Project 2 – Key/Value Database Report

CSE681 : Software Modeling Analysis

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Key/Value Database Report

In Project #1, an Operational Concept Document (OCD) was created in preparation for Project #2. Many things were discussed in the OCD, from package distributions to complicated concepts such as sharding. The intent of the OCD was to help guide the programmer in creating C# code, through packages, and well planned out concepts. However, after having implemented Project #2, its implementation was noticeably different from the OCD. This brief document will compare Project 2’s implementation and concepts discussed in Project #1.

Project #2 does not fully implement its concept. First, the package distribution has been changed. Several packages, such as ItemEditor and ItemFactory, were removed from Project #2 because of its redundancy; it was extremely easy to create and edit items with a few lines of code. It was unnecessary to create two entire packages to implement such simple functionalities. Second, advanced concepts such as Sharding and Compound Queries were not implemented for Project #2, mainly because they were not required for this project.

Despite having analyzed the differences, it doesn’t change the practicality of the original concepts of the OCD, despite its missing features. The purpose of Project #2 was to implement a prototype code for a simple noSQL key-value database. While sharding and compound queries are not required for now, they will make an excellent follow up project for improving the database.

There were a few things that made some concepts in Project #1 obsolete. During the process of expressing concept as a C# code, the need and redundancy for several packages became apparent. As mentioned previously, some packages became redundant, like the ItemEditor, which can be easily implemented with a few lines of code. On the other hand, the programming aspect of the project brought about the need for new packages that aids in displaying Databases to the console screen neatly, such as “DBExtension.cs” or “UtilityExtensions.cs”. Still, the package diagram was mimicked as much as possible when implementing Project #2, but it was learned that the OCD can’t completely predict good packages for specific programming needs.

As a personal opinion, I believe that a solid prototype for key/value database was created, with many room for extensions. In addition, implementing a graphical user interface should be considered to improve interaction between users and database.