Bachelors of Science in Computer Science and Engineering

IUT Virtual Community

by

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Table of Content

IUT VIRTUAL COMMUNITY

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<u>Declaration of authenticity</u>

We declare that all works presented to Islamic university of technology (IUT) are our own work, fully and specified acknowledged wherever adopted from other sources.

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DEDICATION

TO OUR BELOVED PARENTS

ACKNOWLEDGEMENT

All our praise is due to Allah, the cherisher of mankind, master of the day of judgment. It is he who has created this universe, and has enabled us to do this work successfully. May his peace and blessings be upon the seal of prophet Muhammad (SAW). First and foremost, we would like to acknowledge the guidance and support rendered to us by our thesis supervisor, Mr. Hasan Mahmud, Assistant professor, Department of Computer Science and Engineering (CSE), IUT and co-supervisor Md. Moniruzzaman, Lecturer, Department of Computer Science and Engineering (CSE), IUT. Without their scholarly guidance, continued encouragement and timely supervision, constructive criticism valuable advices, we would not have been able to complete this project with such level of professionalism. We also wish to take this opportunity to express our sincerest gratitude and heartiest thanks to all our family members and friends whose moral, social and financial contributions were significantly important to the success of this project.

Abstract

IUT virtual community is built to reveal the communication facility provided by the web platform in order to assist the academic works provided by the university. It is totally built by focusing the university's ongoing need of web platform based communication in order to bring more fastness and robustness. In this modern era, the whole world has become very smaller and so we are searching for shortest way to meet our needs in an effective way. To meet the need, iut virtual community will become a handy tool for both the teachers and the students. We have tried to build a platform where the communication will be fastened, enabling the teachers and the students to communicate easily and more easily in order to do all their necessary works.

CHAPTER 1

INTRODUCTION

INTRODUCTION:

It is a very remarkable fact that IUT has reached so far in the landmark of success, and also we have seen in a huge number of occasion that our achievement in any field is so much satisfactory. Iut virtual community is built in the notion that will meet the requirement of communicating in a more convenient way. At first it is believed that the user website that we are using for our day to day purposes is enough to meet all the needs of us but the main problem is that there are also so much shortage. We have planned to build the necessary parts that will encourage disarraying all the limitations and making an effective website. Making 3 kinds of user, using effective platforms and also using a specific framework has made the work more compact and user oriented in the vision that we have to follow the new worldly style. It is also expected that the total work will add more options for the users of IUT.

Objectives:

To build the virtual community of IUT, we have several objectives to follow and several targets to be accomplished. So that we have listed the following things to be done in order to do the total thing:

- ➢ We have to make the website for any kind of user
- ➢ People can search all their academic activities in a single website.
- ➢ They can have their own information in the website, again they can update anything they want
- ➢ To arrange all the community in one single platform
- ➢ The community pages will bear all the information that the community members want
- ➢ For efficient website planning, frameworks have to be used and also for better security purpose.
- ➢ Specific teachers and course materials are also an effective thing that has to be implemented.

CHAPTER 2
BACKGROUND STUDY

ABOUT IUT COMMUNITY:

IUT as an international organization has so much affiliation with the international lineup. Iut community is so big in this aspect that we have our students and senior brothers spread worldwide. So as the teachers are also the member of this community, and for all of these we have thought that there actually exists an effective community. But the problem is lack of platform that actually make it happen to bring everyone in one single platform in order to work alongside the academic works. Also for the academic works the students everytime has to go to the respected departments for any kind of work that actually make every work very much complicated. That is why a virtual community is very much needed in order to implement the processing done.

FUNCTIONALITIES OF VIRTUAL COMMUNITY:

Any virtual community actually serves many purposes but one common thing is that the community paves the path of communicating in an easy and effective way. We know from the very beginning that there actually exists a website of iut, but the problem is it lacks the academic works in many ways. Mainly in IUT virtual community the teachers and students will find all the things that they need in their day to day activities. For example the teachers in their lectures give so many manuals. For taking those students have to manually go to their room or depend on LAN. But if they get that online then the pain will be less.

