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## **Student-Designed Radio Has Worldwide Impact**

**CEDARVILLE, OHIO** -- When Josh Radcliffe and his two senior design partners started working on designing a fixed-tuned radio, they never could have imagined the impact this radio — the size of a mobile phone — could have worldwide.

Every senior [engineering](#) student faces a daunting design project. The outcomes, however, are well worth the effort.

The vision for the project came from HCJB World Radio, a Christian ministry that was the first radio station with daily programming in Ecuador. The ministry queried several colleges and universities to design a fixed-tuned solar-powered radio. The design had to be simple, compact, and operable without electricity.

[Cedarville's engineering students](#) answered the call and developed a design for a functioning radio that HCJB has been using since 2006.

[Dr. Jeff Shortt](#), professor emeritus of [electrical engineering](#), was the connection between the senior engineering students and HCJB World Radio, now known as [SonSet Solutions](#) of Elkhart, Indiana. This faith-based organization's mission is to spread the Gospel to unreached people groups around the world.

Shortt assigned this project to Radcliffe, who is originally from Fairborn, Ohio but now resides in Las Vegas, Nevada, John Compton, and Bronson Hokuf for their senior [electrical engineering design project](#). After completing the yearlong project, the team's work was chosen by HCJB, and they graduated from Cedarville one month later.

While the project provided a challenge, this senior design team's radio has impacted thousands of people throughout the world.

Just how much of an impact was unknown to Radcliffe until he met Emily McQuinn, his future wife.

The two met at their five-year class reunion during Cedarville's 2007 homecoming celebration — they were married just a year and a half later. Emily is the daughter of Larry and Marilyn McQuinn, longtime friends of Cedarville University, and the founders of the McQuinn Family Scholarship.

Emily's father also happened to have a connection with HCJB Radio.

"We did our project, and we were content to graduate and move on," said Radcliffe. "Then I met Emily and learned that her family had been long-term supporters of HCJB. My father-in-law, Larry McQuinn, was talking about HCJB with me and I mentioned our design project. He told me 30,000-50,000 radio units have been made as a result of our senior capstone design, and that was back in 2007."

To Radcliffe's surprise, this forgotten project has turned into over 90,000 units that can be found all over the world in places like Columbia, South Sudan, Malawi and more. The impact of these radios has been life-changing for the people who are able to listen to Christian programming in their native language.

"We had no idea that the project could have this size of impact for the Gospel," said Radcliffe. "What we thought was an important project to graduate has really been used to share the Gospel in people's homes all over the world."

Radcliffe, however, doesn't credit himself or his team with their success.

"We were just the people in the tree doing what the guy on the ground told us," said Radcliffe, referring to the leadership of Dr. Shortt and their professors. "I am so thankful that I had a professor who believed in who I was, not what I could accomplish."

Located in southwest Ohio, Cedarville University is an accredited, Christ-centered, Baptist institution with an enrollment of 5,082 [undergraduate](#), [graduate](#), and [dual-enrolled](#) high school students in more than 175 areas of study. Founded in 1887, Cedarville is one of the largest private universities in Ohio, recognized nationally for its authentic Christian community, rigorous academic programs, high graduation and retention rates, accredited professional and health science offerings, and the #4 national ranking by the Wall Street Journal for student engagement. For more information about the University, visit [cedarville.edu](http://cedarville.edu).

Written By Caroline Kimball

#### Photo Captions

2- Josh Radcliffe and Jeff Shortt at Cedarville's homecoming in 2022.

3-6 The solar-powered radio has been popular with residents of Uganda.