APP INVENTOR

1. How to use the MakerCards

On the front of the card, there is a description of something you can do with App Inventor.

The back of the card tells you what components and blocks to use, and an example of code.
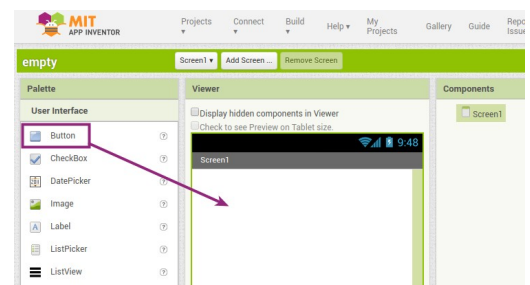
Card 1: How to use the MakerCards

Go to http://appinventor.mit.edu and
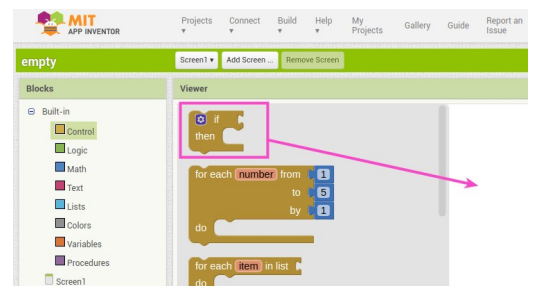
Create apps!

(you need a Gmail account).

Click the category and drag the components to the viewer.

Click the Blocks button in the top right.

Click a drawer name and drag the blocks together.

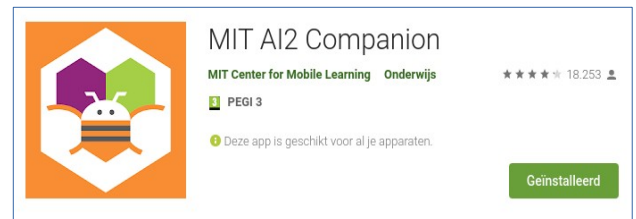Connect to your Android device to test out your project (see MakerCard 2)

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2. Connect to the Phone/Tablet

You can download the App Inventor Companion App to your Android phone or tablet to test out your App Inventor projects.

Go to the Play store and search for App Inventor Companion.

Download for free, Install, and Open.

Choose "scan QR code" (this will bring up the camera).

The code will be provided on your App Inventor page.

Connect to App Inventor Companion App
(see MakerCard 11)

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3. Text to Speech

Make your phone speak to you!

When you shake your phone, you can make your phone shake too.

Type a phrase in a text box.

Then press a button, and use the TextToSpeech component to let the phone speak the text that was typed.

Drag these components on the viewer:

User interface: Button TextBox

Media: TextToSpeech

Click the Blocks button and snap these blocks together.

When the button is clicked, the phone will say the text inside of the textbox.

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4. Shake it

When you shake your phone, you can make your phone shake too.

Use the Accelerometer Sensor to detect when the user shakes the phone.
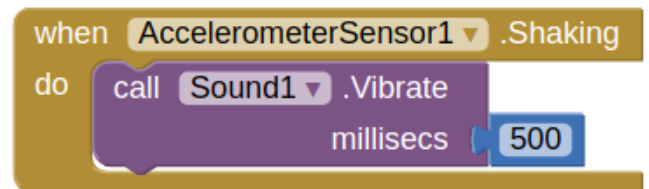
Use the Sound component to vibrate the phone.

Drag these components on the viewer:

Sensors: AccelerometerSensor

Media: Sound

Click the Blocks button and snap these blocks together.

When the user shakes the phone, the sound component vibrates the phone for **500** milliseconds.

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5. Speech Recognition

Want your phone to write down what you say?

Click a button and use the Speech Recognizer component to get what you say, then display it as text in a label.

Drag these components on the viewer:

User Interface: Button A Label

Media: SpeechRecognizer

Click the Blocks button and snap these blocks together.

When the button is clicked, the Speech Recognizer starts listening.

When its finished listening, the text is shown in the label.

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6. Drawing

Draw pictures with your finger!

