Assignment 03

Group Project – Build A Web Application (60%)

Class	BSCH
Stage / Year:	2
Module:	Server-Side Web Development
Deadline:	See Moodle. Late submissions will be penalised.
Submission:	One member of your group should upload your project code to Moodle & make it available online using the Knuth server. Group Presentation during the last class. You will be given a time slot.
Weighting:	60% of Module

Introduction

Working in a group of 3 people you will build a web application for a **Dublin Property Lettings Agency** (Choose a name). You will plan, design, and create a dynamic PHP web application with a MySQL backend containing the following features: C.R.U.D. pages, user access control using cookies and sessions, dynamic navigation bars, CSS, and modular code design.

The website will have 4 user levels:

- Public
- Landlord (Property owners)
- Tenants
- Admin

Web Application Requirements:

- Handle form data in a secure manner e.g., use PHP server-side validation and sanitization techniques when handling user inputs. **Remember use novalidate in your form tag to disable client-side validation!** Use prepared statements in MySQL.

- Make the website look professional using well-designed CSS techniques and appropriate content. Your HTML, CSS, PHP, and MySQL code should be original and commented. You may be asked to explain any piece of code.

- PHP code should be modular e.g., include header and footer files as opposed to copying and pasting the same code to several pages.

- The home page of the site should be called index.php.

- Store its data in a MySQL database.

- Connection to the database should be made using one file (e.g., mysql_connection.php) and be required from your php scripts. Ensure this is outside your root folder.

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Pages, Functionality and Access Level

The following pages and functionality must be created. You have the choice to create additional pages if so desired.

Name	Function	Public	Landlord	Tenants	Admin
index	• Basic information about the Dublin Lettings agency and 3 feature boxes. • Each feature box should highlight a new property. • Each feature should contain a title, detail, an image, and an optional link to another page on the website (e.g. property listing).	Y	Y	Y	Y
index_edit	• Allows the editing of the feature information presented on the homepage.	N	N	N	Y
Search	• Create a search bar to allow a member of the public to search for a property in Dublin. • They should be able to filter on area, (consider using the first part of the Eircode e.g. D07) rental price, number of bedrooms and length of tenancy.	Y	Y	Y	Y
Property Listing	• Allows landlords to register their property/properties in one of 4 apartment/house categories: 1 bed, 2 bed, 3 bed and 4 bed. • For each of the categories there must be multiple options such as length of tenancy (e.g. 3-month, 6 month or 1 year rental). • There must be a description section to describe the features of the property. • Landlords should be able to upload a gallery of photos for each property registered. • All photos should be stored in a folder and not in the database. Landlords should create a username and password at this stage. A confirmation email should be sent to the Landlord.	N	Y	N	Y
Property_edit	• Allows the registered property to be edited.	N	Y	N	Y

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Name	Function	Public	Landlord	Tenants	Admin
Adverts	Displays advertisements of utility companies, recycling waste companies, local amenities etc. and their associated photos.	Y	Y	Y	Y
Inventory_details_edit	Allows the entry/editing of the inventory. Only one Inventory is allowed for each property (To update the information you should be editing an existing record, else you can add a new record).	N	Y	N	Y
Inventory_details	Show an attractively formatted table of the property inventory.	N	Y	Y	Y
Tenancy Account	Displays the monthly rental fee, length of tenancy, tenancy agreement, start and end date of tenancy, amount paid and amount owed based on tenure (e.g. 1 year).	N	N	Y	Y
Tenants Account Edit	Allows the entry/editing of the Tenants account details.	N	N	N	Y
Landlords Account	Displays rental income for each property and displays the commission and management fees deducted by the estate agents.	N	Y	N	Y
Landlords Account Edit	Allows the entry/editing of the Landlords account details.	N	N	N	Y
Testimonial	Shows a list of admin approved testimonials given by landlords or tenants.	Y	Y	Y	Y

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Name	Function	Public	Landlord	Tenants	Admin
Testimonial_add	• Allows a logged in landlord or tenant to give a testimonial about a service. Each testimonial should contain the service name, the date, the parents first name and their comment.	N	Y	Y	Y
Testimonial_manage	• Allows the admin to decide which testimonials are displayed.	N	N	N	Y
Contact_us	• Form enabling members of the public to leave a message which should contain: Name, Email, Phone no and Message.	Y	Y	Y	Y
Contact_us_manage	• Allows the reading of the messages.	N	N	N	Y
header	• Session start, require connection to the database, links to all pages appropriate to the user level. • Prevent unauthenticated users from accessing inappropriate content. • The header should contain a navigation bar. • A user login box supporting tenant, landlord and admin login. • You can choose to have one header which programmatically adapts to who is logged in or have different header files.	Y	Y	Y	Y

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Pages continued...

