

181606: Project II
Project Report
On
College Commune



As partial fulfillment of award of
Bachelor of Engineering
In
Information Technology

Prepared by:

100010116004 Harsh Bhakt
100010116013 Vaishnavi Patel
100010116022 Neel Maheshwari

Internal Guide:

Prof. Urmi Agravat

A. D. Patel Institute of Technology
Gujarat Technological University

(December - 2013)



Department of Information Technology
A. D. Patel Institute of Technology
Gujarat Technological University

CERTIFICATE

This is to certify that Harsh Bhakt (100010116004), Vaishnavi Patel (100010116013) and Neel Maheshwari (100010116022) of final year Information Technology have satisfactorily completed their partial work entitled “College Commune” for the subject 170001 Project I in the first semester of academic year 2013-14 for the partial fulfillment of the award of the Bachelor of Engineering in Information Technology at Gujarat Technological University.

Date: 24/2/2014

Project Guide (Internal)

Prof. Urmi Agravat

Head of Department

Prof. Sudhir Vegad

Principal of Institute

Dr. R.K. Jain

Acknowledgement

It is our pleasure to present the project report as the Information Technology Project of “College Commune” as our final year project.

We are thankful for the assistance received from various individuals from different areas in making of this project. We sincerely thank Prof. Urmi D. Agravat, Associate Faculty guide in our project for guiding us throughout the project, without which this project would not have been distant reality

We articulate deep sense of respect to Prof. Sudhir Vegad (Head, Information Technology Department) for providing us an opportunity to carry out the project, for showing trust on us. We are thankful to all staff members of Information Technology and Computer Engineering Department of our college for providing us a helping hand during the project.

Last but not the least we also express our gratitude to our institute-A.D.Patel Institute of Technology to allow us to carry out the Project Work at their institution and utilizing their provided facilities.

Name

Sign

Harsh Bhakt

Vaishnavi Patel

Neel Maheshwari

Abstract

There are the times when the flaw of communication within class, department or college leads to problems. Few of them are students may not aware about the 'Notice' of Scheduled faculty meeting which is pinned on a general notice board of institute. Sometimes faculties may be looking for details of the student on hand in some unusual conditions but they can't have it easily, details may not be available with traditional document or it may be hard to abstract details from bulk of papers.

This project is supposed to bridge the communication flaw gap among College/Educational Institution. It will provide the shared platform for class to share the latest issue of field. Students of class may want to share important and current issue regarding study or related area for being updated with current time, which will be fulfilled by this application.

Moreover one of the project modules will give facility to publish notice to the target users of Class/Department/Institute. Time Bound Notice will set the schedule to users account calendar and will give the reminder prior to that activity. Profile Manager will keep updated details of Student or faculty. System will offer a general platform to class members to share latest issues and respected views for the same.

TABLE OF CONTENT

Acknowledgement		
Abstract		
1. Design		1
	1.1 System Design	1
	1.2 Database Design	17
2. Implementation and Results		20
	2.1 Implementation	20
	2.2 Testing	25
3. Corner of Innovation		27
	3.1 Contributors	27
	3.2 Commits	28
	3.3 Code Frequency	29
	3.4 Punch Card	29
4. Future Enhancement		30
	4.1 Objectives Achieved	30
	4.2 Conclusion	30
	4.3 Future Enhancement	31
References		32

List of Figures

S. No	Content	Page no
Fig 1	E-R Diagram	2
Fig 2	Use case Diagram: Registration Module	3
Fig 3	Activity Diagram of Place Request	4
Fig 4	Activity Diagram of Approve Request	5
Fig 5	Activity Diagram of Account Generation	6
Fig 6	Registration Module: Level 0 DFD Diagram	7
Fig 7	Registration Module: Level 1 DFD Diagram	7
Fig 8	Registration Module: Level 2 DFD Diagram	8
Fig 9	Intranet Module: Use Case Diagram	9
Fig 10	Intranet Module DFD level 0	10
Fig 11	Intranet Module DFD level 1	11
Fig 12	Intranet Module DFD level 2	12
Fig 13	Notice Board Module: Use Case Diagram	13
Fig 14	Notice Board Module DFD level 0	14
Fig 15	Notice Board Module DFD level 1	15
Fig 16	Notice Board Module DFD level 2	16

1. DESIGN

1.1 System Design

- The designing phase consists of constructing GUI of the application.
- It also consists of database design i.e. tables used in the application for different modules which stores information.

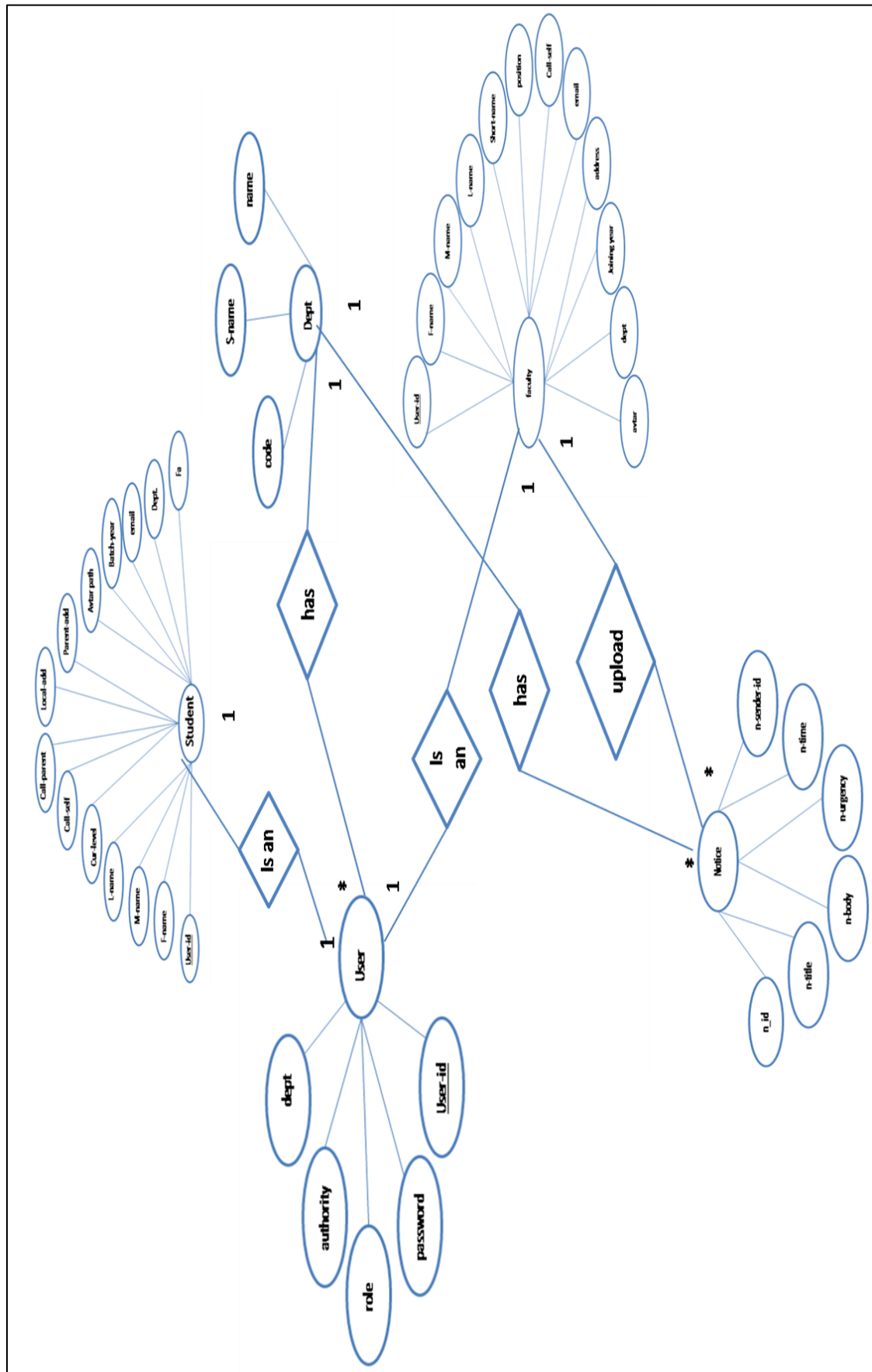
The basic way of designing the software or application is by drawing UML diagrams.

- The diagrams consists of:
 - E-R Diagram
 - Use Case Diagram
 - Activity Diagram
 - Data Flow Diagram
 - Class Diagram

E-R Diagram:

Primary purpose of E-R diagram is to represent the relationship between data and objects. It's mainly used in database applications. It gives relation between entities.

Here in our system user, student, department, faculty and notice are different entities. Relationship between them is shown below.



Fig(1) E-R Diagram of College Commune

1.1.1 Registration Module:

- Student and faculty send request DA to get register to the system.
- After DA's authentication student and Faculty will get registered by providing some basic personal information. This information will be used for further use of system.
- *Like Name, Enrolment Number, Email, Contact number, Year (to avoid conflict detain student).*

1.1.1.1 Use-Case Diagram:

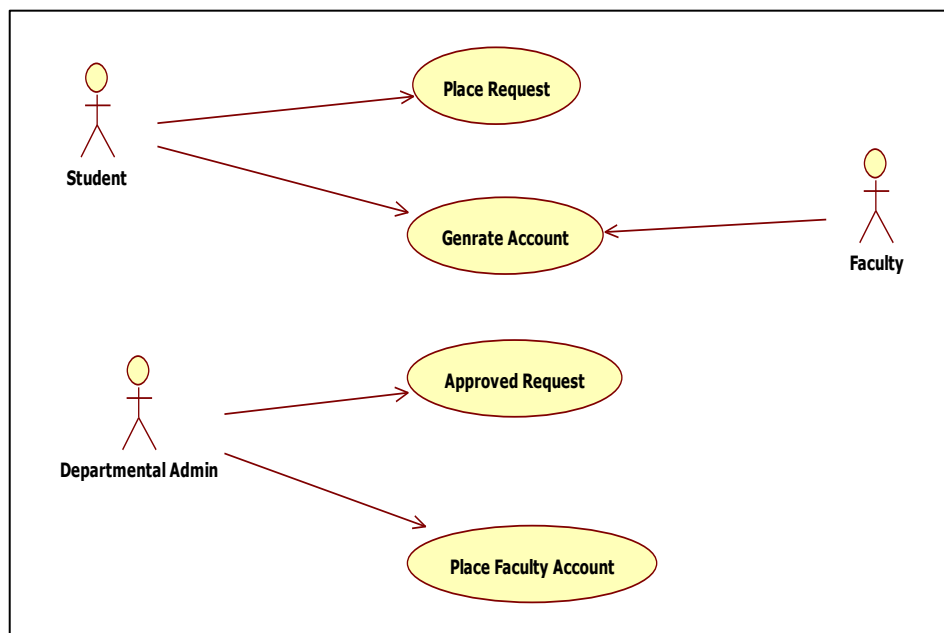


Fig (2) Use case Diagram: Registration Module

This diagram shows that to create a new account how student and faculty place request then Departmental Admin approves request and then user can create new account.

