

Member Nodes - Task #7899

MNDeployment # 6548 (Operational): R2R Repository

R2R: modify searchUI to accommodate composite data density with cruise paths

2016-10-04 21:55 - Laura Moyers

Status:	New	Start date:	2016-10-04
Priority:	Normal	Due date:	
Assignee:	Lauren Walker	% Done:	0%
Category:		Estimated time:	0.00 hour
Target version:	Deploy by end of Y3Q1		
Story Points:			
Description			
R2R will have geospatial data in their metadata identifying the cruise path of the ship. At the composite (MN) level in search results, is it possible to show cruise paths (data density) for all R2R data?			
Dave and Mark have been in on these conversations, too, so may be able to provide a more specific description of what Bob Arko is wanting.			

History

#1 - 2016-10-04 23:39 - Matthew Jones

We've discussed this, and it seems feasible to display the specific fine grained cruise paths in our overall search index by geohashing the track from its g-ring representation during the indexing process. That would mean that, for these data sets, we would use the g-rings in preference to the overall bounding box for indexing. Once the indexing changes are done, the cruises should show up in the current spatial map at their appropriate locations at every zoon level -- i.e., I don't think any UI changes are needed. So this task could likely be conducted by Jing who is already very familiar with indexing.

#2 - 2016-10-05 03:41 - Dave Vieglais

Note also that Lucene, and hence Solr support indexing and search of spatial features beyond points and bounding boxes when the JTS libraries are enabled. We should consider the ongoing investment in a custom solution based on geohashes versus leveraging the native capabilities available. The geohash approach does provide an effective UI for browse and selection, and at this stage it is unlikely that there are sufficient metadata with more sophisticated geometries to warrant a broad scale shift in technology.

Indexing of geometries to geohashes requires significant additional processing during the indexing process - basically rasterizing the shapes at different resolutions corresponding with the geohash resolutions and recording the geohash values for the resulting points. An example in javascript is available at: <https://github.com/derrickpelletier/geohash-poly>

#3 - 2016-10-05 03:51 - Dave Vieglais

See also:

<https://sourceforge.net/p/geotools/mailman/message/21388420/>

for an example of rasterization in java. Conversion of the resulting points to geohashes is an additional exercise.