Introduction

NFC, abbreviated Near Field Communication, is a short-range wireless technology that enables the communication between devices over a distance usually less than 10cm. It is a form of contactless communication between devices like smart phones or tablets, which allows a user to wave the smart phone over a NFC compatible device to send information without needing to touch the devices together or go through multiple steps setting up a connection. It is not relatively a new cutting edge technology but rather a newer version of RFID (radio frequency identification). NFC's ability to transfer photos or contacts between devices (two-way communication) and its better security give the edge over RFID. It has the potential to completely revolutionize consumer and government industries as the adoption rate continues to grow. NFC is rapidly becoming more popular in parts of Europe and Asia, and its quickly spreading throughout the United States. With the mobile industry continuing to evolve and grow, NFC sensor chips are making their way onto the latest smart phones. "According to estimates, over 30 percent of all phones globally will have NFC built-in within the next four years" (Molen, 2011, p. 6).

Background

Near field communication can easily be mistaken for RFID. NFC is actually a subset of RFID with a shorter communication range for security purposes ("History of Near Field Communication," 2012, p.1). In 2004, Tech giants Sony, Phillips, and Nokia came together to build the NFC forum. It was created to primarily to facilitate two tasks, first to promote the security, ease of use, and popularity of near field communication. Second, to educate businesses about the technology and uphold the standards that allow NFC to operate between different devices. Manufactures who want to create NFC complaint devices must meet these standards set

fourth by the NFC forum. This ensures that any user with an NFC device can use it with any other NFC device or NFC tag.

Although the NFC forum was formed in 2004, it wasn't until 2006 that the group produced the first set of specifications for NFC tags. NFC tags are small objects, like a sticker, that contain information that a NFC compatible device, such as a smart phone, can intercept when passed over the NFC tag. Usually the information on the tag is read only, but certain tags do allow the device reading it to write new information to it.

The first NFC-compatible cell phone, the Nokia 6311, also surfaced during this time. As the years passed, more specifications emerged and the technology grew from payment methods to sharing videos, links, and game invites between smart phones and other NFC devices. Android produced its first NFC phone, the Samsung S, in 2010. Today the NFC markets are most dominant in Europe, Asia, and Japan. Through the United States is also seeing rapid growth in this field.

Hypothesis

My hypothesis will be Near-Field-Communication has a plethora of benefits & it needs to be integrated more into today's technology and society. Based my on research on NFC, it will either confirm or negate my hypothesis above. The position I take on the matter is, I agree with the notion that NFC has the ability to bring forth new opportunities and benefits in many aspects of our daily lives. Throughout my research I will gather research data to show technology companies such as Apple and Samsung are paving the way for us to take advantage of the many benefits found with integration of NFC. I will also conduct research on whether this technology has the capabilities to make routine tasks become more efficient.

Faculty

I chose to work with professor Dr. Diane Murphy for my capstone research paper for many reasons. I've had the opportunity to take a few classes last semester with her and I think she is phenomenal. Not only is she smart but she's highly aware of what's going on in the world today when it comes to Information Technology. I've had many conversations with her about numerous IT topics and have always walked away learning something new. I did contact Professor Murphy and she has agreed to oversee my research paper.

Timeline

To complete my work on this topic, I will need to gather extensive research data and articles to determine whether or not my hypothesis is true or not. For this semester, I will divide up the time to tackle certain aspects of NFC to determine its full capabilities and benefits. After learning and becoming an expert on each aspect, I will be able to give an educated assumption on the expectations the technology will garner in the future. I will also be able to state whether or not I can see practical use for consumers, which is ultimately the biggest benefit for any technology.

Data

The types of data I will need and will look for are research studies already done on the NFC as well as what the big tech companies are doing with it with their products. Most tech companies give hints on what technologies they will integrate on future products and that's a great sign they believe it will help as a selling point.