**CST-361 CLC-Project Guide**

Contents

[Milestone 3 2](#_Toc72484116)

# Milestone 3

The focus of Milestone 3 is on applying the MVC and façade design patterns to develop an IoT transactional business application using Enterprise Java technologies. To complete this milestone refer to the guidelines below:

* Update the project management goals, objectives, and tasks.
* Design and implement iteration 1 of the IoT embedded (or emulated) application.
* Design and implement iteration 1 of the IoT reporting application.
* Update the UML diagrams for use cases, applicable classes, deployment, and component.
* Update the wireframe designs.
* Update the ER database design.
* Complete a test plan. The test plan is a sequence of steps the developer will perform to validate that application functionality is working properly to the business requirements and technical design. Refer to the "Test Plan Template," located in the course materials when completing this step.
* Update the design report from Milestone 2.

*Code Requirements:*

* IoT Embedded Application:
  + Application that obtains or generates IoT data identified in Milestone 1.
  + Application can emulate an embedded device and be written as a console based Java application. The IoT data generated should represent a real world IoT device.
  + Optional use of an actual embedded device, such as a Raspberry Pi with appropriate sensors, to generate the IoT data. The application can be written in Python or other programming language supported by the Raspberry Pi.
* Front end Web Reporting Application:
  + The reporting application will contain login and registration screens that leverages a relational database for authentication. All screens should be written JavaServer Faces demonstrating the use of the MVC design pattern and façade design pattern. The JavaDB or MySQL database can be used as a database for the project. Students can write their persistence code using either JDBC or JPA.
  + The reporting application should provide a tabular data report to display the captured IoT data.
  + The reporting application should provide a visual chart report to display the captured IoT data. The students should research available open source charting libraries and JSF components for use in their final solution.

**Deliverables**

Iteration 1 implementation of the IoT Embedded application

Iteration 1 implementation of the IoT Reporting application

Updated Design Report

*Performance Level Ratings*

|  |  |
| --- | --- |
| **Meets Expectations** | Performance consistently met expectations in all essential areas of project construction, at times possibly exceeding expectations, and the quality of work overall was very good. The most critical goals were met. |
| **Near Expectations** | Performance did not consistently meet expectations. Performance failed to meet expectations in one or more essential areas of project construction and/or recording, one or more of the most critical goals were not met. |
| **Below Expectations** | Performance was consistently below expectations in most essential areas of project construction and/or recording, reasonable progress toward critical goals was not made. Significant improvement is needed in one or more important areas. |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Criteria** | **Below Expectations** | **Near Expectations** | **Meets Expectations** | **Earned** |
| IoT Embedded Application | 0 pts – 13 pts | 14 pts – 19 pts | 20 pts |  |
| IoT Reporting Application | 0 pts – 13 pts | 14 pts – 19 pts | 20 pts |  |
| The team updates the design report. The documentation is well presented and includes all technical and non-technical elements. | 0 pts – 9 pts | 10 pts – 14 pts | 15 pts |  |
| Writer is clearly in command of standard, written, academic English. Prose is largely free of mechanical errors. | 0 pts – 9 pts | 10 pts – 14 pts | 15 pts |  |
| **TOTAL** |  |  |  | **/70** |
| **Instructor Feedback** | | | | |