CSCI110
Spring Session 2013

Assignment 4
PHP application – Group project
16 marks

Aim

This assignment
- Introduces group-based systems development.
- Gives experience in simple "systems administration" tasks such as the installation and configuration of web-servers and database engines.
- Provides experience in the creation of a Web-2 web site.
- Gives experience in PHP application packages such as wikis, blogs, and content management systems.

As part of this assignment, you will need to deploy a number of software packages onto at least one of the computers owned by members of your group. The software packages are available for both Windows and Linux operating systems – you may use whichever platform is more convenient. The software can be downloaded from the Internet.

Objectives

On completion of this assignment, you will be able to:

- Install an Apache/PHP/MySQL web-server system on either a Windows or Linux platform, along with associated MySQL tools.
- Configure this web-server system.
- Create users and schemas in MySQL as needed by various PHP applications.
- Install PHP applications such as:
    - MediaWiki or WordPress.
    - Drupal
- Configure a Wiki or blog site and utilize such a site for recording aspects of your own work on this collaborative group based application development task.
- Build a Web-2 community web-site using the Drupal CMS
- Work collaboratively in a group.

A demonstration Drupal-based web site

<mark>Your group is to create a Web 2 site using Drupal.</mark>

You are to imagine that your group is a nascent web-development software company seeking its first contract. There is a potential customer – "*The Illawarra Dance and Drama Theatre Company*" (IDDTC). (IDDTC is a fiction; any resemblance to a real world company is purely co-incidental.)

It's going to be IDDTC's first real attempt at computerization, so they are still uncertain as to exactly what they want. There is a description of their current situation and possible needs in the next section of this document. Your group (software house) hopes to win the contract for developing a computerised system by presenting to the management of the IDDTC a web site built with Drupal that handles a significant subset of their perceived needs and which, if you get the contract (and the money), can be extended to give them a 21st century web presence. You are aware that there are other local start-up web-development companies also competing for this contract so your site will need to be quite impressive.

You will create your group's site by:
- Installing Drupal (or possibly an extended Drupal "distribution") within your web-server's htdocs directory.
- Configuring (Drupal) user records and their privileges. You will need to define a hierarchy of different user roles extending the standard guest, authorized member, and admin roles. Members in different roles should have different access rights relating to creation of content and modification of site structure.
- Creating taxonomies relevant to the data used on your site, and providing views that display data elements that are associated with specific taxonomy tags.
- Defining new Drupal records (modified Nodes) with additional fields.
- Creating event calendars and selected views of data.
- Adding menu items that will provide access to the articles and other data that you have uploaded.
- Adding modules that provide additional functionality that is exploited in your site.
- Populating the site with sufficient plausible data to allow you to create a convincing user guide. (Note, the site must use English; textual content data, navigation elements etc must all be in English.)

Use of supporting technologies – MediaWiki or WordPress

In addition, you are required to make some limited use (maybe just token use) of either a Wiki or blog system that you also install (possibly on a different machine). This part of the assignment is intended just to give you a little practice in the use of such tools. You will find them helpful when you have to work on larger group projects with longer time scales. Students often find it difficult to schedule group meetings, and so find it necessary to interact indirectly via blogs etc.

You could use a Wiki to record information that you learn about aspects of Drupal configuration. You could use a blog to discuss particular problems that you are encountering in creating your site.

Reporting on your work

Your group will be assessed on a report that you submit, and a presentation.
Your report will include the following main sections:
- A "User Manual" for your initial web site – this should explain the options that are available to visitors, authenticated members, and to those members in more privileged roles.
- A section outlining your proposal for a more complete system that would be developed should you win the IDDTC contract.
- A "Technical Details" section
- A "Group Work Report" section

You have to present your site during a laboratory class in week 12 or 13 – the lecturer, laboratory tutors, and members of other groups will take the role of the IDDTC assessment committee that is seeking the proposal that best deserves award of the development contract.

