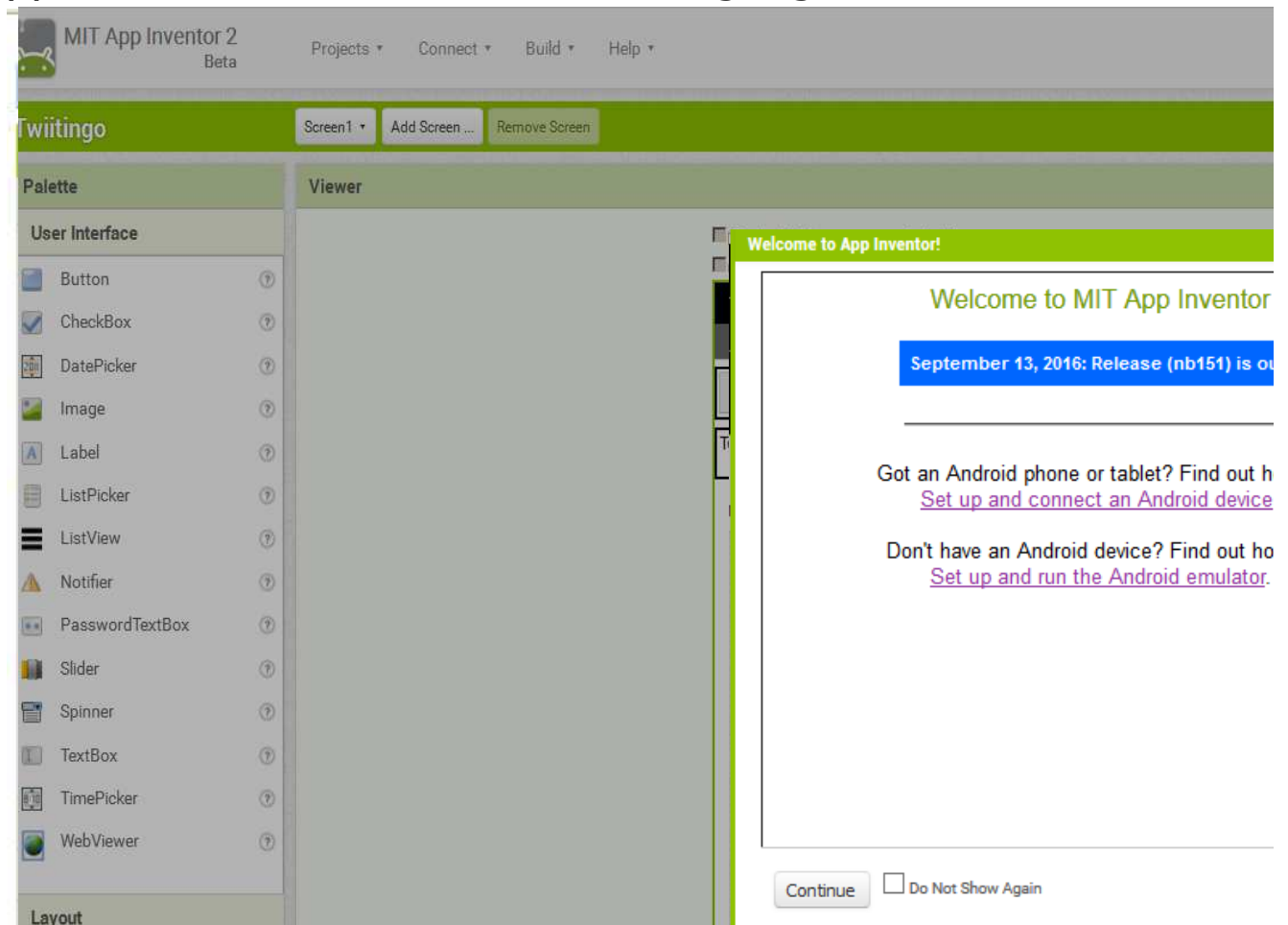


# Aplikácie pre Android

- začneme MIT App Inventor v2 – scratch based language
- ReactNative
- Android SDK + Eclipse
- Android Studio
  - Java
  - Kotlin



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

# App Inventor for Android

Jason Tyler, Amazon: 4.3/5

- ⊕ Introduction
- ⊖ Part I
  - ⊕ Chapter 1: Building Your First App While Exploring the Interface
  - ⊕ Chapter 2: Programming and Design Fundamentals
- ⊖ Part II
  - ⊕ Chapter 3: Soundroid: Creating an Android Sound Machine
  - ⊕ Chapter 4: OrderDroid: A Maintainable Mobile Commerce App
  - ⊕ Chapter 5: AndroidDown: A Location-Aware Panic Button
  - ⊕ Chapter 6: AlphaDroid: An Alphabet Tracing Game
  - ⊕ Chapter 7: PunchDroid: An Android Punch Bug Game
  - ⊕ Chapter 8: Collection Assistant: A Barcode and Database Application
  - ⊕ Chapter 9: BlueChat: A Bluetooth Chat Client
  - ⊕ Chapter 10: TwiTorial: A Twitter Application



<http://www.wiley.com/go/appinventorandroid>

# Android Apps with App Inventor: The Fast and Easy Way to Build Android Apps

J.H.Kloss, Amazon: 4.4/5

1. Installing and configuring App Inventor
2. Building modern, attractive mobile user interfaces
3. Controlling Android media hardware, including the camera
4. Saving data locally with TinyDB, or in the cloud with Tiny
5. Streamlining and automating phone, text, and email com
6. Tracking orientation, acceleration, and geoposition
7. Integrating text-to-speech and speech-to-text in your apps
8. Controlling other apps and Web services with ActivityStarter
9. Building mobile mashups by exchanging data with Web APIs
10. Testing your apps for diverse hardware with the Android Emulator
11. Example apps

<http://books.google.sk/books?id=rfKyt6TRLloC&pg=SA4-PA7&lpg=SA4-PA7&dq=laughter+android+kloss&source=bl&ots=Kht9zKTIyK&sig=YqHJbc8v77VtR28RmpZccyV2ScY&hl=sk&sa=X&ei=bGOZUMmgDMbesqbA64HIBq&ved=0CCkQ6AEwAQ#v=onepage&q&f=true>

[http://www.amazon.com/Android-Apps-App-Inventor-Build/dp/0321812700/ref=sr\\_1\\_7?s=books&ie=UTF8&qid=1322522259&sr=1-7](http://www.amazon.com/Android-Apps-App-Inventor-Build/dp/0321812700/ref=sr_1_7?s=books&ie=UTF8&qid=1322522259&sr=1-7)



MIT App Inventor Classic is no longer available for building apps. You can continue to access old App Inventor Classic projects here, and download them, but you cannot modify them or create new projects. To work with App Inventor, use [MIT App Inventor 2](#).



# Iné zdroje

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- AppInventor at MIT (<http://appinventor.mit.edu/>)
- Aktuálny kurz edX: Mobile Computing with App Inventor - CS Principles (<https://courses.edx.org/courses/course-v1:TrinityX+T007x+1T2017/course/>)
- príklady hotových projektov:  
App Inventor Snippets (<http://puravidaapps.com/snippets.php>)
- App Inventor Teach (<http://appinventor.mit.edu/explore/teach.html>)
- Middle School Android (<https://sites.google.com/site/middleschoolandroid/home/app-inventor-tutorials>)
- MIT Inventor Tutorials (<http://appinventor.mit.edu/explore/hour-of-code.html>)
- MIT Inventor Public Open Source (<http://appinventor.mit.edu/appinventor-sources/>)
- Dlho očakávané MIT Inventor for iOS (<http://doesappinventorrunonios.com/>)

# Ako začať s App Inventor

<http://appinventor.mit.edu/explore/ai2/setup-emulator.html>

- potrebujete google-mail účet
- <http://ai2.appinventor.mit.edu/>

Počítač:

- platformy: MS-Windows, Mac OS X, Ubuntu, Debian
- browser: FF, Safari, Chrome, ~~IE~~
- setup page: <http://appinventor.mit.edu/explore/ai2/setup.html>
- pre MS-Windows treba pustiť **MIT Appinventor Tools 2.3.0 (~80 MB)**

Na zariadení:

<https://play.google.com/store/apps/details?id=edu.mit.appinventor.aicompanion3>

Android Mobil (ale prežijete aj s emulátorom):

- v mobile: Setting/Application/Development/, 7xklik na Build Number  
USB Debugging = ON (môžete uploadovať vlastné aplikácie .apk)  
Stay awake = ON (nebude vám sleepovať, kým ho máte na kábli)  
Allow mock location = ON (ak chcete používať nejaké fake GPS – neskôr)  
Sound & Display/Orientation = OFF



# My projects

zoznam  
mojich  
projektov

import  
export

Connect

login

Build

The screenshot shows the MIT App Inventor web interface. The browser address bar displays `ai2.appinventor.mit.edu/?locale=en#568460635170`. The top navigation bar includes links for Projects, Connect, Build, Help, My Projects, Gallery, Guide, Report an Issue, English, and a user profile for borovansky@gmail.com. The main content area is divided into two sections: 'My Projects' on the left and a table of projects on the right.