Description of the architecture :

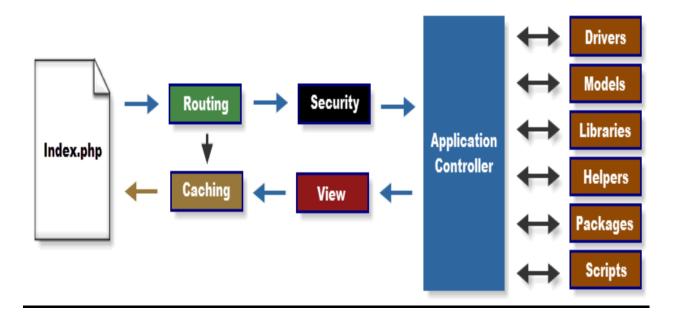We have used several methodologies for this website and those are as follows:

☐ We have used a PHP Framework with MySQL database.
- ◙ To summarize
  - ■ CodeIgniter 2.1.0 (as PHP Framework)
  - ■ PHP   5.3.10   (Core scripting language)
  - ■ MySQL   5.5.20   (as Database Server)
  - ■ Apache   2.2.21   (as Web Server)
  - ■ Wamp   2.2   (as Server Package)

Description of the Framework :

Codeigniter is a toolkit for people who build web applications using PHP. Its goal is to enable you to develop projects much faster than you could if you were writing code from scratch, by providing a rich set of libraries for commonly needed tasks, as well as a simple interface and logical structure to access these libraries. CodeIgniter lets you creatively focus on your project by minimizing the amount of code needed for a given task.

CHAPTER 3
DEVELOPMENT METHODOLGIES

FLOW DIAGRAM:
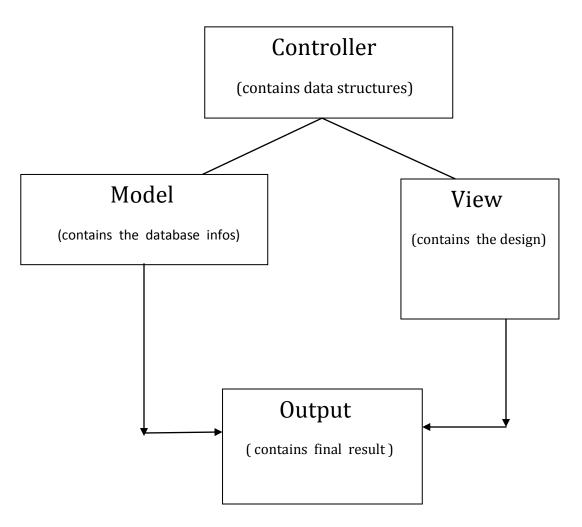

The following graphic illustrates how data flows throughout the system:

1. The index.php serves as the front controller, initializing the base resources needed to run CodeIgniter.
2. The Router examines the HTTP request to determine what should be done with it.
3. If a cache file exists, it is sent directly to the browser, bypassing the normal system execution.
4. Security. Before the application controller is loaded, the HTTP request and any user submitted data is filtered for security.
5. The Controller loads the model, core libraries, helpers, and any other resources needed to process the specific request.
6. The finalized View is rendered then sent to the web browser to be seen. If caching is enabled, the view is cached first so that on subsequent requests it can be served.

MODEL OF ARCHITECTURE IMPLEMENTED:

Our project uses CodeIgniter PHP Framework with MySQL as database. We have also used Javascript, JQuery for design purpose. Now, our framework uses a M-V-C (Model-View-Controller) approach. The Model works as the database, the View shows the design of the website & the controller contains the functions that will control the website.

```
            ┌─────────────────────────┐
            │      Controller         │
            │ (contains data          │
            │      structures)        │
            └─────────────────────────┘
              /                    \
   ┌────────────────────┐   ┌────────────────────┐
   │      Model         │   │       View         │
   │ (contains the      │   │ (contains the      │
   │  database infos)   │   │      design)       │
   └────────────────────┘   └────────────────────┘
              \                    /
            ┌─────────────────────────┐
            │        Output           │
            │ ( contains final        │
            │        result )         │
            └─────────────────────────┘
```

CONTROLLER:

A Controller is simply a class file that is named in a way that can be associated with a URI.

When a controller's name matches the first segment of a URI, it will be loaded. Class names must start with an uppercase letter. In our website we have several controllers working. The main controller is home, again didact, upload and user are also some controller. All the controller files reside in application folder. Suppose in this case, we might consider a piece of code for understanding:

class Home extends CI_Controller {

public function __construct()

    {parent::__construct();

    $this->load->model('mn_model');

        $this->load->model('files_model');

        $this->load->database();

        $this->load->helper('url');}

Here we can easily find the class name Home, where the class name starts with an uppercase letter. Here under the class we are loading the models which will be required for later use, and with the parent construct code we are constructing the relation between the database and the model which contains the entire database.