User Manual

The "user manual" section of your report is little more than an organized series of screen shots covering different aspects of site usage – use by visitors, by authorized members, and by privileged members. You would need an index and then a titled subsection for each aspect.

The first subsection will cover how anonymous visitors can see the site. Begin with the "About Us" page – or whatever element(s) you have that define the purpose of the site. Then cover the other ways that a visitor can interact with your site. For each different kind of use by a visitor there would be a group of screen shots; these should show how the visitor navigates to view the pages along with some sample pages.

Visitors can also complete applications for membership – such applications would require approval from the web-site's admin (actually, admin should delegate this responsibility to some other privileged class of member).

The second section in the "user manual" part of your report covers site use by authorized members. Authorized members can, of course, add comments to any published material that permits comments. But authorized members are also expected to contribute to the data collection on the site. Authorized members can create articles, pages, upload files (e.g. PDF documents that are to be "published" through the site), add pictures etc. Authorized members can participate in the on-site forums and polls.

Then there are the more privileged. Each class has increased privileges; all the privileges of lesser classes and some extras. Members in privileged classes might be able to add to menus, create polls, manipulate contents of an events

calendar, archive outdated information, and perform any other functions (e.g. deal with emails and orders if yours is a commercial site).

Proposal

This will be a fairly short section, maybe just one page, in which you outline some of the additional functionality you could supply that would enhance the system. The contents of this section will really just be suggestions for more sophisticated applications that would need to be discussed in detail with the management of IDDTC, and which would have to be introduced in a phased manner in order to allow for training of IDDTC's staff.

Technical Details

In addition to the "User Manual", your report will have a Technical Details section with subsections covering:

- Installation of your Apache/PHP/MySQL web-server system.
- Details of the non-core Drupal modules that you added to your system (or of the "distribution" that you chose to use).
- Some evidence for use of your Wiki or blog.
- A list of the Drupal elements that you created –
    - Taxonomy – vocabulary, use
    - New "Content Types" for Nodes
    - Views

Most of these sections will comprise little more than a titled screen shot – e.g. a shot of the contents of your `sites/all/modules` subdirectory that shows all the extra modules that you had to add to your Drupal installation.

Group work report

This section should

- Identify the group members, their responsibilities and contributions.
- Contain "planned" and "actual" schedules (probably as Gantt charts).
- Include brief summaries of the issues discussed in each group meeting.

Dividing work among your members

The work of creating the web-site has to be divided among your group members. Different skills are required.

Someone has to have some "systems administration" skills and interests. He or she will be responsible for installing the software, and acting as the MySQL "root" user and the admin for the Drupal and wiki/blog sites.

You don't want several "sys admin" types fighting over the right to do that work; because you also need someone who will be good at tasks such as researching the specific additional modules that are required, sorting out views, constructing forums etc.

One of your group members has to handle the overall management of the project. He or she must arrange you meetings, assign tasks, check that things are done, liaise

where necessary with the subject coordinator, and take final responsibility for preparing your report and presenting the site. When creating the final report, the manager will mainly be collating data supplied by others.

Someone should take responsibility for styling and themes – making the site look good, not simply an obvious Drupal hack.

Someone has to complete the detailed design of your Drupal node elements. You must pick the exact data needed in various content types that you define, and the content of views.

Someone has to supply plausible content data. (This task will involve work by more than just one person; but it's easy, grab content from the internet such as photos, descriptions of theatres and courses related to theatre training etc that can be modified to act as filler data in the records created for your site. This role will suit your weaker programmers.) Usually you can get by with a relatively small amount of real content from which you can create a convincing user manual. You might need to create many posted articles on your site – but most will be nothing more than a title; only one or two will need substantive content.

Someone is going to have to create and collate all those screen shots and make them available to the "manager" who is preparing the final report.

You will need an initial group meeting where you share out these roles.

The Illawarra Dance and Drama Theatre Company

Current status

The Illawarra Dance and Drama Theatre Company owns a small theatre complex that includes a 300 seat theatre, workshops, class rooms, and exercise rooms.

