The Association of Science and Engineering Technology Professionals of Alberta

News Release

Red Deer College grads provincially recognized for creating flying Wi-Fi hotspot

EDMONTON, Sept. 30, 2019 – In a province renowned for scenic wilderness, the quest for a new hotspot more often refers to cell service than it does to a happening club. A team of Red Deer College grads was recognized as a Capstone Project of the Year Award finalist by the Association of Science and Engineering Technology Professionals of Alberta (ASET) for creating a flying Wi-Fi hotspot that allows people in remote locations to access a cell signal where there is none.

Cellular coverage outside urban areas in Alberta can be intermittent, especially where terrain is rough or forested. Existing solutions include constructing additional cell towers, using satellite phones, or driving or hiking to higher elevations to connect with a cell signal.

The Red Deer College team developed a flying Wi-Fi hotspot by equipping a small drone with specialized radio equipment to enhance cell service reception. Capable of autonomous flight, the repeater drone can be rapidly deployed in the event of an emergency. It can reach an altitude of up to 200 feet and project a Wi-Fi signal over a wide area, allowing calls to be made and texts to be sent. Taking off and landing on its own, it recharges its battery on the landing pad.

“This ASET Capstone Project of the Year Award finalist offers a lofty solution for those out of cell range. This is significant as we enter search and rescue season when lives can hang in the balance due to a dearth of effective telecommunications options,” said ASET CEO Barry Cavanaugh.

The Capstone Awards were established by ASET in 2017 in response to overwhelming member interest in back-to-school stories about Capstone projects undertaken by teams of engineering technology students from NAIT, SAIT, Red Deer College, and Lethbridge College as part of their end-of-program requirements.

According to team member Jonathan Wong, the flying Wi-Fi hotspot has other advantages: it costs up to 40 per cent less than constructing a portable cell tower; it takes half the amount of time to set up; there are no road restrictions; and it’s less pricy than a satellite phone.

“Currently, in areas where no cell service is available, industries are limited to only a few solutions, many of which involve big or bulky devices or curtail the number of users. The repeater drone was designed to build on the shortcomings of existing telecommunications options,” said Wong.

About the Capstone Project of the Year Award finalist team

Jonathan Wong

Wong chose Red Deer College's electrical engineering technology (EET) program because of the opportunity to expand his knowledge and pursue a successful career. "A hobby I enjoy is flying my remote-control plane and helicopters. The repeater drone was an obvious choice for my Capstone project, giving me a chance to apply my technology skills," said Wong.

Austin Wong

Austin Wong shares with his twin brother, Jonathan, a love of flying remote-control aircraft. At Red Deer College's EET Program, he learned a variety of concepts that expanded his knowledge. "This program provided me with many opportunities," said Wong.

Austin Smith, technologist-in-training (TT),

Austin Smith liked the hands-on approach of Red Deer College's programs. "The mechanical engineering technology (MET) program was the best fit for me," said Smith.

Denon Magnes

A class in pre-engineering at Edmonton's Lillian Osborne High School set Denon Magnes on his career path. "I plan on building on my interests with programming and soldering," said Magnes.

Kyler Sereda, technologist-in-training (TT),

Ever since he could remember, Kyler Sereda has been interested in how things work. That curiosity led him to Red Deer College's EET program. "I chose this project because of my interest in how unmanned aerial vehicles (UAVs) will be deployed in industry settings," said Sereda.

Garrett Stewart, technologist-in-training (TT),

Garrett Stewart's long-time passion for science and technology was a good match for Red Deer College's EET program. "I was drawn to the notion of making a drone that could land and charge on its own – an obstacle that must be tackled if drones are to become fully autonomous," said Stewart.

About ASET

In addition to handing out the Capstone Project of the Year Award to deserving engineering technology students, the ASET Education and Scholarship Foundation provides scholarships, bursaries and educational funding to enhance and support the education of students pursuing engineering technology studies.

ASET is the professional self-regulatory organization for engineering technologists and technicians in Alberta. ASET currently represents over 18,000 members, including full-time technology students, recent graduates and fully certified members in 21 disciplines and some 124 occupations across a multitude of industries.

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