*It is strongly recommended that you read this document **several** times before making any start.*



Comhairle na nDámhachtainí Breisoideachais agus Oiliúna
## *Further Education and Training Awards Council*

# Information Technology CITXX
## (Clonmel Central Technical Institute)

# Computer Architecture and Systems
## C20012

*Academic Year 2010-2011*

# PROJECT BRIEF

## This project counts as 60% of the total module

## Project description

Please find below a rough sketch of "Horseshoe Terrace".

You are required to specify how to create a wireless distribution system for a specified geographic area. The area is a residential community network rather than a commercial network. The technology is largely identical.

The map provided is to help you visualise the requirements. It is not to scale. Take your own measurements to assist you in understand the distances/lengths involved.

The broad scenario is that of Horseshoe Terrace which is a new estate in Seangearánaí Village. It is owned by the local council and consists of 14 semi-detached 3 bed-roomed houses provided as affordable housing.

The council wishes the whole estate to be a wireless hot-spot. It is hoped that instead of each household having to pay for Internet access individually, that at least one house will host a broadband connection.

By the use of a WDS any other resident will be able to access and share that connection. By this means the 'privilege' of Internet access will be available to all at a more affordable cost.

It will be your task to select what items are required, how they are to be placed and operated *etc*. You'll be required to select brands and models of products and at each stage explain your *reasons* for your choices, keeping track of prices and all details relevant to implementing the scheme. Issues such as what protocols are used and how security will be addressed will be included in your submission.

The creation of the network and the provision of IT facilities to residents is to be viewed as a pilot project for the council which is being undertaken with a view to replication in other estates. Your task is to document the steps to complete the task and to consider and address any and all issues arising.

As part of your final specification, present your opinion of the feasibility of the project highlighting major issues that may arise.

## Overview of requirements

You must select all elements required to enable a solution to be implemented, explaining the reasons for your decisions.

## Restrictions

You may assume that VAT needs to be paid. There is no requirement to allow for labour costs for installation of hardware, software or infrastructure. All purchases must be made in The Republic of Ireland or as a last resort The United Kingdom, online, with shipping costs allowed for. All values must be expressed in €.

## Specification of design solution

Provide, in accordance with the marking scheme in the module descriptor (page 12), an initial A4 page in which you specify the purpose of the project, sources of information are identified, a plan of progress for the project. This initial page should provide a discussion about the broad overview of the IT solution you propose putting in place.

Thereafter your project should be clearly structured and tidily presented according to standard formatting rules and show:

1. "clear understanding and application of concepts in computer architecture and systems
2. appropriate use of research, with careful observations and recording of relevant information
3. comprehensive analysis and evaluation of the system
4. logical conclusions/recommendations based on evaluation"

You are required to use your imagination in the completion of the system design/layout. You will also be required to list *all* items to be purchased. This list will include cost, function, purpose, source and justification for each item.

*Please note that there is no one right answer to this project. There are many valid solutions, as long as there good reasons for the solutions offered. Considerable imagination and application of topics covered during the year is required.*