1.1.1.2 Activity Diagram:

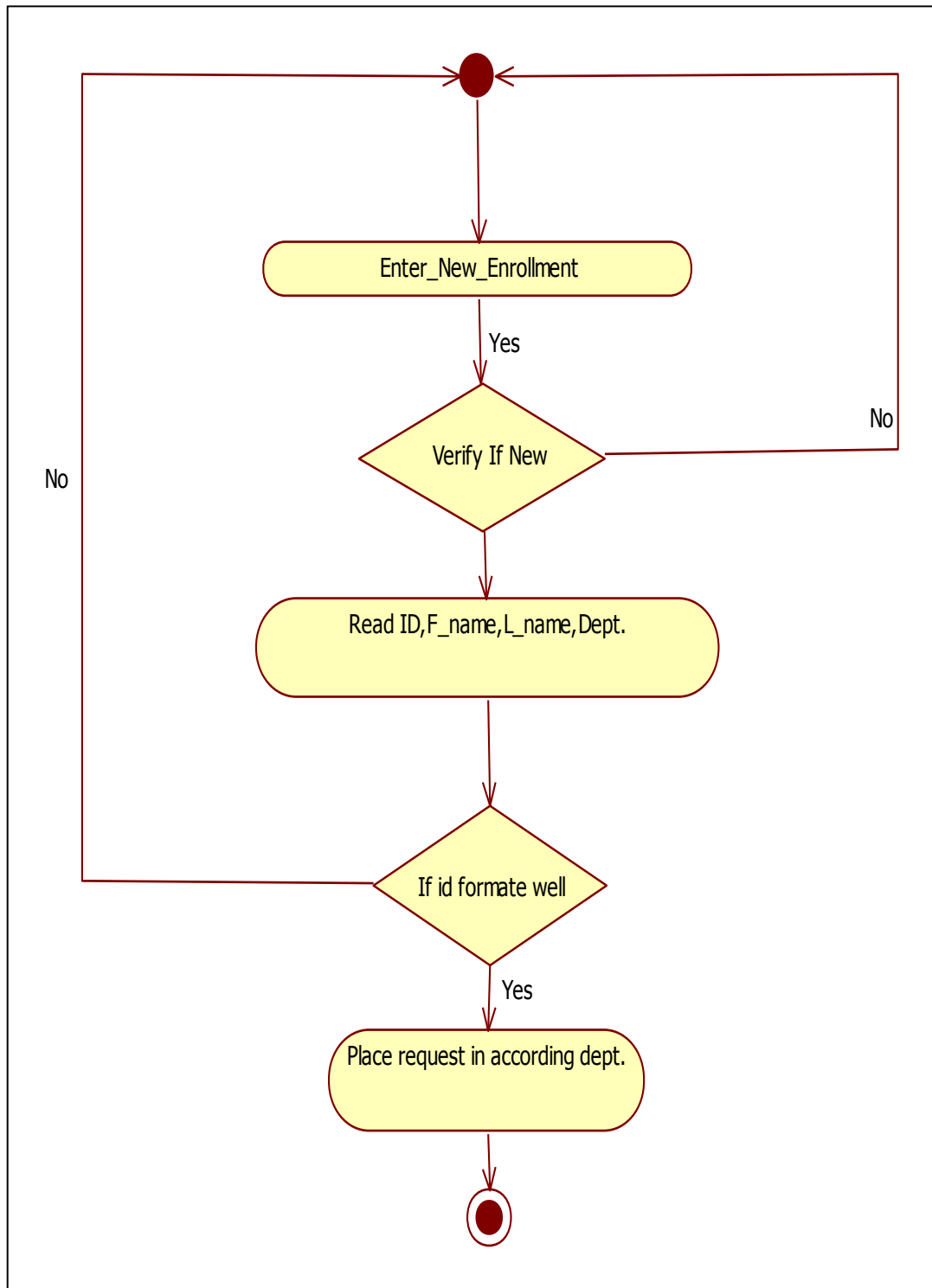


Fig (3) Activity Diagram of Place Request

This diagram shows that as student enter his enrollment number and if it is valid it will place request according to that department.

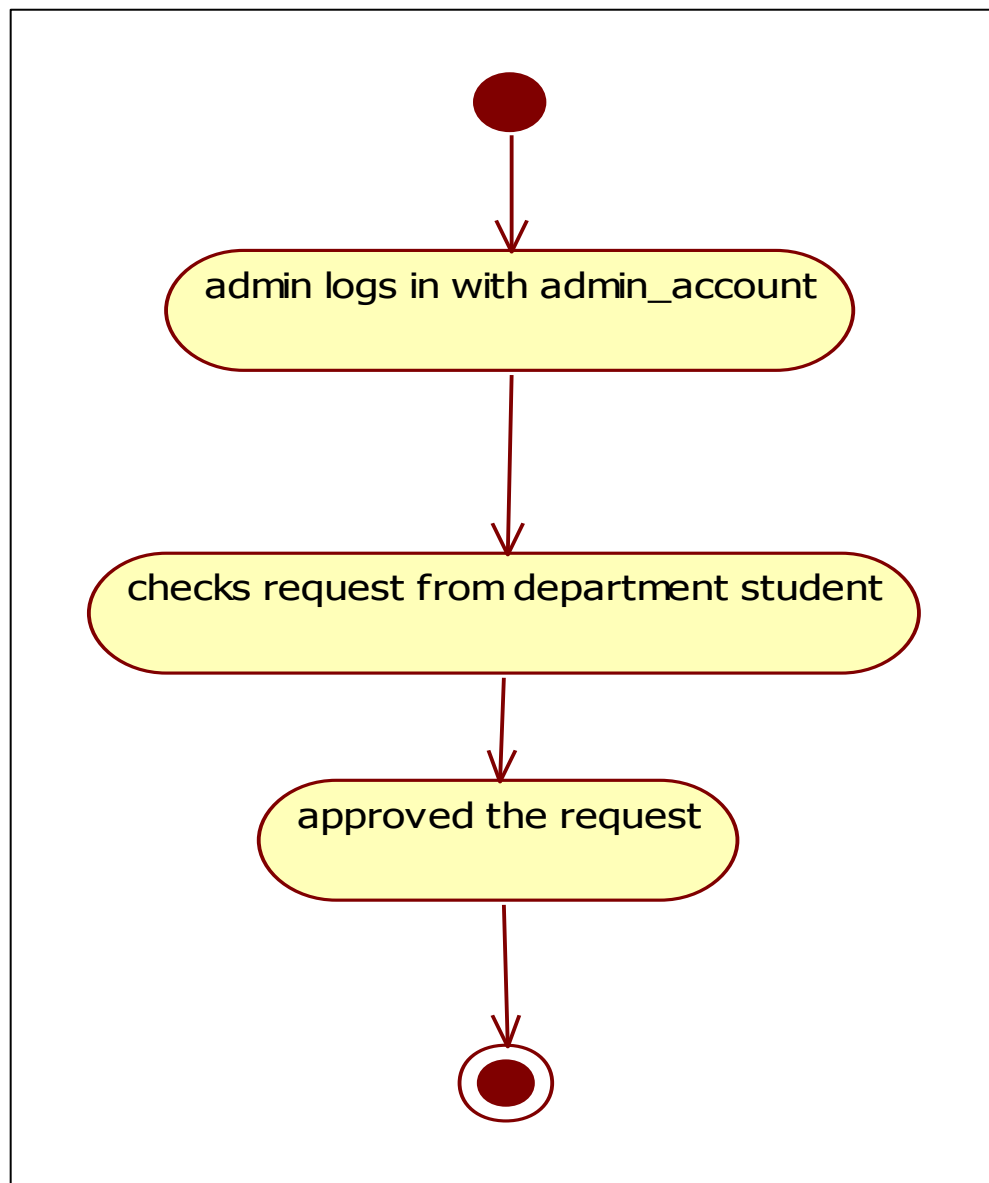


Fig (4) Activity Diagram of Approve Request

This diagram checks for the request from the department student if it is valid it will be approved by departmental admin.

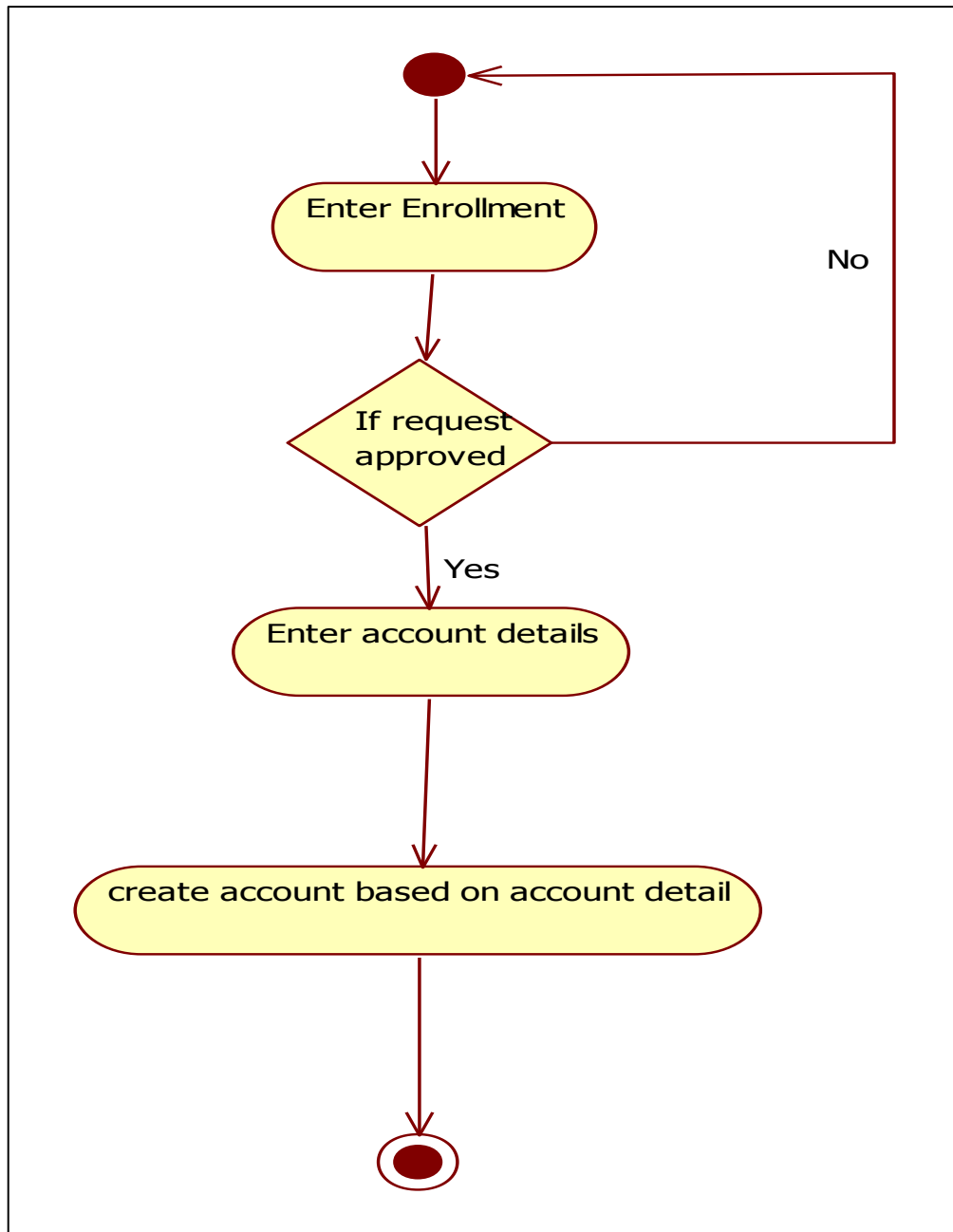


Fig (5) Activity Diagram of Account Generation

User will enter the enrollment in system. System will check the if the account request is approved or not. If approved, then System will prompt for the account details. Now system will create account based on the provided details.