**My Projects List:**

Name	Date Modified	Published
<input type="checkbox"/> ShockMe	Sep 29, 2015, 8:42:36 PM	No
<input type="checkbox"/> PresporksePivociary	Sep 17, 2015, 7:47:00 PM	No
<input type="checkbox"/> demo_Media	Oct 1, 2016, 1:23:14 PM	No
<input type="checkbox"/> Prvy	Oct 1, 2016, 1:08:03 PM	No
<input type="checkbox"/> Labilo	Sep 17, 2015, 7:45:04 PM	No
<input type="checkbox"/> MazeLabyrinth	Sep 30, 2016, 12:30:40 PM	No
<input type="checkbox"/> Dynamic		
<input type="checkbox"/> SpiritLevel		
<input type="checkbox"/> Xxxx		
<input type="checkbox"/> Twiitingo		
<input type="checkbox"/> FireBaseDemo		
<input type="checkbox"/> EV3Robot		
<input type="checkbox"/> Social		
<input type="checkbox"/> next		
<input type="checkbox"/> EV3		
<input type="checkbox"/> BaseEV3Project		
<input type="checkbox"/> Hallooooo		
<input type="checkbox"/> PokusPrednaska		

**My projects menu:**

- Start new project
- Import project (.aia) from my computer ...
- Import project (.aia) from a repository ...
- Delete Project
- Save project
- Save project as ...
- Checkpoint
- Export selected project (.aia) to my computer
- Export all projects
- Import keystore
- Export keystore
- Delete keystore

**Connect menu:**

- AI Companion
- Emulator
- USB
- Reset Connection
- Hard Reset

**Build menu:**

- App ( provide QR code for .apk )
- App ( save .apk to my computer )

Release nb162 is out!

This release introduces our new [MIT App Inventor Logo!](#)

# Prvý projekt

The screenshot displays the MIT App Inventor web interface. At the top, the MIT App Inventor logo is visible on the left, and navigation links (Projects, Connect, Build, Help, My Projects, Gallery, Guide, Report an Issue) and user information (English, borovansky@gmail.com) are on the right. Below the navigation bar, the project name 'Prvy2017' is shown in a green header bar, along with buttons for 'Screen1', 'Add Screen ...', and 'Remove Screen'. On the far right of this header are 'Designer' and 'Blocks' tabs. The main workspace is divided into four panels: 1. \*\*Palette\*\*: A sidebar on the left with categories like User Interface, Layout, Media, Drawing and Animation, Sensors, Social, Storage, and Connectivity. Under Connectivity, there are icons for ActivityStarter, BluetoothClient, BluetoothServer, and Web. 2. \*\*Viewer\*\*: A central area showing a preview of the app. It includes checkboxes for 'Display hidden components in Viewer' and 'Check to see Preview on Tablet size'. Below these is a mobile device simulation showing a status bar with signal, Wi-Fi, and battery icons, and the time 9:48. The screen content is labeled 'Screen1'. 3. \*\*Components\*\*: A panel on the right showing a list of components, currently containing 'Screen1'. 4. \*\*Properties\*\*: A panel on the far right showing the properties for the selected 'Screen1' component. Properties include AboutScreen (a text input), AlignHorizontal (Left: 1), AlignVertical (Top: 1), AppName (Prvy2017), BackgroundColor (White), BackgroundImage (None...), CloseScreenAnimation (Default), Icon (None...), and OpenScreenAnimation (Default).



# Palety komponentov

- User Interface

- Button, CheckBox, Clock, Image, Label, List/Time/Date-Picker, Password, Slider, TextBox

- Layout

- Horizontal/Vertical/Table Arrangement [Scrollable]

- Media

- Camcoder, Camera, ImagePicked, Player, Sound, VideoPlayer, TextToSpeech, SpeechRecognizer

- Drawing and Animation

- Ball, Canvas, ImageSprite

- Social

- ContactPicker, EmailPicker, PhoneNumberPicker, PhoneCall, Texting, Twitter, Sharing

- Sensor

- Accelerometer, Location, Orientation, Gyro, Pedometer, Proximity, Bar Code Scanner

- Storage

- File, TinyDB, FireBaseDB

- Connectivity

- BluetoothClient-Server, ActivityStarter

- Lego MINDSTORMS

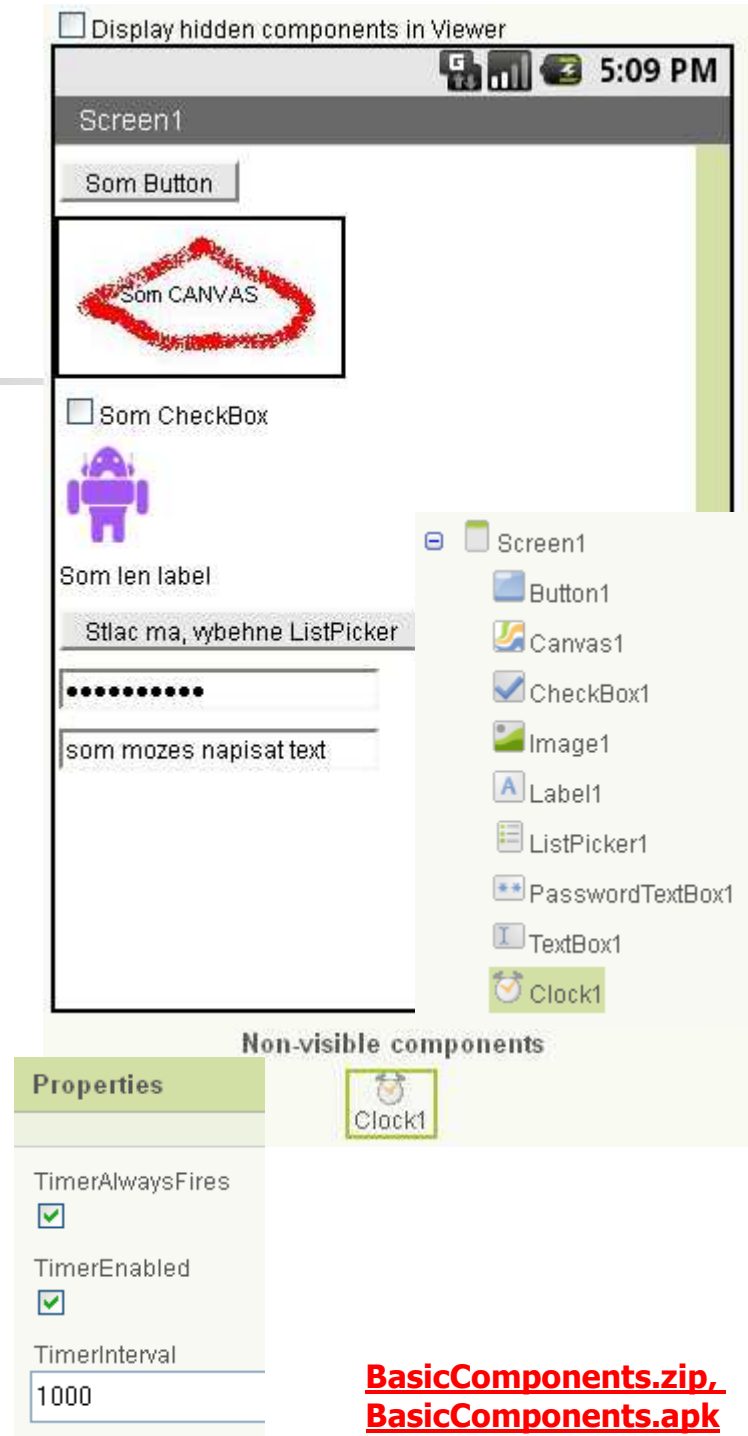
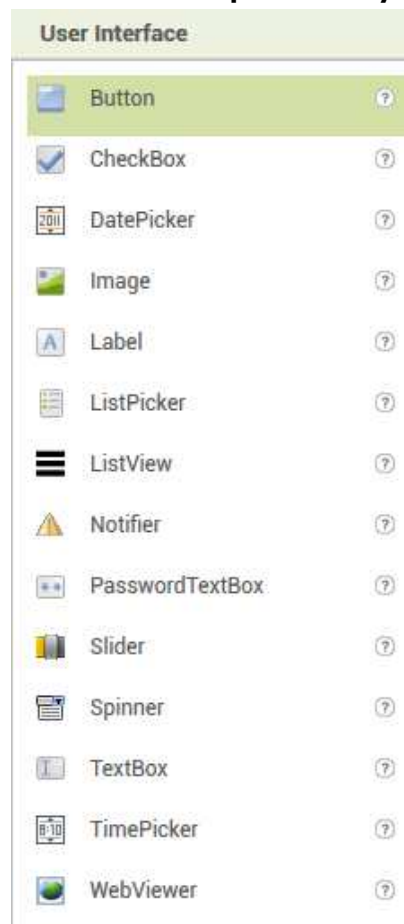




