# University of Glasgow unveils innovative robot dog for the visually impaired



A groundbreaking development in assistive technology has emerged from the University of Glasgow with the introduction of Robbie the RoboGuide, a robot dog designed specifically for assisting blind and visually impaired individuals. This innovation aims to enhance experiences in indoor environments such as museums and supermarkets, helping users navigate and gain information about their surroundings.

Robbie is built on a pre-existing robotic platform that costs approximately £8,000 and has been employed by the US military. By incorporating a sophisticated large language model akin to ChatGPT, the robot has been equipped with advanced communication abilities, enabling it to perform online searches and relay information audibly through speakers. The robot utilises simultaneous localisation and mapping technology and is fitted with a camera and integrated microphones. In a public space, the user communicates with Robbie using an earpiece.

The RoboGuide was trialled at the Hunterian Museum in Glasgow, where it effectively educated visitors about various artefacts, demonstrating its capacity to interact and inform. This robot has been proposed as a temporary alternative for those awaiting a guide dog, a process that can often be lengthy and expensive. As such, developers are currently seeking investors to support further development and potential deployment.

Looking ahead, there are aspirations that Robbie could be operational in diverse settings, such as airports, supermarkets, and galleries, within the next three to five years. Since the project's inception in August 2023, the development team has collaborated closely with RNIB Scotland and the Forth Valley Sensory Centre.

Recently, Robbie was showcased at RNIB Scotland's Inclusive Design for Sustainability Conference in Glasgow, where attendees had the opportunity to experience its capabilities firsthand. PhD student Abdul Ghani Zahid explained, “Users can talk to the robot, it could see an artefact in a museum and give a description of what that artefact was. It has audio communication and can debate.” He elaborated on Robbie’s functionality, stating that it could assist individuals in navigating unfamiliar environments, such as guiding them to specific locations within an airport.

Wasim Ahmad, senior lecturer at the James Watt School of Engineering at the University of Glasgow, praised the feedback from users who interacted with Robbie. He noted that many felt “safe and confident” while using the robot in museum settings. Ahmad described Robbie as a “game-changer,” clarifying that the device is not meant to replace guide dogs but to complement the assistance that guide dogs provide. “It’s not for us to replace the guide dog – it’s a very different relationship between the guide dog and the blind person,” Ahmad explained. He stressed that Robbie can offer both companionship and practical support, helping users navigate from one location to another safely while fostering independence.

Additionally, Ahmad envisages that Robbie could offer multilingual guided tours and support individuals with other physical disabilities. He mentioned ongoing efforts to explore the business viability of the project, expressing optimism for securing investors to facilitate the next steps. He anticipates that, following further trials and development, Robbie could be operational in approximately three to five years.

The conference also highlighted other technological advancements, such as an electronic Braille display capable of “reading in real time” and an innovative walking cane that uses haptic feedback to guide its users. Dr Sonali Rai from the media and culture team at RNIB expressed enthusiasm for the developments, emphasising the importance of ensuring that users are included in the ongoing dialogue surrounding these technologies.

Source: [Noah Wire Services](https://www.noahwire.com)

## References

* <https://www.gla.ac.uk/news/archiveofnews/2024/february/headline_1043333_en.html> - This URL supports the claim about the University of Glasgow's development of the RoboGuide, a robot designed to assist visually impaired individuals in navigating indoor spaces like museums and shopping centers.
* <https://www.dailymotion.com/video/x8tyrn6> - This video provides visual evidence of the RoboGuide's capabilities and its development by the University of Glasgow, highlighting its use of sensors and AI for navigation.
* <https://www.noahwire.com> - This source provides the original article detailing the features and potential applications of Robbie the RoboGuide, including its trials and future aspirations.
* <https://www.rnib.org.uk/> - The Royal National Institute of Blind People (RNIB) is mentioned as a partner in the development of the RoboGuide, supporting its testing and development for visually impaired individuals.
* <https://www.fvsc.org.uk/> - The Forth Valley Sensory Centre (FVSC) is another key partner involved in testing and providing feedback on the RoboGuide's effectiveness in real-world environments.