package com.twitter.search.core.earlybird.facets;

import com.twitter.search.core.earlybird.index.inverted.IntBlockPool;

public class FacetCountingArrayWriter {

private final AbstractFacetCountingArray facetCountingArray;

private int previousDocID = -1;

public FacetCountingArrayWriter(AbstractFacetCountingArray array) {

facetCountingArray = array;

}

/\*\*

\* Adds a facet for the given doc, field and term tuple.

\*

\* The layout of the packedValues in the term pool is:

\*

\* index |0 |1 |2 |3 |4 |5 |6 |7 |8 |9 |

\* value |U |1a|1b|1c|U |2b|2c|P3|1d|1f|

\*

\* Where U is UNASSIGNED, P+X is a pointer to index X (e.g. P3 means pointer to index 3),

\* or a doc ID and facet (e.g. doc ID 1 and facet a would be 1a).

\*/

public void addFacet(int docID, int fieldID, int termID) {

IntBlockPool facetsPool = facetCountingArray.getFacetsPool();

int packedValue = facetCountingArray.getFacet(docID);

if (packedValue == AbstractFacetCountingArray.UNASSIGNED) {

// first facet for this doc.

// keep it in the array and don't add it to the map.

facetCountingArray.setFacet(docID, AbstractFacetCountingArray.encodeFacetID(fieldID, termID));

return;

}

if (!FacetCountingArray.isPointer(packedValue)) {

// If the packedValue is not a pointer, we know that we have exactly one facet in the index

// for this document, so copy the existing facet into the pool.

facetsPool.add(AbstractFacetCountingArray.UNASSIGNED);

facetsPool.add(packedValue);

} else if (previousDocID != docID) {

// We have seen this document ID in a different document. Store the pointer to the first facet

// for this doc ID in the pool so that we can traverse the linked list.

facetsPool.add(packedValue);

}

previousDocID = docID;

// Add the new facet to the end of the FacetCountingArray.

facetsPool.add(AbstractFacetCountingArray.encodeFacetID(fieldID, termID));

// Set the facetValue for this document to the pointer to the facet we just added to the array.

int poolPointer = AbstractFacetCountingArray.encodePointer(facetsPool.length() - 1);

facetCountingArray.setFacet(docID, poolPointer);

}

}