# User Interface

Ilustrujeme si základné vizuálne komponenty:

- [Button](#)
- [CheckBox](#)
- [Clock](#)
- [Image](#)
- [Label](#)
- [List/Time/Date-Picker](#)
- [PasswordTextBox](#)
- [TextBox](#)
- Notifier
- WebViewer



[BasicComponents.zip](#),  
[BasicComponents.apk](#)

# Layouts (Arrangement)

- HorizontalArrangement
- TableArrangement
- VerticalArrangement

☐ Display hidden components in Viewer

Screen2

Tah:  Cas:

4	3	5	1
7	9	12	2
6	10	13	.
8	11	14	15

Start Stop

## Layout

- HorizontalArrangement ?
- HorizontalScrollArrangement ?
- TableArrangement ?
- VerticalArrangement ?
- VerticalScrollArrangement ?

## Properties

Columns

4

Rows

4

Visible

showing ▼

Width

Fill parent...

Height

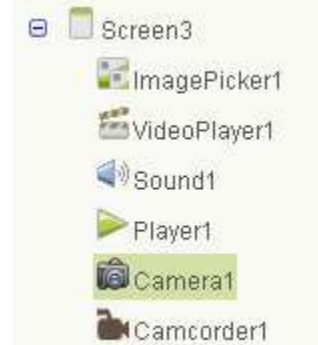
Fill parent...

- Screen2
  - HorizontalArrangement1
    - Label1
    - TextBox1
    - Label2
    - TextBox2
  - TableArrangement1
    - Button2
    - Button3
    - Button4
    - Button5

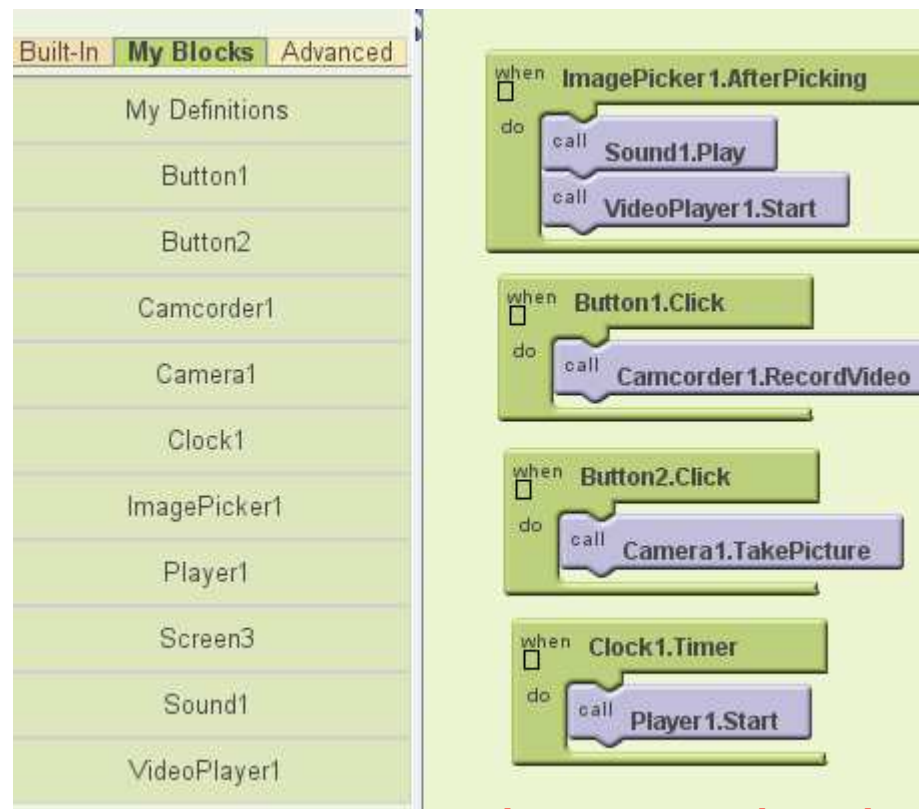
# Media

- Camera
- ImagePicker
- Player
- Sound
- VideoPlayer

- Spustiť: block editor
- Uložiť (strýčko Google si to ukladá sám v MyProjects:-)