1.1.1.3 DFD Diagram:

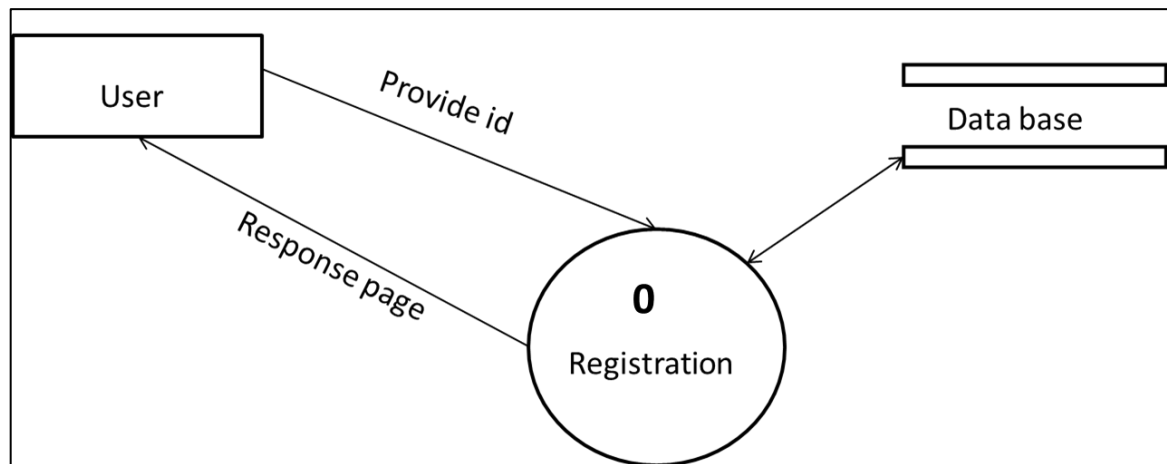


Fig (6) Registration Module: DFD level 0

User will give user_id , based on that id all the further response will be given from system.

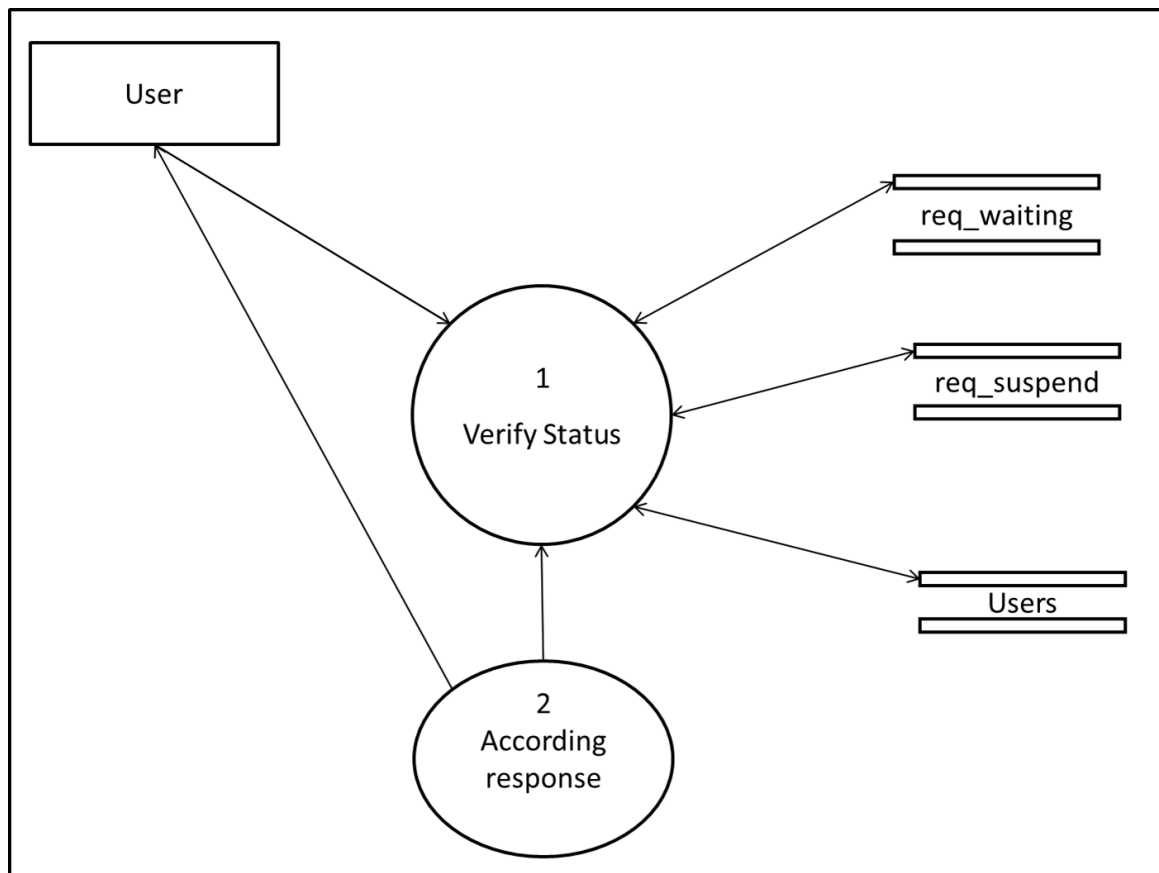


Fig (7) Registration Module: DFD level 1

As soon as user_id will be entered , firstly status will be checked from relative databases. And according to the status, the forward services will offered.

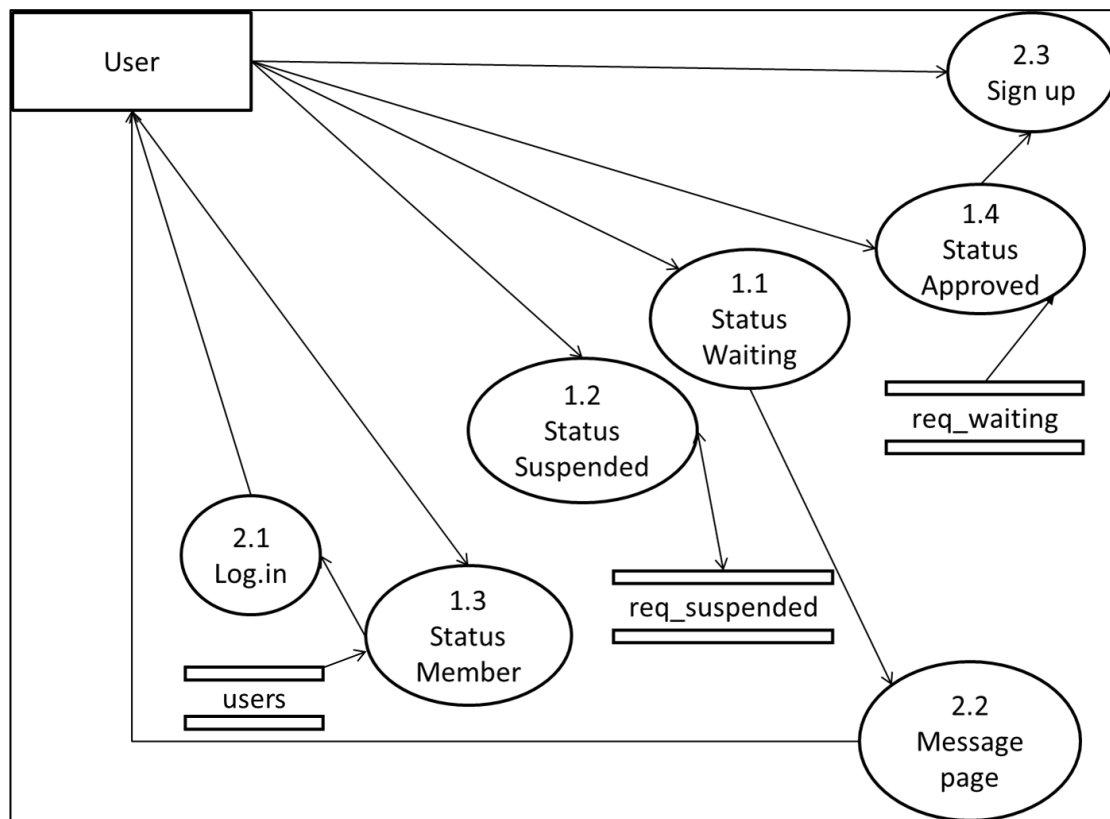


Fig (8) Registration Module: DFD level 2

If user will new then he will be prompt to place request. If user will be member then system will ask for password to get login. If user in waiting or suspended then system will show message page.

1.1.2 Intranet Module:

Student and Faculty will get registered by providing some basic personal information. This information will be used for further use of system.

Like Name, Enrolment Number, Email, Contact number, Year (to avoid conflict detain student).

1.1.2.1 Use Case Diagram:

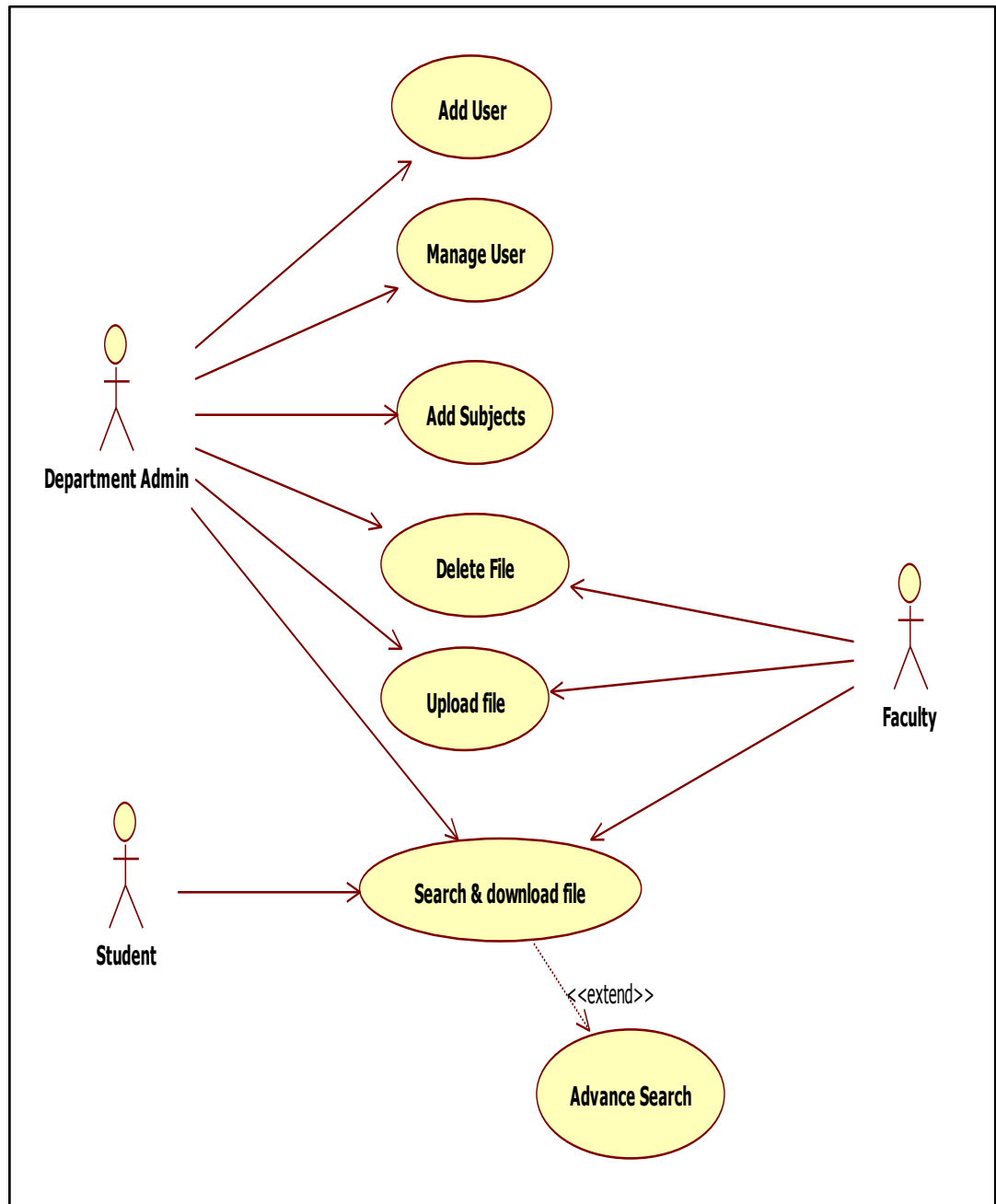


Fig (9) Intranet Module: Use Case Diagram

This figure describes the user and their activity with the system according to their role as Departmental admin, Student and Faculty. Each user has their own activity as per role given.