MODEL OF THE DATABASE:

Models are PHP classes that are designed to work with information in our database. For example, let's say we use CodeIgniter to manage a blog. We might have a model class that contains functions to insert, update, and retrieve your blog data. Model classes are stored in your *application/models/* folder. They can be nested within sub-folders if you want this type of organization.

The basic prototype for a model class is this:

```
class Model_name extends CI_Model {

    function __construct()
    {
        parent::__construct();
    }
}
```

Where *Model_name* is the name of our class. Class names **must** have the first letter capitalized with the rest of the name lowercase. Make sure your class extends the base Model class.

The file name will be a lower case version of your class name. For example, if your class is this:

```
class User_model extends CI_Model {

    function __construct()
    {
        parent::__construct();
    }
}
```

our file will be this:`application/models/`*`user_model.php`*

our models will typically be loaded and called from within your controller functions. To load a model you will use the following function:

```
$this->load->model('Model_name');
```

If your model is located in a sub-folder, include the relative path from your models folder. For example, if you have a model located at *application/models/blog/queries.php* you'll load it using:

```
$this->load->model('blog/queries');
```

Once loaded, you will access your model functions using an object with the same name as your class:

```
$this->load->model('Model_name');

$this->Model_name->function();
```

When a model is loaded it does not connect automatically to your database. The following options for connecting are available to you:

we can tell the model loading function to auto-connect by passing `TRUE` (boolean) via the third parameter, and connectivity settings, as defined in your database config file will be used: `$this->load->model('Model_name', '', TRUE);`

or we can manually pass database connectivity settings via the third parameter: `$config['hostname'] = "localhost";`
`$config['username'] = "myusername";`
`$config['password'] = "mypassword";`
`$config['database'] = "mydatabase";`
`$config['dbdriver'] = "mysql";`

```
$config['dbprefix'] = "";
$config['pconnect'] = FALSE;
$config['db_debug'] = TRUE;

$this->load->model('Model_name', '', $config);
```

VIEW:

A *view* is simply a web page, or a page fragment, like a header, footer, sidebar, etc. In fact, views can flexibly be embedded within other views (within other views, etc., etc.)

Views are never called directly; they must be loaded by a controller. suppose:

public function index()

    { $data['tg'] = 1;

    $this->load->view('home',$data);}

Here we are calling the view file of home and preparing to show the file of home. The $data is a variable which captures the value and send it to view file what is shown on time.

INTERFACES & INTERACTIONS:

The interface will be a normal website interface. Two categories of users: Students & Teachers will have to login to use the key features of the website. Everything will be click-based. The interface will first present a Login page. For guests only the structures, study courses portion will be open. For Students & Teachers all the options will be open including Virtual Community. Additionally a student info section will be given to the student. The Virtual Community section will give the option update status.

CHAPTER 4

CONFIGURATION & RUNNING

THE PROJECT

CONFIGURATION & RUNNING THE PROJECT:

- ### DEVELOPMENT SOFTWARES:
  - CodeIgniter 2.1.0 (as PHP Framework)
  - PHP   5.3.10   (Core scripting language)
  - MySQL   5.5.20   (as Database Server)
  - Apache   2.2.21   (as Web Server)
  - Wamp   2.2   (as Server Package)

- ### DEVELOPMENT PLATFORM:
  We have used a PHP Framework named CodeIgniter as our
  development platform.

- ### CONFIGURING THE SYSTEM:
  We have to configure the system by going to the config folder
  & there we will find a config.php file. There we will configure our
  server and homepage.

  $config['base_url'] = 'http://'.$_SERVER['HTTP_HOST'].'/uni_mng/';

  This line of code will configure the server.

  $config['index_page'] = '';

  This will set the homepage to index.html.

- ### CONFIGURING THE SQL SERVER:
  We will install wamp & type 'localhost' in our browser to have the
  wamp page come up. There we will click phpmyadmin to create &
  maintain our database.

- **<u>RUNNING THE PROJECT:</u>**

  First go to phpmyadmin and create a database named iut_project. There create & update the tables as required. In your browser type localhost/pagename to view the page in your browser.

