MODULE COMP60010 – ENTERPRISE CLOUD & DISTRIBUTED WEB APPLICATIONS

Assignment: Critical Review and Case Study

<u>Submission Deadlines:</u>

Review Submission: **As specified in the Consolidated Student Assessment Information Sheet**
Case Study Design: **As specified in the Consolidated Student Assessment Information Sheet**

1. Introduction

This document forms the specification for both of your assignments, separated into sections, covering the <u>first semester</u> of this module. This assignment will address and assess **the following learning outcomes** as indicated below and in the Module Handbook:

Learning Outcome	Skill	Assessed Through
Critically evaluate cloud adoption and the use of cloud services within an organisation for web applications, showing an understanding of the benefits and limitations of this technology.	Enquiry, Knowledge and Understanding, Analysis	Review Paper
Specify and design a cloud-based infrastructure for a given scenario which will aid an SME and shows the benefits of using such technology.	Problem Solving	Case Study Design

Case Study

EverMedia is a leading media corporation. They are currently located in Toronto Canada and are planning on spanning globally. EverMedia operates mostly as a brick-and-mortar company, but there are many systems within the company supporting to monitor and manage the organization. There are three main departments within EverMedia.

The content department focuses on producing media content . They have systems which capture large volumes of documents and provide shared file storage of the content that they produce. These files contain confidential and secure data and need to be protected (Interviews done with people, video captures of events). The current on-premise system has encryption mechanisms in-place to make sure data at rest security is ensured. Also, another application of importance for the content department is the document analyzer. This application is provided by an external vendor and therefore comes at a higher price point than any of the other applications at EverMedia. This application is able to source all the content documents, extract its text and comprehend and perform text analytics on the data extracted.

The IT department has several applications, The first application is a commercial off the shelf software (COTS) used for IT support tickets. This system allows all employees of EverMedia to raise support tickets if they run into any IT related issues. Also, the IT department has a remote workspace concept where they can provision remote virtualized environments to remote workers, which became really popular with the rise of COVID-19. These workspaces are pre-assembled and employees can remotely login to them and work on it as if it was their own computer. Currently these VMs are provisioned by running multiple virtualized instances within several host computers owned and managed by EverMedia. The IT department also allows an LDAP based Single Sign-on option to employees to access the various applications within EverMedia. This simplifies access control within the IT department. Also, for remote employees, the IT department has VPN options and it is mandatory that all systems are provisioned for access through the VPN as well.

The purchasing department works with vendors to purchase different production equipment, lights, multimedia, and equipment required for internal staff as well as for re-hiring through the online portal of EverMedia. Currently the online portal is also hosted within EverMediadata centers. The inventory control system tracks the vendors in a vendor database. Tracks re-order levels and makes sure that necessary items are purchased in time. The purchasing department houses the financial management as well. They make use of invoicing systems to track purchase orders and payments to vendors.

The databases upon which these applications rely are hosted in a mixture of on-premises Oracle, Microsoft SQL Server and PostgreSQL database management systems.

With a significant ongoing spend on IT infrastructure, the board of management at EverMedia are considering opportunities to a) move much of their infrastructure to the cloud or b) retain their infrastructure and seek opportunities to streamline their offerings.

2. Requirements

2.1   There are two LMS submissions that together form the whole of this assignment. This assignment is one of two assignments that form the whole of the summative assessment for this module.

	Submission	Weighting
Assignment 1	Review Paper	50%
50% overall weighting	Case Study Design	50%
	Total	100%
Assignment 2	Details to be provided in Semester 2	
50% overall weighting		

REVIEW PAPER

2.2   For the first submission in this assignment, you are required to write a review paper of **1,500 words**, +/- 10%.

The word count does not include headings, tables, diagrams or references.

The subject of the paper is the fictional EverMedia, the organization specified in the case study.

See above for the case study particulars.

The review paper should be a **single document** to be split into two sections,

each with separate headings.

These headings, and guidance on the theme of each section, are given below.

2.3 **Section 1** of the review paper is:

"An argument for migrating EverMedia to cloud IT infrastructure".

You are required to present an argument, based on the facts in the case study, for migrating the current IT infrastructure at EverMedia, which is mostly on-premises, to cloud services.

Your argument should be capped at **750 words**, +/- 10%, and forms the first section of your paper.

2.4 **Section 2** of the review paper is:

"An argument against migrating EverMedia to cloud IT infrastructure".

You are required to present an argument, based on the facts in the case study, for retaining and streamlining the current IT infrastructure at EverMedia, which is mostly on-premises, and rejecting cloud services.

Your argument should be capped at **750 words**, +/- 10%, and forms the second section of your paper.

2.5 Your paper should focus directly on the above themes. Both sections are mandatory. You will need to determine the specific scope and content, and the manner in which you identify, include, synthesize and report your findings.

2.6 Both sections of your review paper should include appropriate academic references.

It is suggested (but it is not definitive) that you incorporate 3-5 peer-reviewed academic references into each section of your paper.

All references should be in the Harvard format. In-text citations should be given in full e.g. '… (Smith and Jones, 2010)'.

CASE STUDY DESIGN

2.7   For the second submission in this assignment, you are required to present a **short design document** detailing what cloud technologies would be suitable for EverMedia in the event that they decide to move to the cloud, and how they could be mapped to their current needs.

It is suggested, but not mandatory, that you use your experience with Amazon Web Services as part of this module to present an AWS-centric view.

2.8   Your design should be presented as a single Word or PDF document, not more than **1,000 words** in length, +/- 10%.

The word count does not include headings, tables, diagrams or references.

2.9   You are encouraged to make use of screenshots, diagrams, code samples, links to documentation and other resources within your document.

Ensure any diagrams you use that are not your own are properly cited.

2.10   Some guidance when completing the assignment:

- Read the case study carefully.

- Are there any clues in the case study that will lead you directly to cloud technologies?

- Use your cloud infrastructure knowledge to visualize how services could link together and draw appropriate diagrams.

- These diagrams **do not need to be formal** e.g. UML, but feel free to make use of any appropriate diagram types you find. A useful tool for you (free) is https://draw.io. All diagrams should be clear and legible.

- You are **not** required to build **all** of the appropriate technologies in e.g. AWS. However, you should consider creating and screenshotting some assets e.g. EC2 instances, S3 buckets, RDS instances to illustrate how they can be created for the case study.

- The case study gives some background information about the University. Are there any aspects that will be difficult to implement in the cloud?

- How could these be overcome?

- Your writing does not need to be formal, but it should provide a clear narrative detailing your designs.

You should be aware of the rules on academic misconduct. These rules are very clear. The Faculty takes a strict line in enforcing them. It is important that you understand the regulations as the penalties for infringement can be very serious including: module failure; grade point zero; downgrading your degree classification; award failure; expulsion from the University. To avoid plagiarism please consult the guidelines on the University website.

3.0   Submission Guidelines

3.1   The primary method of submission is via LMS.

3.2   You should submit a PDF copy of your **review paper** and a PDF copy of your **case study design** by the submission deadlines. You may be asked to submit other file formats. In this case your Tutor will inform you accordingly.

3.3   If necessary, you may be asked to submit via another secondary method – such as an email attachment. In this case your Tutor will inform you accordingly.

3.4   PDF documents should not be password protected or have restricted permissions – specifically, they should allow modifications (for annotations and comments).

3.5   You are advised to keep copies of all your work for your own records.