Suggestions to improve code:

1) Here cache is implemented with a double linked list. Searching cache is a very costly operation (O (n), where n is the max elements in cache). It can be implemented with hash table or radix tree where look up takes only minimal time.

2) In file\_cache\_mutable\_file\_data () no need to write data to local storage, if the file is already dirty. Buffer can be appended with new data and can be written together at once at the time of unpinning or file\_cache\_destroy ();