The IDDTC does employ a relatively small number of actors, singers, and dancers and does mount a few shows each year –last year their shows included "Two Gentlemen of Verona", "Charley's Aunt", "Christmas Spectacular", and "A Little Night Music". The theatre is also leased to local dramatic societies for their annual performances and occasionally is used by touring companies.

The IDDTC's real business is however running courses and exercise classes.

Most courses train people for careers in the theatre – either as performers or for back-stage roles like stage management, lighting, costume creation etc. These courses are generally 8 or 10 weeks duration, and run roughly at the same times as school terms. Courses cost several hundred dollars each, and most are limited to small numbers of students. Occasionally, a general interest course is run for a larger numbers of enrolees at somewhat lower cost – the last of these, with an enrolment of over 40, was a review of American musical comedies. Courses generally have one or two sessions (1 hour – 3 hours duration) each week; some are purely class room based; others include practical elements that make use of the workshops and stage areas.

IDDTC's main income is derived from the exercise classes that it runs every week. There are more than 60 classes a week. They include "combat" styles – boxing, judo, tai chi, fencing; "dance" – tap, jazz, hip hop, latin, ballroom, ballet, lyrical, contemporary, zumba; and "lifestyle" – aerobics, yoga, pilates, and others. Some classes are open; others are graded with beginners, elementary, and intermediate levels. Classes vary in duration from 1 to 2 hours; the first class starts at 9am; the last class at 8pm; most weekdays there will be "lifestyle" classes scheduled at lunch time and early evening that are intended to attract local office workers and others; classes do not run on Sundays.

In terms of computing technology, IDDTC is currently firmly in the early 1990s.

Its current web presence consists of one page with a name, a photo of the previous director, and a map showing the location of the theatre complex (a static image scanned from a Gregory's Wollongong City map book, not a Google map).

Its publicity for courses and classes relies on fliers, one page handouts, and a booklet with details of the courses, and classes. This booklet contains registration forms that must be posted in or submitted at a registration desk. Publicity for shows at the theatre is limited to advertisements in the local newspapers

Its business records are kept in various Excel spreadsheets. There are separate Excel files containing the personal details of administration and clerical employees, performers, and instructors (most of the performers also work as instructors in either classes or courses). Other Excel files contain contact details of persons who are currently enrolled or have previously been enrolled (courses require enrolment, classes can be paid on a per-class basis or people can enrol for a number of classes and pay a slightly lower fee per class). Still other Excel files contain payroll records. There are paper files containing details of the shows that will be running in the theatre.

A new director has been appointed. She hopes to gradually modernise the IDDTC. She is the person whom you will most need to impress.

Things that you might incorporate in your IDDTC solution

The following a just some obvious suggestions. You are certainly not limited to implementing these. You might not include all these suggestions – possibly you have thought of better approaches to bringing the IDDTC into the 21st century.

