

Comparative Analysis of Features/Functions of Route Planning Tools/Applications

Applications	Features	Available in
MapQuest	Directions, traffic, weather, live maps, street view, and more.	USA, Canada, Mexico, and other countries.
WAZE	Real-time traffic updates, hazard reporting, and turn-by-turn directions.	Over 100 countries.
THEAA	Directions, traffic, weather, live maps, street view, and roadside assistance.	United Kingdom.
RAC	Directions, traffic, weather, live maps, street view, and roadside assistance.	United Kingdom.
TomTom	Directions, traffic, weather, live maps, street view, and offline maps.	Over 150 countries.
Green Flag	Directions, traffic, weather, live maps, street view, and roadside assistance.	United Kingdom.

Modifications or Innovations for Pakistani Environment

- Pakistani route planners should incorporate local traffic data and road conditions into their routing algorithms. This would help to provide more accurate and reliable routes to users.
- Pakistani route planners should support multiple languages, including Urdu, Punjabi, and Sindhi. This would make them more accessible to a wider range of users.
- Pakistani route planners should include public transportation information, such as bus routes and train schedules. This would help users to plan their trips more effectively and efficiently.
- Pakistani route planners should add support for offline maps. This would be useful for users who are traveling in areas with limited or no internet connectivity.

Incorporating Extra Services into Car Navigation Systems

- Pakistani route planners could integrate with local blood donation centers to provide users with information on the nearest blood donation center and the directions to get there. This would make it easier for people to donate blood and save lives.
- Pakistani route planners could integrate with local ride-sharing services, such as Careem and Uber. This would allow users to book a ride directly from their car navigation system.
- Pakistani route planners could integrate with local security agencies to provide users with information on crime rates in different areas and directions to avoid dangerous areas. This would help users to stay safe while traveling.
- Pakistani route planners could integrate with local tourism boards to provide users with information on tourist attractions, restaurants, and hotels. They could also provide users with information on safety precautions to take while traveling in Pakistan.
- Pakistani route planners could integrate with local restaurant review websites to provide users with recommendations on restaurants to visit along their route. This would help users to discover new and delicious places to eat.

Requirements for Such Systems from the AI Perspective

- AI-powered route planners need to have access to accurate and reliable data on traffic conditions, road conditions, public transportation, and other relevant factors.
- AI-powered route planners need to have powerful computing capabilities in order to process large amounts of data and generate accurate and reliable routes in real time.
- AI-powered route planners need to use machine learning algorithms to learn from user data and improve their performance over time.

In addition to the above requirements, AI-powered route planners for the Pakistani environment would also need to be able to handle the following challenges:

- There is less data available for traffic conditions and road conditions in Pakistan than in many other countries. This would make it challenging to develop AI-powered route planners that are as accurate and reliable as those in other countries.
- Pakistani AI-powered route planners would need to support multiple languages, including Urdu, Punjabi, and Sindhi. This would add to the complexity of the development process.
- Pakistani AI-powered route planners would need to support offline maps and navigation. This would require developing efficient algorithms that can run on mobile devices with limited computing resources.

Despite the challenges, there is a great potential for AI-powered route planners to improve transportation in Pakistan. By providing users with more accurate and reliable routes, AI-powered route planners can help to reduce traffic congestion, improve travel times, and make it easier for people to get around.