The overall goal of this project was to find out the bacterial load on common objects that come in contact with our hands on a regular basis. To test, we selected common objects like cell phones, gas pumps, restaurant menus, keypads on ATM machines, and debit cards. We used environmental swabs to collect microbes from each of those objects.

The swabs were brought back to the Environmental Health Microbiology laboratory at the University of Memphis School of Public Health where analyses were done. Culture based analysis and real time PCR testing of target bacterial DNA was conducted to get an estimate of what bacteria were present and at what extent. We tested for all bacteria in general, as well as some specific genera including *Salmonella*, *Listeria*, *E. coli*, and *Staphylococcus*.

We found that ATM keypads were the most bacteria-rich surface with restaurant menus being a close second. The cell phones and debit cards also contained appreciable quantity of bacteria. Gas pumps contained the least number of bacteria in this group of objects. *Staphylococcus* or Staph which is a common bacterium of human skin was the most common type. Some Staph, however, may cause some serious, hard to treat infectious disease. The good news is that we did not find any *Salmonella* and disease-causing variety of *Listeria* and *E. coli* on these objects.

**Advice to common people:**

Hand washing is VERY important for your health and safety

Clean/wash hands BEFORE:

* Eating or serving foods
* Preparing a meal

Clean/wash hands AFTER:

* Using the bathroom
* Changing a diaper, even if your hands look clean
* Taking out the trash, changing a cat litter box, or cleaning up after other pets
* Playing with animals, especially reptiles.
* Blowing your nose, coughing, or sneezing into your hand
* Touching uncooked foods, especially raw meat, fish, poultry, or eggs
* Treating cuts, scrapes, burns, blisters, acne, or skin infections
* Taking care of someone who is sick or hurt
* Being out in a public place, especially if you were touching objects that lots of other people were touching.

*Recommended hand washing practice*

* 1. Wash your hands with common soap and warm running water by rubbing hands together for 20 seconds.
  2. Dry your hands following the wash
  3. If you plan to use hand sanitizers or gels, you may want to consider alcohol-based formulations (should contain more than 60% alcohol).
  4. If you want to learn more on how to keep yourself and your family healthy and free from infections, please visit: <http://www.tufts.edu/med/apua/>