



# MIT App Inventor

## Democratizing Personal Mobile Computing

MIT Media Lab, Center for Mobile Learning  
<http://appinventor.mit.edu>



### The Personal Mobile Computing Revolution

We are experiencing an era of *personal mobile computing* in which mobile devices are changing the way that people interact with the world. Just as the desktop computer changed our way of life in the 1980's, smartphones and tablets are introducing a new paradigm for how we use technology to solve problems, improve productivity, communicate more rapidly, and innovate in ways never seen before.

MIT App Inventor enables *digital literacy for all*, empowering people to design, create, and use personally meaningful mobile technology solutions for their daily lives. Widespread digital literacy is key to this revolution.

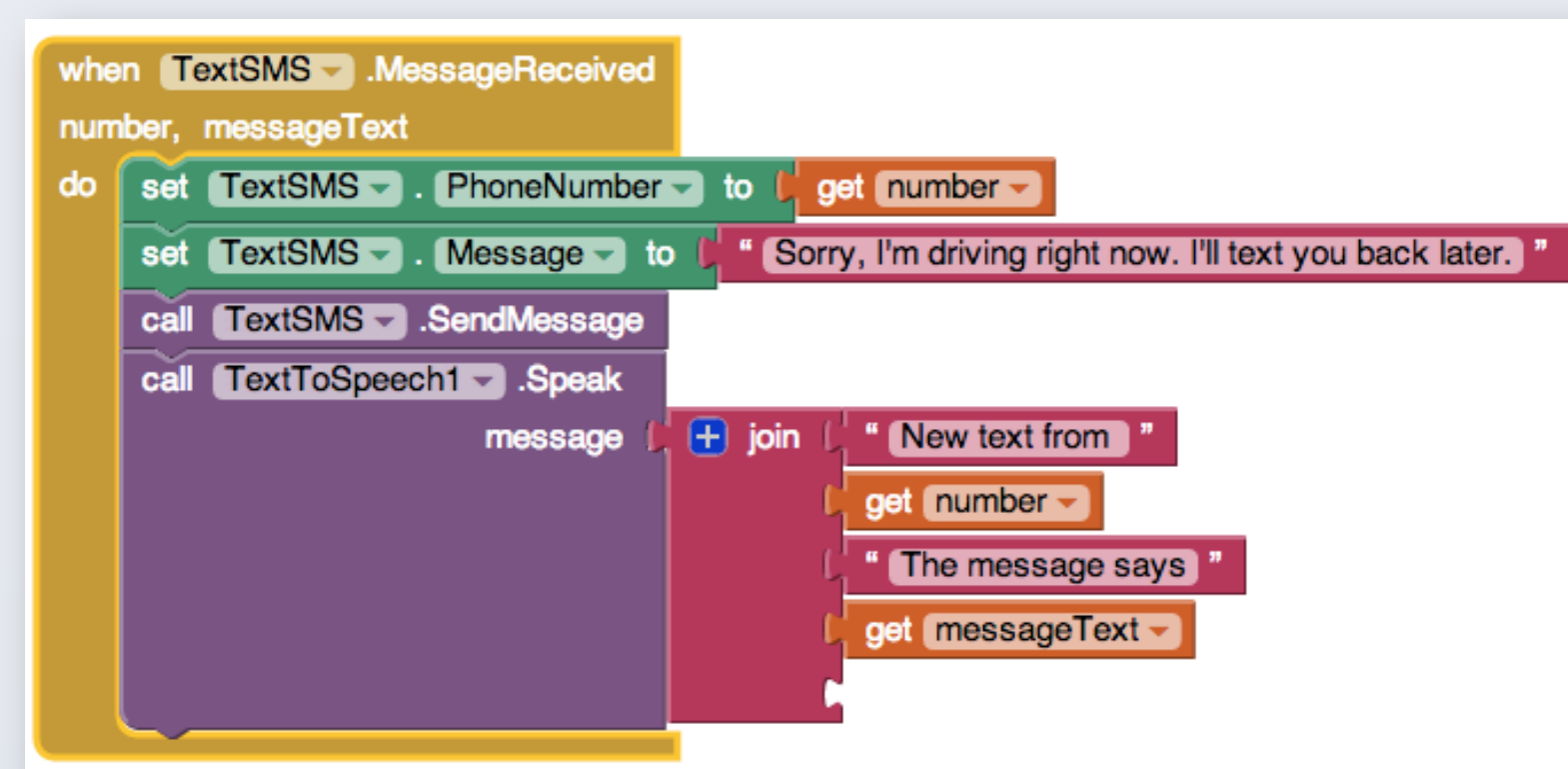
### What is App Inventor?