1.1.2.2 DFD Diagram:

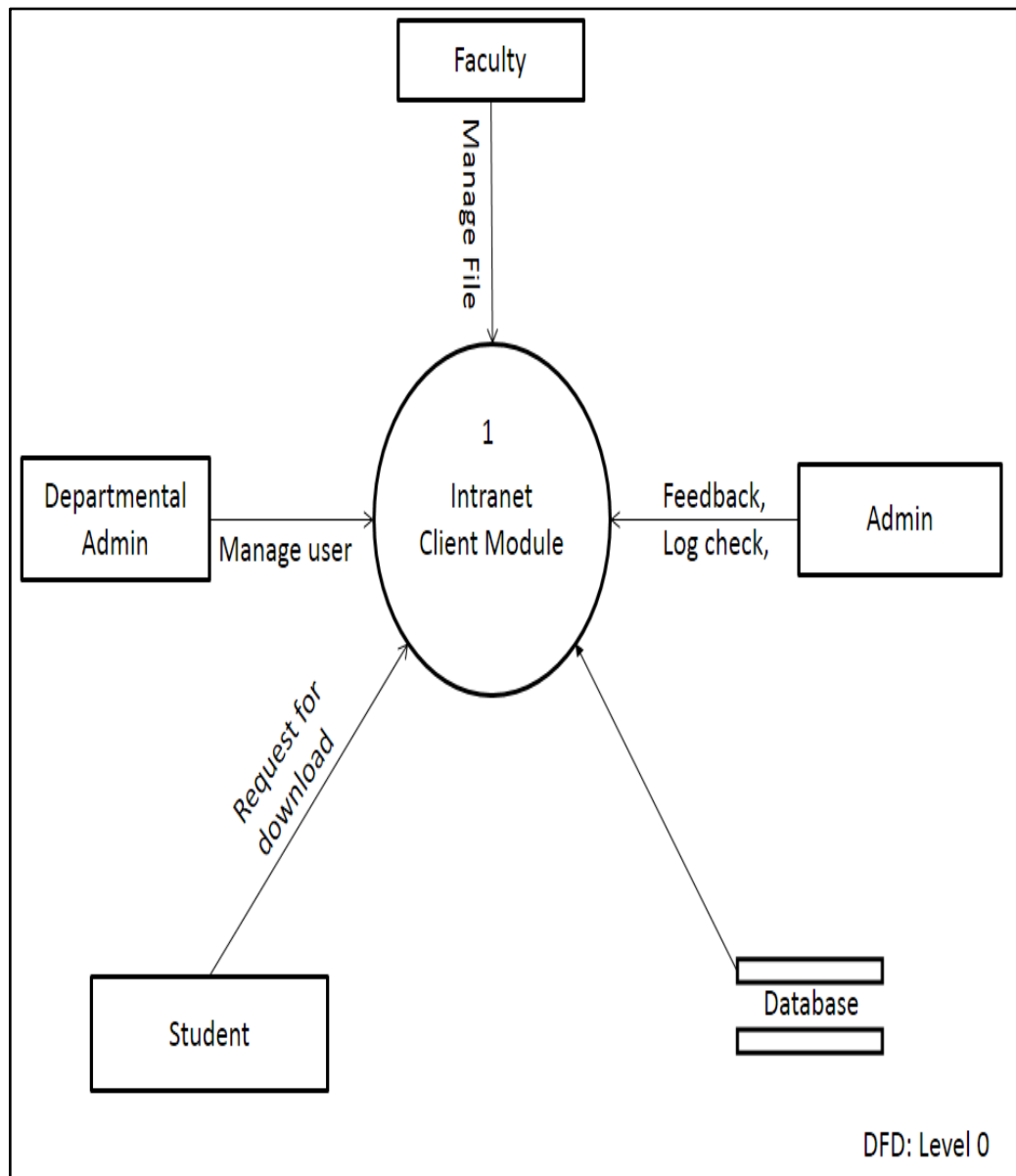


Fig (10) Intranet Module DFD Level 0

This figure describes the 0 level DFD diagram of Intranet Module. It shows that student and faculty requests for downloading documents and DA give feedback from database by allotted privileges and authentication.

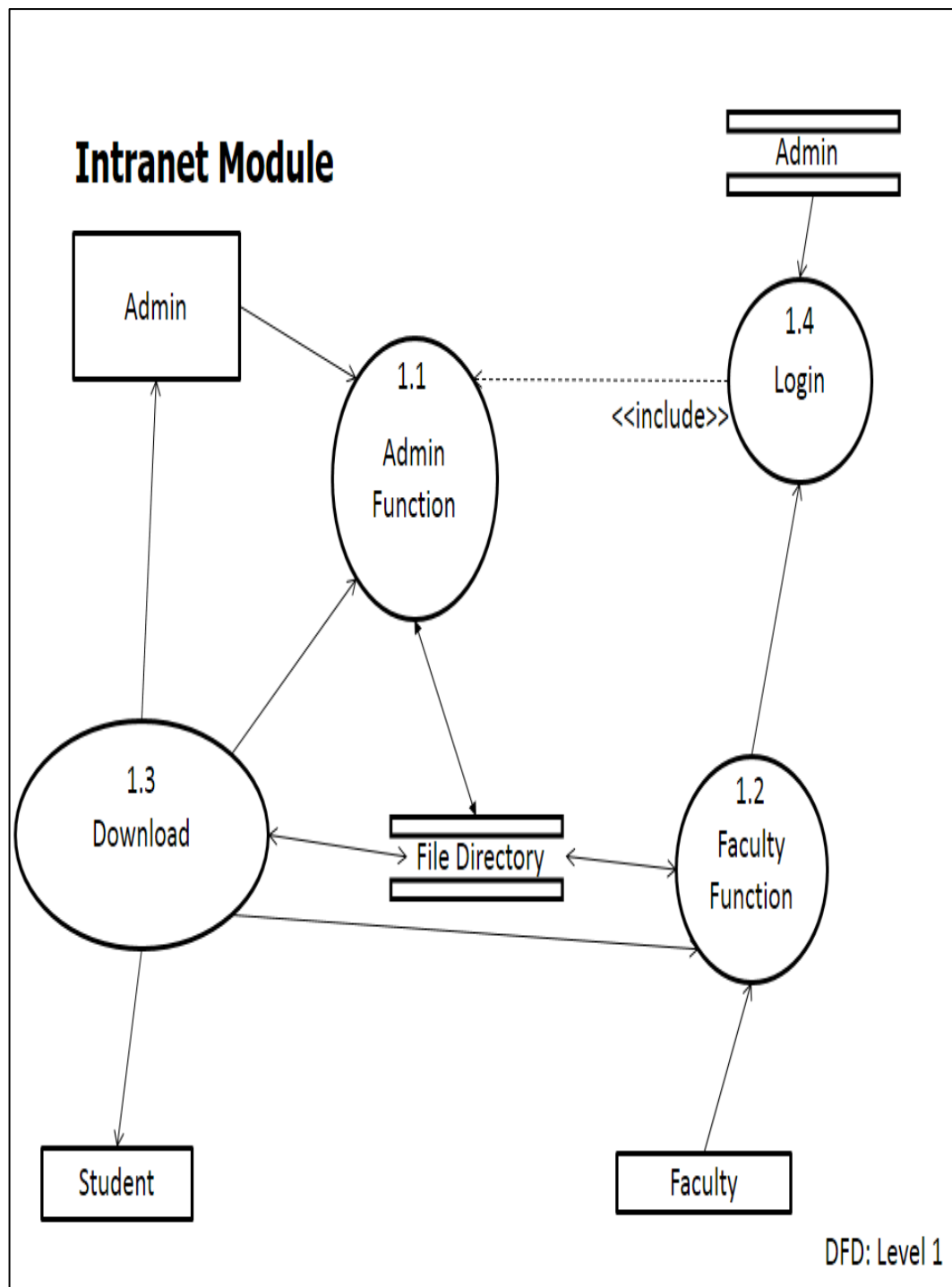


Fig (11) Intranet Module DFD level 1

This figure shows process of intranet module in which first login is shown. Faculty has their functions like uploading or editing documents. Students can download the document.

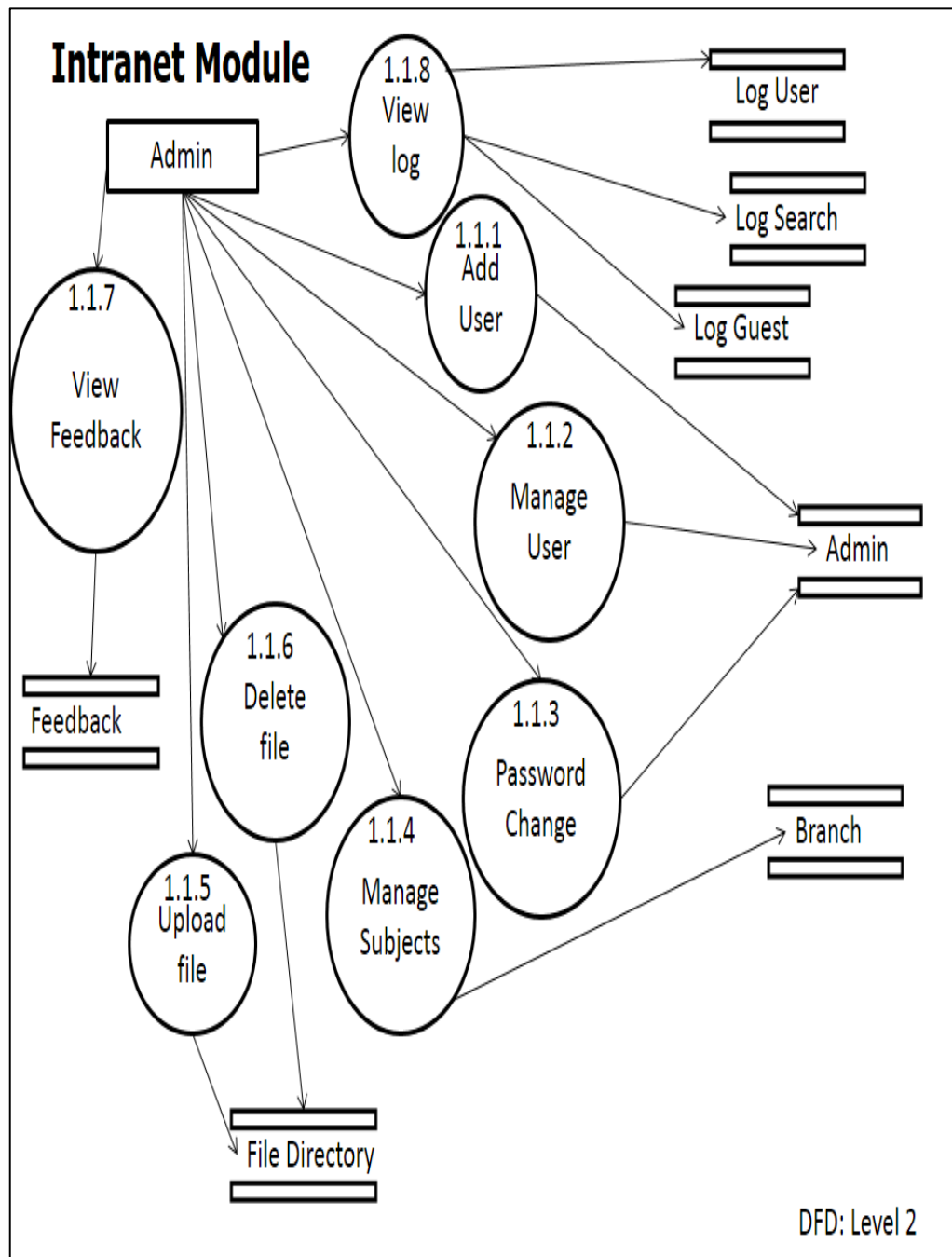


Fig (12) Intranet Module DFD level 2

This diagram shows function of admin in detail like add, manage, delete user; delete or upload file; manage log and give feedback, etc.

