GeohashPolygon™ Overview

The Critical Distinctions:

1. **Optimally Leverages Telescopic Granularity** - The one-time transform of the original spatial engine polygon to a specific level of Geohash granularity is limited only by storage limits. And because storage costs have essentially dropped to zero, a high grained outline of a US State can be captured with Geohash "pixels" smaller than a 6-inch square, and still respond with millisecond look up times using almost no CPU expenditure (thanks to the standard highly efficient RDBMS binary search algorithms used on a string index).

2. **Replace Spatial Engine Query with trivial RDBMS Join** - Eliminates a number of high costs related to maintaining a spatial data engine and the related spatial datasets which come with standard point-in-polygon queries, not the least of which is the advanced niche software engineers required to integrate and support the GIS platform upon which the spatial data engine operates. Using a fairly trivial SQL Query (or equivalent for No-SQL databases), enables fast lookup for a specific value (ex: USA Zip5 code) for a

particular longitude/latitude point represented by a Geohash of the appropriate granularity.

PolygonId	Geohash
75023	9vghn5
75023	9vghn7
75023	9vghne
75023	...
75023	9vghps2
75023	9vghps0
75023	...
75023	9vghps12
75023	9vghps10
75023	...

3. **Reduce False Positives/Negatives with Reverse Geocode** - Enables using the Geohash as an effective means to significantly reduce the errors and false positives/negatives when doing proximity searches, like with a reverse geocode.

Glossary of Terms:
- **Geohash** - An excellent high speed exact character encoding of a longitude+latitude value. It is the preferred method of storing a database value, but is terrible for human consumption and recall. Here is a 5m Youtube video which visually describes it using Google Maps.
- **GeohashPolygon™** - A method of using a Geohash as a "pixel" to then define irregular regions with a list of Geohash values of the same length (granularity). Enables a "spatial lookup" without requiring the use of a spatial data engine (server) from ESRI, PBSI, etc.