

A Review of the Opportunity to Connect Elderly Citizens to the Internet of Things (IoT) and Gaps in the Service Level Agreement (SLA) Provisioning Process

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Abstract

Service connections to the IoT require a user to have a degree of technical capability. This can be limiting in the case of the elderly, and de-motivating in encouraging their connection. It is therefore pertinent to support those groups who are otherwise marginalized. The objective of this paper is therefore to consider the reasons that the elderly are deterred from connecting to the IoT, with specific focus given to those aspects which can reasonably be influenced. This work is conducted with a view to making recommendations in relation to the service provisioning process and, specifically, the way in which Service Level Agreements (SLAs) may be customized to respond to the elderly's needs and encourage their connection.

Keywords: elderly citizens, Internet-of-Things (IoT), accessibility, inclusivity, service provision, Service Level Agreements (SLAs), Quality of Experience (QoE).

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1. Introduction

While the evidence suggests that interest in internet technologies is growing from the perspective of our elderly population, a large gap in the market remains, given that, “*After 50 there is a sharp decline in Internet use ...*” [1]. By May 2019, only 47% of adults aged 75 years and over in Britain are recent (having used the internet within the last three months) users [2]. Ofcom, the regulator of broadcasting, telecommunication and postal industries, also reported in May 2019 in relation to the over 75 year old population that, “*48% do not use the internet*” [3]. There therefore exists a significant body of people who can potentially be targeted in any attempt to extend the reach of online technology and services.

The European Commission, which is responsible for bringing forward proposals to support EU laws, describes a smart city as, among a range of other characteristics, one, “*meeting the needs of an ageing population*” [4]. If a need is therefore identified that elderly users wish to embrace internet technology, but, for some reason or other they are unable to, then the smart city concept is not being fulfilled in relation to the Commission's definition. Taking into account the proportion of older users who are not online today, the objective of this paper is to examine the extent to which older users wish to use online technologies, the reasons that they currently do not, and the interventions which might help to close this gap.

This research is driven by an understanding that trends in technology use by the over 75s is changing, which indicates that there may be greater desire to use technology than the statistics on current usage describe: In 2001, 81%

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