

Names: \_\_\_\_\_

## Wireless Technology Research

Technology:     Near Field Communication (NFC)    

Description	Short-range wireless communication technology that combines a smartcard reader and emitter. That means that an NFC-enabled device can both receive and send information over about 4 inches to another device without touching it. NFC is primarily used in mobile phones for things like mobile payment.
Applications	Interactive advertising (getting info from a poster) Getting public transportation tickets on phones Financial transactions (mobile money) Electronic keys (hotel keys, etc)
Wired or wireless alternatives	RFID (one way) Bluetooth (slower connection, no passive tag option)
Information flow (sketch a diagram) - Where does info flow to and from? - Which part of the device does transmission? - Any towers or dishes involved?	
Devices found in (if appropriate)	Cell phones
Current deployment (how common is it?)	Not very common; 10 handsets available 7-Eleven doing a pilot in Dallas, for example
Typical range	4 inches
Set-up time (does it take some time to establish a connection?)	< .1 s
Type of wave or frequency	High frequency – in unlicensed radio band
Maximum data rate (is that fast?)	848 kbit/s (pretty slow)

Names: \_\_\_\_\_

<p>Interference (what kinds of devices can scramble the signal)</p>	<p>Magnetic</p>
<p>Security concerns (can the data be intercepted? A false request made? Can it kill you?)</p>	<p>Eavesdropping – pick up signal at distance w/antenna RFID jamming can cause data destruction Relay attack: attacker pretends to carry out task with victim’s NFC device</p>
<p>Benefits</p>	<p>Quickly-established connection Can be used to bootstrap Bluetooth connection Very short range Cheap Good for crowded areas Compatible with RFID Low power usage</p>