

METHODS OF INFORMATIZATION IN USE OF PUBLIC TRANSPORT

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Annotation: This article discusses the development of information technology in public transport, improving its service, namely "smart" bus stops, which can create convenience for passengers and provide information, saving our passengers' time and increasing the efficiency of public transport.

Keywords: Smart stations, 3TM, 2GIS, TfL Oyster, electronic board.

МЕТОДЫ ИНФОРМАТИЗАЦИИ ПРИ ИСПОЛЬЗОВАНИИ ОБЩЕСТВЕННОГО ТРАНСПОРТА

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Аннотация: В данной статье рассматривается развитие информационных технологий в общественном транспорте, улучшение его сервиса, а именно «умные» остановки, которые могут создать удобства для пассажиров и предоставить информацию, экономя время пассажиров и повышая эффективность общественного транспорта.

Ключевые слова: Умные остановки, 3 TM, 2GIS, TfL Oyster, электронное табло.

Information about public transport is provided on physical and electronic media. For example, navigation in cars, trains and planes is carried out using electronic devices, and maps, speed data and discounts on travel are provided to users through online platforms. In addition, information about transport and travel schedules is provided to users by phone, through websites and mobile applications. In general, providing information to public transport helps people move faster than average and makes their trips easier.

In Russia and the United States, we can talk about specialized "smart" technologies and devices used in the transport sector called "Smart Stops". These technologies are developed to optimize the use of transport systems and infrastructure, manage traffic, monitor road routes, solve problems with road conditions and collect information related to other transport problems.

In Russia and the US, Smart Stops are used in the transportation sector in the following areas:

1. Traffic and road management: monitoring road and traffic conditions, and managing routes according to public transportation and road conditions.

2. Transport automation: unmanned and automated processes for vehicles such as cars, trains, and pushcarts.
3. Electronic payment systems: online payment options for road tolls, parking fees, and other transportation services.
4. Information and communication: Providing information on transportation routes, fares, and discounts.

Smart Stop technologies are used to improve the efficiency of the transportation sector and help people determine their travel routes. These devices contribute to the comprehensive development of the transportation industry, improving the accuracy and safety of road traffic.



Figure 1. A fancy bus stop on North Hollywood Street in Los Angeles, USA.



Figure 2. Smart station in Moscow.

There is a lot of work going on around the world to develop smart applications and mobile technologies to manage public transport services.

They provide people with the opportunity to study the traffic situation, monitor it, manage it and make online payments.

1. Traffic and Transport Monitoring: These apps help in monitoring the vehicles and their movements. They can use maps, view the speed of the transport, location, tracking and other information.
2. Payments: People can use their smartphones to pay for transport services. These apps can be used to make payments, make subscription fees, deposits, discounts and other transport services.
3. Routes and Schedules: There are apps that help you view all types of transport routes, schedules and fare discounts. These apps allow users to choose the shortest routes to reach their destination faster.
4. Directions and Navigation: These apps allow users to choose the shortest routes and stop the traffic at the right time.
5. Information and News: Users are provided with public transport news, discounts, transport and other traffic related information.

Such applications help in exploring and managing other types of transport services such as metro, tram, bus, etc.

Smartphone applications for public transport services (3TM, 2G, Yandex Maps) can have several main goals and tasks for the passenger. These applications help passengers use the transport system more conveniently and efficiently. Let's look at some of the main goals and tasks:

Goals:

1. Transport planning and management:

With the help of applications, passengers can determine transport routes and choose the best way to get to their destination. This is especially useful for those who are exploring new roads or short public transport routes.

2. Transport schedule and arrival time tracking:

With the help of applications, passengers can track real-time information about the arrival time of buses, trolleybuses, trams and other vehicles. This allows passengers to save time and plan their trips.

3. Show GPS-based routes:

Yandex Maps and other applications that use GPS help passengers find the most convenient and fastest route. Passengers can also be directly redirected to public transport via the app.

4. Additional services and payment system: Some apps include payment systems so passengers can purchase tickets and make payments online.

