

# App Inventor

## 3. Text to Speech

Make your phone speak to you! Allow the user to type a phrase in a text box. Then, when the user presses a button, use the TextToSpeech component to let the phone say the text that the user typed.

<http://ai2.appinventor.mit.edu>

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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, and use the Sound component to vibrate the phone.

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## 5. Speech Recognition

Want your phone to write down what you say? When the user clicks a button, use the Speech Recognizer component to get what the user says, and display the text in a label.

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## 6. Drawing

You can draw pictures with your finger on your phone. Detect when someone is dragging their finger on a canvas, and draw a line from their old finger position to their new one.

You can also add a button to clear the canvas, so someone else can make a new drawing.

<http://ai2.appinventor.mit.edu>

4.  
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
  milliseconds 500
```

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

3.  
Drag these components on the viewer:

Basic:  Button  TextBox



Other Stuff:  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.*

6.  
Drag these components on the viewer:

Basic:  Canvas  Button  
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 their finger on the canvas, a line is drawn between where their finger started and stopped.*

5.  
Drag these components on the viewer:

Basic:  Button  Label

Other Stuff:  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 it's finished listening, the text is shown in the label.*

# App Inventor

## 7. Fling a ball

Swipe a finger on your phone, and have a ball move in the same 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.

Alpha test website:

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# App Inventor

## 8. Tilt to move

Have a ball move around as you tilt your phone. As the user tilts their phone, the phone will update a ball's heading and speed every second to match the angle and magnitude from the Orientation Sensor.

Alpha test website:

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## 9. Take a Picture

You can take pictures of your friends inside of your app. Use the Camera component to take a picture when the user clicks a button. After the picture is taken, change the background of the screen to be the picture.

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## 10. Make a video

Want to record a video in your app? Have the user click a button to start recording a video using the Camcorder component. After they've finished, put the video in a Video Player component, and let the user press a button to watch their video.

<http://ai2.appinventor.mit.edu>

8.


Drag these components on the viewer:

Basic:  Canvas  Clock

Height: 300 pixels  
Width: 300 pixels

Animation:  Ball

Place on top of Canvas

Sensors:  OrientationSensor

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.*

7.

Drag these components on the viewer:

Basic:  Canvas

Height: 300 pixels  
Width: 300 pixels

Animation:  Ball

Place 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.*

10.

Drag these components on the viewer:

Basic:  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.*

9.

Drag these components on the viewer:

Basic:  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

## 2. How to use the cards

On the front of the card, there is a description of something you can do inside of App Inventor. The back of the card tells you what components and blocks to use.

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# App Inventor

## 1. Connecting your Phone

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

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

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### 1. Allow Unknown Sources

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

### 2. Download the Companion App

On your Android device, open your browser and go to <http://appinventor.mit.edu/ai2/MITAI2Companion.apk> Go to your device's "Downloads" list, select the file you just downloaded, and install it to your device. Then click "Open" the use the Companion app.

### 3. Tap "Scan QR Code"

This will bring up the camera so you can scan a QR code.

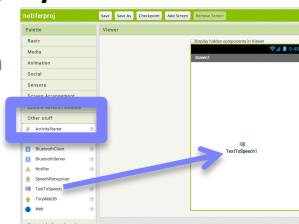
### 4. Connect to Companion App

On your computer, go to <http://ai2.appinventor.mit.edu> and create a new project (you need a gmail account). Click the blocks button at the top right. Click the "Connect to" button and select "Connect Companion". Scan the QR code on the screen with your Android device.

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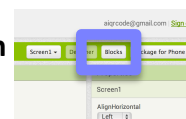
2. Click the category and drag the components to the viewer. For Example, if you see:

Other Stuff:  TextToSpeech

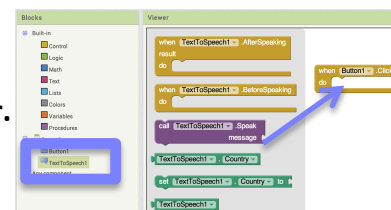


Then click the category name (Other Stuff), and drag the component (TextToSpeech) on the viewer.

3. Click the blocks button on the top right



4. Click a drawer name and drag the blocks together.



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

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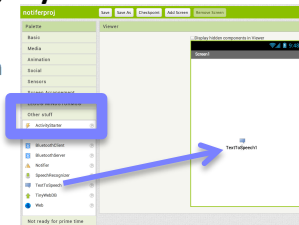
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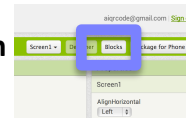
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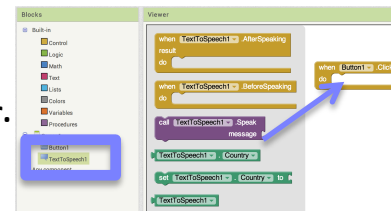


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