



## A Proactive Approach to Home Health Care

Drexel Smart House plans to employ a proactive approach to health care. Using non-invasive monitoring technologies and designing with healthy living in mind, the Smart House should help people to live longer, healthier, and more fulfilling lives. Medical intervention in the home is a natural next step in health care. Many of the technological advances we propose for home use are simple changes to already popular products and services. Devices will be used to constantly monitor the residents, helping to guide them in maintaining healthy lifestyles.

A home of about 4500 sq. ft. will be used as a testing ground for these new and adapted technologies in home health care. Ten Drexel University students will be living in the home and directly benefit from the concept technologies on a daily basis. The data gathered from the residents' responses to and utilization of the installed the devices will be invaluable in many different aspects of health care. Diet monitoring, exercise monitoring, continuous vital signs monitoring, and advanced air filtration are just a few examples of what the Smart House will include. In the future, we plan to develop and test more advanced systems for monitoring people to proactively address potential diseases and ailments on a daily basis. Our main goal is not to force change on people's lifestyles but to provide early detection systems making residents aware of potential problems at the earliest point of possible intervention. For instance, a diagnostic report given on a daily basis might identify infections that can be eliminated well before they advance to a more serious stage. Issues such as pending heart failure or heart attack could be detected and addressed before actually occurring.

The house will act as a sort of secondary, preemptive doctor. It will document the user's food intake, exercise habits, and medical condition on a daily basis. This data can also be made available to a resident's doctor; potentially changing the way doctors interact with their patients and allowing for a quicker and more informed diagnosis. Additionally, a doctor could be notified or 911 could be contacted in the case of an emergency such as a heart attack.

Drexel Smart House would also like to open the house for testing new research and devices from outside organizations and companies. Our goal is to make people's lives better, and the best way we can do that is through outside collaboration. The Smart House will be a great framework for implementing and testing new devices and will also offer significant networking options allowing for the integration of these devices into a broader infrastructure.

The Drexel Smart House will accommodate individuals with different lifestyles. The health monitoring aspect will help encourage the ten residents with differing lifestyles, exercise habits, and diet habits to be healthier. Ultimately, the Smart House will be the model for a healthy home and will help new technologies in home health care come to market more quickly.