Report

Name: Liuyu Jin; Max Ma
Andrew ID: liuyuj; cma1

- Synchronization Strategy:
  In Libstore, Use mutex and conditions to lock the cache so the regular check on outdated data won't clash with any access to the cache. Check the cache at most once per second so it won't hold the process for too long.

  In Storage Server, each individual server has a global rwmutex, which synchronizes lookup, insert and delete operation on the map data structure. Operations that are specific to values are not locked by the global rwmutex, rather, they are locked by a local rwmutex. For example, inside the removeFromList operation, removing the value from the list is locked by the local rwmutex, and if the list is empty after the removal and is to be deleted from the map, this deletion is locked by the global rwmutex.

- Principal Data Structures and Algorithm:
  In Libstore, use map for the cache and list for logging the history of access for a particular key

  In Storage Server, each individual server has a map data structure. The values of the map is another data structure Value, which contains the value, which is either a string or a list of string, and a list of callbacks.

- Division of the work:
  Tribserver and Libstore -> Liuyu Jin
  Storage Server -> Cong Ma