

SE 801: Final Project

Overview and Guideline

**BSSE Program
Institute of Information Technology
University of Dhaka**



2020

1 Overview

The goal of SE: 801 offered at Institute of Information Technology (IIT), University of Dhaka is to allow students to demonstrate their accumulated skills through the final project. The students will start working on the project from the beginning of 4th year and demonstrate their work throughout the year, culminating in a final defense at the end of 4th year.

2 General Requirements

- There must be a client for the project. The client can be from industry, or academic members / staffs of IIT, or a combination of both.
- The project must be built from scratch by the student
- It will have to be maintained through a publicly accessible distributed version control system.
- It will have to be created under open source license, unless the client requests a Non-Disclosure Agreement (NDA).

3 Project Milestones

3.1 Pre-proposal

By early February, students will connect with a supervisor and identify at least the broad domain the student will work on. The supervisor can be a faculty member of IIT or an external supervisor from the industry who is approved by IIT.

Deliverables of pre-proposal:

- Short report (max half-page) with supervisor name, broad domain, and keywords.

3.2 Proposal

At this stage, students will, propose the project they are going to work on, and justify why they are going to do it. The tentative time for proposal submission is end of March. The proposal will include, but not limited to, the following:

- Motivation
- Problem description (i.e., user story)
- Quality Function Deployment (QFD)
- Timeline

Deliverables/tasks of Proposal:

- Short (max 3 pages) proposal document
- Short (4-5 min) presentation

3.3 Midterm 1

The 1st midterm will be held around 5 weeks after the beginning of the 8th semester (typically early August). At this stage, students are expected to provide a technical document outlining the requirements analysis and design of their project. Only the necessary components which can be connected with the software analysis and design, and testing components are required. The components in the technical document include, but are not limited to, the following:

- Use-case diagram
- Data-based modeling
- Class-based modeling
- Archetype definition
- Mapping requirements to software architecture
- Preliminary test plan
 - High-level description of testing goals
 - Summary of items and features to be tested

Deliverables of Midterm 1:

- Detailed technical document (around 30 pages)
- 6-8 min presentation

3.4 Midterm 2

This will take place around 10 weeks after the beginning of the 8th semester (typically mid-September). At this time, the students will demonstrate the progress of their project, and should be able to show a working software. Feature negotiation will take place at this stage. The code will be reviewed by the committee.

Deliverables/tasks of midterm 2:

- A demonstration of current progress

3.5 Final

The final defense of the project will be held at around the same time as the 8th semester final exams. At this stage, students will have to show the software design, implementation and testing related to the project.

Software design document will have to cover the following components connected with the previously defined components:

Component-level Design

- Identify all design classes that correspond to the problem domain
- Describe persistent data sources (databases and files) and identify the classes

- Develop and elaborate behavioral representations for a class or component
- Elaborate deployment diagrams to provide additional implementation detail
- Refactor every component-level design representation and always consider alternatives

Interface Design

- Using information developed during user interface analysis, define user interface objects and actions (operations)
- Define events (user actions) that will cause the state of the user interface to change
- Depict each interface state as it will actually look to the end user

Testing Components

- Testing approach/strategy
- Item pass/fail criteria
- Test cases with detailed outcomes
- Risks and contingencies

Deliverables/tasks for Final

- Final report (around 50-60 pages) containing all previous documents, along with design, implementation and testing details as outlined above. It will contain additionally:
 - User Manual
 - URL of publicly accessible distributed version controlled repository
 - Installer (if applicable)
- A full demonstration (acceptance test) of the final product
- Code review

4. Resubmission

At any stage, if the evaluation committee finds the student's progress unsatisfactory, they may ask the student to resubmit the document or reappear for a presentation or demonstration. In such a case the student will be given around two weeks' time to resubmit.

5. Evaluation Committee

The 4th year exam committee will be in charge of the evaluation of the Final project. The committee will typically form several sub-committees to evaluate the projects. Each sub-committee will consist of at least one member of the 4th year exam committee. Other faculty members will be invited to the sub-committees based on their areas of expertise. Members of the sub-committees will evaluate the reports, presentations, demonstrations, and code reviews.

6. Supervisor

Supervisor (academy/industry/both) will supervise and guide the student for ensuring the quality and delivery of the project. Based on the feedback of evaluation committee at different stages, the supervisor may instruct and guide the student to alter/modify/extend/improve the project.

7. Marks Distribution

Grading stage	Deliverable/Task	Marks
Proposal	Proposal + presentation	10%
Midterm 1	Technical document	10%
	Presentation	5%
Midterm 2	Demonstration + code review	15%
Final	Final document	15%
	Demonstration + code review	25%
Supervisor	Overall assessment	20%
Total		100%

8. Summary and Timeline

Stage	Report	Presentation	Demonstration + Code Review	Tentative time
Pre-proposal	✓			Early February
Proposal	✓	✓		End of March
Midterm 1	✓	✓		Early August
Midterm 2			✓	Mid September
Final	✓		✓	End of November

9. Academic Honesty Policy

- The project must be entirely developed by the student. Any library/paper or other external sources used by the student must be duly acknowledged
- Plagiarism at any stage will result in gaining F grade, or severe grade deduction

10. Presentation Etiquettes

- All presentations/demonstrations must be given in English. During Q/A, the student may answer in the language the question is asked.
- During the presentations/demonstrations, the students are expected to maintain formal or business casual dress code.
- All students must be present in all presentations and demonstrations. Absence without due notification will result in deduction of grades.