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Smartphones a Smart Idea?

1. Introduction

Many people are familiar with big names like Blackberry, iPhone, and Android, but what is a smartphone? As the name suggests, a smartphone is a cell phone, but it possesses so much more. A smartphone differs from a typical feature phone by its increased computing power, social networkability, and access to high speed wireless channels. The modern smartphone also features an operating system which allows users to design and install their own applications; a cell phone generally lacks this ability (at least to the extent of high volumes of network communication). Rather than a cellular phone with added capability, a smartphone is more likened to a small personal computer with the functionality of a cell phone added in. It allows the user to combine the conveniences of their home computer (games, music, the internet, etc.) with the mobility of cellular phone in the palm of their hand.

The first step towards the smartphone was designed by IBM in 1992. It was called the Simon and, while not programmable, offered a calendar, e-mail, fax, games, and a touch screen interface. Also working toward the eventual smartphone, Nokia released a PDA/phone in 1996. Nokia released the first actual smartphone, the Nokia 9210, in 2000; it didn't have many features by today's standards, but it did have an operating system: the Symbian OS. In 2001 Microsoft announced Windows CE which was used in PDAs and, starting the following year, smartphones. Also in 2002 was the first Blackberry by RIM. In 2007 Apple released its first iPhone. The first iPhone had a full operating system but didn't allow users to design and install their own applications, so its arguable whether or not it was actually a smartphone. Either way

the iPhone was jail broken not long after release which unofficially allowed user designed applications. In 2008 the Android operating system was released by the Open Handset Alliance and is now used in dozens of smartphones.¹

Smartphones clearly offer the user a lot of utility and desirable functionality. From calendars, e-mail, and GPS to music, Facebook, and Wikipedia. It is no surprise that smartphones have had high, increasing sales; who wouldn't want all the features that a smartphone has to offer? But what is the cost of all this computing power and connectivity? Most people would probably cite something like the iPhone's monetary cost of \$200 per device and a contract of \$80-100 a month, but there's a lot more to the concept of cost than what is paid for up front. Smartphones tend to cause a number of problems alongside their myriad of uses; smartphones bring the user the ability to easily communicate with people, but can also separate the user from direct contact with other people. It also requires a significant amount of attention to use a smartphone and as a result users often distract themselves from more important tasks, such as allocating all of their attention to driving car. All the computing power and connectivity of such devices comes with social problems and personal injuries, but we must ask ourselves is it worth it?

2: Psychological Concerns

With the rise of cellular phone popularity as well as increases in technological leaps in the form of SMS text messaging, we no longer rely on direct verbal communication to one another. The Wall Street Journal found that "The average 13- to 17-year-old sends and receives

¹ "Smartphone." *Wikipedia, the Free Encyclopedia*. 26 Nov. 2010. Web. 26 Nov. 2010. <<http://en.wikipedia.org/wiki/Smartphone#History>>. Though this article was taken from Wikipedia (which is in some cases considered to be an unreliable source) there is accurate citation in the article that refers to reliable sources. For the sake of convenience we used the Wikipedia article because it generously aggregated all of the sources into a nice, compact article.

3,339 texts a month, more than 100 per day.... People from ages 45 to 54 sent and received 323 texts a month in the second quarter of 2010, up 75% from a year ago,” (Rosman). Armed with the ability to use text messaging rather than conversation, people are able to more easily relay difficult information, avoid eye contact when it is unwanted, and engage in smaller forms of coordination for social events. Furthermore, many end up seeing text messaging as a way to prevent the intrusion which a cell phone call can bring to another person.

One of the factors which the Wall Street Journal article found to be a major contributor to the increasing popularity of text messaging was the form of ‘burst communication’ that social networking sites such as Facebook and Twitter utilize. While the updates from these sites sent via SMS to individuals phones were found to number in the billions (Rosman), the availability of social networking apps on smartphones have also contributed to this increased rise in text-based, non-verbal communication.

In today’s modern work environment, email, smartphones, laptops and all sorts of electronic communication forms keep individuals constantly connected. As a result, many people are able to check their email and perform work when they are in a non-workplace setting. This factor of convenience provided by newer interconnecting technology has also proven to be a double edged sword; some individuals have become plagued by the need to constantly check their email. According to an article from the WebMD, a study conducted by researchers from the University of Glasgow found that “... half of the study participants reported checking their email once an hour, while some individuals check up to 30 to 40 times an hour,”(Soong). Furthermore, the same article found that an AOL study discovered that “... 59 percent of PDA users check every single time an email arrives and 83 percent check email every day on vacation,” (Soong).

Such large percentages indicate not only a growing addiction to emails, but also an increase in the amount of time people end up spending at work while they are away from the workplace.

