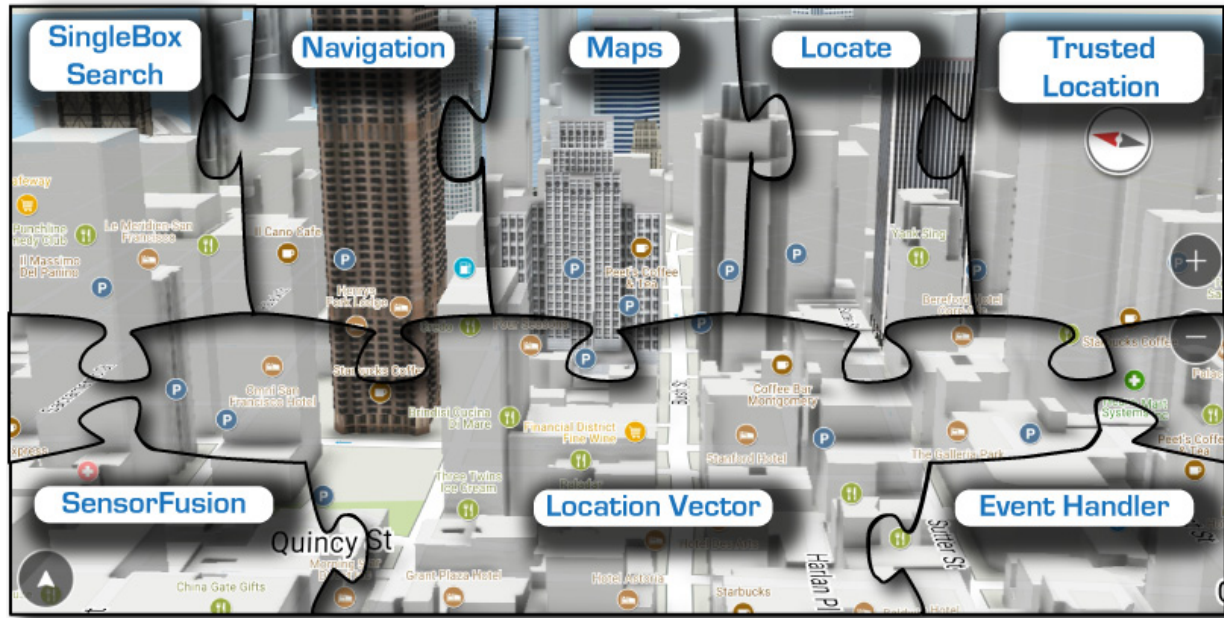


# Look4™ - Complete Location API Suite



Look4 is a complete suite of location APIs designed to help developers enrich mobile products and applications with advanced navigation and location-based services (LBS). Leveraging TCS' world-class LBS solution to track the location of mobile phones, Look4 is ideal for any third-party developer, OEM, or operator. The Look4 platform allows developers to quickly integrate comprehensive, market-leading search functionality into their mobile and embedded applications without requiring users to leave the application.

## Local Search:

These search capabilities leverage real-time enhanced content to allow users to see their current location and find places to eat, shop, visit and more. In addition, it provides turn-by-turn navigation to the destination of choice and easy-to-use single search box, with auto-completion and search suggestions. Real-time enhanced content means that when searching for gas stations, it will also show you the price per gallon that each station is offering. With Look4's Local Search solution, today's consumer will have faster and easier access to the local products and services.

## Navigation:

This comprehensive navigation feature allows users to explore and discover just about anything and every place on earth. Look4's navigation integrates advanced natural voice guidance, lane guidance, speed limits, highway signs, route selection options along with local search, real-time traffic, and detailed information on places such as restaurants and hotels, public transit, driving, and walking directions. A UI widget is also available, making it simple for developers to overlay a full navigation session on their application.

## Maps:

Look4 Maps provide the highest quality, feature-rich and immersive map experience. This advanced mapping platform includes additional custom layers such as real-time traffic, Doppler radar overlays, satellite overlays with recent images, points of interest and integrated content including real-time information. Both automotive and pedestrian mappings modes are supported. Look4 maps enable a progressive map experience including 3D landmarks and building outlines, which developers can easily integrate maps and layers into their applications.

## Locate Family and Workforce:

Look4's sophisticated client and server libraries make it easy to design and build location tracking applications to quickly locate people and assets to keep family or employees safe. The powerful Look4 core location engine provides accurate location fixes at 20% of the power of a typical GPS based location engine. A complete web-based interface and management console is available to create sophisticated full polygonal geo-fences and alert setting for when something or someone enters and leaves an area. Data captured can provide scheduled location updates and even complete tracking of a journey.

## LocateSecure:

For applications that require an extra level of security surrounding a devices location, Look4 also offers LocateSecure. The LocateSecure can detect if a mobile device has been tampered with in an attempt to 'spoo' its real location. When an application requests the location of a device configured with the LocateSecure libraries, a trust score is returned along with actual location. The calling application can then use this trust score to decide if it should rely on the location report and take any actions based upon the trust score.

## Indoor and Outdoor Location with Sensor Fusion:

The cornerstone of Look4's location is "Sensor Fusion" which combines data from multiple sensors, including various wireless networks (cellular, WiFi, and Bluetooth), acceleration/orientation, and air pressure. These are processed simultaneously using on-device and cloud-based stores of reference information to determine a device's location within a few meters, both horizontally and vertically. These sensor data are processed in conjunction with GPS data, filling in the gaps when GPS is partially obstructed or unavailable.

The result is that with Look4's patented sensor fusion technology, accurate location fixes can be obtained with or without a GPS signal, offering both indoor and outdoor location fixes. All with the power consumption 20% of a typical GPS based system. In addition, the Look4 location vector tells your application the devices current bearing, velocity, altitude, ambient temperature and current lat/long.

**Look4 provides accurate location indoors, outdoors or somewhere in between.**



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