An easy way to do this is to detect when a finger is dragged on the canvas, and draw a line from the old finger position to the new one.

Add a button to clear the canvas so you can make a new drawing.

Drag these components on the viewer:

User Interface: 🔲 Button

Drawing and animation: 🖼 Canvas (Height: Fill parent – Width: Fill parent)

Click the Blocks button and snap these blocks together.

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7. Fling a Ball

Play ball on your phone!

Use a finger on your phone to swipe a ball and have the ball move in that direction. When a user flings their finger on a Canvas, the heading and the speed of a ball on the canvas can be set to the heading and speed of the user's finger.

Drag these components on the viewer:

Drawing and Animation:

Canvas   Ball

Canvas Height: Fill parent
Canvas Width: Fill parent

Place Ball on top of Canvas

Click the Blocks button and snap these blocks together.

When the user flings the canvas, the ball's heading and speed are set to the finger's heading and speed.

8. Tilt to Move

Make a ball move around as you tilt your phone.

As you tilt the phone, the ball will "roll" in that direction. The steeper the tilt, the faster the ball will "roll".

It does this by updating the ball's heading and speed every second to match the angle and magnitude from the Orientation Sensor.

Card 8: Tilt to Move

Drag these components on the viewer:

Drawing and Animation:

Canvas   Ball

Canvas Height: Fill parent
Canvas Width: Fill parent

Place Ball on top of Canvas

Sensors: OrientationSensor   Clock

Click the Blocks button and

When the Timer fires, the ball's heading and speed are set to the angle and magnitude of the Orientation Sensor.

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9. Take a Picture

Take pictures of your friends inside of your app.

Click a button to take a picture using the Camera component.

After the picture is taken, change the background of the screen to be the picture.

Drag these components on the viewer:

User Interface: Button

Media: Camera

Click the Blocks button and snap these blocks together.

When the user clicks Button1, the user can take a picture. After the picture is taken, it becomes the background image for Screen1.

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10. Make a Video

Record a video in your app.

Click a button to start recording a video using the Camcorder component.

After you're finished, put the video in a Video Player component, and press a button to watch the video.
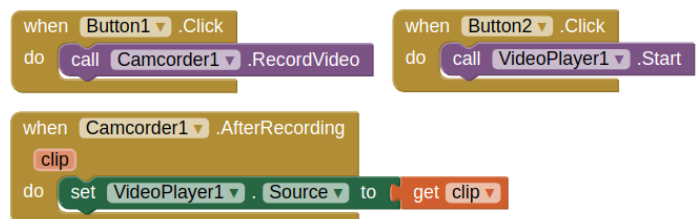
Drag these components on the viewer:

User Interface: 🔲 Button **2x**

Media: 📹 Camcorder 🎬 VideoPlayer

VideoPlayer Height: **400** px
VideoPlayer Width: **400** px

Click the Blocks button and snap these blocks together.

When the user clicks Button1, the video recording starts. After the recording is finished, the video is put in the video player. When the user clicks Button2, the video plays.

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11. Install your App on the Phone/Tablet

Use the App Inventor Companion App on your Android phone or tablet to install your App Inventor projects as real apps.

Card 11: Install your App

Allow Unknown Sources on your Phone.

You need to allow apps that are not in the Google Play store to be installed on your Android device. How to do that is different for every phone. Use the instructions for your phone.

Install the App using the App Inventor Companion app on the phone. (See Card 2) Go to your App Inventor page and open the completed Project.
Click "Build" and select "App (Provide QR code for .apk". When the app is built, scan the QR code with the phone. Follow the instructions on your phone to install the app.

12. Backpack

Use the Backpack to copy code.

Use existing code as a starting point for new code. To copy code you need to use the App Inventor Backpack, found in the upper right corner of the Blocks screen.

Drag the code into the Back pack. The appearance of the icon will change to a full backpack. The code will still exist in the original program.

Copy in as much code as you like.

Move to the new Project or Screen. Click on the Backpack to open it. Pull the desired code out onto your screen.

The Backpack will not be cleared when you log out of App Inventor.