1.1.3 Notice Board Module:

- Any important NOTICE, announced by faculty or Student will be placed on Notice Board and the concern members will receive it.
- “E.g.,” *FA wants to inform all students about to receive the mark sheet then the particular class will be notified for that.*

1.1.3.1 Use Case Diagram

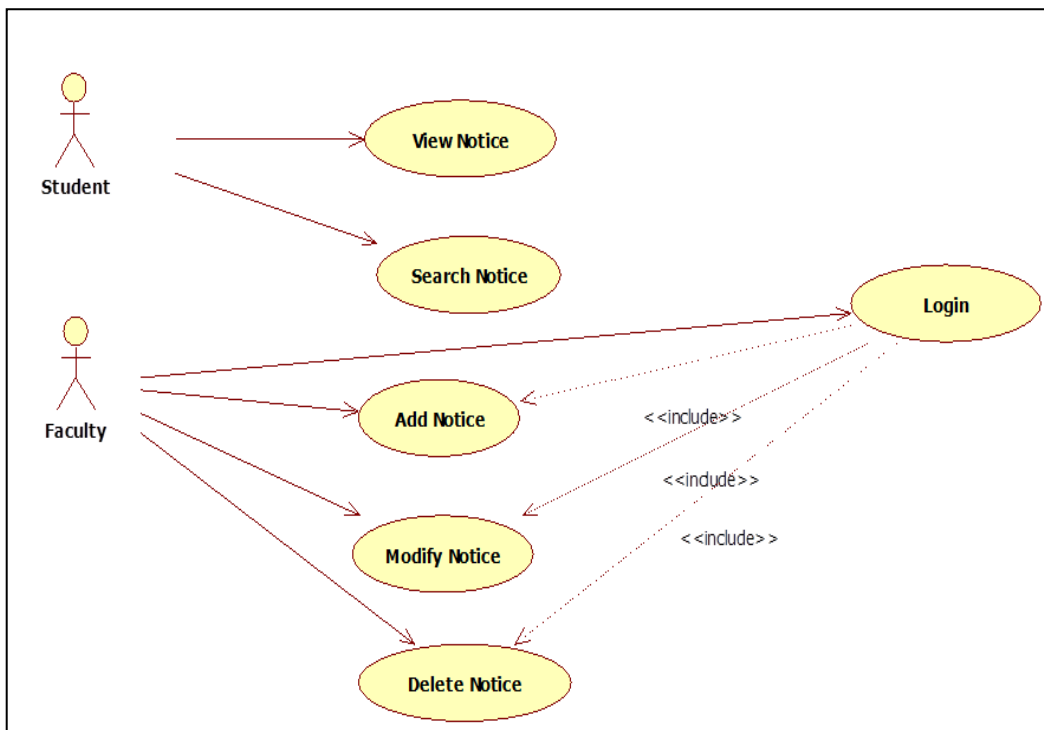


Fig (13) Notice Board Module: Use Case Diagram

This diagram shows the activity of student and faculty. Faculty can put the notice on notice board and student can view that notice.

DFD Diagram:

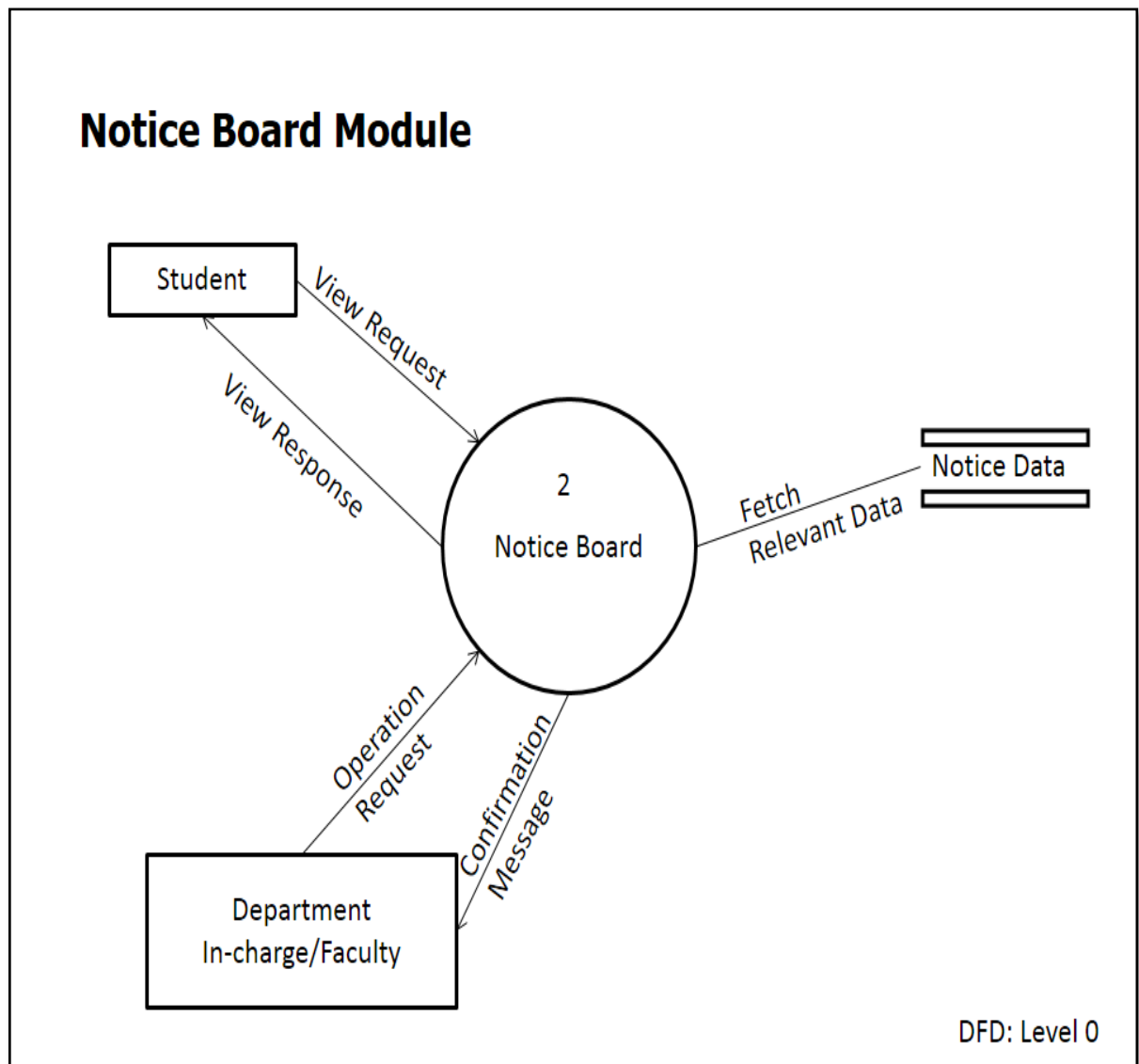


Fig (14) Notice Board Module: DFD level 0

This DFD diagram shows how this module will accept, access and provide notice to/by the external body say users.

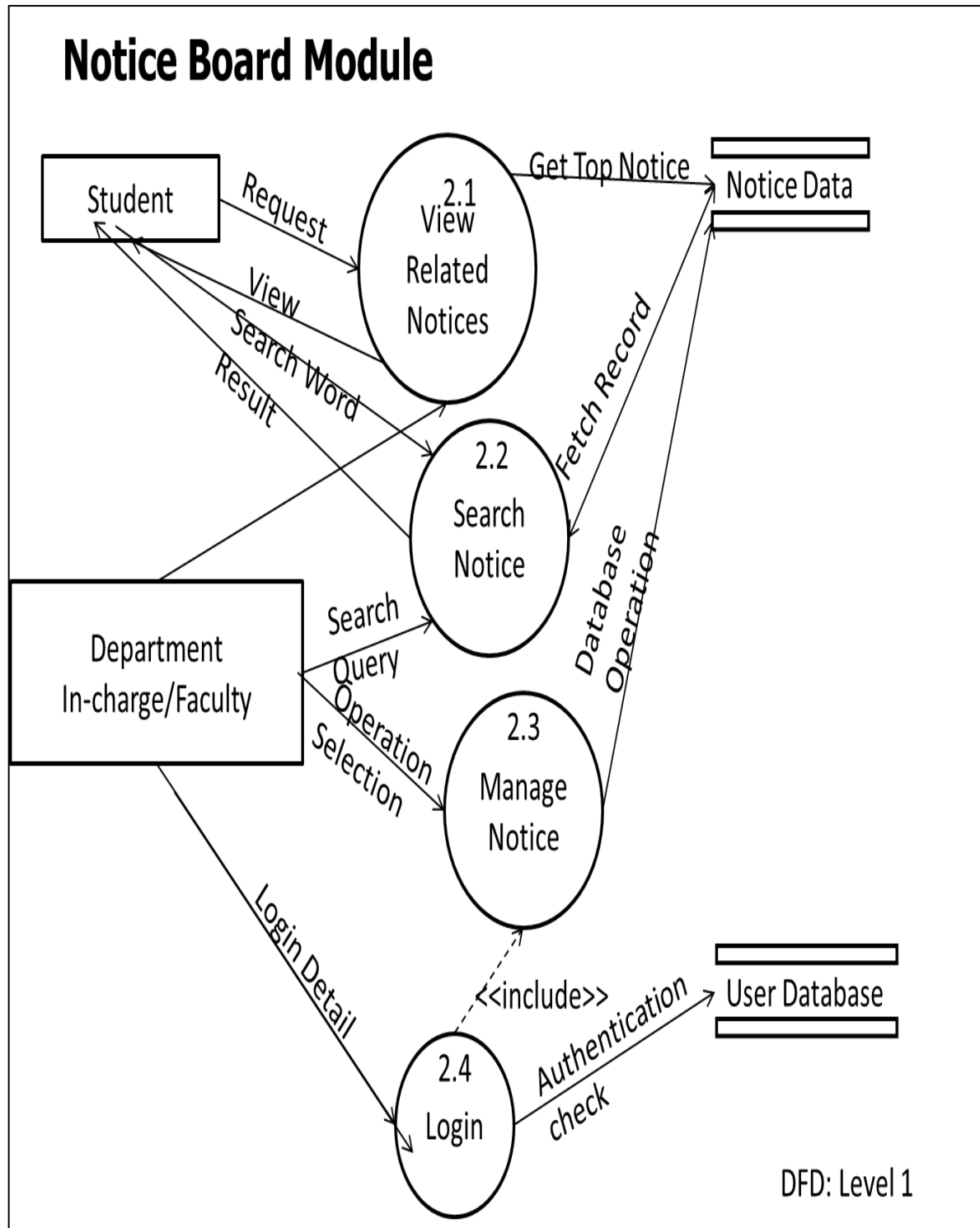


Fig (15) Notice Board Module: DFD level 1

This diagram shows how student and faculty will search, view and manages the notices. According to time of notice generation it will be stacked into the database.

