**COURSEWORK ASSIGNMENT** **UNIVERSITY OF EAST ANGLIA**
**School of Computing Sciences**

**MODULE: Internet and Multimedia Techniques**
**ASSIGNMENT TITLE: Assignment 2: Website construction project**

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|---|---|---|---|
| **DATE SET** | **:** | **Friday 18 November 2016** | |
| **DATE & TIME OF SUBMISSION** | **:** | **Report: Friday 16 December 2016 15:00**<br>**Demonstration: Friday 16 December 2016** | |
| **RETURN DATE** | **:** | **Wednesday 18 Jan 2017** | |
| **ASSIGNMENT VALUE** | **:** | **65%** | |
| **SET BY** | **:** | **D. J. Smith** | **SIGNED:** |
| **CHECKED BY** | **:** | **W. Wang** | **SIGNED:** |

## Aim:

Provide an appreciation of contemporary information systems development processes.
Provide experience of web programming and an appreciation of some of the wider issues in the web's development and expansion.
Introduce a range of software development ideas and technologies which will be explored in greater depth later in the course, including, databases, systems analysis, systems design, testing, evaluation.

## Learning outcomes:

The ability to construct simple web applications using current web technologies
A simple understanding of the main features of architectural, design and development models for contemporary web applications development

## Assessment criteria

The main emphasis in marking will be on the demonstrated ability to design and construct a simple dynamic website, to analyse sites offering similar services, and to produce an appropriate report on these activities.
For the software developed in this assignment, marks will be awarded for the quality of the design, the usability, accessibility and appearance of the system, and the quality of the implementation.
Marks will be awarded (or deducted) for the quality of written English and the overall presentation and layout of the report, which is expected to conform to the School's guidelines for written work.

An indicative breakdown of marks is given on the marking sheet (attached). *Note that the distribution of marks is indicative only and may change.*

# Description of assignment:

Your task is to design and construct a website for an independent hotel.

## Introduction

The Heartache Hotel is a new independent hotel with 32 rooms on the western edge of Norwich. Rooms are double or twin, with standard or superior facilities. Bookings are made online. A booking is for one or more rooms for one or more nights.

## Scenario

Stephanie has a business meeting at the Norfolk and Norwich Hospital, starting at 8:30. She's flying from Manchester the previous day, staying overnight, and will return immediately after her meeting.

Jack has planned a weekend in Norwich with his wife to see the city and an exhibition at the Castle Museum. A couple of days before they're due to go, his cousin calls to say that she'll be in the area, so Jack invites her to join them. He has to find his booking details and change it to add another room for her.

## Brief

This assignment requires you to construct a web application that allows:

1. For customers to:
(a) View a description of the hotel, its facilities, the rooms and room rates, and links to facilities and attractions in the area,
(b) Complete a booking form which allows them to book one or more rooms for one or more nights (bookings cannot be made for rooms that are not available);
(c) View suitable information and alternative options if any rooms requested are not available;
(d) Complete a payment form that obtains the customer's name, email address, card details for payment, and any note about the booking (Payment details are taken when the booking is made, but payment is not taken until the customer checks out.);
(e) A booking confirmation page that can be printed or emailed to a customer.

2. For the hotel reception to:
(f) Check hotel guests in and out of their rooms (this involves changing the room status);
(g) Take and view payments made by customers as they check out.

3. For housekeeping to:
(h) View checked out rooms (as these need to be prepared for the next guest);
(i) Change the status of a room from 'checked out' (C) to 'available' (A) or 'unavailable' (X).

The customer and housekeeping functions should all work on mobile devices.
(For this assignment, you do not need any login system if the housekeeper and reception pages are not linked from the room booking pages.)

2. When you have completed the core functionality listed above, you can add facilities to allow a customer (or hotel reception staff) to change a booking, for the hotel to produce weekly room occupancy and income reports, and for hotel reception staff to add drinks and other items to a customer's bill.

All the HTML code must be validated to HTML5, with all the style elements in external CSS stylesheets (any in-line style tags or attributes will be penalised); Javascript is optional; the dynamic HTML should use Java servlets; Postgres is the only permitted database management system. The customer and housekeeping pages should all work on mobile devices. The emphasis in coding is on the group' ability to write clean, easily maintainable, well documented code (i.e. we discourage the use of extensive

frameworks etc. which require additional knowledge from potential maintainers or future developers of the site).

### Resources

A database of the hotel's rooms and some sample bookings will be provided in Week 9.

For this project you must use the information you can discover unaided and you may not request further information from other people or organisations.

Queries or clarifications concerning the brief can be addressed to Dan Smith (Dan.Smith@uea.ac.uk); responses of general interest will be copied to the class mailing list or Blackboard. Any clarifications to the requirements will also be posted there.

### Working arrangements

You will work in groups of three to do the assignment, and you will write a single *joint* report for assessment.

You will also keep an individual diary describing the tasks you have undertaken, the results and problems encountered, when and how long the task took to complete. You will be asked to submit the diary as part of the submission process (any other code or documentation related to the project may also be used in marking).

