Maisie Cottrill

Pi in the Sky: A Sustainable, Web-Based, Automated Greenhouse

Challenge: Innovation
Category: Junior
Region: Bluewater
City: Tara, ON
School: Sullivan Community E.S.

Abstract: A small prototype of a solar powered, web-based, automated greenhouse was constructed and programmed in Python and C++. An online dashboard displayed the greenhouse conditions via interactive graphs and allowed users to control the actuators, change the environmental settings, and view the greenhouse remotely. This innovation was intended for use by the general public to produce their own food and has potential to be expanded.

Biography

My name is Maisie Cottrill. I am in grade 8 at the rural school of Sullivan Community in Grey County. This is my second trip to Canada Wide, and my fourth science fair project. My project this year is a continuation of my project last year, in which I investigated the effectiveness of greenhouse automation. To enhance my project this year, I educated myself about sustainable agriculture practices and used that knowledge to create a sustainable, web-based, user-friendly prototype for an automated greenhouse. The inspiration for my project came from my love of computer programming and my knowledge about food insecurity and agricultural sustainability. I enjoy playing various sports, including soccer, basketball, and volleyball. In my spare time, I like to read, swim, run, and play piano. Someday I hope to work in engineering, specifically as a geoengineer

Awards	Value
Excellence Award - Junior - Silver Medal Sponsor: Youth Science Canada	
Western University Scholarship Silver Medallist - $2000 Entrance Scholarship Sponsor: Western University	$2 000
Total	$2 000