

## **Abstract**

In processing database on the mobile device, it takes source or adequate place to accommodate all the desired data. One of the solution is by utilizing the data cache that exist in a mobile device. Cache is a place to store data that can increase data transfer by storing the data in that cache. Because of limited size, it does not possible if all data access is stored in a cache. As a result, we need a method that can handle the data in the cache replacement, ranging from the disposal of some of the data to the new data can be entered into the cache or better known as cache replacement. To be able to select which data is to be replaced in the cache, then needed a replacement cache handling methods. Therefore, it was found some new methods for cache replacement and one of them is SAIU method which is efficient gain-based. At SAIU algorithm, the influence of the size of the data, data access delay, the probability of accessing the data and update frequency, as well as a gain which serves to integrate. Viewed from some parameter, then in this final project will be discussed on the implementation and analysis of cache replacement mechanisms using the algorithm SAIU for mobile database.

**Keywords:** cache, mobile database, cache replacement, gain, SAIU