<u>LIMITATION OF THE PROJECT:</u>

Our whole work is based on many website experiences. So basically since it is our first work so there are some limitations which actually come out when we have totally finished our whole job in order to implement a virtual community by the way of CodeIgniter platform. Now the problem is we didn't have created a totally new area of user like in the name of administrator, because our thought is to maintain whoever actually controlling the database. Now the teacher's accounts are also not totally maintained that is we haven't had made individual teacher's profile. Though the community pages have been that much good, but there are limitations too because we have to create that's page creator's own profile also. So overall we have so much limitation and we have to skip that in future.
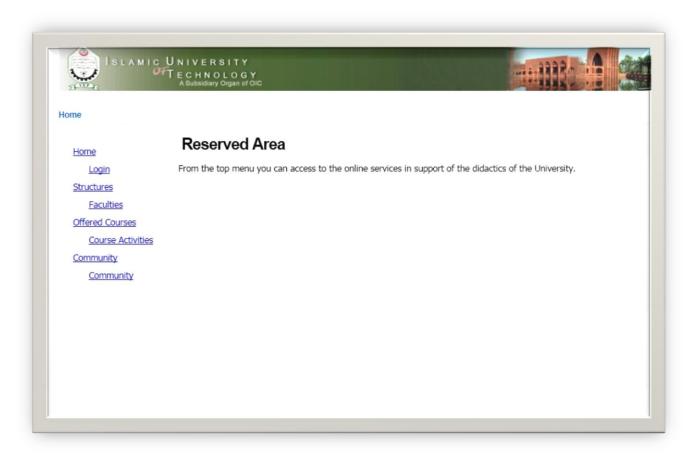
<u>CONCLUSION & FUTURE WORKS:</u>

Finally we wanted to develop more but could not do so due to time problem & our lack of knowledge. So, we apologize for that & we want to do finish these works in the future.

- ➢ We want to implement a proper search option.
- ➢ We want to enhance the community functionalities, a bit more like Facebook.
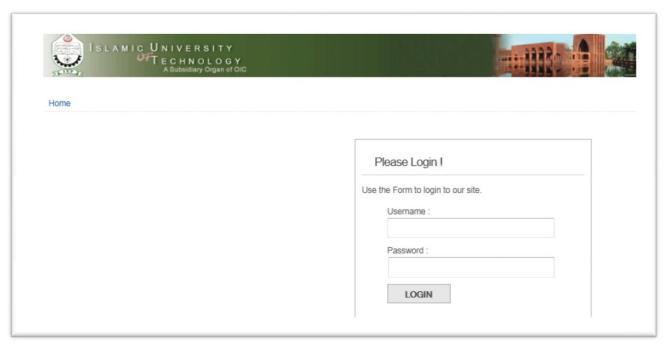- ➢ Make it more dynamic.

REFERENCES

- WWW.W3SCHOOLS.COM
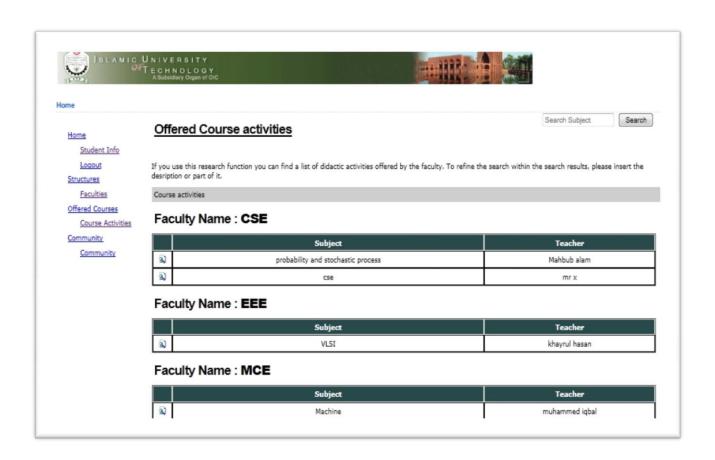- WWW.CODEIGNITERTUTORIALS.COM
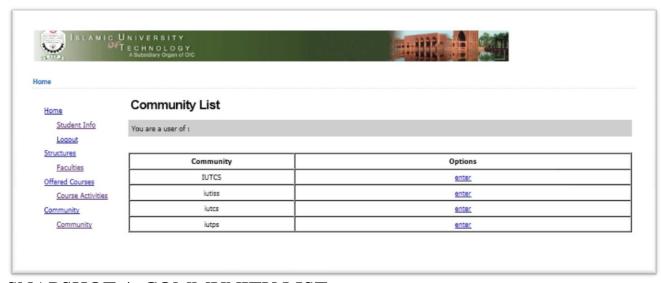- WWW.FRAMEWORKTASKS.NET
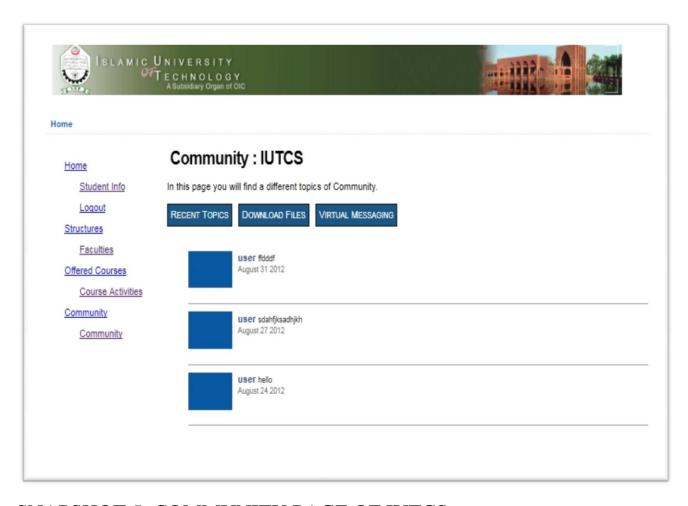
APPENDIX 1(SNAPSHOT OF THE PROJECT)

