



Shifting from **Keyword-based to Intent-based Search**

First-of-its-kind mobile app with an intent-based search option for finding nearby restaurants

— The Client

A restaurant searching platform that provides customers with personalized recommendations of dine-out restaurants, popular cafes and best new places in town.

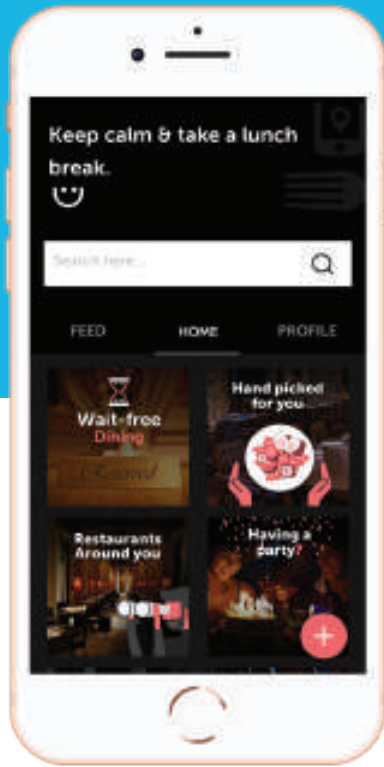
— Executive Summary

Built and deployed a mobile app with inbuilt intent-based search functionality developed based on a Natural Language Processing (NLP) framework.

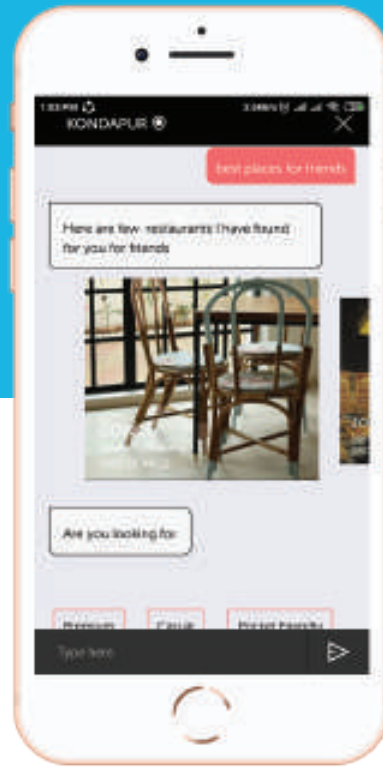
Project Duration
3 months

"Find me a place to take my girlfriend out for dinner"

The app finds your location, and suggests the most relevant recommendations based on your search query.



Home Screen



Search Screen

— Challenge

The client sought to provide its customers with location-based search recommendations that recognized their intent and individual preferences.

— Approach

We created a two-step process to tackle the unique feature that the client sought to provide its customers.

Step 1 : To build a featured and user-friendly app that captures the customer's current location through geo-tagging, meal preferences as set at the time of signing up, and budget as specified for the query.

Step 2 : To build an intent-based digital assistant that could help the customers with relevant options based on their specified query.

— Solution

We built a mobile app that would display the restaurants in the 5 kms radius from where the customer accesses it. We then display menus from the restaurants of their choice to help them decide their order.

In a case where the customer is unsure of which place to pick, he uses the intent-based search query to find the most relevant recommendations.

The distinctive NLP-based search engine converts the query into a parametric search, giving recommendations closest to the customer's requirements.

The restaurants are categorized based on three factors; ambience, food and service. The ratings of each restaurant against these three categories help the parametric search seek and display the best and most relevant options.

For example, if you were looking for a restaurant to spend some quiet time with your girlfriend, the NLP-based search engine would show restaurants that rank high on ambience and service.

— How the Product Helped

With this mobile app, efforts required to search for a restaurant based on user-intent is minimized. The model keeps capturing the data and trains itself to improve performance without interference. We have used the Stanford NLP library to efficiently understand and respond to natural language querying.

— Tech Stack



Backend
JAVA Spring Boot



Database
MongoDB



Search Engine
Solr



Geo-Fencing
Google Maps



NLP
Stanford NLP Library