# FIRST TERM ASSESSABLE ACTIVITY

Computer Systems
CFGS DAW

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## Licencia



## Nomenclatura

A lo largo de este tema se utilizarán distintos símbolos para distinguir elementos importantes dentro del contenido. Estos símbolos son:


# FIRST TERM ASSESSABLE ACTIVITY

Read the whole activity before beginning

## 1. INTRODUCTION

You are one of the best students of the *Computer Systems* subject. You want to use your knowledge to obtain benefit. For that reason, you decide to look for clients and try to sell yours services.

You publish on the internet an advertisement about your skills and in a few days, you find a customer!

Your first client is the company *BiCiBiKeR S.L*, a company that manufactures and sells bicycles, as well as hiring them to tourists in several cities in Spain. The company has a main building in "*Polígono Vara de Quart"* in Valencia.

The needs of the company are:

- The company needs **four** kinds of computers:
  - One computer system for office workers, cheap and ready to do office task (Internet, word processor, …).
  - A POS (Point of sale) to hire bikes on shops.
  - A server. It must allow the concurrent work of 20 workers, although its main job is to store the database.
  - One computer for a designer.
- Some computer systems could require peripherals, like:
  - Monitors, keyboards, mouses, printers (one injection, another laser), and webcam with microphone.
  - Other peripheral that you consider useful.
- Each computer should have installed a dual boot, with a Linux System and a Windows System. All the hardware should be compatible with both systems.

You are a very skilled student, and those tasks are piece of cake for you :)

# 2. ACTIVITIES

## 2.1 Dossier

You must deliver a dossier. This document must include:

- Two different budgets of each kind of computer. You must justify which of the two is the one chosen.
- Where you have found each component.
- Why you use that component (you must test if the component is supported by the rest of components).
- Any extra peripheral that you consider interesting.

## 2.2 Assembly

Choose one of the computers and indicate the steps to make the assembly. You have to create a **presentation** in *LibreOffice/OpenOffice .odp* format (recommended) or *PowerPoint* format *.ppt* explaining these steps.

## 2.3 Maintenance

The assembly of the computers has been a bit problematic and several problems have raised… but you can solve everything!!!!

✓ **What can be the possible solutions to each of these problems?** Answer in a reasoned way.

a) The computer does not start.

b) The computer starts but nothing is visible on the screen.

c) You have dropped water on one of the laptops. What do you do?

## 2.4 Operating systems installation

You have to create a Virtual Machine simulating one of the computers. To create virtual machines, you can use Virtual Box.

In that Virtual Machine you will install a dual boot system with Windows 10 and Linux (Ubuntu recommended). In both operating systems you have to create a user *name_surname* where *name* is your *name* and *surname* is your surname.

You can download the Windows 10 ISO from here.

## *2.5 Python script*

Our bikes are available in three colors or models: *White*, *Red* and *Black*. *White* model costs 250€, *Red* model costs 280€ and *Black* model costs 300€.

We want to create a program that should ask for the model name (it does not have to be case sensitive). If the model typed is wrong, the script will show an error message.

If the model is right, our program should ask a *Discount Code*. If the user writes *INENGLISHPLEASE*, our program should print "model price" and, in green, "the model price with 5% discount" (it should be calculated by the script!!!). If *Discount Code* is wrong, our program should print model price without any variation.

## 3. DELIVERY

This assessable activity must be done completely **in English.**

> You can send the task until January 3rd 2020 at 23:00.

You have to deliver:

- A spreadsheet[1] for each budget. In each spreadsheet there must be 6 ~~7~~ sheets (each one for the 4 ~~5~~ different kinds of computers), 1 for the common peripherals and 1 (*the most important*) to group the whole budget. The budget must allow change some values like the number of computers, the discount, etc...

> Remember to present final prices, with and without VAT

- A document[2] with explanations relating to activity 1 **(maximum 1 page per budget**) and 3. **Do not deliver a PDF document.**
- A presentation with the steps of the activity 2.
- A video demonstrating activity 4. When you have finished the dual boot installation, you have to create a video where we can observe that there is a dual boot. The video must show algo the boot of both operating systems (Windows and Linux) and it must show that there is a user with the format specified before. You do not have to speak in the video.
- A .py file with the script of the activity 5, with comments inside explaining each block of code. For example, a comment for the variables explaining its use, or a comment for an if block explaining the different cases tested in it, etcetera.

1 LibreOffice/OpenOffice .ods format recommended
2 LibreOffice/OpenOffice .odt format recommended

## 4. ASSESSMENT

The activity is individual and non-transferable. To consider it completed, it is not enough just to deliver the dossier. The student must be able to defend his/her exercise at the request of the teacher and be able to make small modifications related to it, in order to demonstrate the acquisition of knowledge and avoid any suspicion of copying.

> The copy (full or partial) is punished with the fail of the complete task.

The evaluation is done in a global way and considers elements such as:

- Correction in the explanations.
- Correct operation of the script.
- Nice visual presentation of documents.
- A right structure in the generated documents:
  - Index
  - Page break
  - Styles on the page
  - Numeration
  - Header and footer
  - Animations and transitions in presentation
  - References and functions in spread sheet.

The different parts will have these weights in the final mark:

- **Dossier (mandatory).** 30%. As it is specified before, this part must be done to consider the activity delivered.
- Assembly. 15%
- Maintenance. 10%
- Operating systems. 20%
- Python. 25%

Besides, if any document delivered does not meet the format specified (docx, odt, ppt, etc) it will not be evaluated. Also **plagiarizing, cheating and/or copying** the work of another student or other source will receive a mark of 0 in the part affected (dossier, assembly, maintenance, operating systems, python).

## 5. RECOMMENDATIONS

The assessable activity is designed to put into practice the theoretical knowledge. The objective is not to assemble the perfect computers, but to face the practical problem of setting up a computer from scratch.

The fundamental objectives are:

- Improve your knowledge about computer hardware.
- Select properly computer hardware to assemble a computer.
- Detect and select component that are compatible.
- Detect needs of a organization and find peripherals that can solve the need.
- Make a budget.
- Create and use an adaptable spread sheet.
- Create a presentation.
- Write documentation properly. Remember, you are not talking in a WhatsApp Chat with your friends, you are writing formal documents for a company.
- Install two different operating systems and be able to boot each one.