## Non-visible components



**[BasicComponents.zip](#), [BasicComponents.apk](#)**

# Connect WiFi

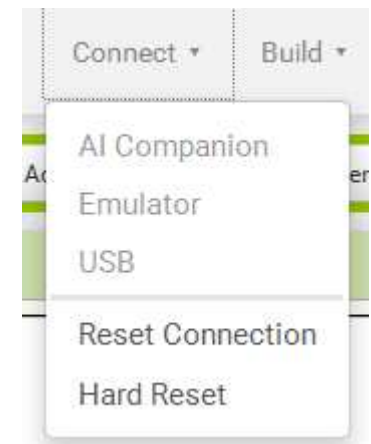
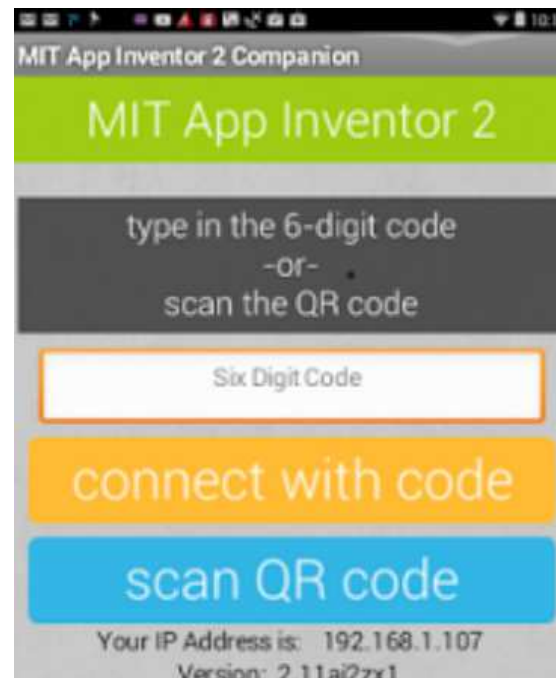
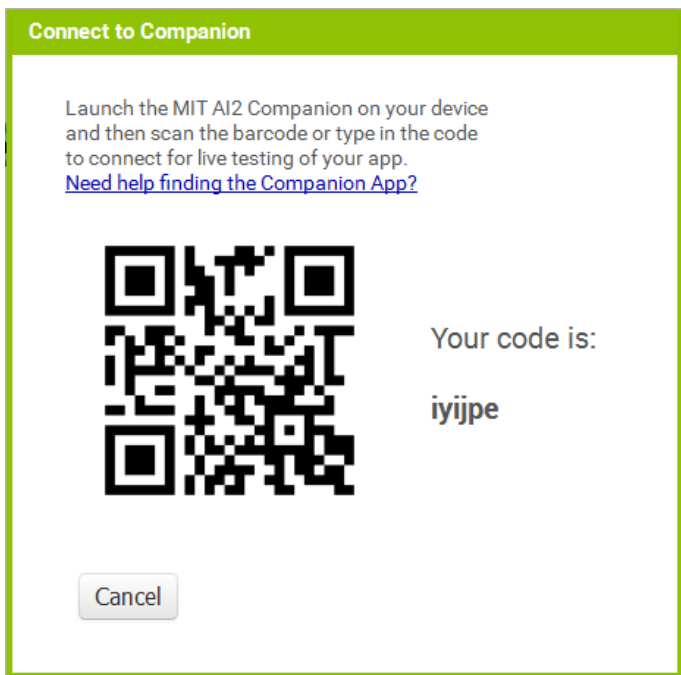


- Nainštalujte MIT AI2 Companion App cez Google Play Store

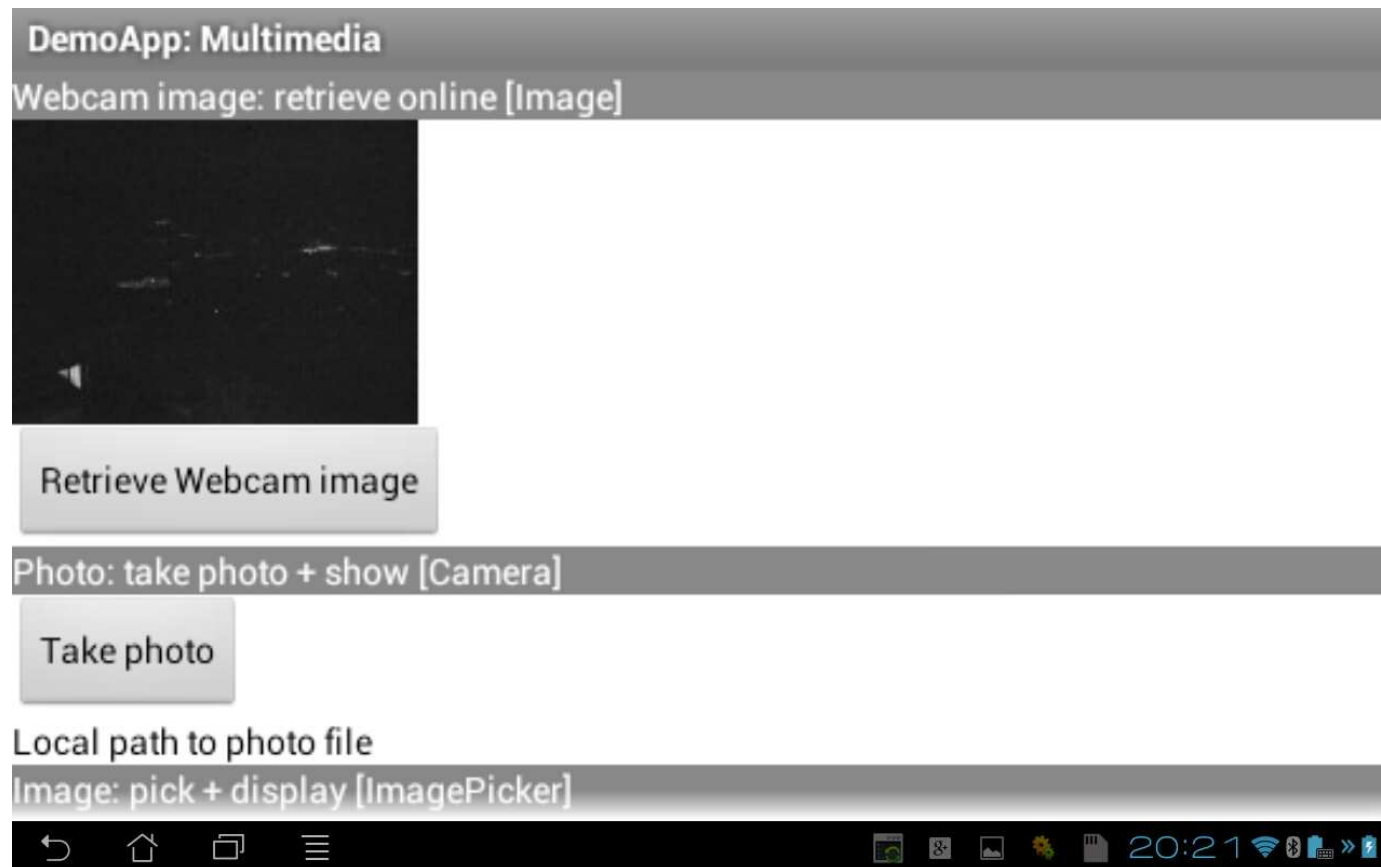
<https://play.google.com/store/apps/details?id=edu.mit.appinventor.aicompanion3>