- App Inventor is a *visual blocks programming* environment for creating apps.
- Design window provides a WYSIWYG* (what you see is what you get) interface for laying out the screens of the app.
- Blocks provide visual cues for programming constructs*, eliminating the need for understanding the often obscure syntax inherent in textual languages.
- Incremental development* encourages developers to test as they build with real-time debugging. New program components and functionality are automatically shown in the connected device or emulator.
- Completed apps can be easily shared through direct download or distribution through Google Play.

### Why App Inventor?

Build fully functional apps using all features of a mobile device:

- Phone, SMS Texting
- GPS Location Data
- Orientation, Accelerometer
- Camera, Voice, Video
- Sounds, Vibration
- Voice-to-Text, Text-to-Voice
- Near Field Communication
- Web APIs, Twitter
- Cloud and Local Databases
- LEGO Mindstorms
- Bluetooth Server and Client

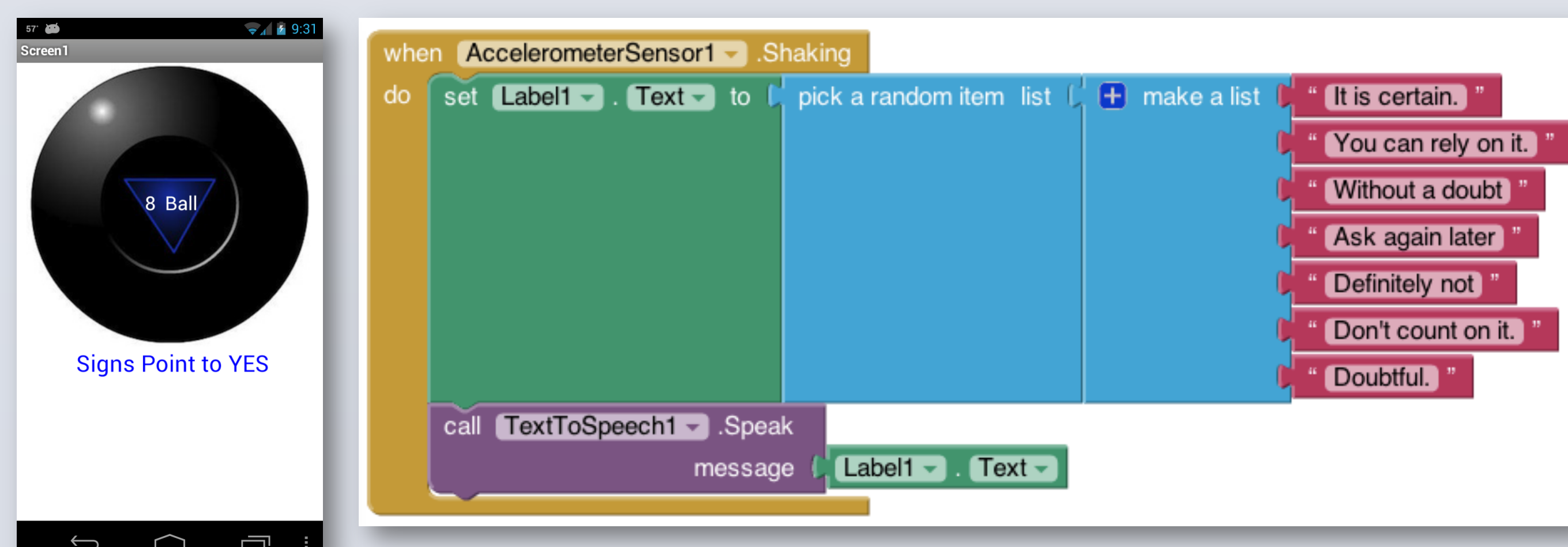


"No Texting While Driving" App Handles Texts On the Move

App Inventor supports the *personal mobile computing revolution* by:

- Enabling *personal, tactile*, and inherently *social* experiences with handheld computers;
- Promoting high engagement, especially among girls, due to the real-world aspect of mobile devices;
- Giving students opportunity to control technology; shifting from the role of technology consumer to technology creator.

### Blocks-Based Visual Programming



"Magic 8 Ball" app that chooses randomly from a list of yes/no predictions whenever someone shakes the device. The blocks show how easy it is to write the logic for the app's program.

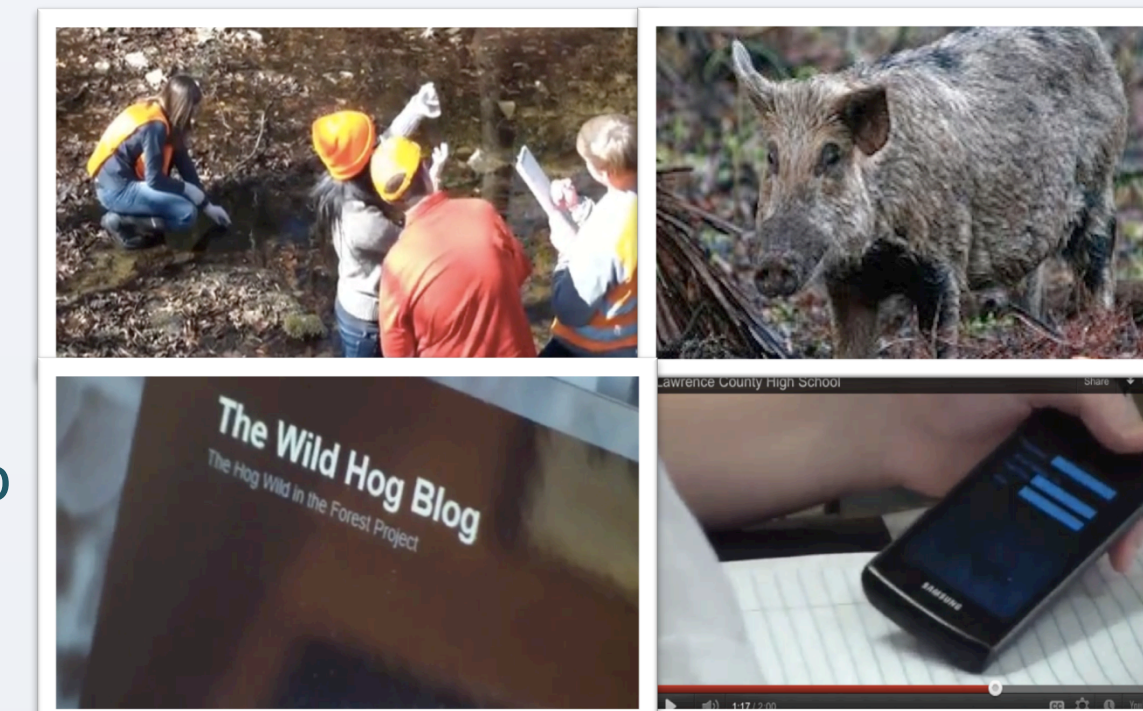
### How is App Inventor Being Used?

MIT App Inventor is used by students, teachers, developers, hobbyists, and entrepreneurs to develop apps for collaboration, productivity, personal use, recreation, learning, social good, and community activism.

