Level 3 Software Development
Summer Project 2020

Cambridge TECHNICALS LEVEL 3

IT

Foundation Diploma (Year 1)

Application Developer
(Software Development Pathway)

Summer Project
Vision West Nottinghamshire College

Version 1.2 September 2020

Wayne Johnson 2020

Introduction

Hello and welcome to Computer Science at Vision West Nottinghamshire College.

Congratulations! You have applied, attended an interview and been selected for our level 3 software development course. Whether it's programming, games development, data analysis or IT project management, we feel that you have chosen the right pathway for your future career.

You will be with us to gain skills, knowledge and understanding, as well as develop your talents in computing and information technology, ready for the next steps in your career. Your time with us will be challenging; you will have exams, assignments, projects and products to complete and create, all of which are designed with your future in mind, whether that will be higher education, apprenticeships or employment in the IT sector. I hope that you will not only do very well on your course but also take part in the activities that our department has to offer, including; foreign exchange, extra-curricular classes, guest speakers from the industry, live projects, meaningful work placement, departmental and national competitions, and lots of other exciting opportunities.

During the first year of your course you will study the following subjects:

- Fundamentals of IT
- Global Information
- Application Design
- Project Management
- Mobile Technology
- Games Design and Prototyping
- Internet of Everything
- Web Design and Prototyping

You are encouraged to view the content and structure of these units on the OCR website:
http://www.ocr.org.uk/qualifications/vocational-education-and-skills/cambridge-technicals-it-level-3-certificate-extended-certificate-introductory-diploma-foundation-diploma-diploma-05838-05842-2016-suite/

All of your assignments and projects are crafted to suit your needs and support your progression into employment and higher education. You have 2 exam units in year 1: Fundamentals of IT and Global Information.

Summer Project Requirements

Your course starts now!

You are expected to complete some work during the summer break and submit it on your first week at college. You are presented with 3 activities in this document, one of which you must complete and then will be submitted during the first week of your course, another that you could attempt if you want to get a head start on your coursework, and a third that you might attempt if you want to develop your skills and get ready for your projects.

The work you must do is colour coded **green**.

The work you could do, to get a head start on your assignments is colour coded **orange**.

The work you might do, to gain some fundamental skills is colour coded **purple**.

If you have any questions or queries as to what is required by the summer project, please don't hesitate to contact us on 01623 627191 ext. 8003 or you could email wayne.johnson@wnc.ac.uk

Please be aware that it will be the summer holidays, so it may take a little time to respond to your queries.

This document is available to you as a pdf at the following address:
https://padlet.com/wayne_johnson_wnc/SWYear1

You should create word-processed documents including images if your think they will aid in your work. If you don't have access to Microsoft Word, you could try Google Docs. If you don't have access to a computer system at this time, you may hand write your work.

Game Review

You **must** write a computer games review. The review can be of any computer game of your choice, and it must be all of your own work.
Your review **must** outline the following aspects of your chosen game:
• purpose of the game
• audience of the game
• common features in the game
• perspective e.g., top-down, isometric, first/third person
• player characters in the game
• non-player characters in the game
• sprites or game graphics
• achievement attainment
• how does the game maintain a player's interest
• player interaction/controls
• progression within the game (e.g., next levels, level up, buying goods, etc.)
• competition (e.g. high score, PVP, etc.)

This work relates directly to Unit 15: Games design and prototyping. You can view the unit contents here:
http://www.ocr.org.uk/Images/267367-unit-15-games-design-and-prototyping.pdf

Other useful websites can be found here:
https://tay.kinja.com/the-basics-of-a-game-review-1796765964
https://www.wikihow.com/Write-a-Video-Game-Review
Your game review really should be no longer than 1 side of A4
Remember: This review must be submitted during the first week of your course.

Getting a Head Start

You do not have to complete the next section, but if you want to get a head start on your course, you could attempt the following activity:

This activity involves research and explanation of an application development model used in a project life cycle.

This Spiral Model is an application development model, you will need to research using multiple sources to gain the information you require of the Spiral Model.

It is important that you consider the following points:

1. What is an application development model?
2. What is the Spiral Model?
3. The Spiral model used in application development has different phases, describe each of the following phases:
    - requirements analysis
    - design
    - implementation/coding
    - testing
    - deployment
    - maintenance
4. A project life cycle will have different (similar) phases, explain each of the phases in a project life cycle:
    - initiation phase
    - planning phase
    - execution phase
    - evaluation phase

If you do complete this section, let your tutor know and we will show you how to submit it as an actual assignment.

Please keep in mind that the work you produce here must be your own, i.e., no copy and paste.

Developing Your Skills

You do not have to complete the next section, but if you want to gain a few skills in games development and programming using C# before you begin your course, this is a great place to start.

You will need access to a PC and the internet for this section. You will also need access to Unity, found here: https://unity3d.com/get-unity/download

Use the following link and complete the tutorial:
https://unity3d.com/learn/tutorials/topics/2d-game-creation/creating-basic-platformer-game

If you want to really push your skills, think about modifying the game in the tutorial, perhaps with custom graphics or additional game play.

Summary

So, that's your summer project. I hope that you're as eager as we are in you joining us here in Computer Science in September.

Here are some things to remember about your summer project:

- The game review is mandatory; it must be complete and submitted during your first week at college (directly to Wayne Johnson).

- The explanation of application development models is not mandatory, but it will help you to get a head start. You would be submitting this as an assignment (to Wayne Johnson) during your second week at college. We will show you how to submit assignments before you do. You will not be judged whether you complete this work or not.

- The Unity tutorial is not mandatory. You will not be judged whether you complete this work or not. If you're enthusiastic about games development and programming (like we are), you will probably enjoy this task and you will certainly gain a lot from it, especially if you have never tried anything like this before.

- Please don't panic! There's a significant amount of work here, most of which is probably beyond anything you have attempted before. You are not expected to be an expert (yet). The most important part is the game review, so if you do get stuck, feel free to email me at: wayne.johnson@wnc.ac.uk I will be on holiday during the summer, but I do expect to be checking my email to answer your concerns every 2 days or so.

Regards,

Wayne Johnson