Connect to Device

- spusti MIT AI2 Companion App

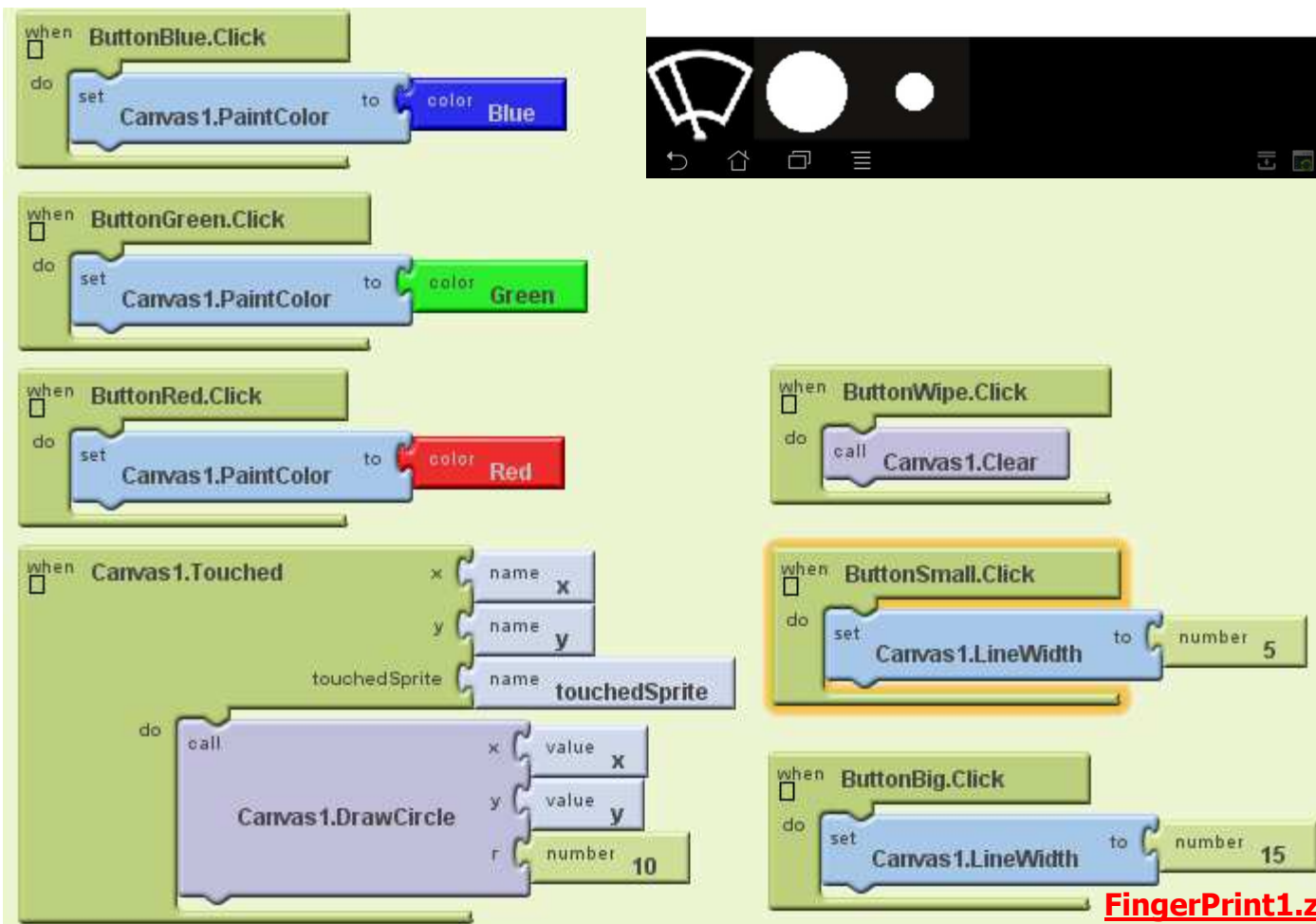
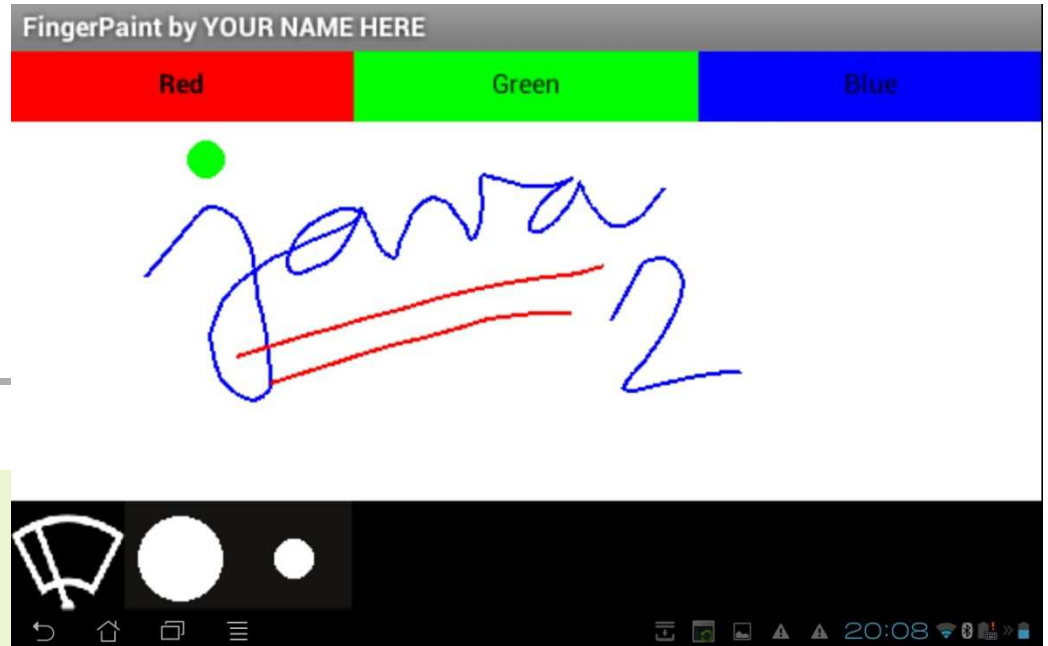


# demo\_Media



# FingerPaint

jednoduché malovátko prstom

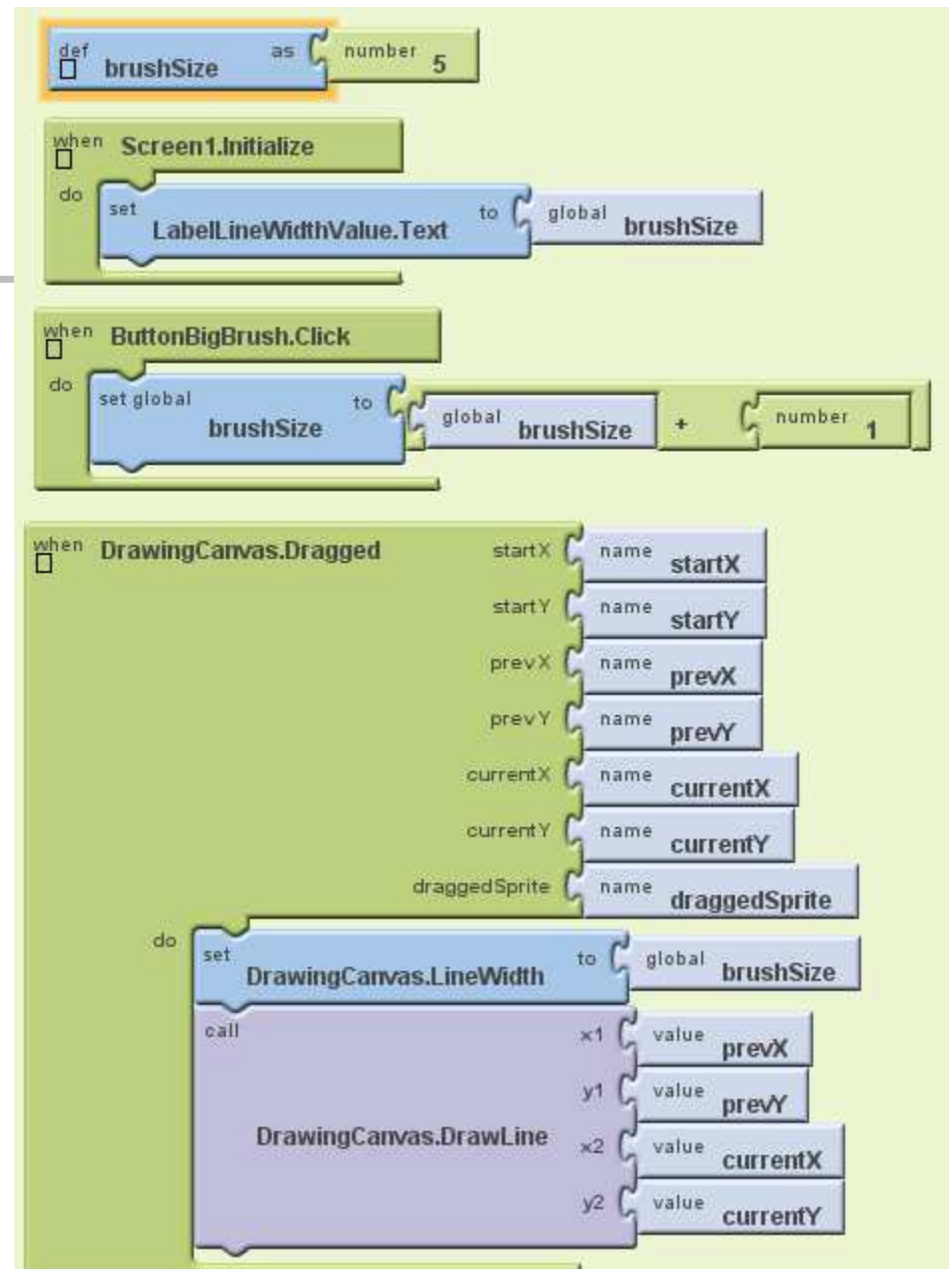


[FingerPrint1.zip](#), [FingerPrint1.apk](#)

