

QGIS Application - Feature request #9521

Introduce support for "prepared" geometries

2014-02-09 11:14 PM - Martin Dobias

Status:	Closed	Resolution: fixed/implemented Copied to github as #: 18111
Priority:	Normal	
Assignee:		
Category:	Vectors	
Pull Request or Patch supplied:	No	
Easy fix?:	No	
Description		
<p>Since GEOS 3.1 there is support for some geometry operations on so called prepared geometries which can greatly improve performance:</p> <p>http://trac.osgeo.org/geos/wiki/PreparedGeometry</p> <p>We could have a new class QgsPreparedGeometry in QGIS core library that would encapsulate the GEOS operations - various fTools algorithms could benefit from that. For example, points in polygon algorithm which may take really long time otherwise (see #5162)</p>		
Related issues:		
Related to QGIS Application - Bug report # 9655: Strange behavior of labeling...		Closed 2014-02-25

History

#1 - 2014-03-01 09:26 AM - Larry Shaffer

Hi Martin,

Do you think such prepared geometry could be used in PAL lib to make the overlap-check algorithm more efficient?

#2 - 2014-03-04 02:43 AM - Martin Dobias

Hi Larry - the algorithm in PAL that checks overlaps in PAL works with label candidate rectangles (possibly rotated), it is relatively simple computation to check whether rectangles intersect (16x dot product). I am not sure if prepared geometries would improve that (they are very good for complex geometries). Probably a more valid optimization would be to stop counting overlaps after reaching a certain amount - and penalize the candidate with a fixed cost. In dense areas PAL may compute millions of overlaps without having much use for that.

Also, the overlap-check algorithm is just one part of the pre-processing for labeling - I recall there were also other pieces of code where sub-optimal geometry algorithms were involved...

#3 - 2016-05-24 10:51 PM - Alexander Bruy

Maybe I'm wrong, but now we have methods in API to get prepared geometry

#4 - 2016-05-25 12:27 AM - Martin Dobias

- Resolution set to fixed/implemented
- Status changed from Open to Closed

Indeed, it has been introduced in the geometry refactoring work.

