Have you ever wondered how mobile apps are created?

Students learn and apply computational thinking and technical knowledge and skills to create mobile apps. Students also acquire and apply skills pertaining to the design process, problem solving, persistence, collaboration, and communication.

Go beyond being an app consumer and become an app creator!

App Creators introduces students to the field of computer science and the concepts of computational thinking, through the creation of mobile apps. Students are challenged to be creative and innovative, as they collaboratively design and develop mobile solutions to engaging, authentic problems. Students experience the positive impact of the application of computer science to society as well as other disciplines, particularly biomedical science.

The unit provides students opportunities for self-expression. Teams identify a personal or community problem of interest to them that can be solved with a mobile app solution. The problem can address issues such as health and wellness, the environment, school culture, emergency preparedness, education, community service—the options are endless!

App Creators Lesson Summary

Lesson 1   Let's Create an App!
Lesson 2   Game Design -or- Taking It to the Next Level
Lesson 3   The App Challenge

Lesson 1: Let's Create an App!
Students are introduced to the concept of pair programming, app development, and the MIT App Inventor development tool. They learn about the Model-View-Controller (MVC) design pattern, app graphical design, event-driven programming, debugging, and algorithm creation using variables and conditional logic. They create engaging biomedical science apps and fun interactive games that apply these concepts and use basic user interface features, media, and animation.

Lesson 2: Game Design
In Lesson 2, students further explore the concepts investigated in Lesson 1 and build upon their skills to use, modify, and create games in mobile applications. They are introduced to game design with the user experience in mind. They explore how procedures and loops reduce redundancy when writing code. They analyze static and dynamic lists, and then iterate on an existing app to update the game play. Students apply what they learn about coding and game design to improve an existing game.

Lesson 2: Taking It to the Next Level

Students further explore the concepts investigated in Lesson 1 and build upon their skills to use data in mobile applications. They create algorithms using loops to streamline repetition and iterate through lists, and create procedures to abstract the details of a task and reduce redundancy. They learn to organize and store persistent data collected from user input and device sensors.

Lesson 3: The App Challenge

Students apply all of the knowledge and skills they have acquired to design and create a mobile app solution for a personal or community problem. They apply the design process and computational thinking skills to decompose the problem into smaller modules. Following user-centered design principles, they design and create an appropriate user interface and program the app to produce the desired behavior.