German University in Cairo

Media Engineering and Technology

Assoc. Prof. Mervat Abuelkheir

Eng. Nada Ibrahim

Eng. Kamilia Hosny

Eng. Marina Nader

Eng. Nada Labib

Eng. Hager Khaled

## Software Engineering, Spring 2024 Practice Assignment 7

#### Exercise 7-1

#### Services

- a) What are services or web services?
- b) How do services interact with one another?

#### Exercise 7-2

#### **Evolution of Software Architectures**

- a) What is the monolith architecture?
- b) What is the Front-end/Back-end architecture?
- c) What is the main advantage of Front-end/Back-end with comparison to the monolith architecture?
- d) What is the SOA architecture?

## Exercise 7-3

#### Service Oriented Architecture

- a) What is SOA?
- b) What are the properties of services?
- c) Why should we use SOA?

## Exercise 7-4

# REST

- a) How can we standardize the interaction between the different services?
- b) How does one construct REST?

### Exercise 7-5

## **RESTful APIs**

- a) What is an API?
- b) What must be contained in a REST request?
- c) What is meant by the statement that "RESTful APIs are stateless"?
- d) Compare stateless and stateful APIs.

# Exercise 7-6

Provide a JSON object example.