3TM

Zo'r Bus Company

3,8★
12,6 ming ta sharh

1 mln+
Yuklanmalar

3+
3+ 0



O'rnatish

Ulashish

Keyinroq olaman

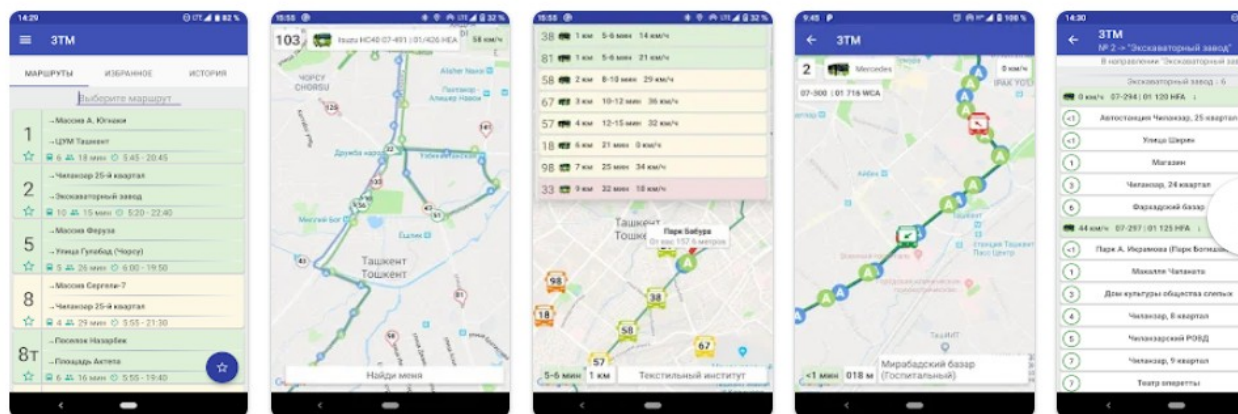


Figure 3. 3TM app.

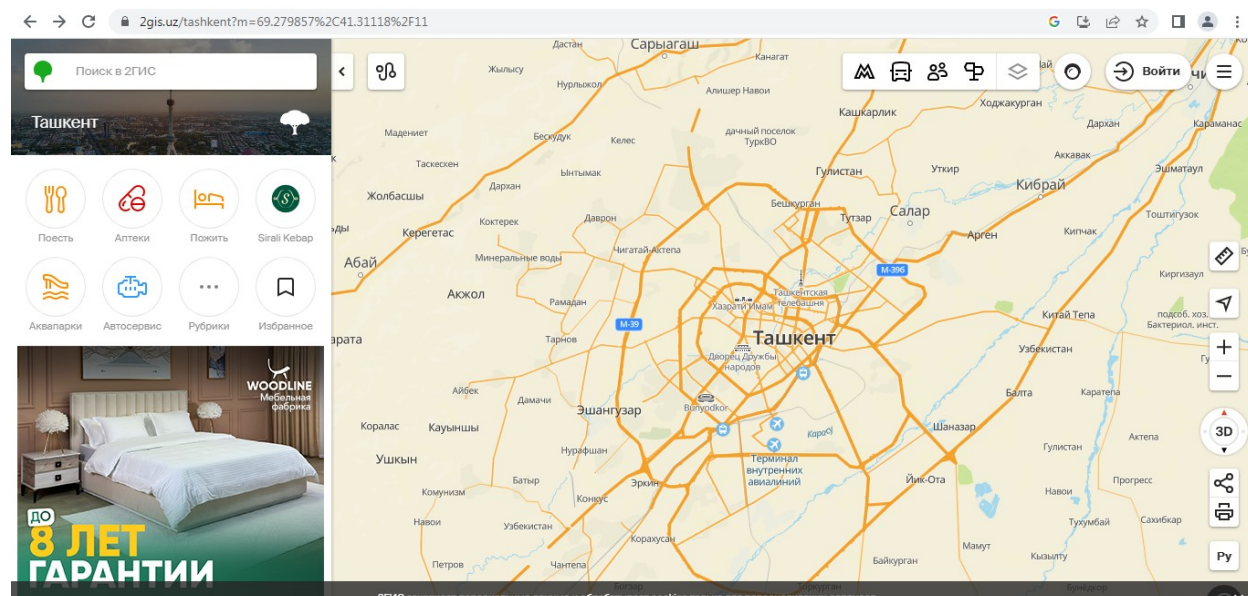


Figure 4. 2gis app.

In addition, the TfL Oyster app is one of the most important smartphone apps provided by Transport for London (TfL) and helps you navigate the public transport system of the City of London. This app integrates with the Oyster card system provided by TfL and provides a convenient experience for users.

Through the TfL Oyster app, users can access the following features:

1. Access transport: Supports users to use their Oyster card to access transport, allowing them to save time and money on purchasing transport tickets.
2. Track transport: With the app, users can track transport movements, i.e. know which tube, bus or train is going where and when it will arrive.
3. Buy tickets: Users buy tickets for travel on transport through the app. This makes the process of obtaining tickets easier and faster.
4. Route planning: The TfL Oyster app helps you choose the fastest route by identifying public transport routes and different stops.
5. Funds Management: Users can add funds to their Oyster card, check their balance, and withdraw funds through the app.

This app plays an important role in managing public transport in the City of London and provides convenience to users. It makes it easier for users to access transport, buy tickets, and track their transport.