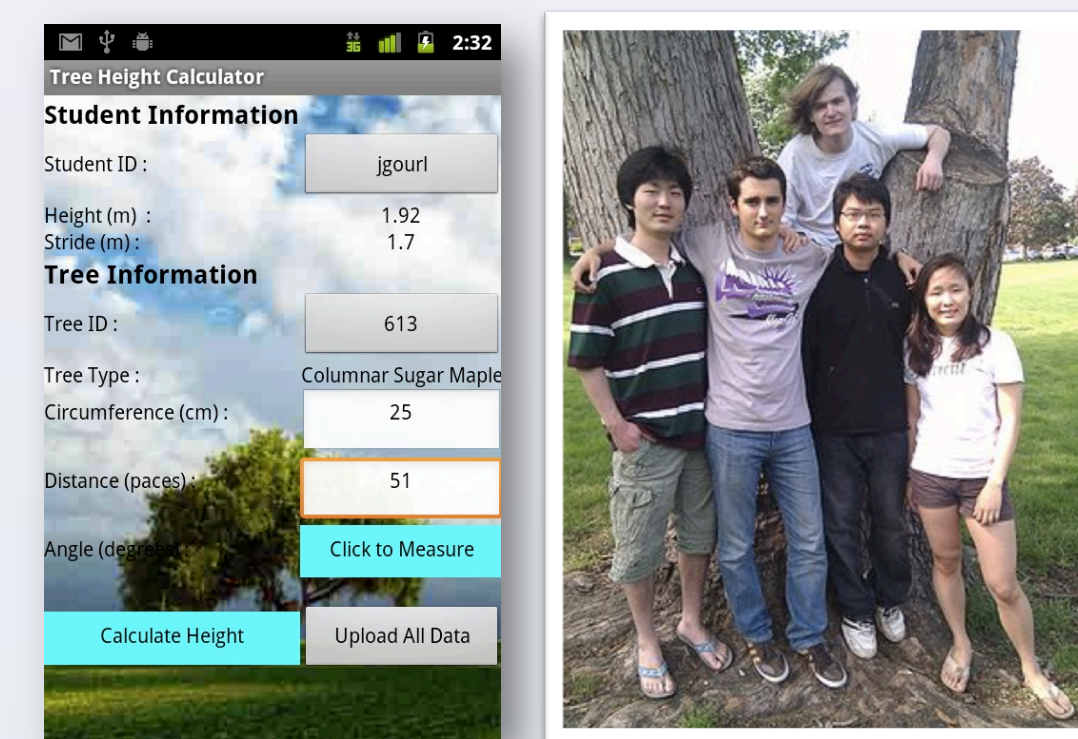
Teaching • Learning • Social Good • Community Service • Entrepreneurship

#### Tracking Invasive Species

Lawrence County High School students in Alabama developed a simple app to document hog sightings. The data collected in the field will aid scientists in understanding the problem of invasive feral hogs. The app earned third place in the Samsung Solve for Tomorrow Contest, which challenged students to select an environmental problem in their local area and use STEM (Science, Technology, Engineering, Mathematics) to work toward a solution.



#### Environmental Science



TreeHeightCalculator is an App Inventor app that calculates tree height. It was developed by students in an environmental science class at Trinity College to measure trees on campus. The app uses the phone as a sighting instrument, using the phone's orientation center to measure the angle between horizontal and the top of the tree. It then uses simple trigonometry to calculate the tree's height.

