App Inventor

3. Text to Speech

Make your phone speak to you!

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.

http://ai2.appinventor.mit.edu

App Inventor

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.

http://ai2.appinventor.mit.edu

App Inventor

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.

http://ai2.appinventor.mit.edu

App Inventor

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.

http://ai2.appinventor.mit.edu

Card 4: Shake it
Drag these components on the viewer:

Sensors: AccelerometerSensor

Media: Sound

Click the Blocks button and snap these blocks together.

```
when AccelerometerSensor1 .Shaking
do  call Sound1 .Vibrate
              millisecs 500
```

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

Card 3: Text to Speech
Drag these components on the viewer:

User Interface: Button TextBox

Media: TextToSpeech

Click the Blocks button and snap these blocks together.

```
when Button1 .Click
do  call TextToSpeech1 .Speak
              message TextBox1 . Text
```

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

Card 6: Drawing
Drag these components on the viewer:

User Interface: Button

Drawing and Animation: Canvas
                        Height: 300 pixels
                        Width: 300 pixels

Click the Blocks button and snap these blocks together.

```
when Canvas1 .Dragged
startX, startY, prevX, prevY, currentX, currentY, draggedSprite
do  call Canvas1 .DrawLine
              x1 get prevX
              y1 get prevY
              x2 get currentX
              y2 get currentY

when Button1 .Click
do  call Canvas1 .Clear
```

When the user drags a finger on the canvas, a line is drawn between the start and stop.

Card 5: Speech Recognition
Drag these components on the viewer:

User Interface: Button A Label

Media: SpeechRecognizer

Click the Blocks button and snap these blocks together.

```
when Button1 .Click
do  call SpeechRecognizer1 .GetText

when SpeechRecognizer1 .AfterGettingText
result
do  set Label1 . Text to SpeechRecognizer1 . Result
```

When the button is clicked, the Speech Recognizer starts listening. When its finished listening, the text is shown in the label.

App Inventor

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.

http://ai2.appinventor.mit.edu

App Inventor

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.

App Inventor

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.

http://ai2.appinventor.mit.edu

App Inventor

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.

http://ai2.appinventor.mit.edu

Card 8: Tilt to Move
Drag these components on the viewer:

Drawing and Animation:

Canvas
Height: 300 pixels
Width: 300 pixels

Ball
Place ball on top of canvas

Sensors: OrientationSensor   Clock

Click the Blocks button and snap these blocks together.

```
when Clock1 .Timer
do  set Ball1 . Heading to    OrientationSensor1 . Angle
    set Ball1 . Speed to  +       OrientationSensor1 . Magnitude  *  100
```

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

Card 7: Fling a Ball.
Drag these components on the viewer:

Drawing and Animation:

Canvas
Height: 300 pixels
Width: 300 pixels

Place ball on top of canvas

Click the Blocks button and snap these blocks together.

```
when Canvas1 .Flung
x, y, speed, heading, xvel, yvel, flungSprite
do  set Ball1 . Heading to   get heading
    set Ball1 . Speed to   get speed
```

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

Card 10: Make a Video
Drag these components on the viewer:

User Interface: Button **x 2**

Media:

Camcorder   VideoPlayer
Height: 200 pixels
Width: 200 pixels

Click the Blocks button and snap these blocks together.

```
when Button1 .Click
do  call Camcorder1 .RecordVideo

when Camcorder1 .AfterRecording
clip
do  set VideoPlayer1 . Source to   get clip

when Button2 .Click
do  call VideoPlayer1 .Start
```

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.

Card 9: Take a Picture
Drag these components on the viewer:

User Interface: Button

Media: Camera

Click the Blocks button and snap these blocks together.

```
when Button1 .Click
do  call Camera1 .TakePicture

when Camera1 .AfterPicture
image
do  set Screen1 . BackgroundImage to   get image
```

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

App Inventor

1. How to use the QuickStart cards

On the front of the card, there is a description of something you can do with AppInventor. The back of the card tells you what components and blocks to use, and an example of code.

http://ai2.appinventor.mit.edu

App Inventor

2. Connect to the Phone/Tablet

You can download the AI2 Companion App to your Android phone or tablet to test out your App Inventor projects.

http://ai2.appinventor.mit.edu

App Inventor

11. Install your App on the Phone/Tablet

Use the AI2 Companion App on your Android phone or tablet to install your App Inventor projects as real apps.

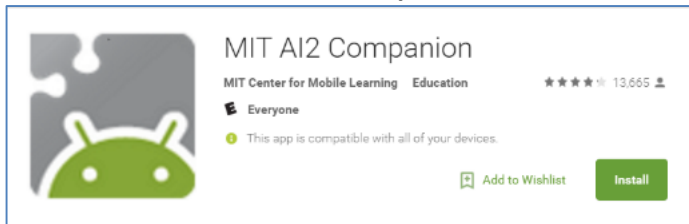http://ai2.appinventor.mit.edu

App Inventor

12. Use the Backpack to copy code

http://ai2.appinventor.mit.edu

Card 2: Connect to the Phone/Tablet

Download the Companion App
Go to the Play store and search for MIT AI2 Companion. Download for free, Install, and Open.

MIT AI2 Companion
MIT Center for Mobile Learning   Education   ★★★★☆ 13,665
Everyone
This app is compatible with all of your devices.
Add to Wishlist   Install

Get the connection code by scanning or typing
Choose "connect with Code" to type in the code or "scan QR code" (this will bring up the camera). The code will be provided on your AppInventor page.

Connect to AI2 Companion App
Go to http://ai2.appinventor.mit.edu and open a Project. Click the "Connect" button and select "AI Companion". Scan the QR code on the screen with your Android device, or type it in. The code should now be running "like magic" on the phone/tablet. If the connection is lost, click Connect > Reset Connection and try again.

Card 1: How to Use the QuickStart Cards
Go to http://ai2.appinventor.mit.edu and create a new project (you need a gmail account).

Click the category and drag the components to the viewer. For Example, if you see:
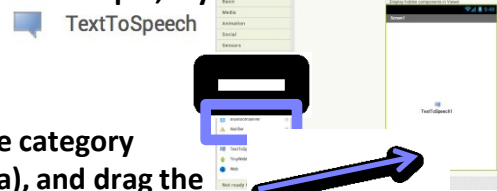
TextToSpeech

Media:

then click the category name (Media), and drag the component (TextToSpeech) to the viewer.

Click the Blocks button the top right

Click a drawer name and drag the blocks together.

Connect to your Android device to test out your project (see card #1)

Card 12: 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 be cleared when you log out of App Inventor

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Card 11: Install your App on the Phone/Tablet

Allow Unknown Sources on Phone/Tablet
You need to allow apps that are not in the Google Play store to be installed on your Android device.

Open the Settings application. Select Security then check "Unknown Sources".
On some phones, you may need to go to Settings > Applications > Unknown Sources

Option 1: Install the App using the MIT AI2 Companion app on the phone
See directions on Card 2 to install MIT AI2 Companion. Go to your AppInventor page and open the completed Project. Click "Build" and select "QR code for .apk". When the app is built, scan the QR code with the phone. Follow instructions on your phone to install.

Option 2: Install the App using an email account
Go to your AppInventor page and open the completed Project. Click "Build" and select "save .apk to computer". When the app is built, attach the .apk file to an email and send it to an email account on the phone. Open the attachment and follow instructions on your phone to install.