



**Intelligent System for Road Finding Based Metro  
Network  
Your Path  
مسارك**

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## Software Requirements Specification

### Abstract

The Cairo Metro App represents a technological advancement that complements the Cairo Metro system, enhancing urban mobility and providing a seamless travel experience for commuters in the bustling city of Cairo, Egypt. This abstract aims to provide a concise overview of the key features and benefits of the Cairo Metro App. The Cairo Metro App serves as a comprehensive mobile application designed to assist passengers in navigating the metro system with ease. It offers a range of features, including real-time train schedules, It helps the blind and illiterate to know their location and alerts them when they reach their desired destination

## Introduction

There is no doubt that Egypt is taking leaps and bounds and making great efforts to advance the nation's technology. We are still striving with our utmost efforts to help it achieve progress. We are still presenting our uniform project that will help many people determine their destination and help our blind brothers so that they do not miss their appointments, and our illiterate brothers the ease of knowing their location through... Our project

## Problems

1. Most people get lost in metro stations.
2. Blind people cannot determine their destination.
3. A large group cannot read and write.
4. The most widely used metro station in Cairo and has many stations and destinations.
5. Not all stations have the same name's place

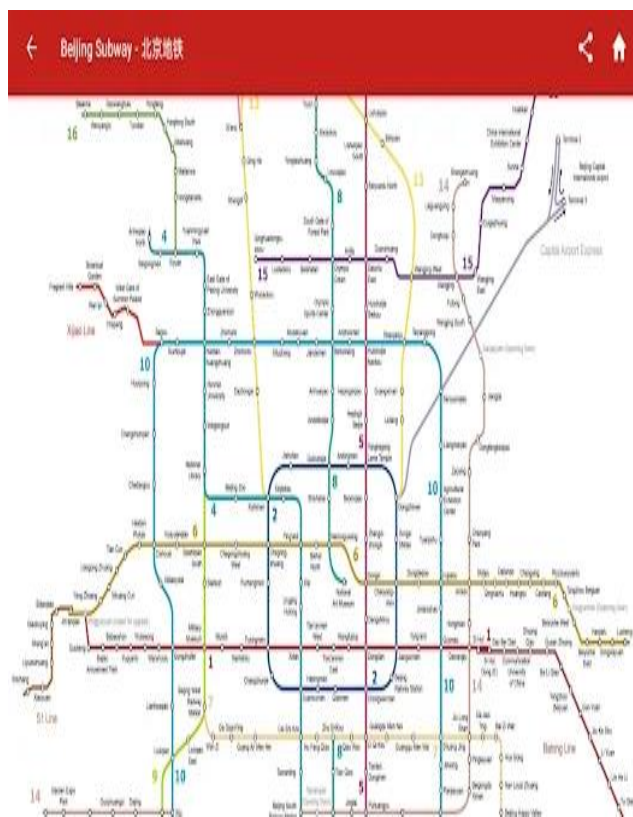
## Objectives

1. Determine the nearest famous places to each metro station.
2. Allow the user the number, names and addresses of stations at his destination.
3. The project is available for all age groups.
4. Helping the blind and illiterate with an audio feature to let them know their current location.
5. Alert all users at each station by its name via GPS service.