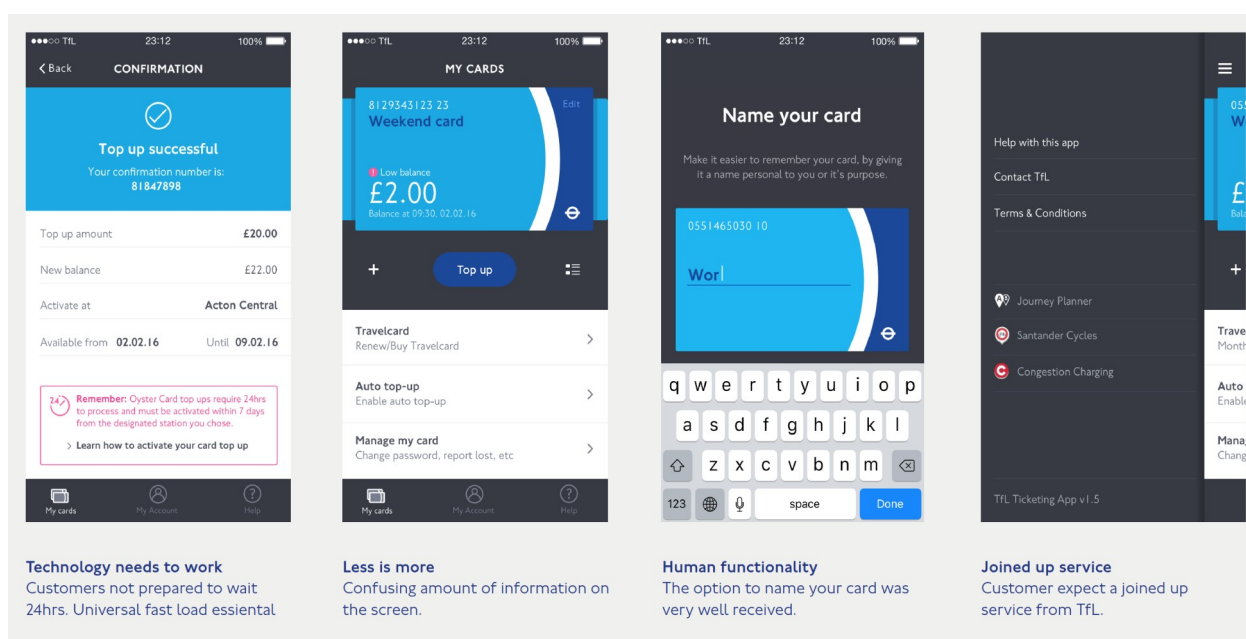


Figure 5: TfL Oyster program for public transport in London

The image below shows an electronic information board installed inside a tram (Germany). The sign shows that tram number 11 is approaching the Postplatz stop, as well as how long it will take to get to this stop. For example, tram number 1 to Prohlis will arrive at this stop in 3 minutes.



Figure 6. Electronic information board installed inside the tram.

The GPS tracking application can provide the following information about buses:

1. Location information: Information about the current location and previous route of the bus.
2. Speed and speed limit: Information about the bus speed and speed limit.
3. Movement history: Information about the previous route of the bus and the distance traveled.
4. Route: Information about the direction of the bus.
5. Stops and rushes: Information about where and how long the bus stopped and rushed.
6. Discounts and savings: Information about bus fares, discounts and savings.
7. Speeds: Information about changes in the speed and direction of the bus.

This information will be useful for managing bus transportation and improving the efficiency of public transportation systems. GPS tracking helps dispatchers and users to get real-time traffic and speed information.

GPS bus tracking involves using GPS technology to track the location and movement of cars and other vehicles. This monitoring system helps track the movements of buses in real time, collects data about buses and helps to assimilate this data for other applications.

Conclusion

From the above, we can conclude that due to the introduction of new drivers of informatization methods in using of public transport, the productivity and information content of public transport in big cities will increase. Most importantly, this is in line with the reforms carried out in the public transport sector of Uzbekistan.

References

1. Xakimov Sh.K. Intellectual transport vositalarining texnologiyalari: Darslik. - Toshkent, 2025. – 160 b.
2. Kenneth Li-Minn Ang , Jasmine Kah Phooi Seng, Ericmoore Ngharamike and Gerald K. Ijamaru. . Emerging Technologies for Smart Cities' Transportation: Geo-Information, Data Analytics and Machine Learning Approaches
3. <https://www.gazeta.uz/oz/2021/02/25/tashkent/>
4. Caves, RW (2004). Shahar entsiklopediyasi . Routledge. p. 141.
5. <https://www.slideshare.net/alnargiza/ss-61129929>