Project

Site:	Eduvos Learning Management System	Printed by:	Coenraad Vermaak
Course:	ITMDA3-12	Date:	Wednesday, 15 March 2023, 4:12 PM
Book:	Project		

Table of contents

1. Project Specification

Faculty:	Information Technology
Module Code:	ITMDA3
Module Name:	Project: Mobile Application and Web Services
Content Writer:	Kariboba Mpwampu
Internal Moderation:	Community of Practice
Copy Editor:	Mr Kyle Keens
Total Marks:	955
Deliverable 1 Submission Week:	Block 1, Week 8
Deliverable 2 Submission Week:	Block 1, Week 8
Deliverable 3 Submission Week:	Block 2, Week 2
Deliverable 4 Submission Week:	Block 2, Week 5
Deliverable 5 Submission Week:	Block 2, Week 6
Deliverable 6 Submission Week:	Block 2, Week 7
Oral Presentation & Defense of Mini Dissertation	Block 2, Week 8

This module is presented on NQF level 7.

5% will be deducted from the student's assignment 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 a group project.

Groups should consist of 5 members.

This project contributes 100% towards the final mark.

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

2. Instruction 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 assignments.
3. All work must be typed.
4. Please note that you will be evaluated on your writing skills in all your assignments.
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.
7. One group member should be nominated to submit the assessment on behalf of the group. Multiple submissions by various group members will result in an inflated similarity index on Turnitin.

3. Section A

Section A

Learning Objective

This project focuses on the Mobile Application and Web Services. The students will be expected to gather information related to a specific client and come up with a project proposal guided by the template provided. Furthermore, the students will be expected to develop a database driven mobile application based on the requirements gathered from the client using, but not limited to Android programming, Java, Swift, React Native, MySQL, SQLite.

Project Topic

Mobile Application and Web Services Project

Scope

In this project, students are expected to identify and schedule meetings with any registered local business or an individual in need of a database driven mobile application. Using different information gathering methodologies, the students must have a clear understanding of what is expected by the client. Complete the research project proposal and the project documentation and submit to your lecturer for marking. Use at minimum Android programming, Java, Swift, React Native, MySQL, SQLite for the development of the mobile application.

Marking Criteria

Deliverables must be submitted on or before the due date to the lecturer in class or as per arrangement. Five percent (5%) will be deducted for every day that the deliverable is late. Deliverables that are more than a week late will be awarded a zero. Late submissions must be accompanied by a medical certificate.

3.1. Scenario

Scenario

Fintech and social super apps will become more common.

Super apps, which originated in China and offer a range of services within a single app, are gaining popularity in Africa, especially in the fintech sector. With 548 million registered accounts in Sub-Saharan Africa, over 150 million of which are active monthly, these apps provide basic infrastructure for the unbanked population and easy access to a wide range of services. Examples of successful super apps in East and West Africa include M-Pesa and Opay, as well as Uber and Bolt's expansions into food delivery. As we move into 2022, businesses are expected to grow and diversify the capabilities of their apps, embedding a suite of features into people's everyday lives, in the race to dominate the digital retail and consumer landscape for super apps.

Source: Ecommerce.co.za. (2022). 3 trends that will dominate African mobile apps in 2022 | Ecommerce.co.za. [online] Available at: https://www.ecommerce.co.za/article.aspx?s=161&a=8336&title=Landscape [Accessed 10 Jan. 2023].

End of Scenario

3.2. Deliverable 1: Problem Settings

Deliverable 1: Problem Settings — 85 Marks

Identify and schedule meetings with any registered local business or an individual in need of a database driven Mobile Application. Using the Deliverable 1 template provided, write a full project proposal, and submit it to your lecturer on or before the due date.