# FingerPaint2

Pokročilejšia verzia

- Screen.Initialize
- globálna premenná brushSize
- drawingCanvas.Dragged





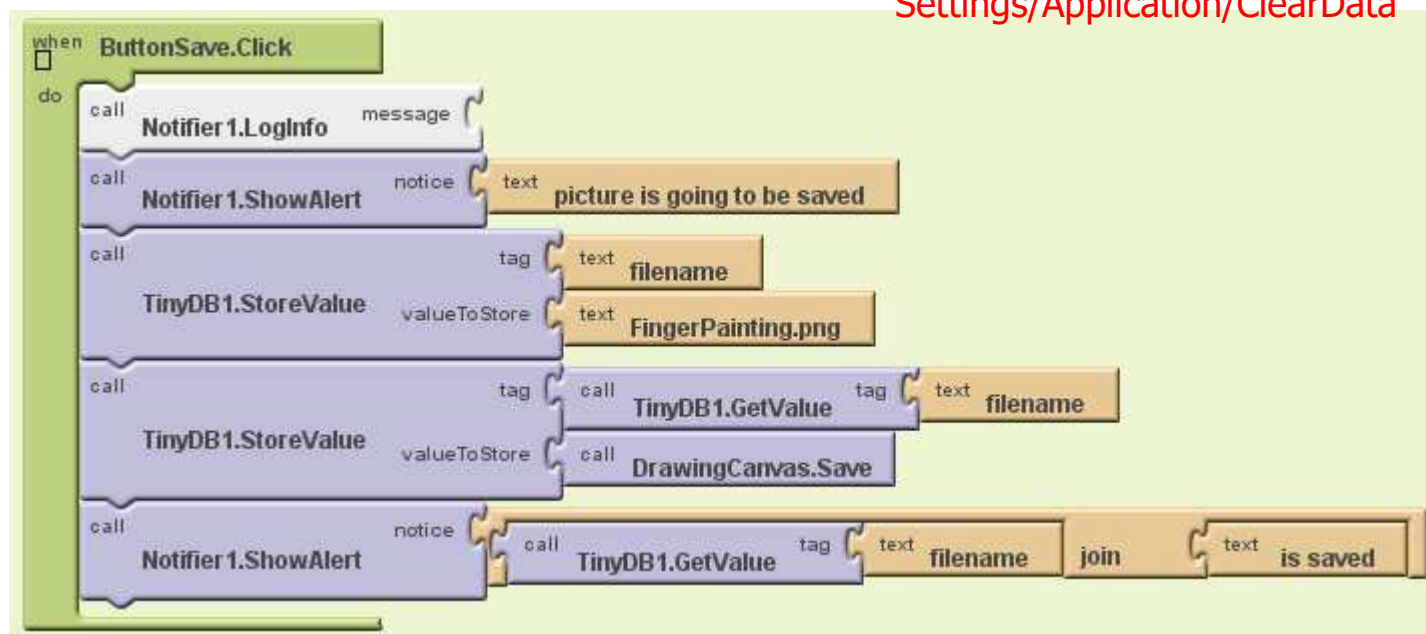
# FingerPaint2

Pokročilejšia verzia

- Persistencia

The data in TinyDB is persistent only when you have packaged and downloading your app. If you are developing connected to the phone, and you restart the Appinventor application, or if you disconnect and reconnect the phone, then the data base will start fresh. This is a case where the application is not merely being stopped and restarted; it is being removed from the phone and then reloaded.

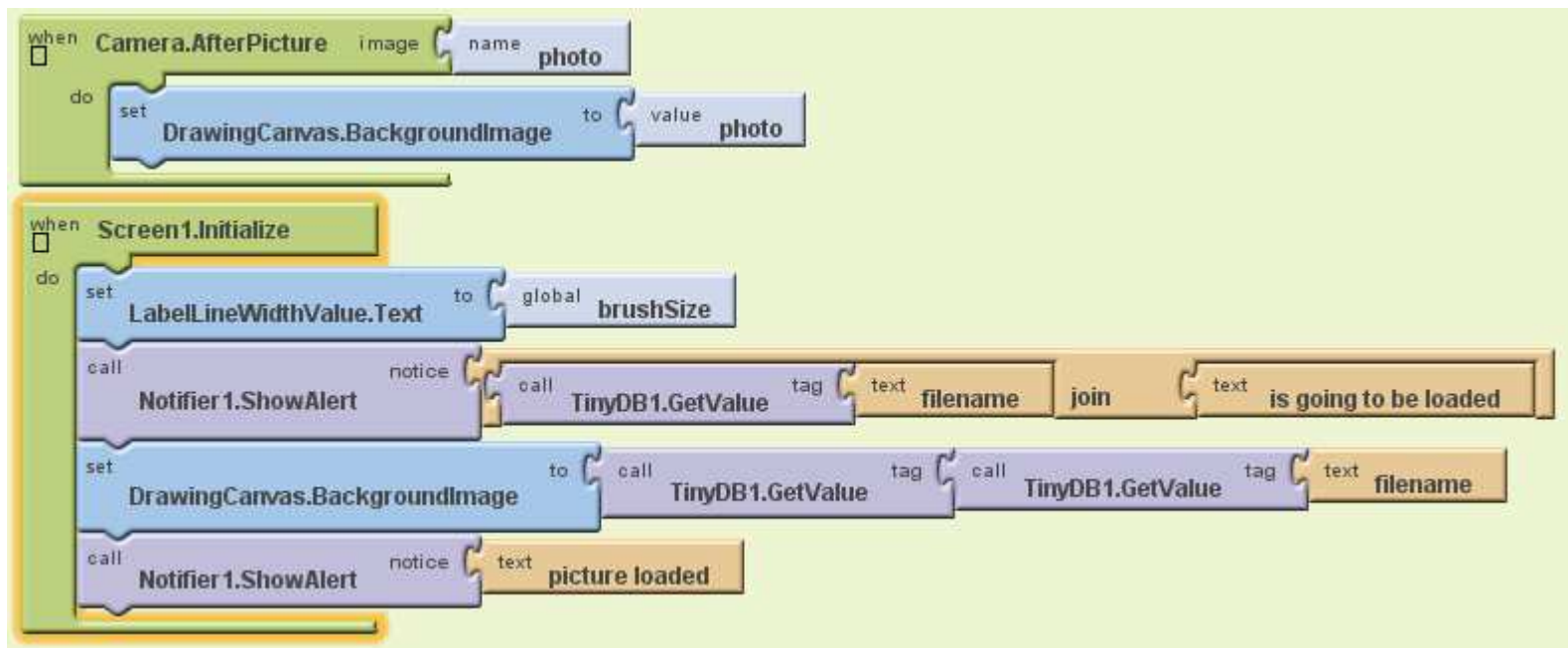
Ak chcete zmazať perzistentné dáta,  
Settings/Application/ClearData