Reserved Area

From the top menu you can access to the online services in support of the didactics of the University.

Home
Login
Structures
Faculties
Offered Courses
Course Activities
Community
Community

SNAPSHOT 1: THE LOGIN PAGE

SNAPSHOT 2:LOGIN FORM

SNAPSHOT 3: OFFERED COURSE ACTIVITIES

ISLAMIC UNIVERSITY OF TECHNOLOGY
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Home

Home	**Community List**
Student Info	
Logout	You are a user of :
Structures	
Faculties	
Offered Courses	
Course Activities	
Community	
Community	

Community	Options
IUTCS	enter
iutiss	enter
iutcs	enter
iutps	enter

SNAPSHOT 4: COMMUNITY LIST

Community : IUTCS

Home

Home
    Student Info
    Logout
Structures
    Faculties
Offered Courses
    Course Activities
Community
    Community

In this page you will find a different topics of Community.

RECENT TOPICS   DOWNLOAD FILES   VIRTUAL MESSAGING

user ffdddf
August 31 2012

user sdahfjksadhjkh
August 27 2012

user hello
August 24 2012

SNAPSHOT 5: COMMUNITY PAGE OF IUTCS

SNAPSHOT 6: VIRTUAL MESSAGING

SNAPSHOT 7: FACULTIES LIST

APPENDIX 2(CODE OF THE PROJECT)

