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Date: Sunday, 31 March 2024, 10:52 AM

ITECA3-12 Assessments (2024)
Project

1. Project

Faculty:	Information Technology
Module Code:	ITECA3-12
Module Name:	Web Development and e-Commerce
Content Writer:	Mr Sandile Dlamini
Internal Moderation:	Community of Practice
Copy Editor:	Mr Kyle Keens
Total Marks:	100
Deliverable 1 Submission Date:	First Block Week 3
Deliverable 2 Submission Date:	Second Block Week 4
Deliverable 3 Submission Date:	Second Block Week 6
Project Resubmission Date:	Second Block Week 7

This module is presented on NQF level 7.

5% will be deducted from the student's project mark for each calendar day the assignment is submitted late, up to a maximum of three calendar days. The penalty will be based on the official campus submission date.

Assignments submitted later than three calendar days after the deadline or not submitted will get 0%. [1]

This is an individual project.

This project contributes 40% towards the final mark.

[1] Under no circumstances will projects be accepted for marking after the assignments of other students have been marked and returned to the students.

2. Instructions to Students

1. Please ensure that your answer file (where applicable) is named as follows before submission: **Module Code – Assessment Type – Campus Name – Student Number.**
2. Remember to keep a copy of all submitted projects.
3. All work must be typed.
4. Please note that you will be evaluated on your writing skills in all your projects.
5. All work must be submitted through Turnitin. The full originality report will be automatically generated and available for the lecturer to assess. Negative marking will be applied if you are found guilty of plagiarism, poor writing skills, or if you have applied incorrect or insufficient referencing. (See the "instructions to students" book activity before this activity where the application of negative marking is explained.)
6. You are not allowed to offer your work for sale or to purchase the work of other students. This includes the use of professional assignment writers and websites, such as Essay Box. You are also not allowed to make use of artificial intelligence tools, such as ChatGPT, to create content and submit it as your own work. If this should happen, Eduvos reserves the right not to accept future submissions from you.

3. Section A

Section A

Learning Objective

This project focuses on key web technologies and tools for web application development and the essentials of e-commerce. Instead of giving students a specific project to replicate, students are given the freedom to decide on a project idea or choose what they would like to build or develop. Students are thus expected to

identify a potential local client (e.g., a large or small organization) and develop an e-commerce website for the client.

Students are also expected to conduct requirement analysis, gather all information related to their specific client, and formulate a project proposal. Thereafter, build a database-driven e-commerce website, utilizing HTML, CSS, JavaScript, PHP, and MySQL to meet the client's needs or requirements.

Project Topic

E-Commerce Web Development Project

Scope

In this project, students are required to identify and schedule meetings with their potential client in order to have a clear understanding of what the client expects (through the use of various information-gathering methodologies). Students are also required to complete and submit each project deliverable using the provided Deliverable template to the lecturer (for marking) and develop the e-commerce website using HTML, CSS, JavaScript, PHP, MySQL, etc.

Technical Aspects

- Use standard Arial, font size 12, spacing 1.5.
- Include page numbers.
- Include a title page.
- Print submissions on both sides of the page.
- Write no less than 30 pages.
- Include all relevant diagrams.
- Ensure any diagrams, screenshots and PowerPoint presentations fit correctly on the page and are referenced.
- Include a table of contents.
- Use accurate Harvard referencing throughout the assignment.
- Include a bibliography based on the applicable referencing method at the end of the assignment.
- Include the completed Assignment/Project Coversheet (available on myLMS).
- Check spelling, grammar, and punctuation.
- Run the assignment through the Turnitin software.

3.1. Scenario

Scenario

Study the scenario and complete the questions that follow:

The explosive growth of e-commerce in South Africa

New data from FNB Merchant Services shows that the South African online e-commerce market has grown rapidly and is currently estimated at just under R200 billion per annum. Companies such as Takealot, Woolworths and Checkers are all adapting to new consumer habits.

According to FNB, an increase in the e-commerce estimated value indicates how Covid-19 exponentially accelerated the use of e-commerce. Before the pandemic, e-commerce accounted for 8% of total card payments spent in the retail space, with 35% of the sector being made up by spending on travel and accommodation. At the end of 2021, e-commerce accounted for 14% of total card payments sales, with travel and accommodation only taking up 11%.

"E-commerce has already exceeded our conservative estimates initially published at the peak of the pandemic, and it's clearly here to stay," said FNB Merchant Services chief executive officer Thokozani Dlamini.

"South Africa's e-commerce market will reach more than R400 billion by 2025 on the back of more than 1 billion transactions per annum," Dlamini estimated. Statistics from FNB show that total online sales in 2020 jumped by 55% and another 42% in 2021, driven by increased spending in less traditional e-commerce industries.

