

# Google Launches Eddystone BLE Beacons Technology and APIs

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[Google](#) has [announced](#) the launch of Eddystone, a new set of location-based technology products that can be used to build applications that provide engaging location-based experiences that are contextually relevant. Eddystone includes a new open Bluetooth low energy (BLE) format and two new APIs; Google Nearby API and Google Proximity Beacon API.

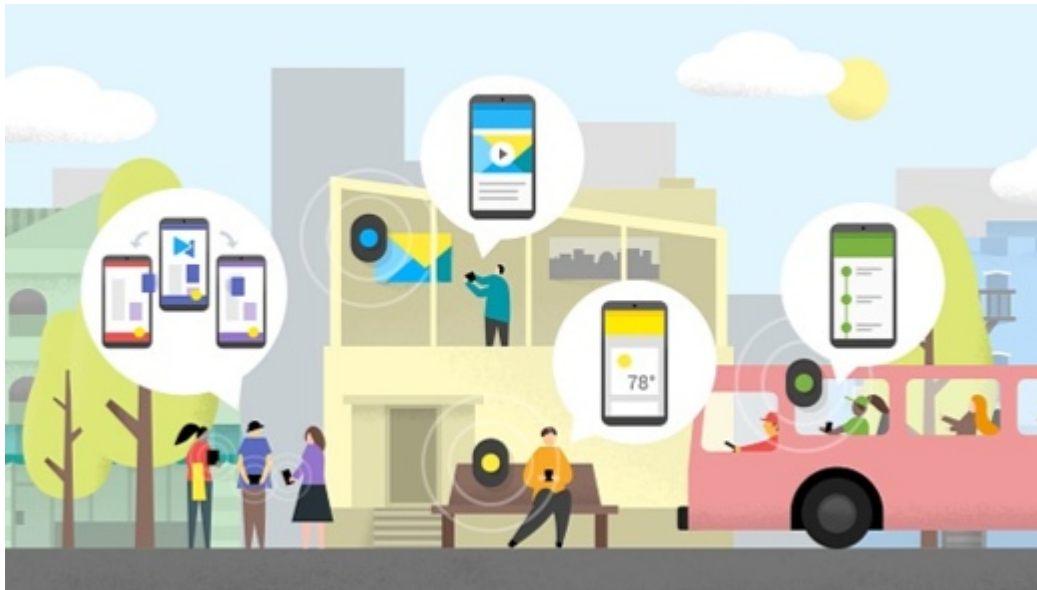


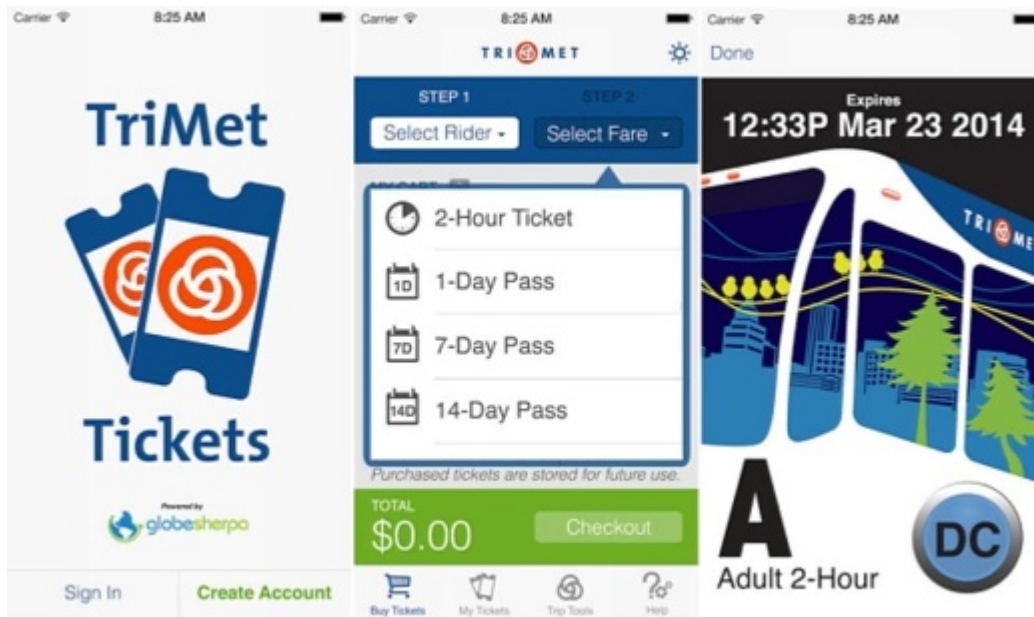
Image Credit: [Google](#)

