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1. Introduction

Ubiquitous computing—also known by the colloquial term “The Internet of Things” (IoT)—refers to the vision of connecting any and everything from the physical world to the digital world of the Internet. The idea is that everything *not* currently connected to the Internet will one day be connected. IoT would involve devices and sensors of all different varieties placed on and in physical things, from tree roots to thermostats to human hearts. Phones were some of the first devices titled as “smart”; ubiquitous computing promises that label will reach to *all* things. Beyond the physical issues that will come with ubiquitous computing—such as the energy consumption of thousands of devices—there are several usability questions accompanying the rise of IoT. In this paper, I will be looking at ubiquitous computing with regards to privacy and authentication,

1. Background/Prior Work/Literature Review

In *Some Computer Science Issues in Ubiquitous Computing*, author Mark Weiser addresses several usability issues for IoT, specifically interaction between users and varying screen sizes. One in particular is a speculation on how we will interact with large displays; he believes a pen will be the proper device. Weiser states: “we needed pens that would work over a large area (at least 60"x40"), not require a tether, and work with back projection” (Weiser 1993). He goes on to say that pens and their corresponding large displays would need to be suited for “casual use, no training, naturalness, multiple people at once” (Weiser 1993).

In IoT, computers (and therefore screens) will be everywhere. Mark Weiser discusses the issue of interacting with different sized screens, dividing the issue between two new device paradigms: pads (tablets) and Liveboards (large screens). He begins with the issues that arise from pads, saying “pads have a tiny interaction area -- too small for a keyboard, too small even for standard handprinting recognition” (Weiser 8). Two usability concerns are voiced by Weiser: one, how the user will input data into something that is too small for a keyboard; and two, how authentication will allow the data presented to the user to be personalized. He addresses the first issue by explaining a new “method of touch-printing that uses only a tiny area and does not require looking. As drawbacks, our method requires a new printing alphabet to be memorized, and reaches only half the speed of a fast typist” (Weiser 8). This is a clear learnability issue for the ubiquity of pads.

1. Methods
2. Discussion
3. Conclusions