#### Community Clean-up



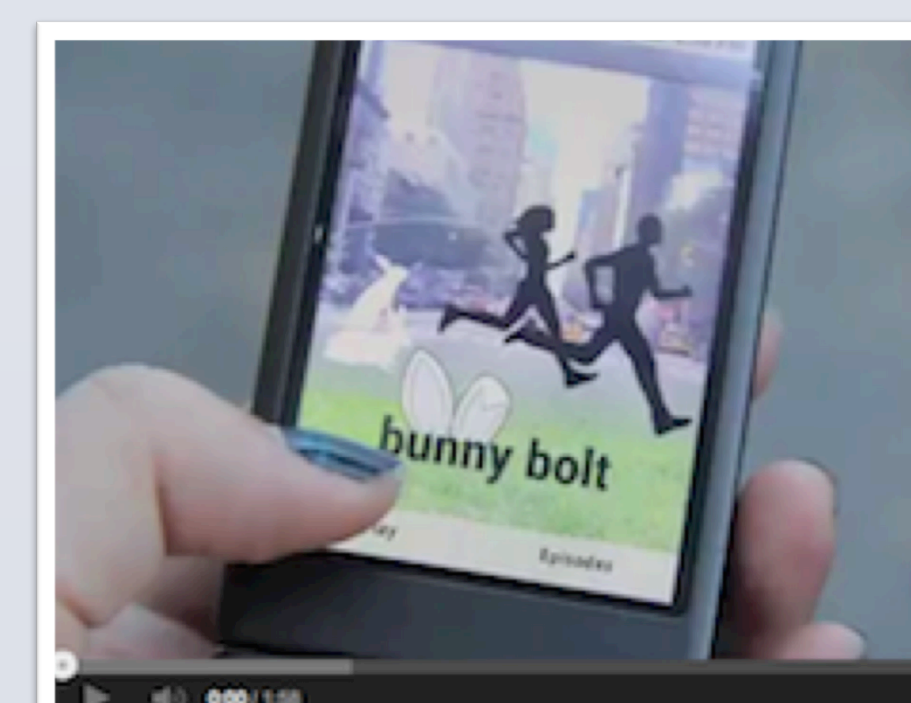
The East Palo Alto Chica Squad created an app called "Tag It!" that uses the phone's GPS to let users record the location of graffiti and trash. The app not only saves the location of the site online, but also helps the user set up an event to get it cleaned up. The East Palo Alto Chica team's app placed in the top 20 worldwide in the Technovation Challenge competition!

#### Humanitarian Aid

App Inventor came to the rescue when humanitarian aid workers in Haiti needed a way to track data in the field. Two apps, one to track rainfall and one to track commodities prices, were developed during the Humanitarian FOSS Project's RHOK (Random Hacks of Kindness) weekend. A third app was developed to track distribution of relief supplies to people in need after the hurricane disaster. The app greatly improved waiting times and reduced aid workers' paperwork.



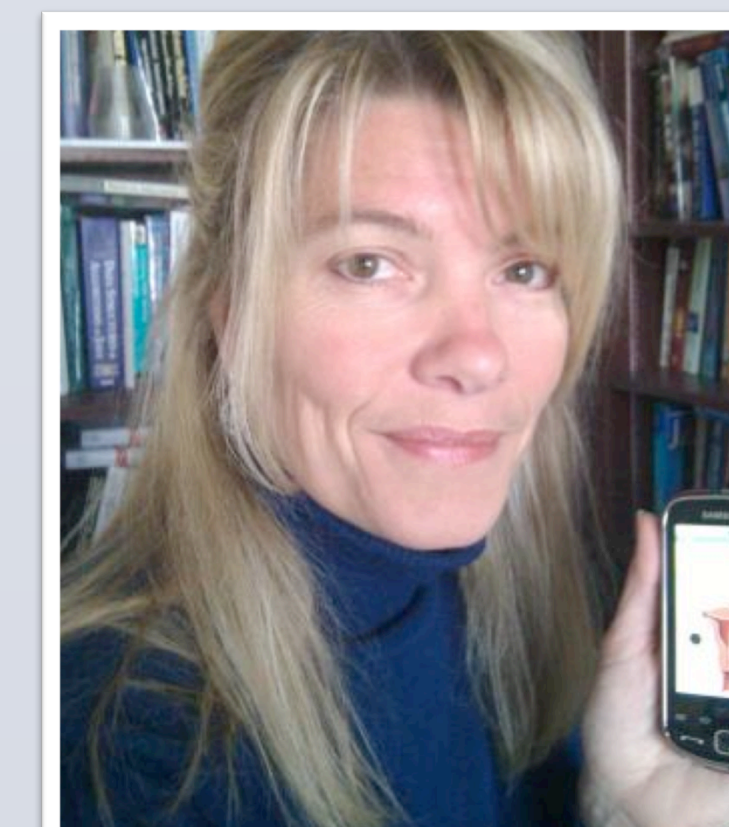
#### Encouraging Youth Fitness



Bunny Bolt is a fitness app developed by a group of Wellesley students that uses the threat of dangerous bunnies to get kids ages 8-14 outside. Created with App Inventor, the game tracks players as they physically move around capturing virtual escaped magician's rabbits. The designers used the location sensor to determine whether the player is running, and if the player does not move fast enough, an alert encourages them to "Walk Faster!"

