2022

SMU Lyle team receives Spotlight Award at Senior Design Showcase

May 31, 2022

The SMU Lyle team received the Spotlight Award at the 2022 ExCEllence in Senior Design (ESD) Showcase. The 2022 Showcase was held at the University of Texas at Dallas on May 19 and 20, 2022. The ESD Showcase was established in 2019 in the Southwest Region to provide an opportunity for electrical and computer engineering (ECE) students to showcase their design and problem-solving skills in a friendly competition, and connect faculty members at participating schools in meaningful ways.

Left to Right: Ashley Terrill, Elliot Boesch, Ross Garrett, Will Egan, Dalia Quezada Campos, and Professor J.-C. Chiao.

The SMU Lyle team presented an adaptive irrigation system called "Smart Sprinkler" that could measure soil moisture levels and intelligently decide the time and locations to water. The system also had a built-in mechanism to monitor possible water leakage. The system was scalable by implementing wireless soil moisture sensors with a Wi-Fi network and modular valve control so the concept could be applied for small areas such as home lawn care or large areas like cornfields and orchards. Water shortage is a global challenge. As Texas is currently experiencing drought conditions, effective water management becomes critical for agriculture sustainability and economic growth.

This is the first time SMU has participated in the ESD Showcase. The senior project team was selected from eight project teams in the Senior Design course at SMU. The team members are from the Mechanical Engineering (ME) and ECE departments in the Lyle School of Engineering. Team members Ashley Terrill, Dalia Quezada Campos, Ross Garrett, Elliot Boesch, and Will Egan worked closely with Texas Instruments engineers Michael Zwerg and Sal Barraza. The project was supervised by Electrical and Computer Engineering Templeton Centennial Chair Professor J.-C. Chiao and Mechanical Engineering Professor Steven Lerner; and financially sponsored by Texas Instruments. The students had spent two semesters gaining hands-on experience learning about the technical issues of hardware and software designs. In the ESD Showcase, the team demonstrated a prototype of the scalable adaptive irrigation system.

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