Exploring the Overlap between Wearable Computing and Disability Discrimination Law

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ABSTRACT

Typically, Wearable Computing has raised a wide range of negative legal concerns, ranging from complaints about its potential misuse by car drivers, onto concerns around privacy, confidentiality, and copyright. The result has been that Wearable Computing systems – most notably Google Glass – have been banned from being used in a wide range of public spaces. This presentation will explore the overlap between Wearable Computing and Disability Discrimination Law. Through the mechanism of proportionality, Disability Discrimination Law presents a positive case for permitting and actually supporting wearable computing in wider society, creating the scenario where someone with a disability would be entitled to use such technology (regardless of opposition). The Mental Capacity aspects of Disability Discrimination Law also raise novel legal questions around the limits upon who might be able to use Wearable Assistive Technologies, and some significant wider implications for wearable computing more generally.

Keywords
Accessibility; Assistive Technologies; Disability Discrimination Law; Wearable Computing

1. Introduction

Wearable computing has always presented novel legal challenges. Even the very first wearable computer led to the Nevada Devices Law of 1985, which outlawed the use of wearable card-counting systems in casinos [4]. Whilst there have been few legal measures subsequently aimed towards the use of wearables, there has been an increased intersection with legal provisions designed to protect against (perceived) privacy intrusions, and copyright. Recent conflicts have arisen from the introduction of the Google Glass, leading to bans in a wide range of public places, be they cinemas concerned about piracy, or bars and social establishments concerned about the privacy of their patrons.

Many challenging areas of law are rooted in the legal notion of proportionality, which is focused upon balancing out both sides of an argument, with the goal of sensibly tensioning collective benefits and risks with the rights of individuals. So far with wearables, only one side has really been considered, emphasized and heard in legal debates about their usage, namely the potential harm. In the legal context, there has been little real discussion (to date) about whether there are rights of wearable users to use their technology in public, and to be supported by the law in doing so.

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Copyright is held by the owner/author(s).
British HCI 2015, July 13-17, 2015, Lincoln, United Kingdom
ACM 978-1-4503-3643-7/15/07.
http://dx.doi.org/10.1145/2783446.2783591

Under the Equality Act (2010), Disability Discrimination Law presents a significant opportunity in taking the field of wearable computing forwards into wider society, by taking advantage of how these provisions would apply to wearable assistive technologies (WAT’s). Just as a guide dog might be automatically permitted to enter a shop or taxi due to the individual legal rights of its disabled user, a wearable computer could be treated similarly, being automatically permitted if it is of substantive assistance to some disabled people. This would also apply for non-disabled users too, given that these technologies might assist those with otherwise invisible disabilities. Moreover, auxiliary services (such as wireless internet or indoor localization) might be provided automatically as an anticipatory reasonable adjustment for the users of wearables (be this by disabled people or by others), thus enabling wearable technology to be more fruitfully used in a wider range of environments. However, this might be tempered by challenges surrounding mental capacity law.

2. The Legal Issues

There are three areas of legal concern which are discussed in this position paper: the permissibility of wearable computers; wearable support systems, and mental capacity law.1

2.1 Permissibility of Wearable Computers

This is the most challenging area of legal concern pertaining to wearable computing. It involves the application of proportionality in order to consider whether or not the concerns that might be raised by challenging wearable computers, such as potential violations of privacy, copyright and confidentiality might prevent their public use as assistive technologies.

Disability Discrimination Law is strongly weighted towards the right of disabled people to use assistive technologies, and provides a positive counterpoint to existing bans on wearables in public spaces. Cases such as Foster vs Leeds NHS Trust and Butcher vs Croft Vets Limited illustrate just how strong the legal duty can be in an individual case; with strong obligations to provide reasonable adjustments, even if they might not work. The limit as to whether a reasonable adjustment passes the permissibility test might be found through interpreting the recent decision in Pauley vs First Buses in the Court of Appeal10, where it was explained by the court that some weight should be given to the need of (in that case) other passengers who may also need to use the wheelchair bay (despite not being wheelchair users). Even then, the court recognized there was a wide range of reasonable adjustments that ought to have been made by the bus company.

The right to privacy is often raised as the main concern for wearables. In respect of public places, there is little legal opposition, not only does the ECHR (European Convention on Human Rights) only have a substantial application to generally private information, UK law does not admit a tort action in respect of privacy. Moreover, the ECHR also provides an exemption in the right to privacy (Article 8.2) where it is necessary to protect individual freedoms, which would apply to wearable assistives.
Table 1: Summary of cited cases from Disability Discrimination Law.