#### Public Health Awareness

Stacey Christensen is a women's health nurse practitioner. She created "My Papp" to teach women about basic female anatomy and to answer questions about the Pap test. Pap tests are a simple yet effective way to screen women for cervical cancer. Despite the importance of this common screening procedure, research shows that many misconceptions regarding this test exist. Her app offers a simple, confidential, and reassuring way for women to get the information they need.



### How Can I Get Involved?

- Host an App Inventor hackathon or workshop ([appinventor.mit.edu/teach](http://appinventor.mit.edu/teach))
- Gather a team of high school junior girls and join the **technovation** Challenge ([bit.ly/app\\_inv\\_technovation](http://bit.ly/app_inv_technovation))
- Submit an app idea to the **VERIZON INNOVATIVE APP CHALLENGE**. Then build the app with App Inventor ([appchallenge.tsaweb.org](http://appchallenge.tsaweb.org))
- Scan QR code to sign up for e-mail newsletter [bit.ly/appinvnews](http://bit.ly/appinvnews)
- Build an app! Visit [appinventor.mit.edu](http://appinventor.mit.edu) to get started.



Sign up for the App Inventor Newsletter

### What's Your App?

- Location-Aware
- Sensing
- Social
- Portable
- Personal



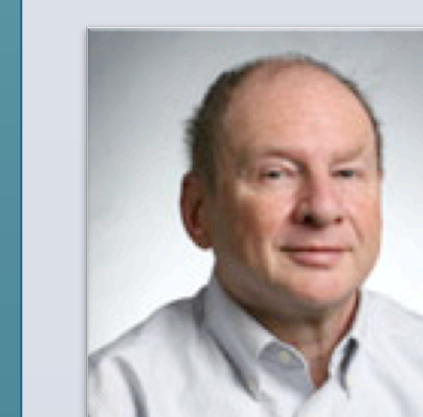
- Learning
- Teaching
- Collaborating
- Entertainment
- Productivity

- Log in with a Google Account
- Free Service and Online Resources

### What are App Inventor's Key Projects?

- Mobile Computational Thinking Partnership, funded by NSF MIT, UMass Lowell, Trinity, Wellesley, Univ. San Francisco
- Verizon Foundation - Verizon Innovative App Challenge
- unX - the first MOOC for Spain and Latin America
- Youth Radio - NSF grant to develop media-rich app tools for youth
- Code.org and the CEdWeek initiative
- The Hive Learning Networks
- The Intel Computer Clubhouse Network

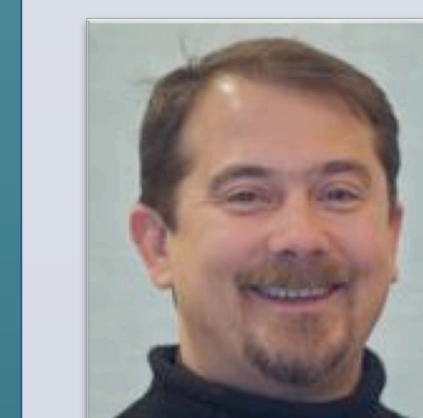
### Who can I contact for information?



Hal Abelson  
Principal Investigator  
[hal@mit.edu](mailto:hal@mit.edu)



Shaileen Pokress  
Education Director  
[shaileen@media.mit.edu](mailto:shaileen@media.mit.edu)



Andrew McKinney  
Lead Engineer  
[mckinney@mit.edu](mailto:mckinney@mit.edu)



Joshua Sheldon  
Program Manager  
[jsheldon@mit.edu](mailto:jsheldon@mit.edu)