Mark Allocation

Requirement	Marks	Deductions
1.1 Background of Research	**15**	
Nature and Context of research clearly defined	4	
Overview of previous studies in relation to current research	3	
Justification of current research	3	
Company Background	5	
1.2 Aim of Research	**6**	
Is it high level achievements of the research?	2	
Concise, direct, but broad statement of intent	2	
Reveals the purpose of the research	2	
1.3 Research Objectives	**10**	
SMART	5	
Direct the work of research activities	3	
Well-articulated in point form, each point a single objective	2	
1.4 Problem Statement	**17**	
Clearly defines the problems faced by the company/users	5	
States the problems and ideal solutions for the problem	3	
Sub-Problems		
Breaks down problem into at least two (2) sub-problems	6	
Decomposed problem within a sub-problem not a totally new problem	3	
1.5 Benefits of Study	**12**	
Benefits to academic area	4	
Benefits to company or users	4	
Benefits to the researchers	4	
1.6 Delimitations of Study	**7**	
Clear scope boundary	3	

Acceptable challenge areas excluded from research	4	
1.7 Benefits of Study	**15**	
Gantt Chart	6	
Work Breakdown Structure	6	
Reasonable Timelines	3	
1.8 Outline of Mini Dissertation	**3**	
TOTAL	**85**	

End of Deliverable 1

3.3. Deliverable 2: Literature Review

Deliverable 2: Literature Review — 120 Marks

Mark Allocation

Requirement	Marks	Deductions
2.1 Introduction	**8**	
Overview of Literature Review and Literature Search Parameters	5	
Overview of Literature Review and Analysis Structure	3	
2.2 – 2.3 Mobile Apps & Apps in your Area	**24**	
Relevant Literature on Mobile Apps & Apps/Systems in research area	10	
Well done review	10	
Meaningful Analysis and Review	4	
2.4 Mobile Apps Tools and Technologies	**24**	
Reviewed Relevant Tools for area of Research	10	
Reviewed relevant current and future tools in area of research	10	
Identified tools and technologies to be used in your research	4	
2.5 Mobile Apps Research and Design Methodologies	**39**	
Past Relevant Research work approach by researchers	10	
Relevant Information on your chosen Methodology of Research and Development	14	
Relevant Diagrams and Illustrations	15	
2.6 Conclusion	**5**	
Citations and Sources	**20**	
Correct Citations and References	15	
Recent Sources	5	
TOTAL	**120**	

End of Deliverable 2

3.4. Deliverable 3: System Modelling and Architectural Design

Deliverable 3: System Modelling and Architectural Design — 185 Marks

Mark Allocation

Requirement	Marks	Deductions
3.1 Introduction	**10**	
Outlay of the design plans, considering mobile app architectural and system designs	5	
Outlay of iterative and incremental design plans and structure of the design process	5	
3.2.1 User Experience	**48**	
User Experience considerations	8	
Fact-finding Techniques	10	
Analysis of User Requirements	15	
Tools and Diagrams used	15	
3.2.2 User Interface Design	**41**	
Designs	15	
Design Tools and Techniques	10	
Designs Look and Feel (Aesthetic, Business Colors, etc.)	10	
Iterative and Incremental Design	6	
3.3 Business Layer	**46**	
Operations and Process Flow Designs	15	
Data Handling Operation Designs (security, exception handling, data validation, etc.)	15	
Diagrams	10	
Iterative and Incremental Design	6	
3.4 Data Layer	**35**	
Logical Data Models	20	
Diagrams, Tools, and Techniques	10	
Iterative and Incremental Design	5	
3.5 Conclusion	**5**	
TOTAL	**185**	

End of Deliverable 3

3.5. Deliverable 4: System Prototype Development and Testing

Deliverable 4: System Prototype Development and Testing — 210 Marks

Mark Allocation

Requirement	Marks	Deductions
4.1 Introduction	**10**	
Layout of Implementation Plans and considerations of the Designs	5	
Considerations of Iterative and Incremental development	5	
4.2 Testing Plans	**35**	
Chosen Testing Types	10	
Testing Plan Schedule	10	
Testing Reports	15	
4.3 Layouts Development	**50**	
Layout Screens Implementations	20	
Code Snippets and Discussions	15	
Designs Look and Feel (Aesthetic, Business Colors, etc.)	10	
Iterative and Incremental Design	5	
4.4 Business Logic Development	**80**	
Business Logic and Operational Algorithms	30	
Logical flow in code	10	
All Code Works	10	
Use of programming structures (Decision, Loops, Overloading, Overriding, etc.)	15	
Good Design Practices, Good Code, Comments	10	
Iterative and Incremental Development	5	
4.5 Data Access Development	**30**	
Relevant Database Implementation Technology (In-App DBMS or Server Implementation) and Justification	5	
Database Creation and Accessor Classes and Methods	20	
Iterative and Incremental Design	5	
4.6 Conclusion	**5**	
TOTAL	**210**	