Online spending on products – other than travel or accommodation – doubled in 2020 by reflecting a 102% increase which saw an additional 39% of growth in 2021, said Dlamini. Transaction volumes remained robust with an estimated 500 million in 2021, up from 200 million in 2019 and 345 million in 2020.

However, people were spending less online with smaller retail and lower basket items gaining traction – the average purchase value of R390 was R60 less than the average in 2019.

"Not all major retailers were prepared for the sudden change, but those that were successful were the ones who would adopt a fast, reliable logistical solution in meeting the delivery demand. Key challenges to overcome were consumer trust in the fulfilment of sales where physical products had to be delivered, and logistical solutions to meet spiking demand," said Dlamini.

More market competition

The shift to e-commerce has increased the competitiveness of smaller, independent retailers, who recognise that their client base can be expanded beyond their immediate regional presence.

FNB stressed that despite larger retailers having bargaining power with potentially significantly lower input costs than an SME going virtual, their digital prices are substantially higher since they need to maintain a unique digital offering whilst ensuring data security.

The lure of marketplaces offered by Takealot, Bidorbuy, Facebook Marketplace, and similar solutions have opened avenues for those unable to invest in a professional digital platform to sell their products.

Source: BusinessTech. 2022. The explosive growth of e-commerce in South Africa. [Online]. [23 January 2024]

End of Scenario

3.2. Deliverable 1: Project Proposal

Deliverable 1: Project Proposal	30 Marks

Identify and schedule meetings with a local client (any large or small organization or individual) who requires a database-driven e-commerce web application. Use the Deliverable 1 template provided to write a full project proposal, and submit it to your lecturer on or before the deadline date.

Mark Allocation

Criteria		Mark Allocated
1.1	Introduction	5
1.2	Needs/Problem	5
1.3	Goals/Objectives	5
1.4	Procedures/Scope of Work	4
1.5	Timetable	3
1.6	Budget	3

1.7	Key Personnel	2
1.8	Conclusion	2
1.9	Sign-off	1
Total		**30**

End of Deliverable 1

3.3. Deliverable 2: Documentation and Coding

Deliverable 2: Documentation and Coding	50 Marks

Develop two prototypes for the e-commerce website you intend to build for the client selected in Deliverable 1 (Project Proposal). Your designs must be compatible with a variety of gadgets, such as smart phones, tablets, and desktops. The client is then required to choose and authorize one of the prototypes for the actual website development.

Provide the Class Responsibility Collaborator (CRC) Cards, the Enhanced Entity Relationship

Diagram (EERD), Context Diagram, Data Flow Diagram (DFD), Use Case Diagram, and

Database Design (showing the data to be stored and the relationship between different

elements).

Develop a database-driven e-commerce website for your client using the selected prototype and the designs mentioned above (e.g., Context Diagram, Use Case Diagram, and Database Design). If you decide to use any PHP framework, you must create your own templates that follow the chosen prototype. The following technologies must be utilized:

- HTML
- CSS
- JavaScript (jQuery accepted)
- PHP

- MySQL
- Bootstrap (can be used)
- Any other tools or web development technologies can also be explored and used, depending on the nature of your project.

Note 1: Complete and submit the Deliverable 2 template provided on or before the due date. **The link to the completed and hosted website and/or the GitHub repository and/or the zipped folder containing the code** must be formally submitted and shared with your lecturer **ONE (1)** week **BEFORE** your Deliverable 3 presentation.

Note 2: The submission of localhost is **NOT** permitted for Deliverable 3 presentation and would result in a **50%** Presentation Mark penalty.

Note 3: The use of a Content Management System (CMS) is **NOT** permitted and would result in the non-marking of the Deliverables 2 & 3 as it would be regarded as a deliberate non-conformance to instructions.

Mark Allocation

Criteria		Mark Allocated
Introduction		2
2.1 Needs/Problem	Prototype A	6
	Prototype B	6
2.2 Goals/Objectives	Class Responsibility Collaborator (CRC) cards	3
	Enhanced Entity Relationship Diagram (EERD)	3
	Context Diagram	3
	Data Flow Diagram (DFD)	3
	Use Case Diagram	3
	Database Design	3

2.3	Coding	Website Screenshots	2
		Sample PHP Code	3
		Sample HTML Code	3
		Sample JavaScript Code	3
		Sample CSS Code	3
		Sample MySQL Table Screenshots	2
2.4	Conclusion		1
2.5	Sign-off		1
Total			**50**

End of Deliverable 2

3.4. Deliverable 3: Project Presentation

Deliverable 3: Project Presentation   20 Marks

You are required to present your final project to your lecturer(s). The final project, with all the requirements specified in Deliverable 1 and a user manual (Deliverable 3) must be hosted using any free hosting sites.

Mark Allocation

Criteria	Mark Allocated
3.1 User Manual	5

3.2 Presentation	15
Total	**20**

End of Deliverable 3