Name	Function	Public	Landlord	Tenants	Admin
Registration Login Logout Password Reset	- A user should be able to access a login/logout script from a link in the header. - Ensure the registration that is implemented is accessible for Landlords, Tenants, and Admins. - When this logout script executes, the session should be destroyed, and the user should receive a logout confirmation message and then be returned to the index page. - A mechanism to reset their password securely should be made available to users.	N	Y	Y	Y
Session	- Start a session: At the beginning of each script that requires user authentication, use session_start() to initiate a session. - Secure Session Cookies: Set the session cookie to be accessible only over HTTPS and make it HTTP-only to help prevent XSS attacks.	N	Y	Y	Y
Cookies	- Get User Consent: Before setting any cookies, present the user with a pop-up or banner informing them that the site uses cookies to remember their preferences and ask them for their consent. - When the user makes a search, save the search parameters in a cookie. - For instance, if they search for "2 bedroom apartments in D07," the cookie might store the values {"bedrooms":"2", "area":"D07"}. - Use the Cookie: Next time the user accesses the search page, read the cookie and use the stored values to pre-fill the search fields. - If the user makes a new search, update the cookie with the new preferences.	Y	Y	Y	Y

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Deliverables

Keep the following in mind when you are preparing for your project submission.

Create one zipped file called ***SWD_project_Memberno1_Memberno2_Memberno3.zip*** containing the following:

- A completed version of **SWD_project_Memberno1_Memberno2_Memberno3.pdf** (Word template available on Moodle, complete it, then export it as a PDF). **A Word document is not accepted.**

- PowerPoint presentation (Template available on Moodle) complete it, then export it as a PDF.

- A complete web application folder containing all HTML, PHP, CSS, MySQL Database Dump file (e.g. s3000001.sql), Connection script containing credentials for Xampp and Knuth, images etc.

This zipped submission to Moodle is essential even if you host your project on Knuth and share the link with the lecturer.

Grading Summary

Marking Criteria:

- Members must present a working and usable application that covers the basic specifications provided above to pass. To receive higher grades, you are expected to use innovation.

- The working solution will only be tested on the Knuth server using a similar link to:

  https://knuth.griffith.ie/~s000001/ass03/index.php

Marks will be awarded for:

- Implementing features, Quality of HTML/CSS, PHP/Database design, Usability, and Innovation.

Commenting and Debugging

- Ensure that your code is well commented, so the lecturer can see what is happening. Use the errors directive, var_dump etc. to debug! Do all of your testing first in Xampp. You cannot debug on Knuth!

- Ensure you have the correct path to the database. This will differ depending on the number of folders you have created. We recommend two paths on Knuth:
  s3000001/public_html/**Ass03**/index.php
  require '../../mysql_connect.php'

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Final application marks breakdown:

- 20% Visual Design: Navigation / Layout / Imagery / HTML / CSS
- 10% Database Design including Normalisation.
- 10% System Architecture
- 30% Code Quality
- 20% Functionality & Usability
- 10% Presentation (Demo occurs during the last class of the semester)

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Frequently Asked Questions

What if my application does not work on Knuth?

You must have a working application on Knuth to pass this assignment.

How do we submit the project? What is the late submission penalty?

If you have these questions, then you have not read the instructions! You must spend some time carefully reading and understanding this entire document before doing anything. To ensure the accuracy of your work, it is important that you understand the requirements. The late submission policy is available from the faculty.

Can we provide advanced functionality?

Your project is free to extend beyond the core functionality outlined above. Provided specifications are the minimum requirements you need to fulfil to pass the project work.

Can we use a CSS library other than Bootstrap?

You can use any CSS front-end framework. You are also free to customise the default styles provided by such frameworks.

Can we use JavaScript?

Yes, you can use JavaScript.

What content should we use for public pages?

You should find some relevant content. Search the web for rentals/lettings to get some ideas. For example:

https://dublinlettings.com/

https://www.daft.ie/

Can we make a group of 2 or 5?

No, you can only create a group of three members. If there is an odd number in the class, we may have to make a group of two members.

What will happen in the project demo?

You will be asked to prepare 4/5 slides (highlighting key features & limitations) to set the context before demoing your solution. Each group will be given 15-20 minutes for the demo.

Are there any tools recommended for productive collaboration?

- GitHub – version control and source code management.
- Slack/WhatsApp – team collaboration.