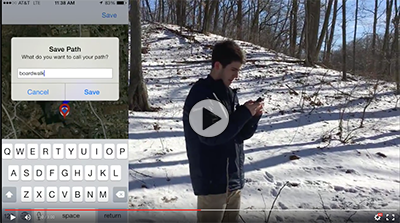
***News Posting on St. John’s website:*** [***http://www.stjohnsprep.org/cf\_news/view.cfm?newsid=4210***](http://www.stjohnsprep.org/cf_news/view.cfm?newsid=4210)

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**Follow the Breadcrumbs**

*Posted 02/03/2016 09:00AM*

[[](https://youtu.be/dkHHY3IQuEg)](https://youtu.be/dkHHY3IQuEg)Hansel and Gretel marked their path out of the woods with breadcrumbs. Fast forward to the digital age, and four students at the Prep have created an elegant mobile app that allows users to track and retrace their steps along any walk, hike, run or trip. In a nod to the Brothers Grimm, they named it Breadcrumbs.

The students – Matthew Gianetta '16, William Parker '16, Tavish Peckham '16 and Joseph Straceski '16 – developed the Breadcrumbs app as part of the Prep’s new iOS programming course.

**Real World Experience**

Computer science teacher Bernard Gilmore ’80 designed the course to focus on programming for mobile systems, an increasingly important skill as use of mobile devices outpaces desktops.

The first few weeks of the course was devoted to learning the fundamentals of iOS programming using a Stanford University curriculum available through iTunes U. Next, students focused on the design and development process. For their culminating project, the students created an app for the 2016 Congressional App Challenge. The challenge requires students to submit a short video describing their app and the process they followed to create it. [Watch the Breadcrumbs team video here](https://youtu.be/dkHHY3IQuEg).

"I wanted them to have a real world, hands-on experience that would require them to work as a team. The Congressional App Challenge was the perfect vehicle.” said Mr. Gilmmore, who is chair of the Computer Science Department and coaches the Prep's robotics team. “They did a fantastic job. Their app runs exactly like an app should.”

Before settling on Breadcrumbs, the team researched the market for similar apps and drafted proposals for several ideas. They worked with Mr. Gilmore to critique the proposals before deciding to move ahead with Breadcrumbs. Through many hours of programming and problem solving, the students mastered the same tools serious developers use, including:

* Apple’s Xcode software and Swift development language
* API tools to integrate maps and location information
* Interface guidelines that allow users to keep the app running in the background.

**Following Their Vision**

Working with a team of students in a real world, business-like environment was invaluable, according to Will Parker.

"A really intriguing part of our development process was the time we spent brainstorming. Our focus, both in coming up with ideas and whittling them down, was to get inside the shoes of our app's user, and I believe this thought process was integral to our success. Because we took the time to solidify our idea in the beginning, we were able to make decisions rather quickly by simply following the rhythm of our original vision, and I'm very happy with where that vision took us," he said.

**About the Congressional App Challenge**

Lawmakers developed the [Congressional App Challenge](http://www.congressionalappchallenge.us/) two years ago to encourage students to explore the STEM disciplines – computer science, engineering, mathematics and science. The Prep team registered and submitted their app through the office of Congressman Seth Moulton of the Massachusetts 6th Congressional District. Some 180 Members of Congress from 42 states are participating in the program this year. The results of the competition will be announced in late February.