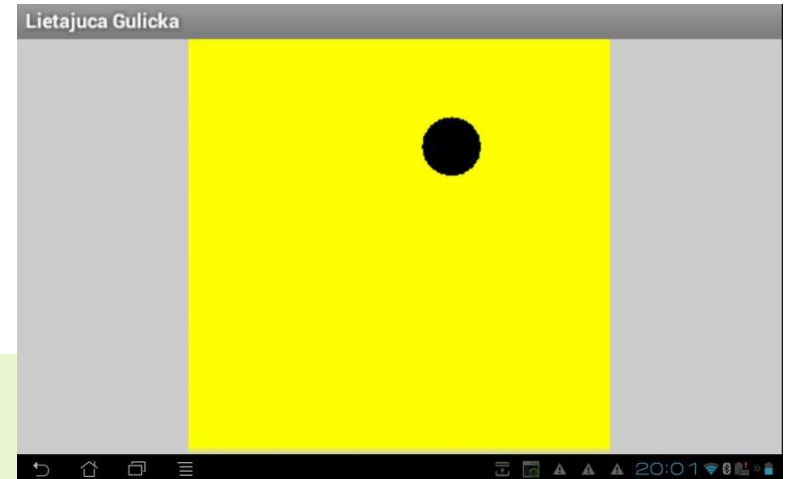
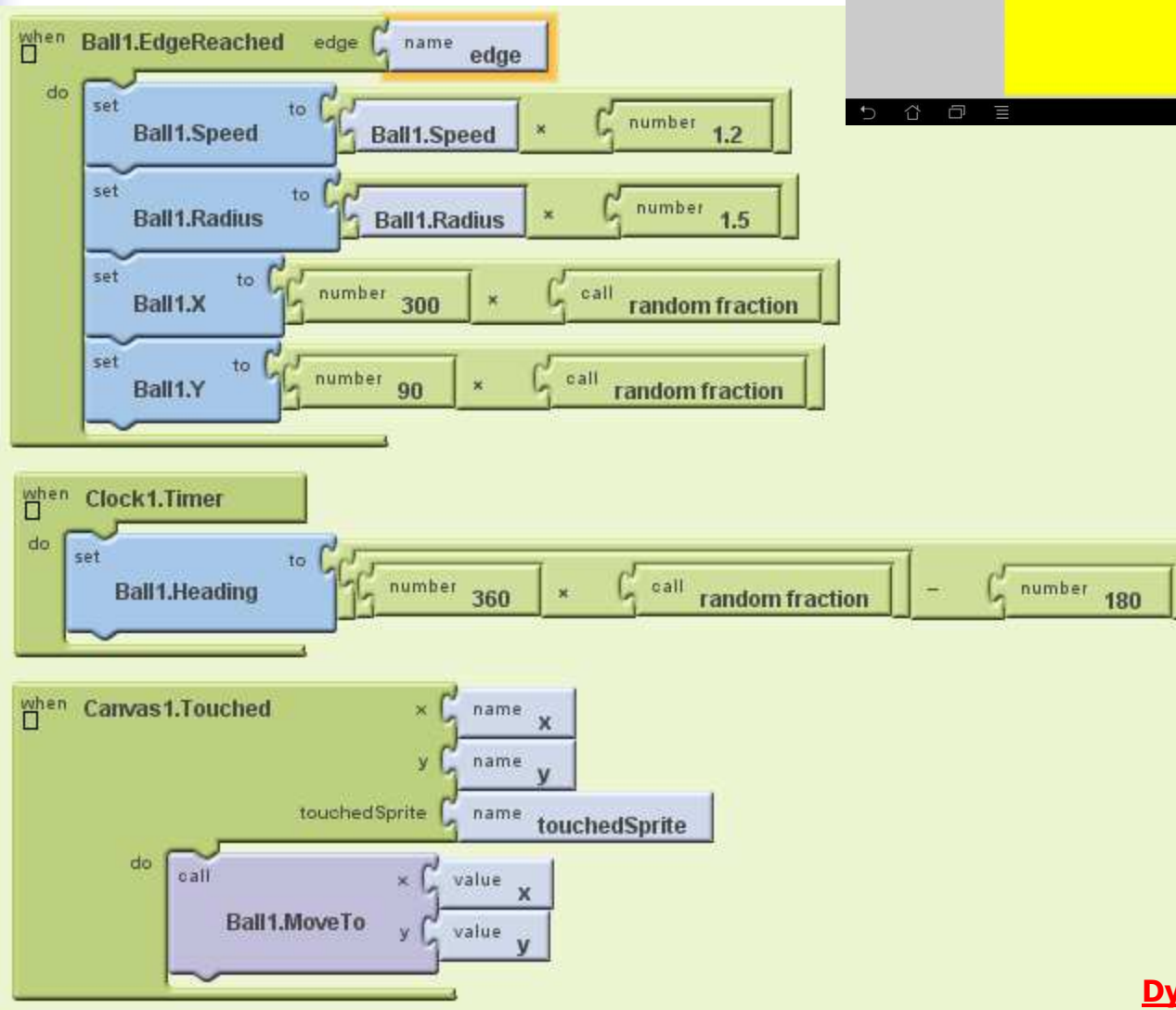
[FingerPrint2.zip](#), [FingerPrint2.apk](#)

# FingerPaint2

CameraTakePicture mi nejde na 4.\*



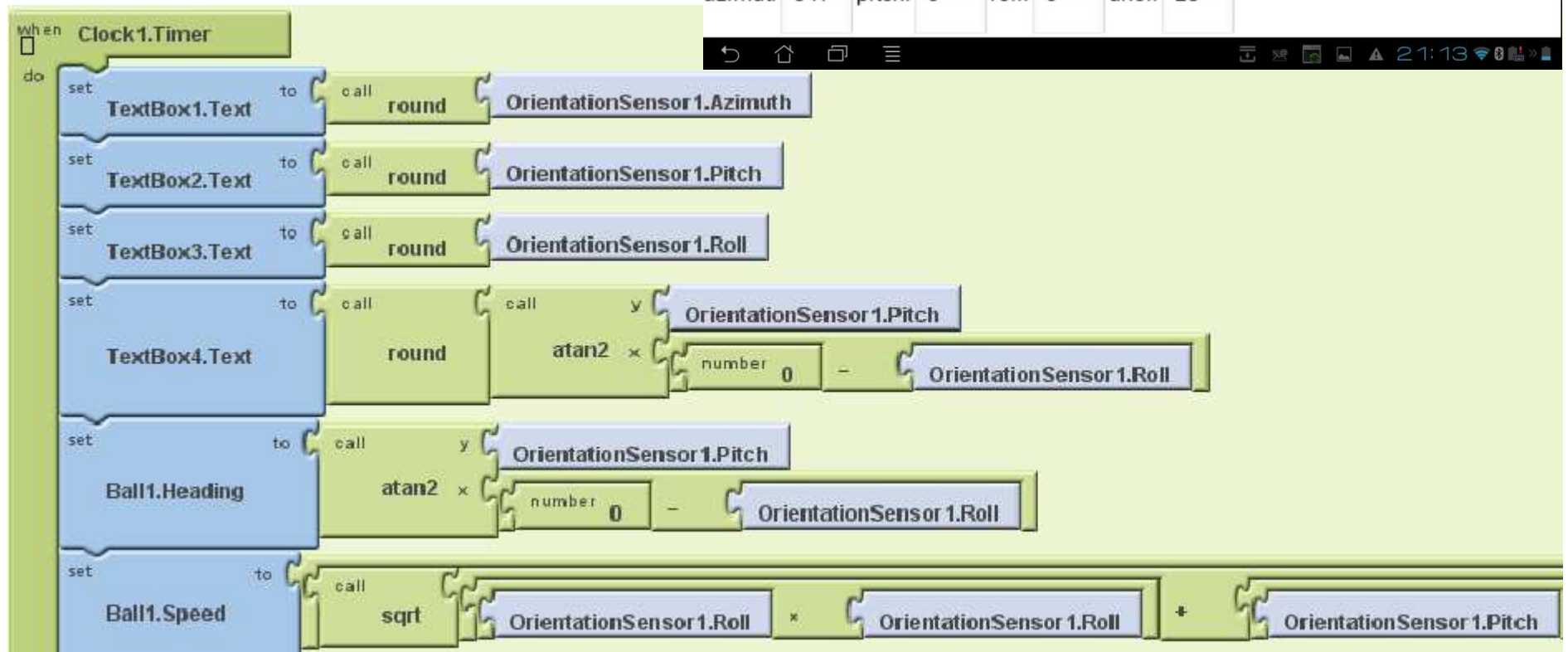
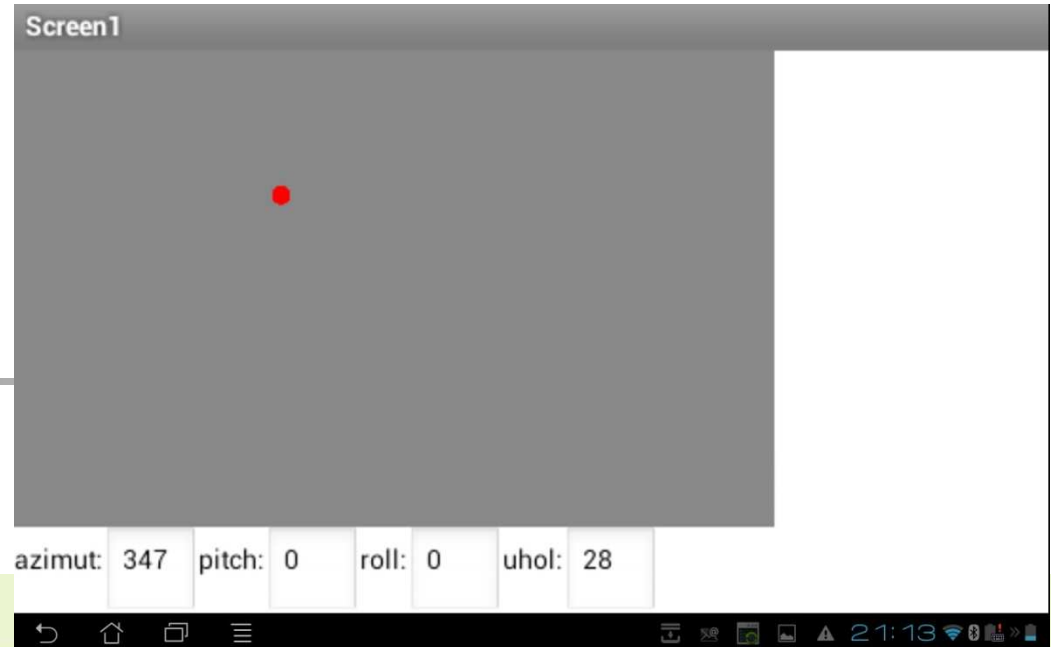
# Dynamic