There had better be a web-site that looks unique and as attractive as possible. This should contain a section with "news" – the latest updates about activities at IDDTC. It should provide links so that any web visitor can see things like a calendar showing the shows scheduled for the theatre, or the schedule of exercise classes. There would need to be a "login" panel allowing registered users to access other parts of the site.
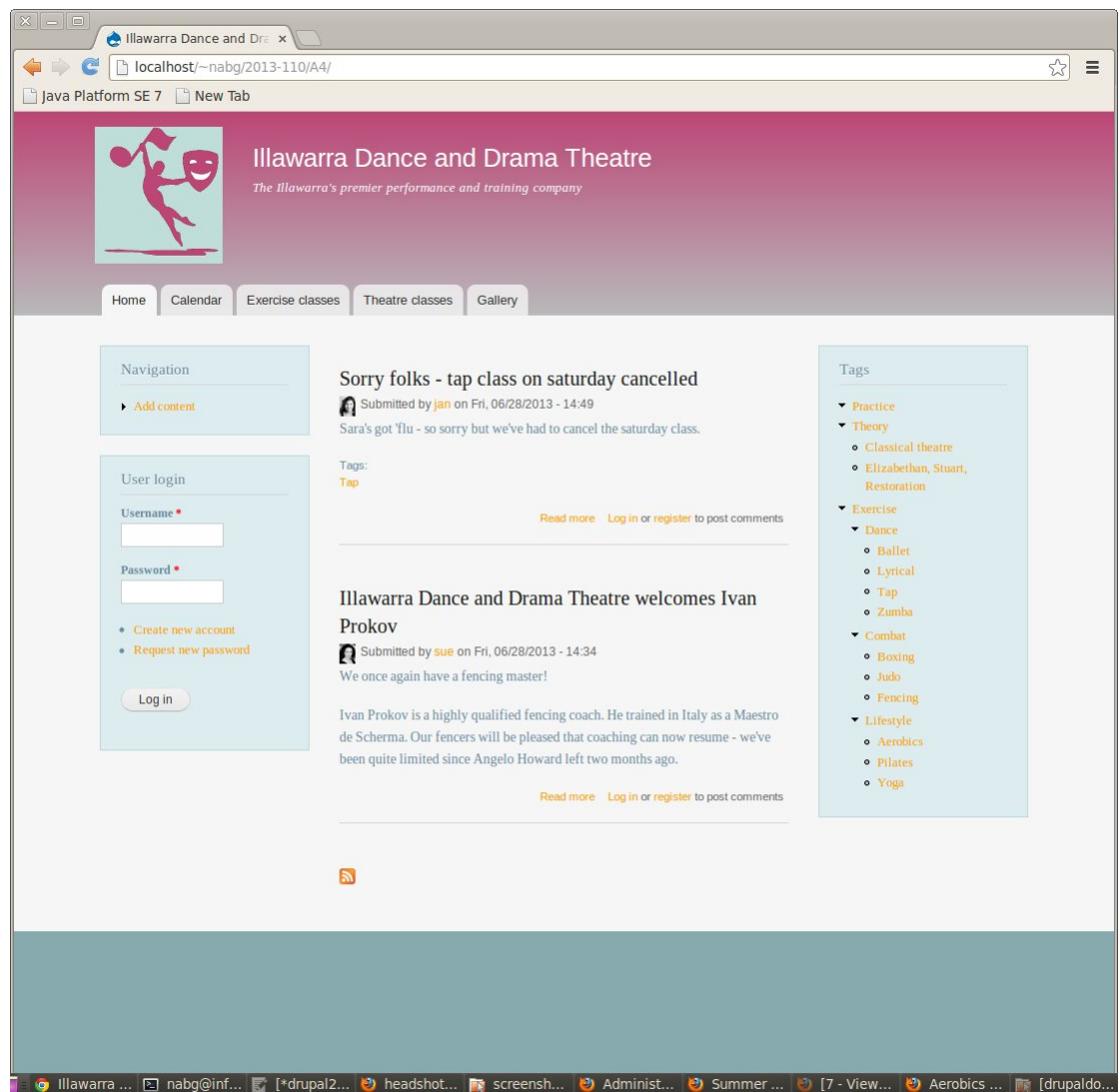
A Calendar view could display entries for training courses and shows at the theatre. Maybe the display should simply show the first date of the course or show, or maybe there should be entries for each session or performance.

	Month	Week	Day	Year		

July 2013 « Prev Next »

Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19 Servant of Two Masters Author: Carlo Gordiono Company: Wollongong Amateur Dramatics Instructor:	20
21	22	23	24	25	26	27
28	29 Design for the theatre Author: Company: Instructor: How Theatre Happens Author: Company:	30	31 Shakespeares contemporaries Author: Company: Instructor:	1	2	3

Of course, the entries displayed in the calendar view should link to pages that contain details about the course or show:

Design for the theatre

How do you create an imaginative world through set and costume design? This introductory course gives you an overview through practical exercises. Explore bold and imaginative design options.