Eddystone, Google's new open BLE format, includes two key features; the frame format and Ephemeral Identifiers (EIDs). The frame format is a language capable of carrying payloads of different forms. Ephemeral Identifiers (EIDs) are unique identifiers that change often and can only be decoded by authorized clients. Eddystone is an extensible technology

product that supports versioning and is capable of working with any platform that supports BLE. Eddystone can also be integrated along with other technologies such as GPS and Wi-Fi.

Eddystone is not Google's first open source location-based technology project. Last year, Google launched [UriBeacon](#), a specification for connecting low power beacons to open web technologies. UriBeacon is actually closely related to the [Physical Web project](#). The Google Physical Web team told *ProgrammableWeb* that the company has been thrilled with the contributions from the community since the launch of UriBeacon and that the project is evolving to become part of the Eddystone open beacon format as Eddystone-URL. The team also said that other than a change in the repo name and being affiliated with the larger Eddystone effort, not much will change about how UriBeacon and its community work.

The Google Nearby API for Android and iOS makes it possible for applications to communicate with nearby BLE devices and beacons using BLE. The Google Proximity Beacon API is used to associate a beacon with a place or location associated with a lat/long. The Google Proximity Beacon API diagnostic endpoint can be used to monitor the battery health and displacement of beacons that are implemented with Eddystone telemetry frame (EddystoneTLM)



GlobeSherpa is preparing to integrate the Google Nearby API with the popular TriMet Tickets application. - Image Credit: [GlobeSherpa](#) / [TriMet Tickets](#).

Matthew Kulick, product manager at Google, told *ProgrammableWeb* that Eddystone is being used to improve Google services like Google Maps Mobile and Google Now. "The next version of the Google Place Picker UI widget will also use Eddystone," said Kulick. He explained that developers can use Eddystone to build location-based applications for indoor and outdoor venues. He provided a few examples of use cases for Eddystone including:

- Automatic greetings and alerts for patrons at retail stores, restaurants, stadiums, and other venues.
- Timely updates and alerts for travelers at airports, bus stations, and other transportation systems.
- Notifications that help people find meaningful discoveries at museums and landmarks.
- Notifications such as specials or specific menu items for patrons seated at a table in a restaurant.

[GlobeSherpa](#) has been working with the Google Nearby API for the last six months and is preparing to integrate the service into the popular [TriMet Tickets](#) mobile ticketing app in Portland later this Fall. Mac Brown, director of communications at GlobeSherpa, told *ProgrammableWeb* that GlobeSherpa recently began working with TriMet and Google on using the Nearby API to provide contextual notifications based on the status of the application when it is in proximity to a BLE beacon on a Max (light rail) or TriMet bus stop.

Brown also said that for a limited time in September the Nearby API will be used to enable merchant integration services and some exciting game opportunities through the TriMet Tickets application. These game opportunities are part of the opening of TriMet's Portland Milwaukie Light Rail (PMLR) Orange Line.

"We see the Nearby API as a big first step that will allow us to provide rich, contextually relevant features that are easy-to-use for the rider and cost effective to deploy for agencies," said GlobeSherpa CEO Nat Parker. "The Nearby API is expected to improve operations (reduced vehicle dwell time for instance) and help enable our vision for the Integrated Commute where access to information and payment is one seamless experience."

"Eddystone is designed to make beacon development and deployment easier for everyone in the BLE ecosystem. We look forward to seeing beacon manufacturers adopt this open and extensible specification in their products," Kulick told *ProgrammableWeb*.

Eddystone is openly licensed under Apache 2.0. For more information about Eddystone, visit the Google Eddystone Repository on [GitHub](#).