**National University of Computer & Emerging Sciences, Karachi**

**Software Engineering Department**

**Quiz 02**

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| **Course Code: SE-1001** | **Course: Introduction to Software Engineering** |
| **Instructor: Iqra Fahad** | **Section: BSE – 2A** |
| **Semester: Spring 2024** | **Total Points: 10** |

**Question 01 [5]**

You have been asked to prepare and deliver a presentation to a nontechnical manager to justify the hiring of a system architect for a new project. Write a list of bullet points setting out the key points in your presentation in which you explain the importance of software architecture

* Software architecture is foundational for project success.
* Guides decision-making and resource allocation.
* Manages complexity and reduces risks.
* Enables scalability and flexibility.
* Mitigates performance and security issues.
* Facilitates team communication and collaboration.
* Saves costs by preventing rework.
* Supports innovation and technology integration.
* Aligns technical decisions with business goals.

**Question 02 [5]**

Suggest an architecture for a system (such as Spotify) that is used to sell and distribute music

on the Internet. Support your answer with reasons.

MVC – Model View Controller is the best choice in this regard.

* **Separation of Concerns**: MVC separates the user interface (View), business logic (Model), and user input handling (Controller), making the codebase more organized and easier to maintain.
* **Scalability**: MVC allows individual components to be developed, tested, and scaled independently, enabling efficient management of a large and complex application like Spotify.
* **Reusability**: Components like Models and Views can be reused across different parts of the application, promoting code reuse and reducing development time.
* **Testability**: MVC facilitates unit testing of individual components, improving the overall quality and reliability of the application.
* **Flexibility**: Developers can choose the best technologies and frameworks for each component, adapting to changing requirements and technological advancements.
* **User Experience**: MVC promotes cleaner and more organized code, leading to a better user experience with faster response times and improved maintainability.

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