

Corrosive behavior? There's an app for that

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Jason Tam and Professor Steven Thorpe. Credit: Jason Tam and Professor Steven Thorpe

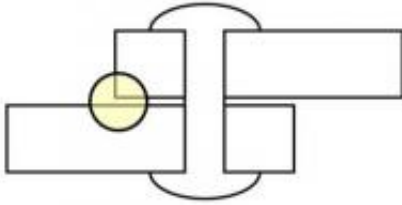
It may not be as popular as Angry Birds, but the Corrosion iPhone app developed by Engineering student Jason Tam is finding a grateful audience among professional engineers and engineering students.

Tam created the [app](#) last year when Professor Steven Thorpe asked his MSE 315 [Environmental Degradation](#) of Materials [students](#) whether anyone would be interested in developing an app that provided [corrosion](#) terminologies, formulae and benchmarking data.

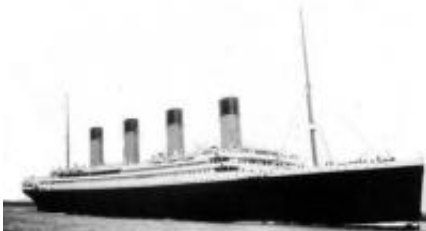
Thorpe had originally hoped to find an existing app that students could use in the course, which primarily deals with electrochemical and corrosion behaviour of engineering materials in various applications. He could only find one less-than-ideal app in the iTunes store that didn't

even spell 'corrosion' correctly.

Experiments Crevice Corrosion



Touch the Titanic to Explore Crevice Corrosion in a Real World Scenario.



"So I thought to myself, why not bring the course content into smartphones and engage students in a medium they fully comprehend?"

Although Tam had no background in application development, he taught himself to use Objective C—the programming language for Apple applications—and completed a working draft of the program in only four months, just before he had to fly out to Nunavut for his year-long Professional Experience Year term at Agnico-Eagle Mines Limited. He completed the app during his time off and on monthly 12-hour trips back home to Ontario.

The app now sells for 99 cents on the iTunes app store and all proceeds go to the George B. Craig Scholarship, an in-course award designated for

an academically high-performing upper-year Materials Engineering student with demonstrated financial need.

The app includes a glossary of more than 300 technical corrosion engineering terms, a list of constants, such as the Boltzmann constant, reference electrodes and schematics and even virtual corrosion experiments. For example, you can explore crevice corrosion on the Titanic.

"This new application changes the way we access reference information in the corrosion science and engineering field," Thorpe says. "I cannot thank Jason enough for his dedication and hard work in developing this digital resource. This is a remarkable step in moving one area of the materials science and engineering discipline forward into the 21st century."

Non-iPhone users have not been forgotten. An Android version is in the works, and MSE 315 students are still able to access textbooks and other traditional materials. And no, students can't use the [iPhone](#) app during the course's final exam.

Provided by University of Toronto

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