End of Deliverable 4

3.6. Deliverable 5: Results, Conclusion and Recommendations

Deliverable 5: Results, Conclusion and Recommendations — 90 Marks

Mark Allocation

Requirement	Marks	Deductions
5.1 Results	**45**	
Research Findings	10	
Research Successes and Failures	15	
Research Challenges	10	
Research Benefits	10	
5.2 Conclusion	**20**	
Covers all aspects of the research	10	
Rounds down and closes all research work	10	
5.3 Recommendations	**25**	
Addressing real needs for the customer	15	
Relevant to the current technologies and an improvement	10	
TOTAL	**90**	

3.7. Deliverable 6: Mini-Dissertation (Compilation of All Deliverables)

Deliverable 6: Mini Dissertation (Compilation of All Deliverables) — 100 Marks

Mark Allocation

Requirement	Marks	Deductions
6.1 Document Format	**66**	
Table of Contents: All headings and Accurate Page Numbers	10	
Chapter Headings (Centre-aligned with Chapter Number), Sub-headings (Left-aligned with subheading multilevel numbers)	10	
Chapters and Major sections begin on their own page	4	
Default template fonts used in all sections	2	
List of Figures: Accurate page numbers, All Figures listed, Figures Numbered by Chapter, Figures Centre-Aligned, Caption Centre-aligned	10	
List of Tables: Accurate page numbers, All tables listed, Tables numbered by chapter with a dot separator, table captions centre-aligned	10	
References: Correct format and layout, Sorted into ascending order, All listed	20	
6.2 Content	**34**	
Acknowledgements	4	
Abstract: Concise, rich, accurate, enticing	10	
Appendices: User Guide (Neat and informative), User Requirements Specifications, Test Templates/Reports, any other as students see fit	20	
TOTAL	**100**	

End of Deliverable 6

3.8. Oral Presentation & Defense: Mini Dissertation

Oral Presentation & Defense: Mini Dissertation — 165 Marks

Mark Allocation

Requirement	Marks	Deductions
7.1 PowerPoint Presentation	**35**	
PowerPoint Design: Colors, Images, Font, Contrast, Visibility	10	
Relevant Points and Slide Organization	5	
Quality of Content and Quality of Images	5	
Proper Referencing (Credible Sources, In-Text Referencing)	10	
Grammar, Spelling, Neatwork and Professional	5	
7.2 Presentation Skills	**35**	
Group Organization and Preparedness	10	
Clarity of Speech and Eye Contact	5	
Diction, Articulation and Command of Language	5	
Group Collaboration and Well-Known Presentation Plan	5	
All Members Participation	10	
7.3 Research Overview in Presentation	**25**	
Clear Aims, Objectives, Problem Statements, Solutions	5	
Clear Research Contributions and Previous work Review	5	
Suitable Methodology and App Design	5	
Implementation Issues and Prototype Discussions	5	
Research Results, Analysis and Recommendations	5	
7.4 Mobile App Demonstration	**70**	
App Look and Feel: Layout Designs (Colors [Company Colors], Appropriate Widgets, Widget Designs, Interactions Feel) Widgets: Buttons (ImageButtons, Buttons, Toggle Switches), TextViews, EditTexts, Layouts, Containers, etc	20	
Settings and Preferences:- Saved and Retrieved	5	
Interactions:- Button Listeners, Object Listeners, Fragments and Layout Switching. Code Works. Intents work and pass messages.	20	
Solutions Implemented: Code solves the problems (processes data, does logic operations, has algorithms that solve challenges like data searching, sorting and organization, identifying, etc	15	
App data persists, Classes to handle data storage and retrieval work. No hard coded data.	10	

TOTAL	**165**	

End of Oral Presentation & Defense: Mini Dissertation