Triagonal

WAYFINDING AND THE FUTURE

– intelligent and effective, but also human

By Triagonal Information Design

AI, VR, AR and XR, IoT and 3D. The future is smart – increasingly harvesting from decades of research and exploration of digitization and new technologies – and changing the way we see and relate to experiences and knowledge, physical environments, manufacturing, service provision, teaching and learning. The future is virtual and tangible at the same time. And intelligent – both artificially and for real.

We at Triagonal in addition claim the right – for ourselves and the more than half a billion people, who depend on and make decisions based on our wayfinding solutions – to a future that is human. One that balances what is possible and what is good - measured by technological advances, but also by how it resonates with the needs and confidence of its users. Providers of service journeys, who in general strive

towards better user experiences, more inclusion and empowerment also embrace the diversity of technological opportunities. What kind of implications might this have on how we organise the individual components of such journeys and how they are interconnected? In the context of complex and dynamic environments and ecosystems like airports, university campuses, hospitals and cities, wayfinding is such a component. It relates to the physical space and to the everchanging configuration of individual users, and it relies on a profound understanding of their behavioural patterns, their impulses and reactions, preferences and biases.

One of our priorities when working with wayfinding solutions for the future, and when assessing current and emerging technologies, is how we translate and

embody this comprehension into usability and intuitiveness for the user. Moreover, we are dedicated to create synergies between the physical and the digital dimensions making up the entirety of a modern environment, to ensure a natural sense of coherence and making sure that no one is left behind.

Increasing globalisation and changing demographics require flexibility in the development and rethinking of wayfinding systems to ensure adaptability and sustainability. To underpin such a demand, customisation of information through digitalisation is an opportunity not to be missed. Such technologies include GPS and GIS based mapping, beacons and sensors, biometric and haptic devices, and a range of facilities based on IoT and AI, all underpinning user engagement and the potential for building stronger relations with each individual user.

When developing strategies for wayfinding, our focus is on making sure that emerging and already existing digital solutions support and enhance the user journey by utilising our legacy of evidence and experience on which we have based our analogue wayfinding solutions for decades, keeping in mind that user satisfaction can be both enhanced and reduced by the use of digital solutions.

Factors that enhance the experience in particular include customisation and integration of information, immediate feedback and real time updates on your journey, adaptability and flexibility to changes over time, and the activation of senses such as sound and touch, always tailored to the specific context. The best effects in terms of user experience and effectiveness are found in interconnecting digital and analogue facilities, as observed in a study from 2016: *"Even though GPS technology and tools can provide accurate guidance from a point to a destination, they do not give information on the surrounding passive environment, which may cause people to get lost. In addition, physical signage is preferable over digital systems in terms of permanence of locations. Thus, both passive and active wayfinding will probably still be indispensable for indoor navigating in the future. Combining conventional media such as static signage with the dynamic responses of digital information systems may provide synergistic effects."*[1] In other words, a user-centred wayfinding strategy contains both digital and analogue, dynamic and static components to accommodate all needs

and capabilities, and to act as a mediator between the physical and the digital components of the user journey. There are also other bridges to be built.

The challenge of lacking standardisation, varying typologies and different solutions to the same problem in every new environment, as well as challenges related to GDPR, tracking and surveillance could be overcome through open innovation endorsed by major players, amongst others the European Union; *"AI needs the trust of citizens to develop. To earn this trust, AI will have to respect ethical standards reflecting our values. Decision-making must be understandable and human-centric. This calls for a wide, open and inclusive discussion on how to use and develop AI both successfully and ethically sound."*[2] This would allow for e.g. AI based wayfinding to be the future, requiring less attention from the user, as devices would already know you and your needs in advance, and would therefore demand less action on your part and provide you only with the information relevant to you. [3]

There are still unresolved issues with AI, and the time is now to make sure that it is used for the good. In particular in a context as delicate and critical to human beings as healthcare, the responsibility of ensuring that artificial intelligence develops ethically, safely and meaningfully needs to be taken seriously by all stakeholders involved. [4] However, in the pursuit of better healthcare systems, there is a wealth of promising opportunities provided by intelligent technologies to be explored.

We all have a responsibility not to leave the user – whether patient, traveller or visitor – waiting in vain, but to strike the right balance between well-known and tested components on one hand; static and dynamic signage, sightlines and affordances based on our knowledge of different audiences' behaviour in wayfinding situations – and testing out technological solutions, whether based on apps or more immersive technologies on the other. A balance that strengthens the sense of coherence and empowerment for the user.

[1] Cho (2016): *Understanding the relationship between signage and mobile map for indoor wayfinding* - Ph.D. diss., Iowa State University

[2] European Commission (2018): *Coordinated Plan on Artificial Intelligence "Made in Europe"*

[3] Kopulos (2019): *Forget Google Home. The killer app for AI bots is wayfinding* - Forge Media + Design, Medium.com. Link: https://medium.com/forge-media-design/the-killer-app-for-ai-is-wayfinding-87f58f1099ba. Last access: 06.01.2020

[4] Bresnick (2018): *Arguing the Pros and Cons of Artificial Intelligence in Healthcare* – HealthITAnalytics 17.09.2018, Xtelligent Healthcare Media