

# **Complex Engineering Activity (CEA)**

**Subject:** Software Design and Architecture

**Course:** BESE 28C

**Instructor:** Lec. Fawad Khan [ Project Report & Presentation Hard copies submissions to Lec. Nazia]

## **Background:**

Using your experience of using MS Paint, MS Word, MS Visio, Visual Paradigm and some online site for the design of software analysis and design diagrams. You are required to design your own online design tool (ODT) comprising the good features of aforementioned programs/tools. For this purpose, you will work to produce following:

- 1- Using your knowledge of architectural styles (from SDA course content), select the ODT architectural style and provide rational for your decision. Produce GUI screens for your tool which will help you analyze ODT in detail at a later stage.
- 2- For the detailed design, select the most appropriate Software Design pattern (from the ones studied in class). Discuss its implementation details. Furthermore, provide a model to describe the database design for ODT.
- 3- Prepare a class presentation to describe the design and implementation details of ODT.

## **INSTRUCTIONS:**

1. Make groups of 2-4 students each.
2. Briefly describe the project: Design of Online Design Tool (ODT) for software design diagrams.
3. Apply the appropriate Software Architectural Style for your ODT. [High Level Design]
4. Produce GUI screens for your tool which will help you analyze ODT. [Mid Level Design]
5. Explain the detailed design after selecting the most appropriate Design pattern for the ODT. Elaborate the working and provide necessary justifications. [Low Level Design]

### **CEA (Project) Deliverables:**

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|----|--|-------------|
| 1. | Project Final Report (Soft Copy by Team Lead + Hard copy) [CLO 2]                  | [Marks: 15] |
| 2. | Project Final PowerPoint Presentation (Soft Copy by Team Lead + Hard copy) [CLO 4] | [Marks 5]   |

**Note:** Plagiarism is not acceptable. Report should be type written in Microsoft Word format.

- **Deadline:** Monday 10-06-2024 0900 hrs.