

Operating System and Computer Architecture (CT049-3-1-OSCA)

Total Marks: 50%

Group Assignment

Intake :
Hand-Out Date :
Hand-in Date :
Lecturer : Akansha Mandhana

Instructions:

This is a group assignment. You are to organize yourselves into groups of **THREES (3)**.

The lecturer will later combine you into groups of six.

The group is to research and investigate **TWO** areas; **Hardware** and **Software** (Computer Architecture and Operating System) of an information technology as it is used within a context.

The goal of this assignment is to demonstrate knowledge and understanding in the specified areas. The total word count of the report should range from 9,000 to 10,000 words (That is approx. 3000 words for the group component and approx. 1000 words for each individual component). You may exceed this word count if your topic necessitates it however, The absolute maximum word count should not exceed 13,000 words.

No marks will be awarded for the entire assignment if any part is copied directly from printed materials or from another student. All submissions should be made on or before the due date. Any late submissions after the deadline will not be entertained. **Zero (0)** mark will be awarded for late submission, unless extenuating circumstances are upheld.

This assignment consists of **TWO** main sections:

1. **Group component:**

You will need to select a specific computing device and its' operating system in order to produce a Report which covers the following details.

A descriptive report containing:

A. A discussion on **People** who were involved in the creation of the device and OS and interesting facts about the device:

- Introduction to Company/Organization and Device
- Introduction to People involved in the creation of the device and OS
- Facts and stats about Company/Organization and Device

B. An introduction to the device and a description of the **Hardware** functions and capabilities from your understanding of Computer Architecture.

- Introduction to the device: showcase everything that comes out the box.
- A collection of tables capturing the details of the most significant hardware components; for example:

Component	Specification	Rating
CPU	2.7GHz dual-core Intel Core i5 processor (Turbo Boost up to 3.1GHz) with 3MB shared L3 cache	4/5
Description		
This device is capable of running 2.7 billion calculations per second.....		
Opinion and Advantages/Disadvantages		
This is a very good processor as its clock speed is more than enough to run most applications.....		

- A conclusion about the most important components the device has to offer.

(Note: **No word count for this section**)

C. A description of the **OS functions** and capabilities (Services and facilities provided by the OS), for example:

- User Interface (use screen shots)
- File Management
- Security and Protection Services

- Etc.

2. Individual component:

A **critical discussion** to cover any **SIX** perspectives (*one perspective for each student*) from the given list below:

(Note: All discussion for this section **MUST** focus on the same technology selected for the assignment)

- **User:** (each member may select a different user from this category)
Describe the capabilities and benefits of the system from a selected type of user's perspective (Student, Engineer, Businessman etc.)
- **System Architect/Analyst**
Discuss the **Cost** and **Quality** of the device in the context of bulk buying by a company. Also discuss the **Time** to service the device or any of its components.
- **System Administrator**
Discuss the ease of **installation** and **maintenance**, **availability** and **efficiency**, **performance** and **security** of the system as it would be maintained in an org.
- **Programmer**
Discuss the tools available for writing programs for the selected device.
 - A review of the programming **Tools** and **Languages** available on the platform.
 - A review of the help/tutorial materials available for learning programming on the platform.
- **Environmental Sustainability**
Discuss the environmental impact of the manufacture of computing technology and possible ways in which to minimize the dangers thereof.
- **Socio-technical Issues**
Discuss from a philosophical view, the impact the computing technology has had on human life.

The Individual section should include the table below as a header:

Name:	
TP No.	
Topic Selected:	

Submission Schedule

The dates and components detailed below involves **ONLINE** submission via teams **ONLY**.

The “**Final Submission**” component however, needs to be submitted as a **Printed Document** and includes all previous sections (Sections A, B, C & Individual Work) in one complete document. A CD containing a soft copy of the document must also be included and submitted on the due date to the Admin.