With an increase in popularity of smartphone usage coupled with a rising addiction to check email, we cannot help but wonder if daily usage of such devices has compounded the issue by creating a new addiction to keep a digital connection. An article from the British mobile broadband service review site BroadBandGenie found in a recent survey that out of “... 3,000 smartphone owners surveyed, a massive 88 per cent said checking their phones first thing was part of their morning routine; while 57 per cent said they couldn't face the day ahead without first checking for emails, texts and of course Facebook updates. And 60 per cent admitted to checking their phone before they even got out of bed in the morning,” (Theisinger). Even if survey bias was considered, the large percentage of smartphone owners who check their phones as the first thing in the morning indicate a much stronger reliance on smartphone technology to maintain a social, digital connection.

As expected with the increased popularity of smartphones, the issue of distraction can be seen among the younger age groups in the classroom setting. Even though smartphones are a fairly recent development their roots as a source of distraction are based in cellular phone usage, wherein texting became a major classroom distraction. While there are many teachers who feel that cell phones are “...nothing but a disruption to class instruction,” (“Cell Phone Technology a Serious Classroom distraction”), there is one particular take on the subject which finds that it is not so much a fault with the device, but rather “... students need to learn when and where a cell phone can be appropriate.... Technology is a wonderful and useful tool when used properly,” (“Cell Phone Technology a Serious Classroom distraction”). When students have a tendency to let their attention wander from the lessons at hand, the ability of smartphones to bring the

Internet to their fingertips only serves to increase the temptation to check Facebook or surf the web. Rather, it is their lack of discipline and etiquette in knowing when not to use their devices which causes the problem of distraction.

3: Physical Harm Caused by Smartphones

With the large increase in the use of cell phones, it logically follows that the amount of attention people pay to their surroundings is decreasing. This diversion of cognition has resulted in a surprising jump in physical incidents in the recent years. Some of the accidents seem ridiculous at best when you hear them. In July of 2010, a girl was walking down a sidewalk, texting a friend, when she received a rather rude awakening. Alexa Longueira fell down about 4 to 5 feet into an open manhole because she was too distracted by her phone ("Texting Teen Falls Down Open Manhole."). Aside from some scrapes, a bruised dignity, and a sneaker lost to the stinky brown depths, Alexa was unharmed. Unfortunately for the city, the parents of Alexa feel that they should be compensated for the near Darwin-award experience and are suing (Sorrel).

Another blunder that cost a bit more to the cell phone user happened in Texas. The driver of a \$1.6M Bugatti ended his lakeside drive with his tires touching the lake-bed, 3 feet underwater. The driver initially blamed the crash on a low-flying pelican, but it was later revealed that he had dropped his cell phone and reached down to grab it (Hardigee). These accidents both resulted in the responsible parties escaping relatively unharmed (yes, we are counting the girl as the responsible party). Unfortunately, not all accidents involving cell phones end this comically or with the parties escaping without injury.

Motor vehicle accidents are one of the major causes of deaths in America. In 2007, the Center for Disease Control and Prevention (CDC) released data which showed that 43,945 people were killed in a motor vehicle accidents in the year 2004. Of those nearly 44,000 people,

10,568 of them were between the age of 15 and 24 years old (Xu). This is higher than any of the other age groups involved in the study.

In 2001, only 1.5% of traffic incidents were caused by cell phone usage, and those that were caused by cell phones, a majority were caused when the user was dialing or answering the phone (Stutts). The Washington Post published that, as of January 2010, 28% of all accidents occur when the driver is talking or texting on their cell phones (Halsey). This is an incredible increase over the past ten years, and we can track the evolution of the cell phone with the increase of accidents caused by cell phones. What has changed about the cell phone in the past decade? According to the Cellular Telephone Industries Association (CTIA) there were 1.5 trillion text messages recorded on carrier networks in 2009 ("CTIA-The Wireless Association Announces Semi-Annual Wireless Industry Survey Results."). Out of all text messages sent in the second quarter of 2008, approximately 68% of them are from cell phone users age 13 to 24, the same age group with the highest rate of involvement in fatal motor vehicle accidents (Covey). As the list of features for smartphones grows, there is a very large indication that the driver distraction will increase, as well as a growth in the potential for motor accidents.

The problem with interacting with cell phones while driving is primarily the distraction of your eyes, which is the most important sense for driving. When a person's eyes are distracted from the road, they have no indication of road obstacles except for what they might hear, which provide little indication of danger until it is too late. One of the primary features of the smartphone is the large touch screen. No longer can people use tactile senses to press the correct phone keys, they must maintain eye contact with the phone to make sure their message is was input correctly. Furthermore, with features like real-time traffic updates and the ability to

connect to social networks at virtually anytime, anywhere, the temptation for eye distraction is only getting harder and harder to resist.

4: Conclusion

Smartphones are becoming the handheld device of the future. With short turnaround time for new technologies and constant incentives to buy smartphones, due to price cuts and deals from subscription service providers, it won't be long until a vast majority of cell users are holding smartphones. The question is: will this be a beneficial change for society? There are other reasons why smartphones could have detrimental effects on your life that we haven't covered in this paper: apps that are installed on a phone can send out personal or billing information, a GPS device in the phone could be used to track your location, and storing important information in a small and easy to lose device could divulge information one would otherwise want kept private. So what we ask of you is to take into consideration the facts that we have brought to you and take note of your cell phone usage.

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