

AUGMENTED REALITY IN URBAN MOBILITY

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1. OVERVIEW

Augmented Reality technology enables governments and public sector agencies to deliver information and services directly to citizens and communities in a mobile and context-specific (e.g. where you are; where you're pointing your mobile device) way. Civic Resource Group (CRG) is using this new Augmented Reality technology to provide practical solutions for the public sector. In the context of Urban Mobility, Augmented Reality can enhance the way people engage with and move about their surroundings, and is transforming the way they expect to access and retrieve related information.

2. WHAT IS AUGMENTED REALITY?

Augmented Reality (AR) is the overlay of data and information on real world objects, presented through the camera view of a mobile device or in wearable display. Different from Virtual Reality which allows you to interact with an alternate universe, AR delivers enhanced information about your actual surroundings, making it both powerful and relevant for public sector use. AR identifies a point of interest by either a precise geolocation, pointing direction, image or object recognition, and triggers an overlay display of relevant information about that point of interest to the user including rich text, audio, video, 3D models or animation. They can even “teleport” themselves to a destination, landmark, or venue and virtually explore what's nearby before they arrive. This teleportation feature not only creates an immersive opportunity for users to experience a destination from afar, it can entice them to visit.

3. BENEFITS OF AR

In today's world, users expect to have immediate access to accurate information. AR makes a world of data available to the user instantly and in context. Every sign, restaurant front, bus—any asset or location has the potential to serve as an opportunity to inform and communicate. The instant the user points their mobile or wearable device at the point of interest, an AR-enabled application displays valuable, information to enhance their experience. The AR experience can also be extended to provide a frictionless experience interacting with the point of interest, such as booking a reservation, purchasing a ticket or posting a comment or review.

The public sector entity providing the AR experience has the benefit of both controlling the information presented and also gaining a greater understanding of their users. The information presented can either be static such as transit timetables, or real-time such as tracking transit arrivals and departures. The public sector entity has the ability to create and update their data and content if they choose to, providing a reliable source of up-to-date information. AR also allows the public sector entity to gather powerful analytics about their users in aggregate, from number of views and lengths of interactions to number and locations of users. Analytics as specific as where a user looked and for how long are not available with other digital solutions. Gathering this valuable information allows the public sector entity to focus their efforts, and better understand and meet the needs of those they serve.

4. AR IN URBAN MOBILITY

Urban mobility is a critical element of city planning today. As the urban population grows, and citizens continue to rely on single passenger trips, traffic and air quality worsens. Urban mobility encompasses both where someone is going, their destination and their experience, and how they are getting there, by transit, driving, parking, walking and more. For Urban Mobility to be successful, cities need to optimize transportation by predicting demand and providing diverse multimodal choices to users. This in turn reduces economic costs and environmental impact of mobility and leads to safer, more efficient roads. Providing Urban Mobility Smart City applications that incorporate AR does this while improving the complete end-to-end travel experience—simplifying and enhancing the way users navigate, search for and find destinations, and interact with the urban environment.

Go

Getting around in cities today can be overwhelming. Whether the concern is keeping cost down, getting there quickly, or reducing environmental impact, information and options are crucial. When static transit signage is augmented, the user can scan it for real-time arrival information, see interactive maps of exactly where the line serves, and even translate it into their native language. This contextual and simple information access can increase ridership and rider satisfaction. Integrating AR into transportation in this and other ways results in more efficient movement throughout cities.

Search

Users engage in a truly immersive experience as they can search for places to stay, eat, and shop, find what to do and more simply by using AR view on their device. Pointing down the street, they can see and learn about their surroundings as each shop and restaurant is lit up with rich information about each location. Filters allow them to focus in on exactly what they're looking for. Creating this interactive environment draws individuals to new locations throughout the area, encourages exploring local businesses, and adds a digital element to economic development and tourism that sets any city apart.



Find

Once the user has selected their destination, AR wayfinding can provide them with step by step navigation. An arrow overlaid on their surroundings through the camera view of the user's mobile device provides continuous, contextual walking directions to simplify getting to their destination. Providing this AR service acknowledges that the journey does not end once the user exits their car or public transit, and ensures a seamless mobility experience.

Learn

AR can also use valuable data and information to educate users about their surroundings. Augmented statues when scanned might give the user information about the sculptor and when it was created, and an augmented concert hall might display historical photos of the venue when it was first built and play an excerpt of a symphony played there. Beyond culture, using AR on promotional signage might trigger a display of events happening throughout the city and allow the user to buy tickets, all on the screen of their mobile device. AR is not only a powerful tool to help users move about the city, it allows them to truly experience it.

5. CONCLUSION

Augmented Reality is the next step in information and service delivery for any Smart City. With the rise in population and congestion in cities, and the resulting economic, environmental and safety impacts, cities are increasingly seeking comprehensive urban mobility solutions. AR enabled applications ensure that cities are providing immediate, contextual information and options for efficient, sustainable, and enjoyable mobility.