Date	Activity
Section A: Introduction	2 nd July
Section B: Hardware (Components of the System	16 th July
Section C: Software (Operating System)	30 th July
Individual Work (Online Only)	11 th August
Final Submission of entire work	16th August

Guidelines for the Report:

Document the results of your work in a **professional and systematic** manner, in the form of a **computerized report**. **ONE (1)** softcopy (CD) and hardcopy of your documentation are to be submitted.

Your completed documentation should meet the following requirements:

1. Cover
2. Marking Grid
3. Abstract
4. Table of contents
5. Introduction
6. Chapters / sections
7. Limitations (optional)
8. Conclusion
9. References
10. Appendices (Data charts, extra screen captures etc.)
 - Work Breakdown Structure
 - Minutes of Meetings
 - Frequently Asked Questions (At least 5 questions for Device and 5 questions for OS)
(See sample here: [Click Me](#))
 - Gantt Chart (Plan of activities)

Assessment Criteria (Marking Grid):

Group Component (70%)			
Fully	Partially	Not	Performance Criteria
<input type="checkbox"/>		<input type="checkbox"/>	Distinction (55 – 70 marks)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All credit criteria fully met
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Work shows aspects of originality and creativity
			Discussions and opinions were well informed and help the point being discussed
<input type="checkbox"/>		<input type="checkbox"/>	Credit (45 – 54 marks)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All pass criteria fully met
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Organization's history and achievements were well reviewed
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	People in the organizations were identified and discussed
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hardware was properly evaluated indicating strongest points
			Operating System discussions contains a good amount of details
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pass (0 – 44 marks)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Table of Contents
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Basic Introduction of Organization(s)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Basic Description of Hardware
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Basic Description of Operating System
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Citation and Referencing

Individual Component (30%)						
Name Grade	S1: Initials	S2: Initials	S3: Initials	S4: Initials	S5: Initials	S6: Initials
Well-articulated discussions with reference to the documentation.	Fully Partially Not	Fully Partially Not	Fully Partially Not	Fully Partially Not	Fully Partially Not	Fully Partially Not
Critical review discussed technology.	Fully Partially Not	Fully Partially Not	Fully Partially Not	Fully Partially Not	Fully Partially Not	Fully Partially Not
Class Quiz						
Total.						

Work Breakdown Structure:

Student	Allocation of Work	Signatures
S1 (Name)		
S2 (Name)		
S3 (Name)		
S4 (Name)		
S5 (Name)		
S6 (Name)		

Minutes of Meeting

(See *Link*: [Click Me](#))

Call to order

A meeting of [Organization or team name] was held at [Location] on [Date].

Attendees

Attendees included [list attendee names].

Members not in attendance

Members not in attendance included [list names].

Approval of minutes

[To replace any placeholder text (such as this) with your own, just select a line or paragraph and type. For best results, don't include space to the left or right of the characters in your selection.]

Reports

[Need to add your own headings or more text? No problem. On the Home tab of the ribbon, check out the Styles gallery to easily apply any text formatting you see in this document.]

Unfinished business

[Add your text here.]

New business

[Add your text here.]

Announcements

[Add your text here.]

Secretary

Date of approval

Marking Criteria:**Distinction**

Demonstrated comprehensive research with detailed evidence. High level of analysis performed, exceptional and thorough knowledge and understanding displayed with regard to facilities and services of the Operating System. Documentation presented in a professional manner, without any spelling or grammar mistakes. Displayed evidence of critical appraisal.

Credit

Adequate research conducted with fair detail of evidence presented. Moderate level of understanding, analysis and knowledge displayed. Good level of documentation presented. Some level of reflection in the documentation. Moderate level of critical appraisal.

Pass

Low level research conducted. Some evidence of research displayed. Basic level of analysis, knowledge and understanding displayed. Satisfactory level of documentation. Satisfactory or low level of reflection displayed. Poor level of critical appraisal demonstrated.