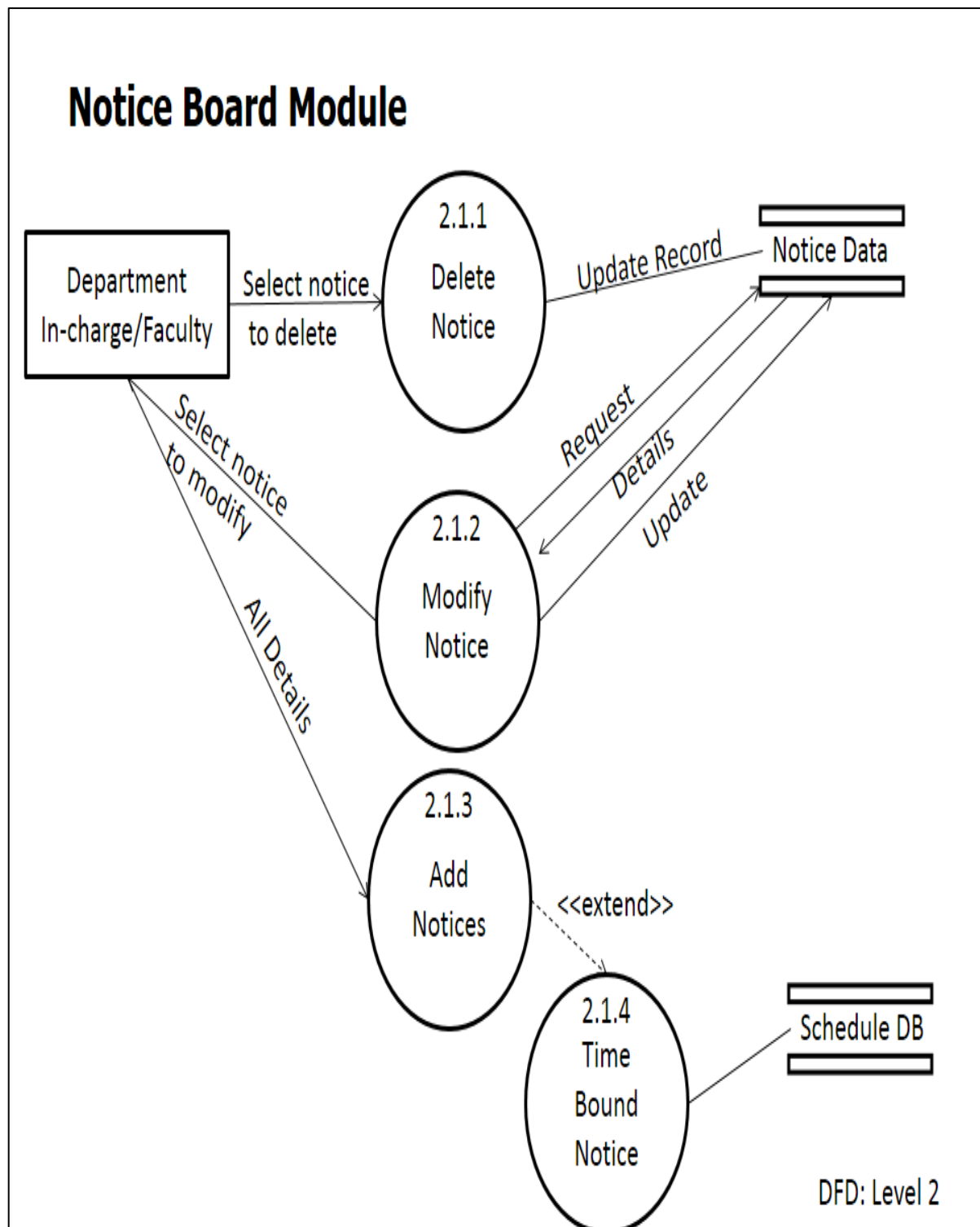


Fig (16) Notice Board Module: DFD level 2

This diagram shows the modifications that can be apply on notification if required by DA. Extension to the notice some time bound notice can also be provided.

1.2 Database Design:

(1) dept_table :

Field	Data type
Code	VARCHAR(45)
s_name	VARCHAR(7)
name	VARCHAR(45)

(2) faculty table:

Field	Data type
user_id	VARCHAR(45)
f_name	VARCHAR(45)
m_name	VARCHAR(45)
l_name	VARCHAR(45)
short_name	VARCHAR(4)
Position	VARCHAR(20)
cell_self	VARCHAR(12)
Email	VARCHAR(45)
Address	VARCHAR(45)
joining_year	INTEGER
Dept	VARCHAR(45)
avatar_path	VARCHAR(200)

(3) faculty_association:

Field	Datatype
faculty_id	VARCHAR(45)
branch	VARCHAR(45)
year	VARCHAR(45)

(4) req_suspended table:

Field	Data type
<u>user_id</u>	VARCHAR(45)
f_name	VARCHAR(45)
l_name	VARCHAR(45)
dept	VARCHAR(45)

(5) req_waiting table:

Field	Data type
<u>user_id</u>	VARCHAR(45)
f_name	VARCHAR(45)
l_name	VARCHAR(45)
dept	VARCHAR(45)
approved	VARCHAR(5)
role	VARCHAR(15)

(6) student table:

Field	Data type
<u>user_id</u>	VARCHAR(45)
f_name	VARCHAR(45)
m_name	VARCHAR(45)
l_name	VARCHAR(45)
current_level	INTEGER(11)
cell_self	VARCHAR(12)
cell_parent	VARCHAR(12)
local_add	VARCHAR(100)
per_add	VARCHAR(100)
avatar_path	VARCHAR(200)
batch_year	INTEGER(11)
email	VARCHAR(45)
dept	VARCHAR(45)
fa	VARCHAR(45)

(7) users table:

Field	Datatype
user_id	VARCHAR(45)
password	VARCHAR(45)
role	VARCHAR(45)
authority	VARCHAR(45)
Dept	VARCHAR(45)

(8) notice table:

Field	Datatype
n_id	INTEGER(45)
n_title	VARCHAR(100)
n_body	TEXT
n_sender_id	VARCHAR(45)
n_urgency	INTEGER(1)
n_time	DATETIME

(9) notice_asso table:

Field	Datatype
na_id	INTEGER(11)
na_branch	VARCHAR(45)
na_level	VARCHAR(45)
na_enroll	VARCHAR(45)

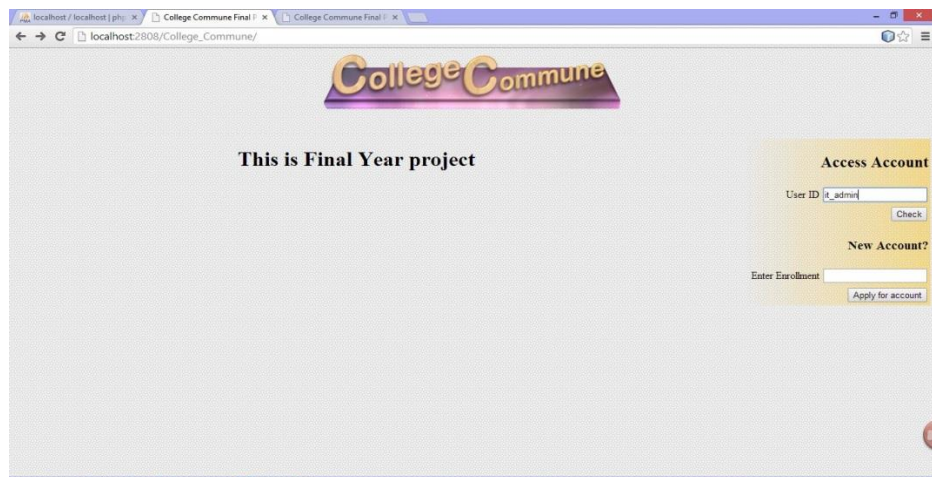
2. IMPLEMENTATION AND RESULTS

2.1 Implementation

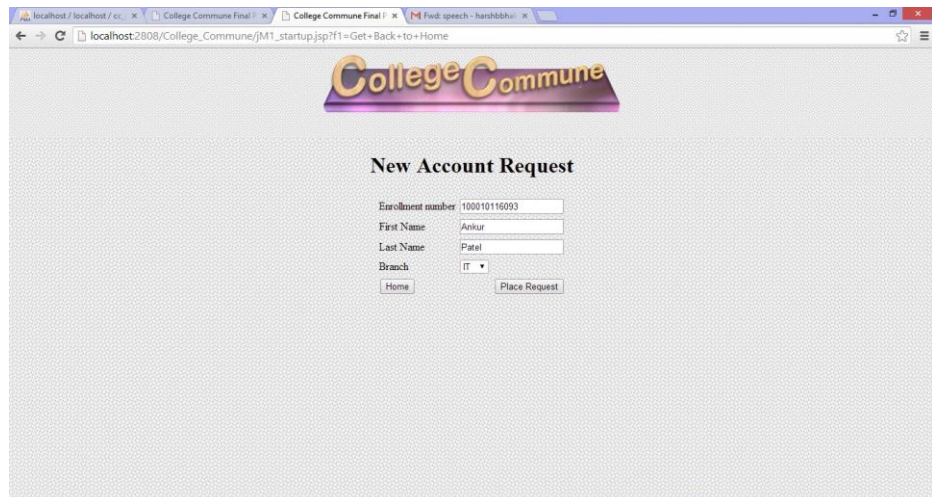
- Up to the stage, the work done over the Web application using java language.
- Registration module in which a student can generate account with security.
- Totally MVC (3 tire) architecture is followed.
- View: Developed java server pages (jsp) for dynamic view to end user.
- Controller: Servlet written to control the flow of activity.
- Model: The POJO classes with the related database level methods.

2.1.1 Implementation of Registration module (screen shots):

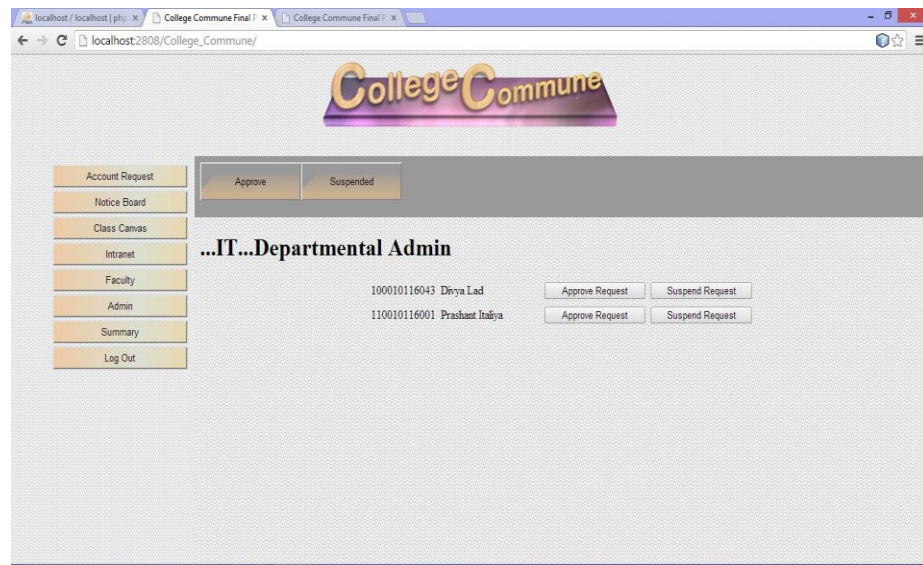
2.1.1.1 Home page (When user launches application)