CONTROLLER

```php
<?php

class Home extends CI_Controller {
                           public function __construct()
                           {parent::__construct();
                             $this->load->model('mn_model');
                             $this->load->model('files_model');
                             $this->load->database();
                             $this->load->helper('url');}


public function index()
{
$data['tg'] = 1;
$this->load->view('home',$data);}
                           function newfile()
                           {
                             $this->load->view('upload');
                           }

                           function student_info()
                           {
if ($this->session->userdata('logged_in') != TRUE)
                              {
                              redirect('user/index');
                              }
                              $data['tg'] = 1;
$data['getInfo'] = $this->mn_model->get_info($this->session->userdata('user_id'));
```

```php
$this->load->view('std_info',$data);}

        function personal_info()
        {
          //$this->login();
if ($this->session->userdata('logged_in') != TRUE)
          {
                redirect('user/index');
          }     $data['getInfo'] = $this->mn_model-
>get_info($this->session->userdata('user_id'));
          $this->load->view('std_person',$data);
        }
        function study_course()
        {
          //$this->login();
if ($this->session->userdata('logged_in') != TRUE)
          {
                redirect('user/index');
          }
          $data['tg'] = 3;
          $data['getcour'] = $this->mn_model-
>get_course();

          $this->load->view('study_course',$data);
        }
        function faculty()
        {
          $data['tg'] = 2;
$data['total_faculty'] = $this->mn_model->get_faculty();
          $this->load->view('faculty',$data);
        }
```

```php
function fac_desc()
{
  $this->load->view('facul_desc');
}
function faculty_Details($fid)
{
  //$this->login();
if ($this->session->userdata('logged_in') != TRUE)
  {
          redirect('user/index');
  }
  $data['didid'] = $fid;
  $this->session->set_userdata($didid);
$data['getfac'] = $this->mn_model->get_fac($fid);
  $data['tg'] = 2;
  $this->load->view('facultyDetails',$data);
}
function new_faculty()
{
  if($this->input->post('fsub'))
  {
$dlid = $this->mn_model->ins_facname();
  $dfd = $this->mn_model->ins_sub($dlid);

          if($dfd > 0){
                  $inscon = 'Saved Successfully';
          }else{
                  $inscon = 'Database Error';
          }
```

```php
$this->session->set_flashdata('ordered', $inscon);
                        redirect('home/didactic');
        }
        $this->load->view('facul_new');
    }
    function new_community()
    {
        if($this->input->post('fsub'))
        {
        $dfd = $this->mn_model->ins_community();

                if($dfd > 0){
                        $inscon = 'Saved Successfully';
                }else{
                        $inscon = 'Database Error';
                }
$this->session->set_flashdata('ordered', $inscon);
                        redirect('home/community_list');
        }
        $this->load->view('comm_new');
    }

    function edit_subject($fid)
    {
        if($this->input->post('fsub'))
        {
//$dlid = $this->mn_model->ins_facname();
        $dfd = $this->mn_model->upd_sub($fid);

                if($dfd > 0){
```

```php
                                    $inscon = 'Updates Successfully';
                            }else{
                                    $inscon = 'Database Error';
                            }
$this->session->set_flashdata('ordered', $inscon);
                                    redirect('home/didactic');
                    }
                    $data['fid'] = $fid;
$data['subject'] = $this->mn_model->subject_s($fid);
                    $this->load->view('facul_edit',$data);
                }
                function didac_insert($fid)
                {
if ($this->session->userdata('logged_in') != TRUE)
                    {
                            redirect('user/index');
                    }
                    if($this->input->post('submit'))
                    {
                    //$dlid = $this->mn_model->ins_didac();
                    $dfd = $this->mn_model->ins_didacdet($fid);

                            if($dfd > 0){
                                    $inscon = 'Saved Successfully';
                            }else{
                                    $inscon = 'Database Error';
                            }
$this->session->set_flashdata('ordered', $inscon);
                                    redirect('home/didac_Details/'.$fid);
                    }
```

```php
                        $data['tg'] = 3;
                        $data['fid'] = $fid;
                        $this->load->view('didac_ins',$data);
                    }
                function did_doc($vid, $sub_id){
                    $data['did_det'] = $vid;
                    $data['sub_id'] = $sub_id;
                    $this->session->set_userdata($data);
                    redirect('didact');
                }

                function didactic($sid = NULL)
                {
                    $total_faculty = $this->mn_model-
>get_faculty();

                    $total_num = count($total_faculty);
                    $fac_ary = array ();
                    if($total_num>0)
                    {
                    for ( $i=0; $i < $total_num; $i++)
                        {
$fac_ary[$i]['fac_id'] = $total_faculty[$i]->fac_id;
$fac_ary[$i]['fac_name'] = $total_faculty[$i]->fac_name;
$fac_ary[$i]['subject'] = $this->mn_model-
>get_subject($total_faculty[$i]->fac_id);
                        }
                    }
                    $data['tot_faculty'] = $fac_ary;
                    $data['tg'] = 3;
                    $this->load->view('didac',$data);
```

```php
                              }

                              function subject_search()
                              {
                                if($this->input->post('ser_but'))
                                {
                                $value = $this->input->post('sub_ser');
                                $data['tg'] = 3;