## Related Works

### 1.Metro Beijing App:

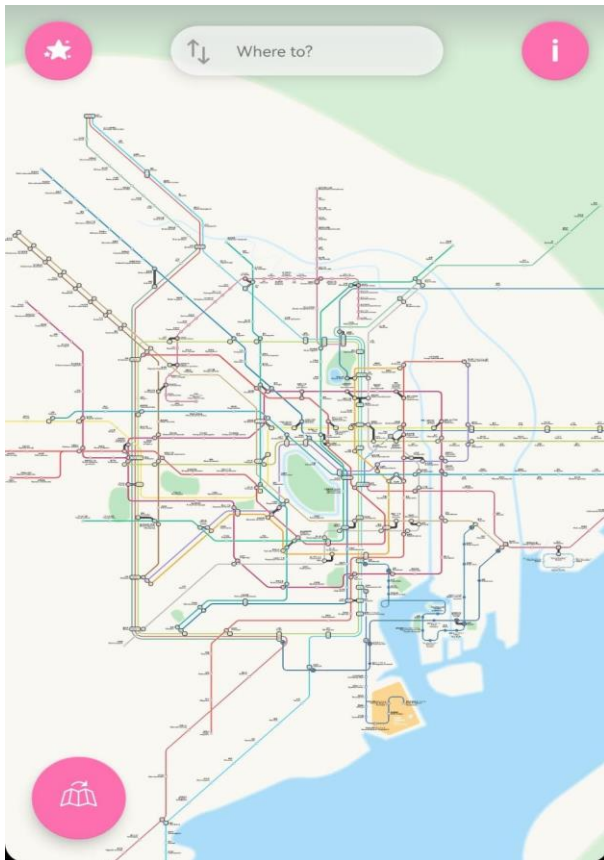
The Beijing Metro Mobile App stands as a modern solution for residents and travelers seeking to navigate the vast and intricate Beijing Metro system. which offers a comprehensive suite of tools and information to enhance the metro experience. The app provides up-to-date information on schedules, station details, real-time train arrivals, and service alerts.



but Beijing metro app Contains some disadvantages such as language the application may primarily be available in Chinese, and it requests personal information and statements on your phone, dependency on technology in case of internet interruptions or wireless connectivity issues.

## 2.Map Way Metro App:

Metro Tokyo is one of the most extensive and efficient urban transportation systems in the world. It encompasses a vast network of subway lines that connect various parts of the city and its suburbs, providing a convenient means of commuting for millions of residents and visitors.



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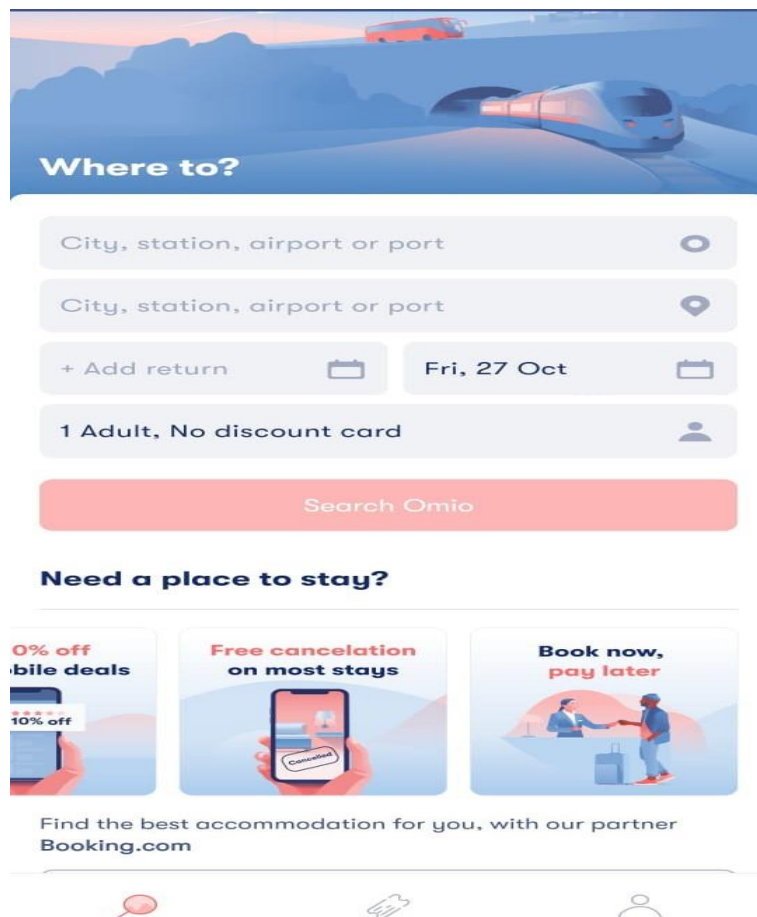
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[Acknowledgements](#)

but Map Way metro app Contains some disadvantages such as Information updates in the app are inaccurate, application may encounter a complex user interface and experience service outages or difficulty accessing the app during times of heavy traffic.

