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## LED – Executive Summary

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[A Digital Health & Care Institute (DHI) Collaboration, University of Strathclyde]

The “LED-based indoor tracking of people living with dementia” project proposes a novel device that uses LED lighting to convey position information indoors of people living with dementia. This project was proposed by Dr. Sinan Sinanovic, Senior Lecturer from Glasgow Caledonian University (GCU), and accepted by the Digital Health and Care Institute as Experience Labs, which took place in February and June 2015. The co-Principal Investigators in the project were Dr Roberto Ramirez-Iniguez, Dr Lynne Baillie and Dr Wasiu Popoola.

The Experience Labs, by using a design-led approach, provided the opportunity to explore the full potential of the LED-based indoor tracking device, and generated a pool of user experiences, needs and wishes.

Prior to the Experience Labs, interviews were conducted with Andrew Lowndes, Research Fellow at GCU with extensive experience in care for older people living with dementia, and Gillian Constable, social work expert. The interviews provided insights into the experience of dementia, which shaped the following Labs.

In Experience Lab 1, participants were invited to express their experiences of living with dementia and (large) indoor environments, as well as their opinions on being tracked and wearing a sensor device.

The findings from the first lab were used to develop realistic scenarios depicting proposed uses of the tracking device.

In Experience Lab 2, participants were asked to reflect upon these scenarios. Three scenarios were presented in video format, each capturing unique elements of the pool of user experiences, needs and wishes.

The outputs from the Labs included audio, photos, videos and field notes which were analysed for emerging themes. The findings provide insights on the potential use of an indoor tracking system for people living with dementia, as well as requirements for use in daily life. The findings show a preferred role for informal carers in responding to alerts about behaviour recognized by the system. In addition, the findings recognised a potential benefit to making captured data accessible to the person living with dementia and their loved ones, in order to support positive and motivational use of insights gained into daily life.

If you would like more information about this project, please contact [c.green@gsa.ac.uk](mailto:c.green@gsa.ac.uk)