



**National University**  
**Of Computer and Emerging Sciences**

**Spring-2025**

**Project**

**Max. Marks: 10**

**Course Code: SE-4001**

**Course Title: Software Re-Engineering**

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**Question: Analyze and explore state-of-the-art legacy system which need maintenance in order to get up-to date:**

- Lines of code (LOC) should be more than 2 KLOC
- Classes should be more than 12.
- It must be an Object-oriented project.
- Project may be of any nature; desktop-based application, web-based application etc.
- Any programming language is admissible.
- Optional includes Project may be deployed on GitHub and may have associated data base.
- Deliverable includes the problem **Code**, **description** of project, **stated technologies** in the project, **stakeholders** involved in the project, **scope**, and features of the project.
- Create to-the-point functionality (functional requirements).
- Create the user stories (use case descriptions & use case diagrams) based on stated functional requirements.
- GUIs based on user stories.
- Create a labeled domain model and system sequence diagram as a part of high-level design diagrams.
- Refine the high-level design models to create the class diagram and sequence diagram.
- Highlight the replicated code, cohesion and coupling issues in your code (if any).
- Restructure the system at least to the level of abstraction. E.g., appropriate naming convention of the classes and methods. Alignment of this information in all analysis and design artifacts.
- Project will be evaluated through presentation at the end of semester.
- Important instruction: There should be a nexus among these artifacts.

**Proposal Submission deadline: 14<sup>th</sup> March, 2025, 11:59 PM**

**Project Submission Deadline 02<sup>nd</sup> May, 2025**

**Good Luck!**