### 3.Omio Metro App:

The Omio Metro App is a user-friendly, convenient, and versatile application designed to simplify the experience of using public transportation in various cities worldwide. This app provides a comprehensive platform for planning, booking, and navigating metro and public transit systems. Key features of the Omio Metro App include real-time information on metro schedules, routes, and ticket prices. Users can easily plan their journeys, select the most efficient routes, and purchase tickets through the app, reducing the hassle of waiting in lines or using paper tickets.





but Omio metro app Contains some disadvantages such as you may face additional costs when booking tickets through the app, experiencing difficulty integrating the payment process with some payment methods you may need to provide additional information to complete the reservation process and voice search not available in the app.



#### 4.Doha Metro App:

The Doha Metro App is a cutting-edge mobile application designed to enhance the public transportation experience in Doha, Qatar. It serves as a vital tool for residents and tourists, providing comprehensive information and convenient features for navigating the Doha Metro system. Key features of the Doha Metro App include real-time information on train schedules, routes, and ticket prices. Users can efficiently plan their journeys, access interactive metro maps, and purchase tickets, making the app an indispensable companion for those using the Doha Metro.



<b>Fares Information</b> Prices in Qatari Riyals <small>For fare rules see qr.com.qa</small>		
		
	STANDARD <small>(Including Family Class)</small>	goldclub <small>(2 generations for family only)</small>
Single Journey	2 QR	10 QR
Day Pass <small>*Maximum daily use</small>	6 QR	30 QR
Travel Card Cost <small>without travel credit</small>	10 QR	100 QR
<b>Travel Card Information</b>		
What products are available?	Top Up with Travel Credit	Top Up with Travel Credit
Transport mode valid on	Doha Metro & Lusail Tram	Doha Metro & Lusail Tram <small>(Lusail Tram has no goldclub)</small>
Who is this Travel Card for?	Anybody aged 5 years and over, with no maximum entitlement, who wants to travel in Standard or Family class	Anybody aged 5 years and over who wants to travel in goldclub
Who should use this card?	Frequent customers wanting to travel in Standard or Family class <small>(discounts apply for Family class travel)</small>	Frequent customers wanting to travel in goldclub
Where can I purchase a Travel Card?	Station Travel Card vending machines and licensed retailers	goldclub offices at all Doha Metro stations
Where can I purchase (Top-Up) Travel Credit?	Station Travel Card vending machines, website and App	Station Travel Card vending machines or Station goldclub offices and website and App

but Omio metro app Contains some disadvantages such as **Limited Availability** The app is specific to Doha Metro users and those within the geographic scope of Doha.

**Language Limitations:** Despite being available in multiple languages.

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## **5. Developing a TOD typology for Beijing metro station areas**

Across the world, Transit Oriented Development (TOD) offers a strategy to integrate land use and transport systems by clustering urban developments around public transport nodes in functionally dense and diverse, pedestrian- and cycling-friendly areas. Even though the basic philosophy of TOD seems to be the same in all contexts, its specific applications greatly differ in form, function and impacts, calling for context-based TOD typologies that can help map these local specificities and better focus policy interventions.

## **6. Impacts of a Metro Station to the Land Use and Transport System: The Thessaloniki Metro Case**

The paper deals with the interaction between the transport and land use system in an urban area having as a case study the Thessaloniki Metro (which is an on-going project) and especially one of its main stations (the Papafi station) which is located outside the city center. The Thessaloniki basic metro line will have a length of 9.6 km, with 13 stations. The construction phase initiated in June 2006. The only experience in the country so far about the impacts of a metro station to the transport and land use system comes from the city of Athens where there is an extensive metro network.

## **7. Evaluating, Comparing, and Improving Metro Networks:**

As public transportation systems become more complex, an analysis of their network features can be of substantial help for planners. This work is an application of a network design model that was validated previously. It uses three indicators relevant to ridership: coverage, directness, and connectivity. Coverage calculates the percentage of land covered by the network. Directness relates to the convenience to travel, to avoid unnecessary transfers. Connectivity appreciates the structure of networks by measuring the affluence of transfer stations. According to the 15- and 25-year transit plans produced by the Toronto, Canada, regional transportation authority, Metrolinx, the objectives were to apply the model to evaluate these plans, compare them with other transit systems worldwide, and propose possible improvements.