Section 3: Week 5: IoT and Special Needs

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# IoT and Special Needs

The Internet of Things (IoT) attempts to widen the interconnectivity of computers to include interconnectivity of objects (Commission of the European Communities, 2009). These objects expose sensors that can be connected to web services to provide personalized data feeds. Both academia and commercial vendors have only scratched the surface with their offered products and features.

The Healthcare and Wellbeing product lines are receiving significant attention; however, they primarily focus on measuring simple body metrics (Koreshoff, Robertson, & Leong, 2013). Creating value through body metrics such as calories burned, steps taken, and blood sugar levels are simple challenges that are marketable to a broad audience. Though, due to the collection and reporting being a solved problem, there is significant competition among commoditized solution providers.

Addressing Special Needs with IoT represents a sizeable untapped segment within the Healthcare and Wellbeing problem space. Globally there are over one billion people with a disability, where one of their primary sensors – smell, taste, touch, hear, see, and say – does not reliably work. IoT devices can collect these missing senses and represent their values in other forms for the user.

Hearing aids have been available for hundreds of years; they attempt to amplify or filter sounds for the user. Though, what if the user cannot speak the language? Only increasing the volume does not address the root cause of the disability. Instead, a ‘babel fish’ could be placed in the person’s ear to translate in realtime. Similar scenarios exist for other senses such as (1) computer vision to provide hints to the blind, and (2) giving mutes a voice. These capabilities unlock these users from their isolated world and *interconnect* them with the broader community.

# Gathering Requirements