular field, local guardian, blood group, payment fields will be kept empty initially. System admin also enters information of board members.

**Edit information**

This functionality will allow users to edit their information like password, recovery email or phone number.

Only the board members can edit details of students. The board member can edit the status from non-resident to resident. If the users want to change their passwords, they will be prompted to enter their current password. If the current password has been entered correctly, the system will allow them to change their password. After confirming the new password, the system will update the password to the database. If the new password does not match with the password in the confirm password field, the users have to re-enter the new password.

**Search Specific Student**

This functionality can be used by Board Members and System Administrator to query student information.

The board members or the system administrator can search students by their university registration no, name, session, department, class roll, room no. To search a student the board members or the system administrator enters a search key. If the student record against the key exists, the system will display the student record.

**View Students’ Details**

A student can only see his/her own profile. Board Members and System Administrator can view the profiles of all the Students. For this, at first they have to sign in to system.

**Communication**

The communication module involves matters regarding the noticeboard and complaint form.

**Noticeboard**

The noticeboard can be viewed by both registered users and unregistered visitors. The Board Members of administration manage the content of the noticeboard. Every notice content has a noticeID, date of generating the notice. Most recent five notices will be shown on the home page.

**Complaint Form**

When a student logs into the system, there will be an option to submit a complaint by a form if he/she is a resident student. The following fields will have to be entered into the form: student name, room no. and complaint. The Board Members will be allowed to view complaint forms.

**User Management**

User Management involves tasks associated with creating board members and enabling/disabling accounts.

**Create Board member**

The system administrator will create accounts for board members. The system administrator enters username and password. If the username does not match with any of existing usernames, account will be created. The account information will be stored in the database.

**Enable/Disable Account**

The System Administration has the authority to enable and disable board members’ accounts. Student accounts can be enabled or disabled by their respective house tutors (Board members).To enable or disable any account, the system administrator or the board members search the account. Then the selected account is disabled by the system administrator or the board members.