$data['getsearch'] = $this->mn_model->searchsub($value);
                                $this->load->view('didac_search',$data);
                                }
                              }function new_faculty_sub($fid)
                              {

                                if($this->input->post('fsub'))
                                {
                                $dfd = $this->mn_model->ins_sub($fid);
                                      if($dfd > 0){
                                              $inscon = 'Saved Successfully';
                                      }else{
                                              $inscon = 'Database Error';
                                      }
$this->session->set_flashdata('ordered', $inscon);
                                      redirect('home/didactic');
                                }
                                $data['tg'] = 3;
                                $data['fid'] = $fid;
                                $this->load->view('facul_new_sub',$data);
                              }
```

```php
function didac_Details($fid)
{
  $data['tg'] = 3;
  $data['fid'] = $fid;
$data['det'] = $this->mn_model->get_diddet($fid);
  $this->load->view('didac_det',$data);
}
function community_list()
{
if ($this->session->userdata('logged_in') != TRUE)
  {
        redirect('user/index');
  }
  $data['tg'] = 4;
$data['getCommunity'] = $this->mn_model->get_com();
  $this->load->view('communityList',$data);
}

function community($comId = NULL)
{
  $data['tg'] = 4;
  //$data['comId'] = $comId; $data['comId'] =
1;

  if($comId == NULL){
        $data['comId'] = $this->session-
>userdata('comId');

  }else{
        $data['comId'] = $comId;
  }
```

```php
                              $this->session->set_userdata($data);
                              $data['com_name'] = $this->mn_model-
>get_com_name();

                              $this->load->view('community',$data);
                          }

                          function virtual($comid = NULL)
                          {
                            $data['tg'] = 4;
                            //$data['comid'] = $comid;
                            //$data['comid'] = 1;
                            $data['comid'] = $this->session-
>userdata('comId');

                            $data['com_name'] = $this->mn_model-
>get_com_name();

                            $this->load->view('community3',$data);
                          }

                          function file()
                          {
                            $data['tg'] = 0;
                            $this->load->view('upload');
                          }

                          function imageload()
                          {
                            $data['tg'] = 0;
                            $this->load->view('ajaximage');
                          }
```

```php
function post_share()
{
  $data['tg'] = 0;
  $serval = trim($this->input->post('serval'));
  $comid = trim($this->input->post('comid'));
  //$data['allpi'] = $this->md_pi-
>searchPI($serval);

  $data['value'] = $serval;
  $data['comid'] = $comid;

  $this->load->view('posts', $data);
}

function post_theory()
{
  $data['tg'] = 0;
  $serval = trim($this->input->post('serval'));
  $comid = $this->session->userdata('comId');

  //$data['allpi'] = $this->md_pi-
>searchPI($serval);

  $data['value'] = $serval;
  $data['comid'] = $comid;
  $this->load->view('post_theory', $data);
}

function delete_comment()
{

  $c_id = trim($this->input->post('c_id'));
```

```php
        $data['c_id'] = $c_id;
        $data['tg'] = 0;
        $this->load->view('delete_comment', $data);
      }

      function delete()
      {

        $poid = trim($this->input->post('poid'));
        $data['id'] = $poid;
        $data['tg'] = 0;
        $this->load->view('delete', $data);
      }

      function morepost()
      {

        $show_more_post = trim($this->input->post('show_more_post'));

        $data['show_more_post'] = $show_more_post;

        $data['tg'] = 0;
        $this->load->view('posts', $data);
      }

      function add_comment()
      {
        $data['tg'] = 0;
```

```php
                          $comment_text = trim($this->input-
>post('comment_text'));
                          $post_id = trim($this->input-
>post('post_id'));

                          $data['comment_text'] = $comment_text;
                          $data['post_id'] = $post_id;
                          $this->load->view('add_comment', $data);
                      }

                      function main_page()
                      {
                        if($this->session->userdata('logged_in'))
                        {
                              redirect('chat/index');
                        }
                        else
                        {
                              redirect('user/login');
                        }
                      }

                      function login()
                      {
                      $this->form_validation-
>set_rules('username', 'Username',
'required|trim|max_length[50]|xss_clean');
                          $this->form_validation-
>set_rules('password', 'Password',
'required|trim|max_length[150]|xss_clean');
```

```php
if($this->form_validation->run() == false)
{
    $this->load->view('view_login');
}
else
{
    //echo 'You have Successfully completed the form, we will now process it';
    //process their input and login the user

    extract($_POST);

    $user_id = $this->User_model->check_login($username, $password);

    if(!$user_id)
    {
        $this->session->set_flashdata('login_error', TRUE);

        redirect('user/login');
    }
    else
    {
        //logem in

        $login_data = array('logged_in' => TRUE, 'user_id' => $user_id);
```

```
                                $this->session-
>set_userdata($login_data);

                                    redirect('user/main_page');
                            }
                        }
                    }

                    function logout()
                    {
                      //$this->session-
>set_userdata('logged_in',false);
                      $this->session->sess_destroy();
                      redirect('user/index');
                    }
}
```