<table>
<thead>
<tr>
<th>Case</th>
<th>Ruling</th>
<th>Reference</th>
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<tr>
<td>Royal Bank of Scotland Group Plc v. Allen (2009)</td>
<td>Court of Appeal ordered a privately owned bank to spend £200,000 to install a platform lift in one of its branches, even though online services were available and the installation would involve the loss of an interview room.</td>
<td><a href="http://www.bailii.org/ew/cases/EWCA/Civ/2009/123000123.html">www.bailii.org/ew/cases/EWCA/Civ/2009/123000123.html</a></td>
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<td>Leeds Teaching Hospital NHS Trust v. Foster (2011)</td>
<td>Employment Appeal Tribunal (EAT) awarded £50,000 to the appellant, who was suffering undue “stress” under a particular manager. The appellant claimed that stress was due in part to bullying and harassment. EAT ruled that the employer failed to redploy the appellant even though it was highly unlikely that redeployment would successfully rehabilitate him in the workplace.</td>
<td><a href="http://www.bailii.org/uk/cases/UKEAT/2011/0052_10_1406.html">www.bailii.org/uk/cases/UKEAT/2011/0052_10_1406.html</a></td>
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<td>Croft Vets Ltd and Others v. Butcher (2013)</td>
<td>EAT found that the employer was in breach of the reasonable adjustment duty because of its failure to provide medical treatment to treat the employee’s depression—despite the availability of a free comprehensive public health service.</td>
<td><a href="http://www.bailii.org/uk/cases/UKEAT/2013/0430_12_0210.html">www.bailii.org/uk/cases/UKEAT/2013/0430_12_0210.html</a></td>
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<td>FirstGroup Plc v. Pauley (2014)</td>
<td>Court of Appeal determined that a bus operator had no obligation to force—as opposed to strongly encourage—someone without a disability to leave a disabled space on a bus.</td>
<td><a href="http://www.bailii.org/ew/cases/EWCA/Civ/2014/1573.html">www.bailii.org/ew/cases/EWCA/Civ/2014/1573.html</a></td>
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Existing legislation is unlikely to prohibit the contentious use of assistive wearables (and thus, if these wearables are assistive technologies, make any ban unlawful). The proviso is whether or not they appropriately designed, for instance to comply with the Data Protection Act (1998), and to ensure that any copyrighted material captured by a system is treated appropriately under the fair dealing provisions of the Copyright Designs and Patents Act (1988). After all, the Equality Act (2010) does not permit activity that would be otherwise illegal to be conducted in order to assist people with disabilities. Thus, permissibility can be established in most circumstances under existing UK legislation.

2.2 Wearable Support Systems

Induction loops are currently installed as a (anticipatory) reasonable adjustment in a wide range of public places. It is not difficult to envisage a set of support systems for wearables that go beyond induction loops. Two support systems that might be of utility are indoor navigation systems, perhaps primarily aimed at supporting those with visual impairments, and the provision of generally available indoor internet connectivity, to assist a range of applications, such as remote mentoring of someone with a social disability. Less obvious might be the deployment of virtual walls (see [1]), which provide contextual information to a wearable about what behavior it should permit—for instance guidance might be provided to prevent video recording in cinemas unless necessary to do so by virtue of an end users disability. Whilst virtual walls may at first instance appear to be obstructive, they would also amount to an important route towards the acceptability of wearable assistives, by helping to promote the acceptability of their use (and thus the inclusion of their users), through ensuring that they respect appropriate social boundaries.

The case of RBS vs the Royal Bank of Scotland – which required the installation of a platform lift (of a cost of over £200,000) – illustrates how insistent the demands are in respect of anticipatory reasonable adjustments. Thus this duty can be drawn upon in order to bring about a new generation of wearable support infrastructure in public places, providing that the standards are suitably open and agreed upon, and there is limited disruption, together with a clear demonstration that this will benefit people with disabilities. The fact that, unlike permissibility, this area is legally unchallenging, presents a clear route towards mandating the inclusion of wearable support systems in public spaces. We just need to agree what form this system will take, affirm standards, and then demonstrate the benefits to a suitably wide group of disabled people.

2.3 Mental Capacity Law

Although not primarily a law paper, Kirkham and Greenhalgh [3] discuss the challenges of wearables when applied to groups who may lack mental capacity, explaining that a system might have to go further in breaching traditional obligations in order to protect this group. They draw upon the context of ameliorating difficulties in social interaction, noting that the consequence would be that a system would need to then go on and invade the privacy of others to determine whether or not they represent a risk to someone who invariably lacks the social judgment to do so themselves.

The interesting point is that capacity, or the lack thereof, may present a limit as to who might use a wearable, through the strong questions that it raises. Might a court request the information contained on a Sensecam, in order to determine whether or not someone has the capacity to live an independent life (under the Mental Capacity Act (2005))? Maybe this might be used to determine their best interests more generally, too? What of someone who lacks capacity becoming a ‘data controller’ under the Data Protection Act (1998)? These, and other concerns, are all presently open questions in law, and might ultimately lead to some real boundaries in respect of the permissibility of open wearables.

3. References


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[i] This position paper is primarily based upon a more lengthy article in IEEE Computer [2], which explains these legal principles in more depth.

[ii] This case is potentially now under appeal before the UK Supreme Court (depending if permission is granted).