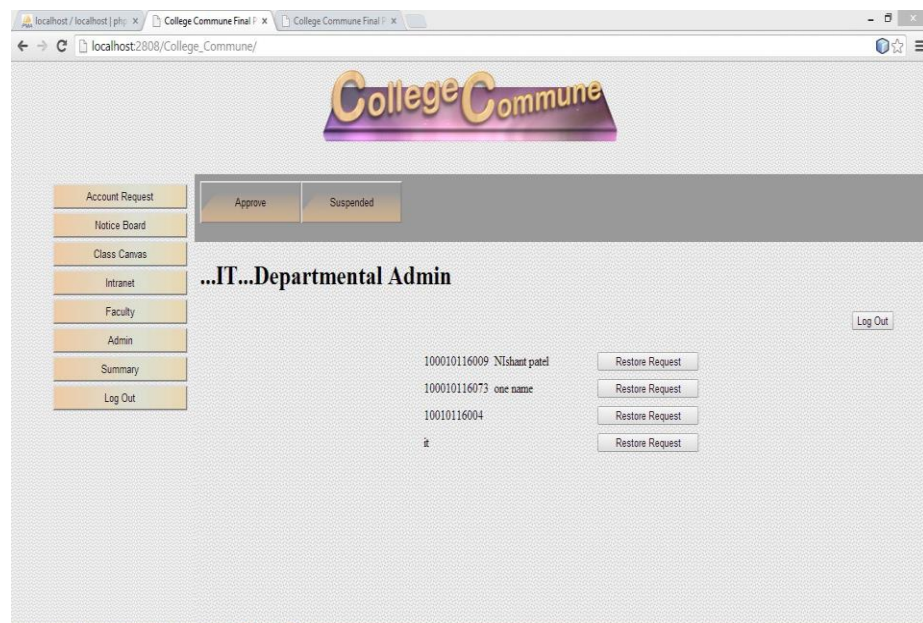
2.1.1.2 New user (to place the account request)



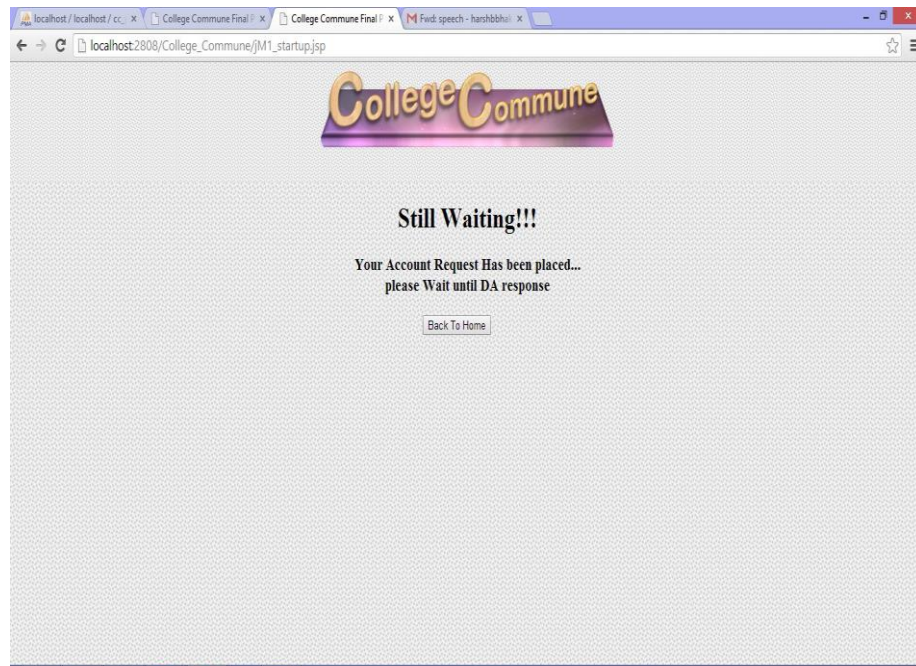
2.1.1.3 Request Confirmation (Student has placed the request which will be confirmed by admin)



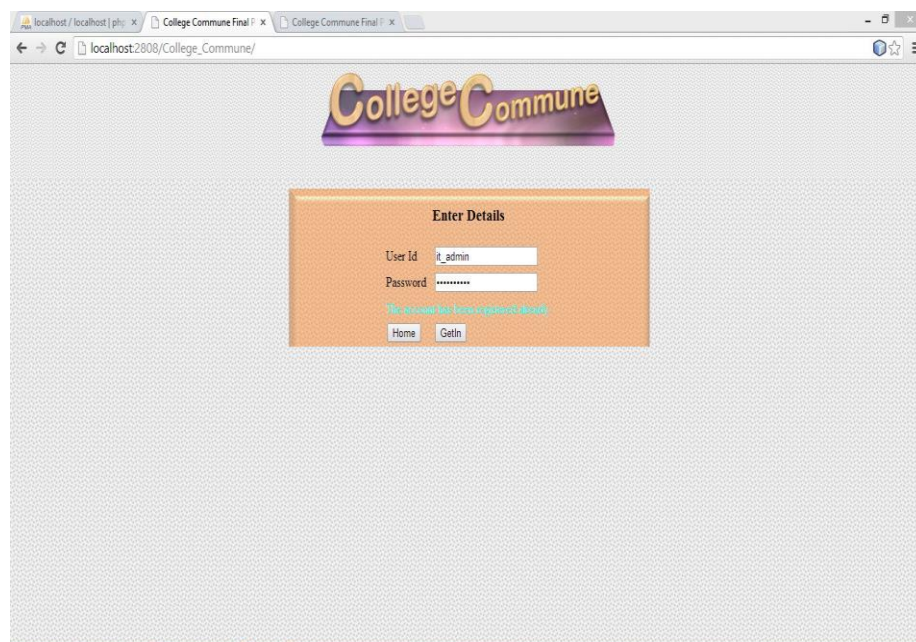
2.1.1.4 Request Suspended (student has placed the request but it's suspended by admin)



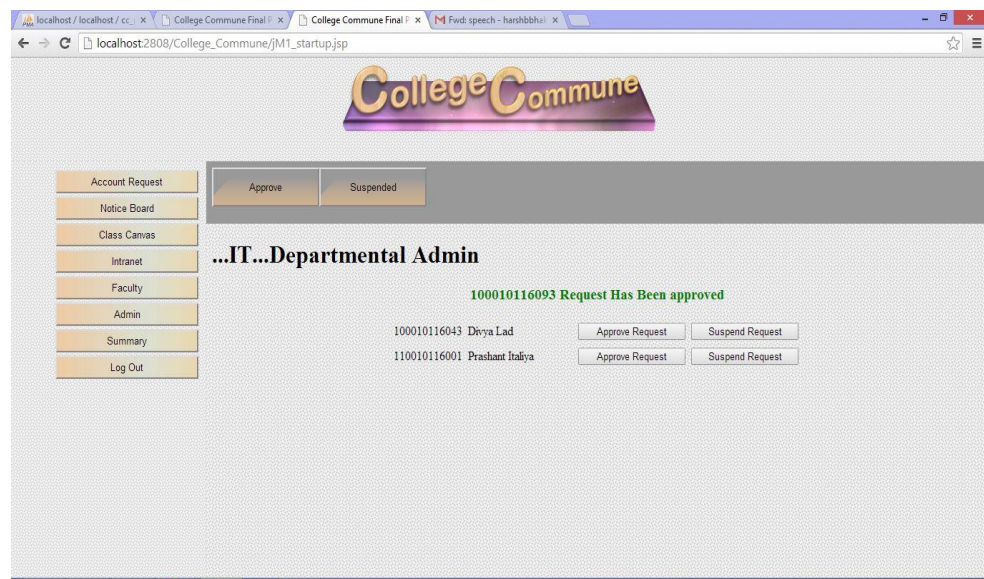
2.1.1.5 Request Waiting (student has placed request but yet it's not confirmed)



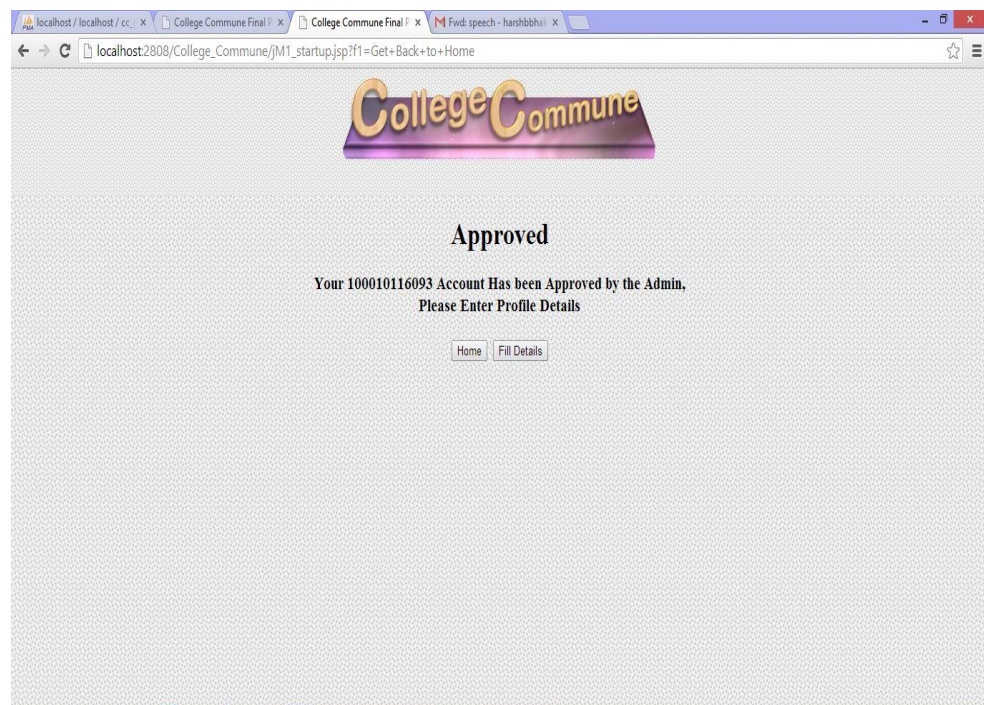
2.1.1.5 Log in as Admin (by departmental admin id and password)



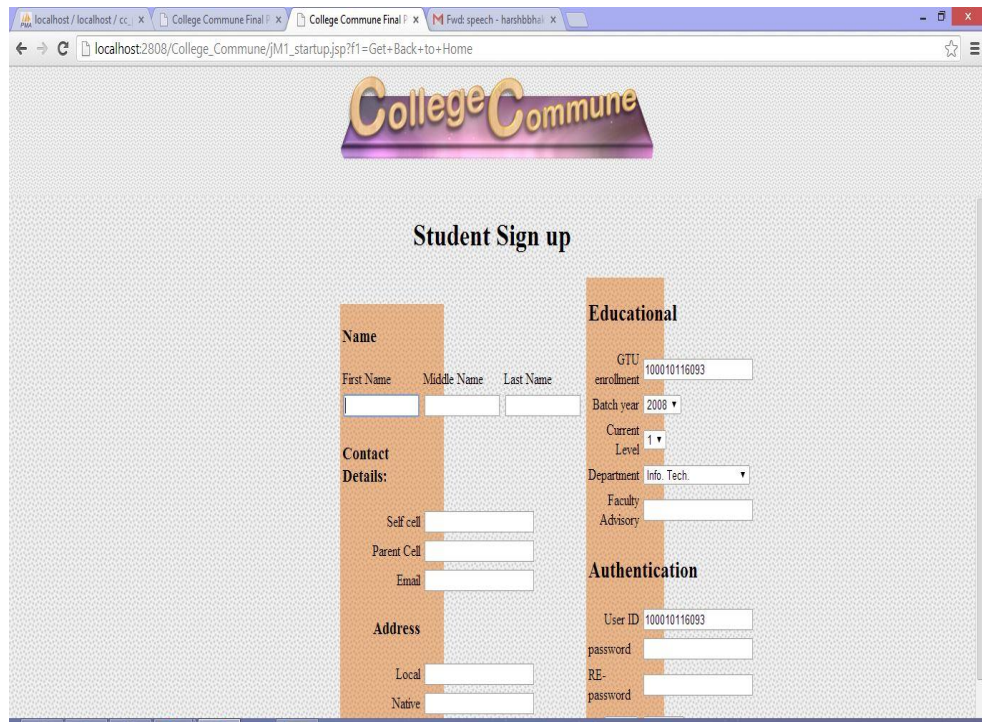
2.1.1.5 Approve request (approve the pending request of Students)