Teacher:
nim
First class:
Monday, July 29, 2013 - 09:00
Schedule:
Mondays and Wednesdays - 10 week session

Log in or register to post comments

Instructors for courses and exercise classes will all be registered users of the IDDTC site with their own profile pages. Displays showing details of a course or class will contain a link to the profile page of the instructor.

nim

History

Member for
5 days 21 hours

These profile pages typically include a CV where the instructor details their own training and past achievements – it seems that "nim" hasn't got around to editing her profile yet. Abbie's profile page is more forthcoming:

abbie

CV:
Abbie trained at the Australian Ballet School and went on to become a soloist with the Australian Ballet performing in productions such as Carmen, Madame Butterfly and Sheherezade. After a successful career in ballet and contemporary dance, Abbie moved into musicals, film and commercial theatre.

Obviously, access to a PDF file version of the handbook and a system for on-line registration should form part of a fully implemented site. But as an interim measure it might suffice for the site to have a form page that can be filled in by a user who wishes to have the handbook mailed out to them.

Navigation

▼ Add content
  o Request for brochure

User login

Username *

Password *

• Create new account
• Request new password

[Log in]

Create Request for brochure

Your name *

Simon Atherton

Street address *

11 Kembla Drive

Town *

Wollongong

State and postcode *

NSW 2500

Classes of particular interest

boxing, judo

[Save]

Completion of this form should result in a record in the database. One of the admin/clerical employees should handle such requests, posting out handbooks, and deleting completed requests. (Maybe contact details should be transferred to some other record?)

Other things that casual WWW visitors should be able to see would be the schedule of classes:

Exercise classes

Day: Monday

Time: 9am-10am Yoga - beginners Instructor: sarajane
Time: 1pm-2pm Lunchtime Yoga Instructor: debbie
Time: 1pm-2pm Pilates Instructor: nim
Time: 2pm-4pm Tap for over 50s Instructor: elsa
Time: 6pm-8pm Box - aerobic exercise style Instructor: jack

Day: Tuesday

Time: 10am-12noon Ballet bar basics Instructor: abbie
Time: 1pm-2pm Lunchtime Aerobics Instructor: elsa
Time: 6 pm - 8 pm Judo - all grades Instructor: jack
Time: 5pm-7pm After work ZUMBA! Instructor: katy
Time: 6pm-8pm Tuesday Tap (Beginners/elementary) Instructor: sar

1 2 next › last »

And information about forthcoming courses:

Theatre classes

Shakespeares contemporaries

The unit explores important works by Shakespeare a
contexts of late-sixteenth- and early-seventeenth-cen
analyse the texts and authors in relation to one anoth
of the period relating to politics, humanism, drama, p
Students will gain valuable insights into the literary a
period and come to a deeper understanding of Shake
significance in his day.
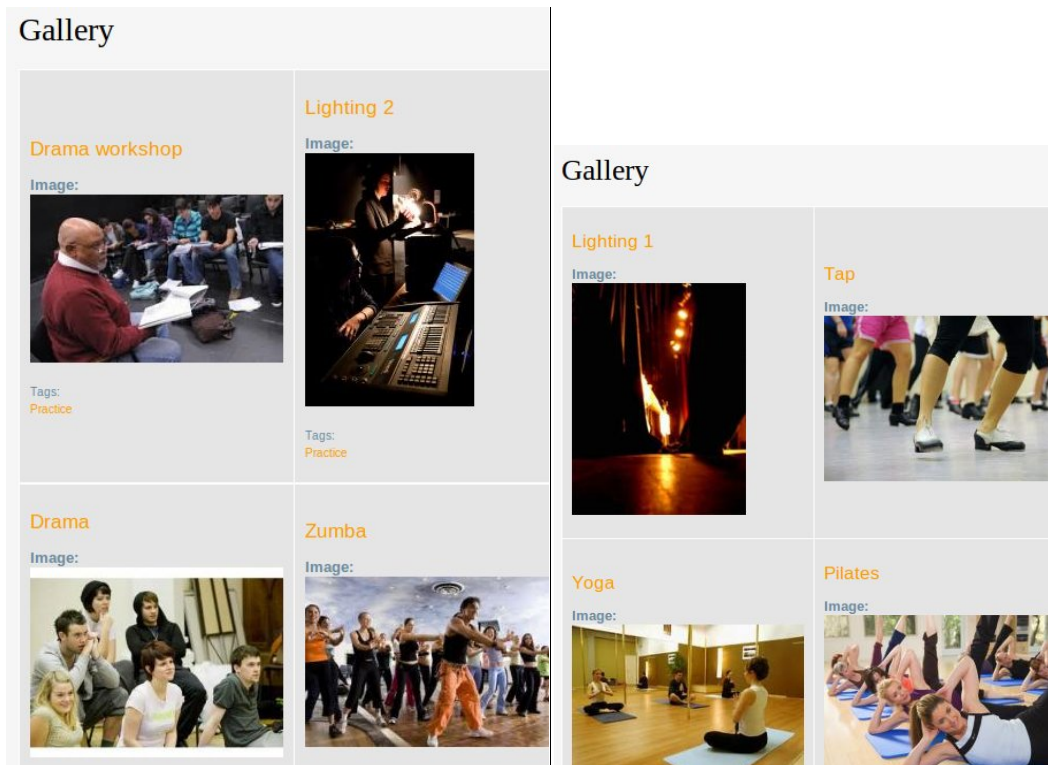
How Theatre Happens

