Project Proposal:  
Smart Greenhouse Module

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Introduction:  
 As anyone who has attempted to grow plants at home will know, either for decoration or practical use, constantly monitoring the vital measurements to ensure healthy growth of a seed or budding plant can be time consuming and stressful. Temperature, ground moisture, airflow, light, and so many other factors must be customized and monitored for different plants, and we aim to automate these readings. Our proposed design will take the guess work out of this stage and provide immediate reactions to changes in stimulus in a controlled environment to promote a healthy start to plant life.

Motivation:

The motivation for this project comes from personal struggles of this group in their own endeavors to grow plants at home. Frequently, we can be heard talking about easier or harder plants to grow in certain times and under certain conditions. This idea came naturally after learning that project should have multiple sensors, a practical application, and hold some sort of interest for a large group of people. As hobby planters and researchers all prefer to use controlled environments to grow, and how many different measurements are required for successful growth, we concluded that this will be a perfect fit for the project guidelines.

Significance:  
 This project design could easily be implemented in greenhouses in a couple different ways. Scaled up to an entire greenhouse if large numbers of the same plant are being grown or multiplied on a smaller scale to grow several different, diverse plants in the same space; our design will allow for increased chance of successful growth.

Pertaining to the significance towards the project guidelines, we expect to use at least three different sensors as well as control at least two external parts. These sensors and parts include, but are not limited to, temperature sensor, ground moisture sensor, humidity sensor, lights, vents, and fans. These can all be controlled from a mobile application with either Arduino or Raspberry Pi.