**Comparison of the Implementation with the concept developed in Project 1**

1. Does this project fully implement its concept?

Few of the concepts which I discussed while developing the key/value database were implemented successfully in this project such as building a generic key/value in-memory database, supporting addition of key/value pairs, editing value object – metadata, relationships and value instance, scheduling the database to store in persistent xml based on time interval or number of writes, augmenting and restoring the database from xml file, support queries for retrieving data from metadata and value instance, building an immutable database from the query results.

Some of the concepts which I discussed were not practical and could not be implemented. These concepts are implementation of sharding algorithm, sharding the data into multiple persistent units called shards based on the sharding algorithm, authentication and authorization of the database to allow restricted users to perform operations.

Some of the ideas which I discussed and could not be implement due to time constraints are cloning when editing values of the database, support for compound queries, building reliable and fault tolerant systems to maintain high availability.

1. Was the original concept practical ?

Most of the items which I discussed where practical except few notable ones. Some of the practical items were querying to get keys/value based on the requirements, building a generic key/value database, demonstration of all the functional requirements through a series of test steps, support augmenting and restoring the database.

Some of the concepts were not practical for current circumstances such as maintaining referential integrity to children’s of a key, support for compound queries were bit tricky, sharding across different systems were not practical due to the hardware constraints.

1. Were there things you learned during the implementation that made the original concept less relevant ?

Most of the cases the original concept was relevant during the implementation such as designing querying, initial understanding about ItemFactory, DBFactory, Persistent Engine and QueryEngine structures. I followed the original concept for most of the packages and the flow of activities for demonstrating all the requirements.

Preparing the OCD document made me think of the overall high level architecture of theKey/value database and I was able to build modular and loosely coupled packages.