**UGANDA MARTYRS UNIVERSITY**

**NKOZI CAMPUS**

**FACULTY OF SCIENCE**

DEPARTMENT COMPUTER SCIENCE AND INFORMATION SYSTEMS

MOBILE COMPUTING AND NETWORKS

FINAL ASSESSMENT

ACADEMIC YEAR 2023/2024 SEMESTER **2,** YEAR 2

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

**Deadline: 14th May 2024**

Time Allowed: **2 WEEKS**

**Instructions to Candidates:**

**Read the following before answering the examination questions.**

* You are expected to work on the project for a period of 2 weeks
* All phases should be submitted using the eLearning platform
* The Presentations will be done on the day the exam is scheduled
* You are expected to use JAVA or Kotlin as the programming languages
* The project is to be done in groups of 2 (Pair)

**PART A:**

**PROJECT DESCRIPTION**

Mobile application is the trend today since more that 60% of the global population is using mobile devices and utilizing mobile application to carry out different tasks. There a number of technologies that help to develop mobile applications that include java, kotlin, and many other frameworks. In the course mobile computing and netowrks at least two of these technologies were covered. Follow the question below to develop and application.

Question (Scenario)

Meet Sarah, an avid reader who loves exploring new books. She often finds herself browsing through various genres to discover her next read. Today, she's on the go, traveling on a train, and wants to explore some new books. She takes out her smartphone and opens the mobile application of her favorite online bookstore. You are required to develop a mobile application that Sarah would use even when she’s on the go.

*You can use JAVA or KOTLIN for the business logic*

**PART B:** Project-based assessment guidelines

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| **S/N** | **Milestone Description** | **Maximum Marks** |
| **1** | **MILESTONE ONE: Design Proposal**  In this milestone, student should submit a detailed design proposal for their Mobile application project The proposal should include a clear outline of the components, their interactions, and how they contribute to the functionality and scalability of the application. Student should also provide a rationale for their design choices, considering factors such as user requirements, system constraints, and industry best practices.  Assessment Criteria is based on the Creativity in design, clarity of architectural choices, alignment with project requirements, feasibility of implementation. | **20 %** |
| **2** | **MILESTONE TWO Prototype Development**  This milestone, student should develop a working prototype of a mobile application based on the design proposal submitted in Milestone One. The prototype should include key features such as user authentication, book browsing, shopping cart functionality, and basic user interface elements. Student should focus on implementing the architectural layers/components outlined in their design proposal and ensure that the prototype demonstrates the intended functionality of the application.  Assessment Criteria will be based on the Application of architectural knowledge, implementation of core features, adherence to design specifications, usability of the prototype. | **20 %** |
| **3** | **MILESTONE THREE: Analysis and Evaluation**  In this milestone, student should critically analyze and evaluate the choices made during the project based on their achievements in Milestones One and Two. They should assess the effectiveness of their architectural design in meeting the project requirements, identify any challenges or limitations encountered during implementation, and propose solutions or alternative approaches where necessary. Student should also reflect on lessons learned and discuss potential improvements for future iterations of the project.  Assessment Criteria is based on the Depth of analysis, clarity of evaluation, identification of strengths and weaknesses, justification of proposed solutions. | **20 %** |
| **4** | **MILESTONE FOUR: Presentation and Defense**  For this milestone, student should present and defend their developed product/project in a pitch event, presentation, poster presentation, or similar format. They should effectively communicate the key features, functionalities, and benefits of their mobile application, highlighting the value it brings to users or stakeholders. Student should also address any questions or concerns raised by the audience and demonstrate confidence and expertise in their subject matter.  Assessment Criteria is based on the Clarity of presentation, persuasiveness of arguments, ability to address questions, professionalism in delivery. | **20 %** |
| **5** | **MILESTONE FIVE: Versioning ,Documentation and Reporting**  The final milestone involves documenting the process undertaken throughout the project and preparing reports with executive summaries and abstracts. Student should compile comprehensive documentation covering aspects such as project objectives, methodology, design decisions, implementation details, testing procedures, results, and conclusions. The documentation should be well-organized, clearly written, and effectively communicate the key findings and insights of the project.  Assessment Criteria will be based on the Completeness of documentation, clarity of writing, organization of content, relevance of information.  An accessible GIT repository should be provided | **20 %** |
|  | **TOTAL MARKS** | **100 %** |