**pgRouting**

pgRouting extends the PostGIS / PostgreSQL geospatial database to provide geospatial routing functionality.

pgRouting library contains following features:

● All Pairs Shortest Path, Johnson’s Algorithm

● All Pairs Shortest Path, Floyd-Warshall Algorithm

● Shortest Path A\*

● Bi-directional Dijkstra Shortest Path

● Bi-directional A\* Shortest Path

● Shortest Path Dijkstra

● Driving Distance

● K-Shortest Path, Multiple Alternative Paths

● K-Dijkstra, One to Many Shortest Path

● Traveling Salesperson

● Turn Restriction Shortest Path (TRSP)

Navigation for road networks requires complex routing algorithms that support turn restrictions and even time-dependent attributes. pgRouting is an extendible open-source library that provides a variety of tools for shortest path search as extension of PostgreSQL and PostGIS.

● Installing pgRouting,

● Creating a routing topology,

● Using pgRouting algorithms,

● Importing OpenStreetMap road network data,

● Writing advanced queries,

● Writing a custom PostgreSQL stored procedure in ‘plpgsql’,

● Building a simple browser application,

● Building a basic map interface with OpenLayers 3.

**osm2pgrouting**

osm2pgrouting is a command line tool that imports OpenStreetMap data into a pgRouting database. It builds the routing network topology automatically and creates tables for feature types and road classes. osm2pgrouting was primarily written by Daniel Wendt and is now hosted on the pgRouting project site.