

## ENGRI 1820 Final Project Preliminary Proposal

Project Title: Wearable Stress Sensor

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Why: It is a simple lightweight stress sensor that fits around the wrist which senses your stress level using heart and galvanic skin response and indicates it with an LED of different colors.

This could certainly be useful to an ordinary person as a way of tracking everyday stress, but also has potential medical applications, allowing doctors and patients to quickly and easily determine the patients stress level, which would be useful in managing a variety of illnesses from heart disease to anxiety disorders.

How: It can be accomplished in one month by taking advantage of the fact that the sensors and microcontrollers needed already exist and are easily accessible. This would allow us to focus on integrating them into a functioning system rather than worrying about the specifics of each sensor and to devote more time to the problem of accurately interpreting the data and making them work as flexible electronics.

Resources: A tessellated surface that can fit around the wrist, an Arduino microcontroller that can be used to interpret the data, a heart rate or pulse sensor, a galvanic skin response sensor or the materials needed to construct one (a fairly simple operation that mainly requires a conductive surface and an Arduino to regulate the data), multicolored LED's to indicate your stress level, batteries, and wire.