A series of lectures and presentations about what goe
production from page to stage. This course is an in-d
in theatre-making - delivered by a range of industry

Greek classics

The course offers a unique opportunity to learn abou
theatre.

Design for the theatre

There should be a gallery with screenshots highlighting the activities at IDDTC:

Gallery

Drama workshop

Image:

Tags:
Practice

Lighting 2

Image:

Tags:
Practice

Drama

Image:

Zumba

Image:

Gallery

Lighting 1

Image:

Tap

Image:

Yoga

Image:

Pilates
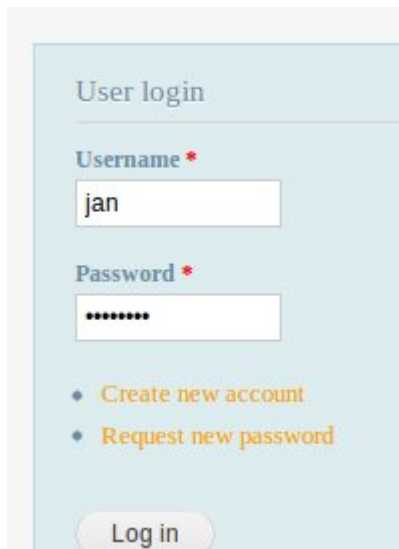
Image:

Maybe you could try something more ambitious – an automatically changing slide-show of images located at the bottom of the front page.

You should probably have some elaborate "show" pages for both forthcoming shows and recent presentations. These should include details of the show – author, synopsis, cast list, a few photos. These should be accessible through links in the calendar and possibly in other views as well.
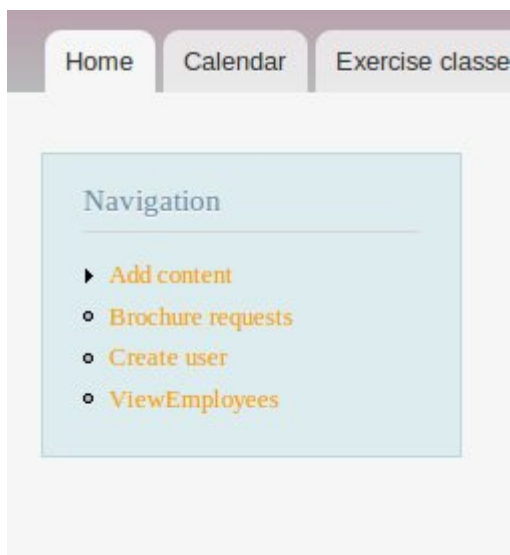
You will need to provide for different "roles" for registered users of the site. You will have to decide on the roles. Most of the work is going to be done by persons employed in the admin/clerical role. They will create news articles, update class schedules, put entries in calendars, create "show records", handle requests for handbooks etc. "Instructors/performers" might be separate user categories; there may not be any real difference between them with regard to privileges on the site – they should at least be able to create articles for the front page. "Authorized" users could be "friends of the IDDTC" – persons who have some long term relationship, have attended many shows/courses/classes and can be relied on to provide positive comment on published materials. The new director is somewhat authoritarian – she should have the privilege of deleting any content that she disapproves.

