**CST-361 CLC-Project Guide**

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# Milestone 5

The focus of Milestone 5 is on applying the interceptor, dependency injection, factory, and singleton design patterns to solve a real business problem and thru design and development of an application built using Enterprise Java technologies. To complete this milestone refer to the guidelines below:

* Update the project management goals, objectives, and tasks
* Complete iteration 2 of the IoT embedded (or emulated) application
* Complete iteration 2 of the IoT REST API
* Enhance the IoT Reporting application using additional design patterns
* Complete iteration 2 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
* Update the test plan
* Update the design report from Milestone 4.

*Code Requirements:*

* Front end Web Reporting Application:
  + For monitoring purposes, add a method interceptor to demonstrate the use of the interceptor design pattern to log all method entry and exit in each EJB in the application. This should be done using the standard Enterprise Java CDI framework.
  + For making application loosely coupled, inject all instances of all EJB's into their respective dependent components, to demonstrate the use of the dependency injection design pattern. This should be done using the standard Enterprise Java CDI framework.
  + In support of the interceptor, which will log all method entry and exit points, a logging service should be designed that is implemented using a singleton design pattern.
  + The factory design pattern should be used to create and instantiate all object model and DTO classes used by the REST API and reporting application.

**Deliverables**

Iteration 2 implementation of the IoT Embedded application

Iteration 2 implementation of the IoT REST API

Iteration 2 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 Application & Services | 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 – 13 pts | 14 pts – 19 pts | 20 pts |  |
| Writer is clearly in command of standard, written, academic English. Prose is largely free of mechanical errors. | 0 pts – 6 pts | 7 pts – 9 pts | 10 pts |  |
| **TOTAL** |  |  |  | **/70** |
| **Instructor Feedback** | | | | |