## Major deliverables

### A. Design review

There will be a formative design review in Week 10. The design documentation should minimally include page designs for the core functions on (a) mobile devices, (b) desktops.

### B. Demonstration (50% of CW2)

On Friday of Week 12 you will have to demonstrate your project. The purpose of the demonstration is to show the functionality of the system you have designed and implemented. You will be asked to perform a series of tests, and to answer questions about the system, its design, performance and functionality. The marks for the system will be based on this demonstration. Marks will be awarded for:

- functionality, robustness and features implemented,
- design, appearance and usability,
- presentation, organisation and style of the system demonstration.

The group demonstration must take place on a CMP lab machine, with a Postgres database running on the server used for the module, unless an alternative has been agreed by the Module Organiser and confirmed by email. In order to provide a fair assessment, we will not accept systems, languages or technologies other than those specified in this documentation.

*Every group member must attend the demonstration – failure to attend without good cause will result in the loss of half the marks available for the individual element of the project. One member of each group must submit, via Blackboard, a single zip archive of the Netbeans project folder for the project, so that it can be reviewed later. The file should be called groupXX.zip, where XX is your group identifier.*

### C. Documentation (10% of CW2)

You will need to write a joint report that provides a description of the design and the important implementation issues for your system. The design should be documented using appropriate text and diagrammatic methods. You should highlight the assumptions about the use and context of the system, problems and limitations of your proposed solution. The principal audience for this report is a future developer or system maintainer.

The report should include:

- use cases,

- the assumptions and justification for the major design and implementation decisions,
- a brief description of the architecture and structure of the system,
- a discussion of the security measures needed before the site can be made live.

The maximum length of the report is 10 pages (this includes everything: appendices, optional title page, ...), using 12 point Times or a similar font for the running text and the presentation conventions described in the School's guidelines for written work.
The report should be entitled "GroupXX Hotel booking project", where XX is your group identifier.

## Individual work (40% of CW2)

40% of the mark for this work will be for individual effort and achievement, as reflected in the overall output of the group and the evaluations of your partners in the group. The mark awarded will be based on the final system as seen in the group demonstration, the report and partner evaluations.

### Diary

You should complete a diary describing when you worked on the project, what you did and how long it took. You must submit your individual project diary with the peer evaluation. This will not be marked, but may be used to clarify any queries about your work.

### Peer evaluation

You must complete a partner evaluation for every other member of your group, using the evaluation test that will be available on Blackboard. *If you do not complete these evaluations your individual contribution will automatically be halved.* Your individual mark will be based on the average of the evaluations of your contribution made by the other group members (unless there is good evidence of malevolent or capricious evaluation). The evaluation test gives a score between 0 and 1 which will be used as the basis of a multiplier of the group mark, so a good evaluation of your contribution will lead to a high mark, but your evaluation of others' contribution does not affect your own mark.

### Submission

The report, code, and diaries should be submitted by 15:00 on 11 December and peer evaluations should be submitted via Blackboard before midnight Friday 11 December.

**CMP-7003A Group Project Marking Sheet: Design Review**

| | |
|---|---|
| **Group** | |
| **Assessor** | |
| **Comments:** | |

| **Element** | **Excellent** | **Very good** | **Good** | **Acceptable** | **Poor** | **Missing or Inadequate** | |
|---|---|---|---|---|---|---|---|
| Use Case | | | | | | | |
| Page design prototypes | | | | | | | |
| Other work | | | | | | | |

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| **Design review (%)** | |

**CMP-7003A Group Project Marking Sheet: Demonstration**

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|---|---|
| **Group** | |
| **Assessor** | |
| **Comments** | |

| **Project elements** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Element** | **Excellent** | **Very good** | **Good** | **Acceptable** | **Poor** | **Missing or Inadequate** | |
| Overall design, navigation | 10 | 8 | 6 | 4 | 2 | 0 | 10% |
| Booking, alternatives, (1.a-c) | 15 | 12 | 9 | 6 | 3 | 0 | 15% |
| Payment details, confirmation (1.d-e) | 15 | 12 | 9 | 6 | 3 | 0 | 15% |
| Check in, check out, pay (1.f-g) | 15 | 12 | 9 | 6 | 3 | 0 | 15% |
| View and change room status (1.h-i) | 15 | 12 | 9 | 6 | 3 | 0 | 15% |
| Other facilities (2) | 20 | 16 | 12 | 8 | 4 | 0 | 20% |
| Good use of HTML, CSS, JS, Java | 10 | 8 | 6 | 4 | 2 | 0 | 10% |

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| **Demonstration (%)** | |

**CMP-7003A Group Project Marking Sheet: Report and documentation**

| **Group** | | | |
|---|---|---|---|
| **Marker** | | **Marker 2** | |
| **Comments** | | | |

| **Project elements** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Element** | **Excellent** | **Very good** | **Good** | **Acceptable** | **Poor** | **Inadequate** | |
| Analysis of other sites | | | | | | | 20% |
| Rationale and decisions | | | | | | | 20% |
| Use cases | | | | | | | 20% |
| Testing and evaluation | | | | | | | 20% |
| Code documentation + comments | | | | | | | 20% |

| **Mark (%)** | |
|---|---|