Weather app puts kids in the pilot seat

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Amy McGovern, OU associate professor of computer science and adjunct associate professor of meteorology (center), views the Storm Evader app with students who worked on the project (from left) Andrea Balfour, Marissa Beene and David Harrison. Credit: Karen Kelly

Kids growing up in tornado alley are used to bright, splotchy radar patterns moving across a television screen, and most know the difference between a tornado watch and warning. But do they understand how to read and predict the weather based on radar images and forecasts? Students at the University of Oklahoma's College of Engineering wanted

to remove the mystery around weather forecasting by speaking to kids in a language they could better understand – gaming. Collaborating with the School of Meteorology, OU students created an app that teaches kids about weather patterns by putting them in the pilot seat to navigate a plane during weather events. The game encourages kids to see meteorology as a problem-solving tool rather than just a segment of the evening news.

With funding from a more than $600,000 National Science Foundation grant, Amy McGovern, OU associate professor of computer science and adjunct associate professor of meteorology, and engineering students Andrea Balfour, David Harrison and Marissa Beene created Storm Evader, an iPad app aimed at elementary and middle school students. The app challenges players to route airplanes from one U.S. airport to another while avoiding pitfalls like difficult weather patterns and long routes that waste fuel.

The app features two modes of game play – free play and career play. In free play mode, players fly their planes during actual recorded severe weather events, including the widest tornado documented in history in El Reno, Oklahoma. In career mode, players are encouraged to delve deeper by researching weather forecasts before deciding the safest route for their planes. In both modes, players can give control to the computer to help find the best route to the correct airport.

"We want to teach kids about weather in a fun and interactive way," said Harrison, a sophomore majoring in meteorology with a minor in computer science. "In Storm Evader kids see how weather forecasting and radar works in real-life and can actually solve problems."

At the National Weather Festival held last November in Norman, the team presented the app to a group of more than 500 children, letting them play the game and provide feedback. The results confirmed their

hypothesis that the app would appeal to a younger demographic, but in less formal testing, the team was surprised to learn that older ages benefit too.

"The app's advanced forecasting features remind adults how weather affects everyday situations," said Balfour, a sophomore majoring in computer science and meteorology. "Knowing how to read and understand weather forecasts can be helpful and even necessary."

Encouraged by Storm Evader's success, the team is already creating another weather-related app. It focuses on teaching kids how tornados evolve and how to be prepared in severe weather situations. McGovern is pleased with her team's results, especially since they are still early in their academics.

"When they were creating Storm Evader, these students hadn't even taken advanced computer science courses," McGovern said. "Their work beat all my expectations, and they have a done a great job proving that technology can be used to make sense of everyday situations."

Storm Evader is available for iPad and is free in the app store on iTunes.

Provided by University of Oklahoma

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