2.1.1.6 Approve acknowledge (Shows latest approved acknowledge)



2.1.1.7 Sign up page (Approved account offered the page)

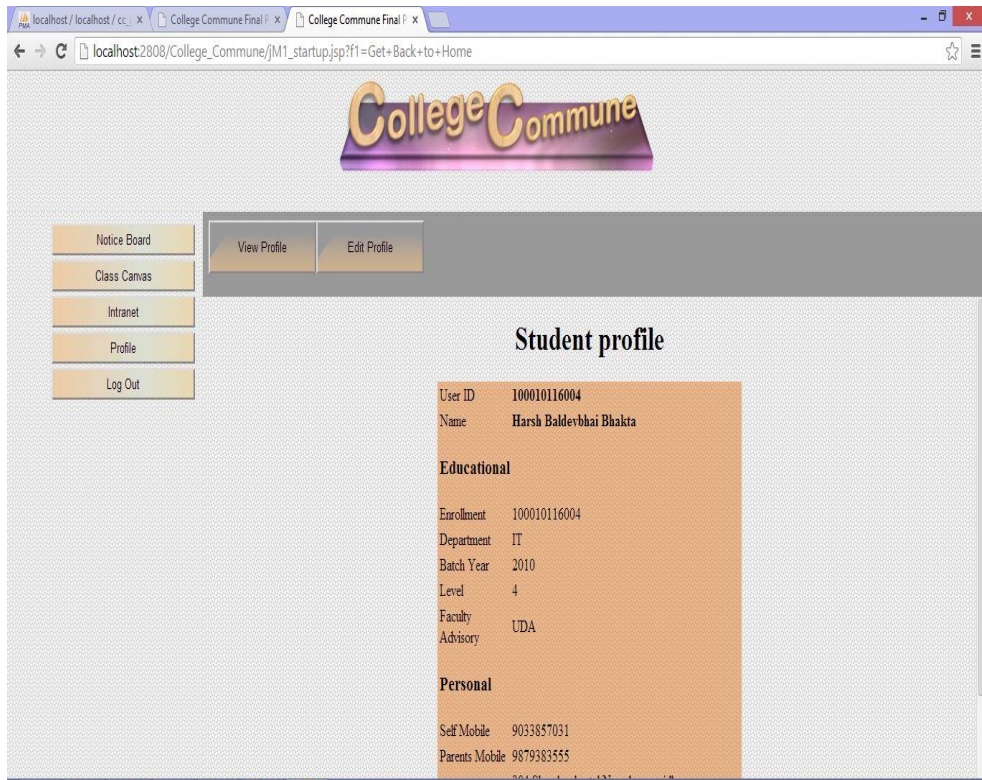


College Commune

Student Sign up

Name			Educational	
First Name	Middle Name	Last Name	GTU enrollment	100010116093
<input type="text"/>	<input type="text"/>	<input type="text"/>	Batch year	2008
Contact Details:			Current Level	1
			Department	Info Tech
Self cell			Faculty Advisory	<input type="text"/>
Parent Cell			Authentication	
Email			User ID	100010116093
Address			password	<input type="text"/>
			RE: password	<input type="text"/>
Local				
Native				

2.1.1.9 User Profile page (Details of Student)



College Commune

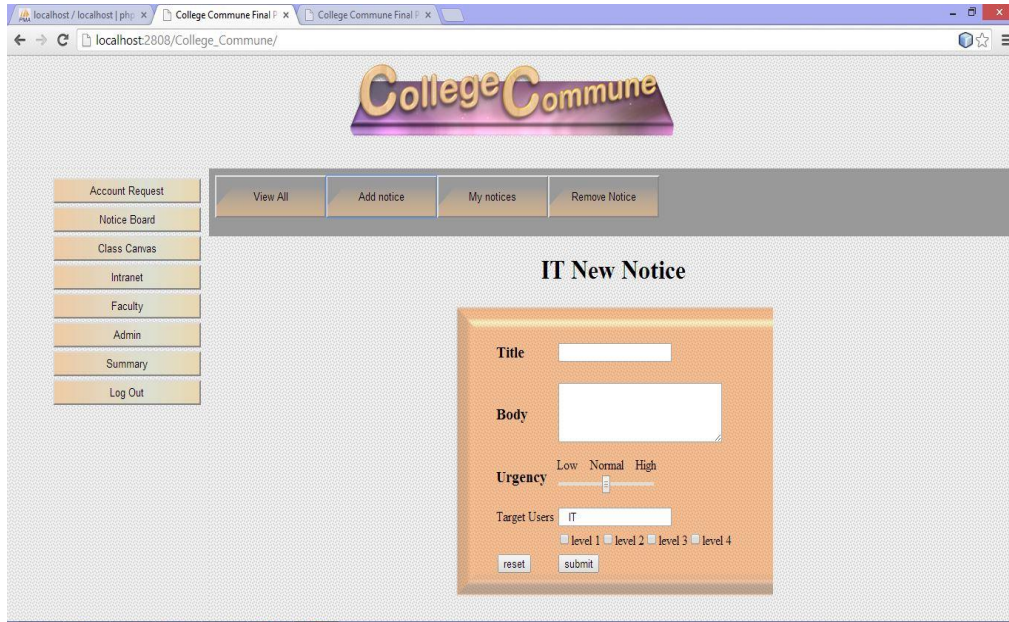
Student profile

[View Profile](#) [Edit Profile](#)

User ID	
User ID	100010116004
Name	Harsh Baldevbhai Bhakta
Educational	
Enrollment	100010116004
Department	IT
Batch Year	2010
Level	4
Faculty	UDA
Advisory	
Personal	
Self Mobile	9033857031
Parents Mobile	9879383555

2.1.2 Implementation of Notice Board Module (screen shots):

2.1.2.1 Add notice (faculty and DA can add notice)



The screenshot displays a web browser window with the URL `localhost:2808/College_Commune/`. The page features a header with the 'College Commune' logo and a navigation menu on the left with links: Account Request, Notice Board, Class Canvas, Intranet, Faculty, Admin, Summary, and Log Out. A secondary navigation bar contains buttons for View All, Add notice, My notices, and Remove Notice. The main content area is titled 'IT New Notice' and contains a form with the following fields: Title (text input), Body (text area), Urgency (a slider between Low, Normal, and High), Target Users (text input with 'IT' entered), and four checkboxes for level 1, level 2, level 3, and level 4. At the bottom of the form are 'reset' and 'submit' buttons.

2.2 Testing

- Testing is a process of executing a program with the intent of finding an error. A successful test is one that uncovers a yet undiscovered error
- Testing demonstrates that system functions appear to be working according to specification, performance requirement appear to have been met. In addition to that the data collection is conducted, which provides a good indication of the system reliability and some indication of the system quality as a whole.

Testing can be described as follows:

1) Unit Testing

- Each and every class is checked individually for errors.

- Created the Testing classes for testing the Model level class and their functionalities.

2) Integration Testing

- While integrating all modules together some usual problems like database connectivity problem were encountered.
- Thus were corrected.
- We had followed this procedure of integration testing during whole project development cycle.

3. Corner of Innovation

GIT-German Imaging Technology

We have used GIT Technology through github application for windows. It is open source distributed software version control system which is pioneered by Linux founder Linus Torvalds in 2005.

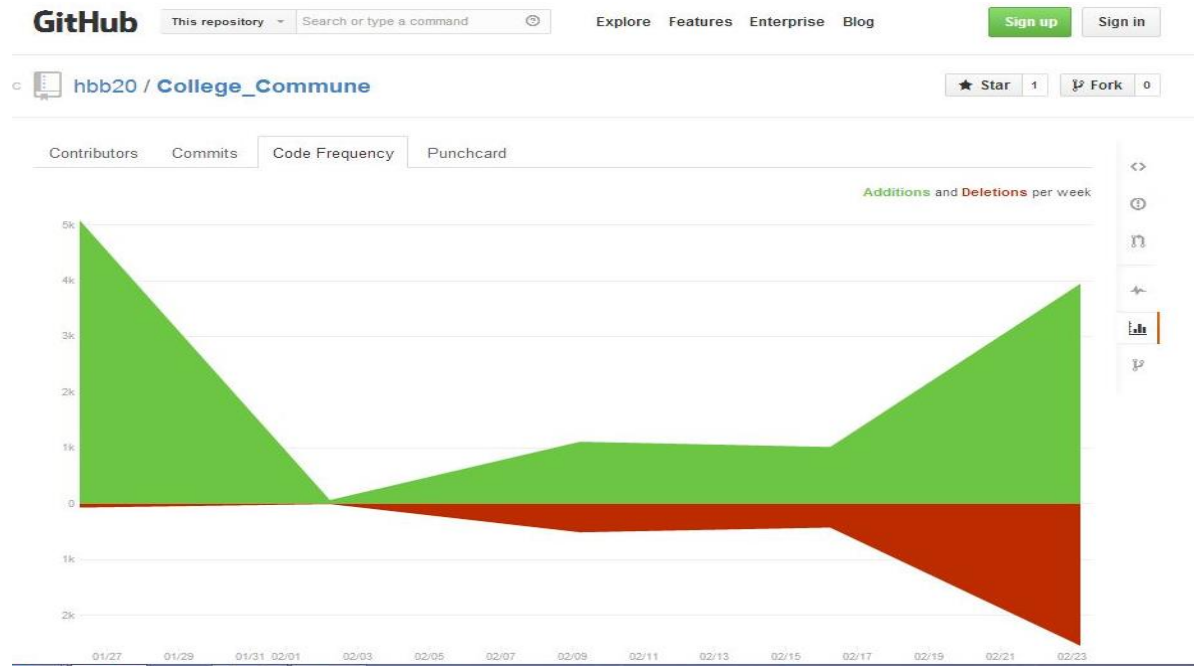
3.1 Contributors:



3.2 Commits:



3.3 Code Frequency:



3.4 Punch Card:



4. Future Enhancements and Conclusion

4.1 Objectives achieved:

- We learnt OOP concept with respect to java. Come to know about the various java libraries and provided methods.
- Study of web application development techniques. Studied and developing the web application using java technology.
- Register user to the system in secure way. Implemented the registration way in which fake account probability and therefore security threats come to lower level.
- To learn Application development that follows MVC architecture.
The learning actual implementation of M-V-C is going parallel with implementation. The basic requirement and the gained ease of development are found really smart.

4.2 Conclusion:

The main objective of the project is to develop a system is to establish an active medium for sharing of information and scheduling among COLLEGE that give ease of communication.

The above objective in literal statement looks very good and useful, but it just turned out be an eventful beginning exploration of different module that dictate, decide and develop through the mobile application using android and web application using java language in total easy way of communication between faculty and student.

Up to this progress we come across so many experience and by means of them, we learn a lot that a book is not able to speak. Many alternative strategies comes in mind while developing but choosing best out of them is a skill.

4.3 Future Enhancement:

For this system many enhancement could be done which can help the users in prodigious way, they are as noted below:

- In ‘College Commune’ developing a web application of Registration and Noticed module. We are planning to develop a mobile application of all listed modules.
- As we are going to develop a mobile application on android supported phone we used HTML5, for that we learn how to make android application. This will result in newer application like
 - Student Profile Management
 - Class Canvas Module
- There should be a developed marks generation as per latest internal marking system which reduce time and managerial paper work which enhance productivity in less effort.
- We are building the POJO classes with the according methods in model view. Such classes will be more useful when the new module will be implemented. The testing classes will be expanded as new methods will be introduced.

REFERENCES

- [1] Head First Servlet and JSP
- [2] Complete reference JAVA, 7th edition.
- [3] BEGIN ANDROID JOURNEY IN HOURS
- [4] www.stackoverflow.com
- [5] www.w3schools.com
- [6] www.github.com
- [7] various google groups