

GoodMaps Explore

A revolutionary indoor and outdoor navigation solution through accessibility



GoodMaps, previously known as Access explorer, is an organization that aims at providing fast and accurate maps of indoor spaces with minimal effort. GoodMaps works to promote the independence of individuals with a diverse range of vision and is developing and commercializing new technologies and pushing the boundaries of indoor mapping and positioning systems.

Problem statement

GoodMaps initially had an indoor navigation application. The next step in the product roadmap was to add outdoor navigation capability for both visually impaired and sighted users. To achieve this, GoodMaps came forth with the idea of developing an outdoor navigation SDK, which can be integrated in the existing mobile application. The application needs to provide all essential information and functionalities for outdoor positioning, like search for an outdoor POI or an address, get POIs in proximity to the user, get nearest streets and intersections and the course of user-direction of travel. Upon integrating the outdoor SDK to the existing mobile application, users would be able to achieve both outdoor and indoor navigation. This helps users, especially visually impaired users, with their navigation requirements.

Role of TA

At Travancore Analytics (TA), we are dedicated towards helping our clients deliver quality products at the right time. Goodmaps partnered with TA to reform their existing mobile app to add outdoor navigation so that the users can get the benefit of both indoor and outdoor navigation from the same app. The following were the highlights of TA's engagement with Goodmaps.

- 1 TA's expertise in React Native in TypeScript was used to build both Android and iOS app with reusable code within estimated time and budget.
- 2 The team followed an agile methodology for development ensuring effective communication, collaboration and transparency.
- 3 Special care was given to make sure the team understood and implemented the features exactly as envisaged by the product owner.

- 4 Performed developer testing, followed by code review by both TA and GoodMaps, ensuring standard and consistent code.
- 5 Used state-of-the-art tools and technologies to manage every aspect of software product development life cycle.
- 6 Utilized TA's proficiency in Accessibility to refine outdoor navigation, letting the users, especially with accessibility needs, to enjoy the most out of the app.
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Solution

TA implemented an outdoor navigation SDK and a mobile application that provide important APIs for outdoor positioning. The application provides features like search, where users can search for a particular POI (Point of Interest) or an address or a category (like food, hospital etc.), get the list of nearby POIS, get the user's nearest address, direction as well as upcoming intersections. Each POI provides information like POI name, distance and angle to the user, POI id, etc.

Users can get the information of a particular venue with the ease of searching it with the name or its category. The app also facilitates the use of voice recognized search to help the user get the results effortlessly.

Users can access the major location related information like direction of the user, nearest address, upcoming intersection and the destination POI, at one place at Home screen and can also get them announced from anywhere in the application, just with a shake.

The application provides an option to set a particular POI as Destination and can get the updated distance and direction to the POI in the form of announcement at a certain interval of time as set by the user.

Users also get the most updated nearby POIs within a certain angle and distance from their position as they move.

Users can add any particular POI to their favorite list and can also create a custom favorite POI with respect to their current location.

Since audio notification is an inevitable feature, especially for a navigation application focusing on visually impaired users, the app allows users to configure the notification event from the three available options like Foreground and Background, Foreground Only and Never. Users can also set the rate or speed of the announcement and the voice dialect in which the announcement is made.

Since the application is linked to a lot of user data, the app handles data syncing across devices in the cloud so that the data persist in the associated cloud account, even after the application has been uninstalled from their device.

Users can also mock the location from within the application to get the details of a different location and perform all the functionalities the app provides in the Virtual mode as well.

The intersection data used to process the intersection value can be changed at any time with the ease of updating the OSM data file without having to make any changes in the app or SDK.

Benefits

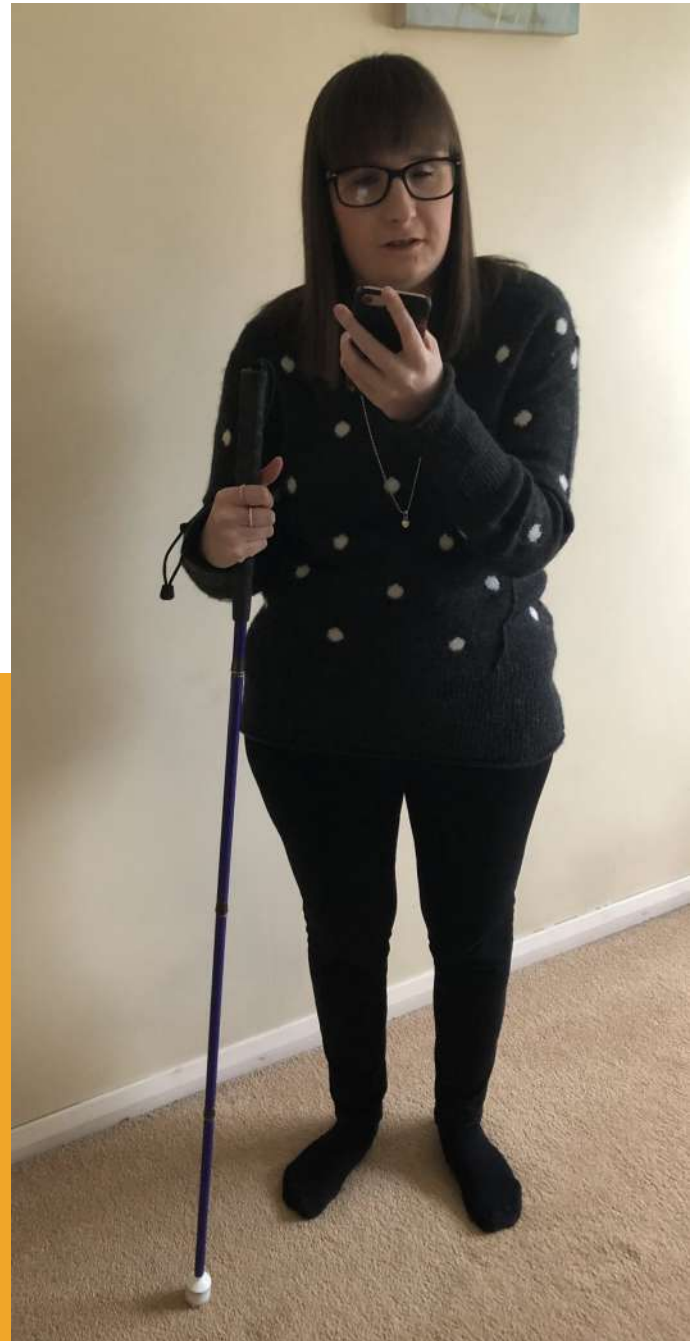
- 1 The SDK wraps the complexity of outdoor navigation in to a reusable module
- 2 Being an independent SDK, it can be easily integrated into any mobile application
- 3 Enables searching for any POI with name, address or category and also discover nearby POIs, address and upcoming intersection
- 4 Provides audio notification at intervals as set by the user, making the app usage easier
- 5 Can easily update intersection data at any time without making any changes in the app or SDK



Website Link:
<https://www.goodmaps.com/>



Youtube Video:
<https://www.youtube.com/watch?v=xrl-gYdB4cdE&feature=youtu.be>



Summary

- 1 GoodMaps provides features that improve the accessibility, safety and accuracy of navigation
- 2 It provides essential information for outdoor positioning, and helps both visually impaired and sighted users navigate easily without hazel
- 3 Goodmaps partnered with Travancore Analytics for the successful development of the Outdoor Navigation SDK

Tech Stack