You want the site to be easily administered by the current admin/clerical employees of IDDTC (who are generally a little computer phobic). Creation of user accounts should be delegated (it shouldn't need access at "administrator" level with all the rest of the Drupal site management tools). A person with an "admin" account at the site should be able to log in:

And then see a customized menu of options:

He or she might then check for outstanding brochure requests:

Linking through to the actual details so that a brochure can be posted out to the requestor:

Tina Martin

[View] [Edit]

Submitted by Anonymous (not verified) on Tue, 07/02/2013 - 13:

Street address:
7A Wells Road
Town:
Mangerton
State and postcode:
NSW 2523
Classes of particular interest:
Zumba Tap

Admin persons should be able to create user accounts:

This web page allows administrators to register new users.
addresses and usernames must be unique.

Username *

max

Spaces are allowed; punctuation is not allowed except for periods, hyphei
underscores.

E-mail address *

maxDanet@wherever.org

A valid e-mail address. All e-mails from the system will be sent to this ad
address is not made public and will only be used if you wish to receive a
wish to receive certain news or notifications by e-mail.

Password *

•••   Password strength:

Confirm password *

•••   Passwords match: **yes**

To make your password stronger:

- Make it at least 6 characters
- Add uppercase letters
- Add numbers
- Add punctuation

Provide a password for the new account in both fields.

Status

○ Blocked

◉ Active

Assignable roles

☐ admin

☐ performer

☑ instructor

☐ friend

As well as other content:

Add content

Article
Use *articles* for time-sensitive content like news, press release
posts.
Class
Details of class - nature, instructor, day of week, time, and a 'ca
field.
Education class
Class taught for an eight week term; mainly class room teachi
classes may involve performance elements
Employee
Employee record for the company
Pictures
Pictures of the classes and theatre
Request for brochure
Any WWW user can submit request for school brochure to be
mail
Shows
Theatrical performances by IDDT or visiting companies

You want to give the IDDTC some idea how they might move forward from their current collection of Excel files to a computerized system for managing employee records and payroll. Of course, you cannot implement it all in this prototype (well, actually you probably could with a little help from downloaded Drupal extensions – but you want to leave some work for the second phase where you will get paid). But you might at least provide a system for managing employee records (accessible only by those with appropriate role(s)):

Create Employee

Employee TFN *
9876532568

Family name *
Bratley

Given name *
Nim

Initials
A

Address *
4/62 West Road, Dapto

Contact number *
0422838338

personalpage
nim [uid:16]

Admin staff also need to be able to view these employee records:

ViewEmployees

9876532568

Submitted by jan on Wed, 07/03/2013 - 15:27

Family name:

Bratley

Given name:

Nim

Initials:

A

Address:

4/62 West Road, Dapto

Contact number:

0422838338

personalpage:

nim

013297892346

Submitted by sue on Mon, 07/01/2013 - 11:03

Family name:

Green

Given name:

Susan

Initials:

J

Address:

408 Dapto Road, Wollongong

Maybe you could find a use for a taxonomy – providing links to different elements that contain related materials:

Aerobics

Lunchtime Aerobics

Submitted by jan on Wed, 07/03/2013 - 14:41

Read more

Box - aerobic exercise style

Submitted by jan on Wed, 07/03/2013 - 14:10

Read more

Tags

- ▼ Practice
- ▼ Theory
  - ○ Classical t
  - ○ Elizabetha
    Restoratio
- ▼ Exercise
  - ▼ Dance
    - ○ Ballet
    - ○ Lyrical
    - ○ Tap
    - ○ Zumba
  - ▼ Combat
    - ○ Boxing
    - ○ Judo
    - ○ Fencing
  - ▼ Lifestyle
    - ○ Aerobics
    - ○ Pilates

Details

Group work

1. An initial group meeting (suggest you make it in the September break or thereabouts) where you discuss your understanding of the project.
   Get some initial ideas for the Drupal features (core and extensions) that you might exploit.
   Estimate the work involved and consider the division of responsibilities among group members.
   Decide on whether a WordPress blog or a MediaWiki wiki should be used for support tasks.
2. Go to the Drupal site and review some of the examples of sites built with Drupal – get ideas for what you might do in your site.
   Possibly also visit the "distributions" - these identify the extension modules that they incorporate and will give you some idea of the features that you might want in a commercial site, an advocacy site, etc. (If you elect to use a distribution, more of the configuration work will have been done for you. You overall site will need to be a little more impressive than one built up from just the Drupal core with individually selected extension modules.)
   Maybe one of your group members has a keen sense of aesthetics. He/she might wish to research "themes" that allow would allow a quite distinct visual interface for your site.
3. Some independent work. It would be best if each member could try to install Apache/PHP/MySQL + Drupal and then gain a little experience with defining users, new content types, and entering content.
   Complete any tasks allocated in the first group meeting.
   Remember to record details of the installation process and take screen shots. You will need these later when constructing the report.
4. Second group meeting. Decide on the allocation of work and determine where the Web-2 web-site will be built. Try if possible to deploy the site on a machine that can be accessed by all group members working over the Internet. (The secondary content – blog/wiki – might be deployed on a different machine.)
   Make sure that you can easily acquire some plausible content that can be used when composing a convincing "User Manual".
   Review specifications for content types etc and establish a common understanding.
   Compose a schedule for the remaining work.
5. Collaborative work.
   Build the content types, enter *dummy* data, test, find which bits aren't right, fix, re-test. (If you find that you haven't defined a content type quite right then it is likely that you will have to delete all the data that you entered with the incorrect definition and start again with the new definition – so don't bother too much about the actual content during this development stage.)
   Record group discussions via your blog site or wiki.
6. Third group meeting. Review progress, analyse need for specific views (selections of subsets of data), plan how to define those views in Drupal.

7. Collaborative work. Build the views and at the same time enter the small amount of genuine content data that will be needed.
   Get screen shots.
8. Final meeting. Work together assembling the report from the materials that you have collected.
9. Rehearse the presentation.
10. Do the presentation.

Submission

The group's report should be converted to PDF format as the file A4.pdf. The group leader should submit the report electronically via the `turnin` system. For this assignment you submit your assignment via the command:

```
turnin -c csci110 -a 4 A4.pdf
```

The due date is Wednesday October 30th.

The program `turnin` only works when you are logged in to the main banshee undergraduate server machine. As in assignment 1, you must transfer your report to the banshee machine using some form of ftp. Then from an Ubuntu workstation in the lab, you must open a terminal session on the local machine, and then login to banshee via ssh and run the `turnin` program.

If the group members contributed equally to the work, the group leader should send an email to the subject coordinator with a title of the form "CSCI110; group xx – all contributed equally". Otherwise, the group should submit a self assessment note identifying the relative contributions of members; this should be signed by all members. It should be handed to the subject coordinator at the last scheduled lecture.

Marking

The assignment is worth 16 marks total.

- Overall appearance of report: *2 marks*
  Cover, index, proper sectioning, brief overview of the assignment (and don't just cut and paste words from this specification), sections on the various report parts.
- The site – it has to be a convincing Web 2 community site: *2 marks*.
- "User guide": *3 marks*
- Technical details and sophistication of solution: *3 marks*
- Group work report: *3 marks*
- Presentation to the class: *3 marks*