



Oxford Cambridge and RSA

**Wednesday 18 May 2016 – Morning**

**LEVEL 1/2 CAMBRIDGE NATIONAL IN ICT**

**R001/01 Understanding Computer Systems**

**CASE STUDY INSERT**



**Duration: 1 hour**

**INFORMATION FOR CANDIDATES**

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- You should refer to it when answering the examination questions which are printed in a separate booklet.
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- You may **not** take notes into the examination.
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## Information for Learners

Gyms offer people the opportunity to exercise in a number of ways. As well as the use of weights and exercise machines, gyms also offer a range of classes, each led by an instructor. People who want to attend a class usually have to sign up to show their interest (Scenario 1).

Gym instructors are usually self-employed and may lead and organise classes at many different gyms. As well as working with large groups, instructors also work as Personal Trainers on a one-to-one basis (Scenario 2).

### Scenario 1

Fun Gym is based in a converted warehouse in London. The gym has two weights rooms, one studio for aerobics and other classes and a room with 30 static bikes used for group cycling classes. The studio and the room with the static bikes are each equipped with one computer and a speaker system.

The gym has a website, which is its main form of advertising. Bridget, the owner of the gym, uses web-authoring software on a computer in her office to maintain the website. The website has a 'news' section, which includes photographs and features on instructors, members and special events. Bridget takes most of the photographs for this section herself, and optimises them so that they are suitable for use. The website includes a 'members only' section. This is a restricted area that members use to book their classes.

The gym runs classes throughout the week, staffed by instructors. All instructors at the gym are self-employed and are paid a fee for each session they lead. At the end of every month Bridget sends each instructor an email with an attached encrypted file. The file contains the details of their earnings for the month and the date that the money will be transferred to their bank account.

### Scenario 2

Tom is a gym instructor who leads and organises four group-cycling classes a week at Fun Gym. He also works at other gyms and competes in cycling competitions. He sometimes has to travel to these competitions and so is unavailable for work on those days when he is competing.

Tom has seven private clients and, every month, he emails them details of forthcoming events and competitions.

Tom plans his classes for the week to include fast sprints, hill climbs and cool-down sessions. He selects suitable music from his home computer to use with his classes. Tom transfers the music to a storage medium which he then takes with him to each gym.

Tom wants to attract more members to his classes so he has decided to create posters advertising the forthcoming week's sessions. These posters will combine graphics and text.

Tom would like to work in primary schools and so has been developing a course for younger children. He has been researching into the use of video games which simulate sport and exercise. He is particularly interested in those video games which use specialist input devices to involve the player directly in exercise.

Tom has recently been the victim of cyber-bullying and has been researching methods that he could use to reduce the chance of this bullying continuing.

## Preparation

To prepare for the examination, you should research into the use of ICT in a gym.

This should include:

- hardware and software required to support the business function of the organisation;
- the use of restricted areas of websites that provide members with special services, such as the ability to book classes and any restrictions which may be placed on the use of such areas;
- the content included in posters that would be displayed in a gym and methods by which these posters can be created;
- legal issues.

You should also research into:

- how and why files may be encrypted;
- different methods of optimising image files for displaying on websites and the benefits and drawbacks of these, as well as the factors that affect which might be used;
- methods by which software can be used to carry out calculations;
- the use of storage media to transfer files between locations and other methods by which users can access files remotely;
- the correct and efficient use of email when communicating within a business setting;
- the use of game controllers and specialist input devices.



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