

## **Accessible Robot Tour Guides - An Exploratory Study**

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### **Abstract**

#### ***Purpose***

This submission relates to the exploratory phase of a wider project aiming to investigate the use of robotics as a novel tourist attraction and explore if it can mitigate the damage caused to the Welsh tourism sector as a result of the lockdown across the UK (first imposed on 23<sup>rd</sup> March 2020). The global tourism industry has found itself operating in most unprecedented times, where the challenges of sustainable product development have been compounded by the outbreak of a global pandemic. This means destinations, particularly ones which rely on tourism as a substantial percent of the economic outputs, are tasked with addressing not only the short to mid-term effects of COVID-19 travel restrictions but also the long-term problems of underfunding, seasonal trade variations, attractiveness and inclusivity. One of the ways to enable the safe, social-distanced tourism interactions is the introduction of AI and robotics to the day-to-day operations. Indeed many countries, the Netherlands and Singapore amongst others, have utilised robots successfully in hospitality and healthcare settings with the aim to

reduce human to human contact, thus, helping to both mitigate the spread of the virus and as a means to getting back to 'normal' (Wu, 2020).

This study is exploratory in nature with a three-fold aim to: 1) explore the attitudes tourists have towards humanoid robot interactions in a tourist setting, such as obtaining information about local area, tourist routes, local attraction, etc.; 2) map out accessibility barriers tourists have in relation to obtaining tourist information and services; 3) inform a roadmap relating to accessibility features of robot tour-guides. The results will provide baseline data and help to establish the practicality of implementing such technology when it comes to tourist guide functions along the Pembrokeshire Coastal path in Wales.

### ***Design/methodology/approach***

In line with Ivanov *et al.*'s (2018) study of the attitudes of young Russian adults towards robotics service, this study is utilising surveys to scope general attitudes towards the use of robot tour guides in destinations. This survey is created in Qualtrics, and will utilise snowballing and convenience sampling, capitalising on social media propagation and academic community engagement. Disability groups such as Wales Council of the Blind will also be involved in the dissemination of the survey due to exploratory nature of the study relating to accessibility issues. All data will be analysed using Qualtrics and SPSS to identify trends relating to feasibility of implementation of accessible robot tour guides.

### ***Originality/value***

This recognises that Artificial Intelligence and technology have helped to revolutionise various global industries (Samala *et al.*, 2020). Innovation is needed to enhance the visitor experience during unprecedented circumstances, such as those presented by COVID 19 and subsequent restrictions it brings. The theoretical contribution of this proposed study includes addressing the concerns about accessibility in tourism and leisure settings. The researchers have prioritised addressing these issues through an enhanced understanding of robot technology and

this will make an original contribution to the literature. This is in light of the existing research conducted by Visit England (2018) suggesting that 430,000 British adults with disabilities did not take a domestic holiday as a result of accessibility issues. Such issues include inaccessible formats of information and limited technology functionality (Richards *et al.*, 2021).

**Keywords:** COVID-19; Visitor experience; AI and robotics; Accessibility;  
Wales

## References

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