[Dynamic.zip](#), [Dynamic.apk](#)

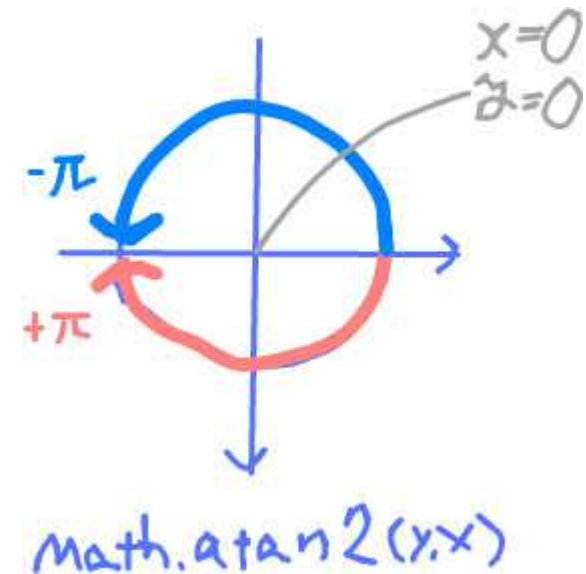
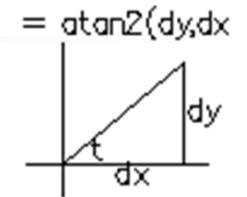
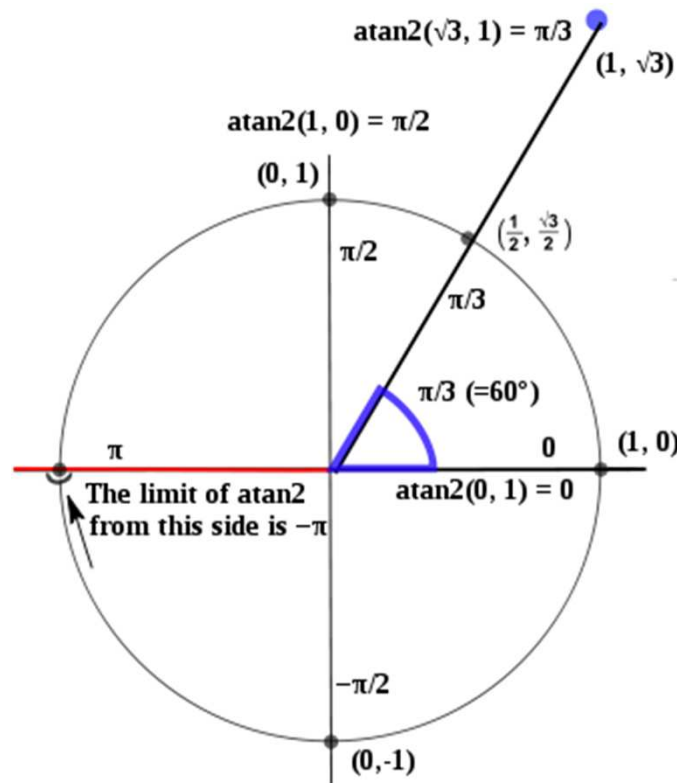


# Labilo



[Labilo.zip](#), [Labilo.apk](#)

# Pitch, Roll, Azimut = Yaw



- Nefungovalo mi OrientationSensor.OnChanged – hrýzla sa apka
- Preto je použitý Timer, 10 ms

# Senzory

Telekom SK 100 % 18

**Senzory**

Pedo: 0

Proxi: 5

Bar Code: Hint for TextBox1 Scan Barcode

Lati: Hint for TextBox1 Longi: Hint for TextBox2

AccelX: 0.26815 AccelY: -0.15323 AccelZ: 9.81623

GyroX: -0.77 GyroY: 0 GyroZ: 0.42

Vyzváňací tón

STLMIČ

```
when Pedometer1 .StoppedMoving
do set Pedo . Text to Pedometer1 . SimpleSteps
```

```
when BarcodeScanner1 .AfterScan
result
do set BarCode . Text to get result
```

```
when ProximitySensor1 .ProximityChanged
distance
do set Proxi . Text to get distance
```

```
when LocationSensor1 .LocationChanged
latitude longitude altitude speed
do set Lati . Text to get latitude
set Longi . Text to get longitude
```

```
when AccelerometerSensor1 .AccelerationChanged
xAccel yAccel zAccel
do set AccelX . Text to get xAccel
set AccelY . Text to get yAccel
set AccelZ . Text to get zAccel
```

```
when PedoResetBtn .Click
do call Pedometer1 .Reset
call Pedometer1 .Start
```

```
when ScanBtn .Click
do call BarcodeScanner1 .DoScan
```

```
when Clock1 .Timer
do Timer has gone off. Text to Pedometer1 . SimpleSteps
```

```
when GyroscopeSensor1 .GyroscopeChanged
xAngularVelocity yAngularVelocity zAngularVelocity timestamp
do set GyroX . Text to get xAngularVelocity
set GyroY . Text to get yAngularVelocity
set GyroZ . Text to get zAngularVelocity
```

```
when OrientationSensor1 .OrientationChanged
azimuth pitch roll
do set Azim . Text to get azimuth
set Pitch . Text to get pitch
set Roll . Text to get roll
```

**Senzory.zip, Senzory.apk**



# Zoznam



when Screen1.Initialize

do call paint

initialize global zoznam to

- make a list
  - "11-2-pokemon-png.png "
  - "12-2-pokemon-free-download-png.png "
  - "1-2-pokemon-download-png.png "
  - "13-2-pokemon-png-image.png "
  - "3-2-pokemon-png-file.png "
  - "4-2-pokemon-transparent.png "
  - "5-2-pokemon-high-quality-png.png "
  - "7-2-pokemon-png-picture.png "
  - "8-2-pokemon-free-png-image.png "
  - "9-2-pokemon-png-clipart.png "

initialize global index to 0

when NextBtn.Click

do set global index to get global index + 1

call paint

when PrevBtn.Click

do set global index to get global index - 1

Show Warnings

to paint

do set global index to modulo of get global index + 10

initialize local subor to select list item list get global zoznam index get global index + 1

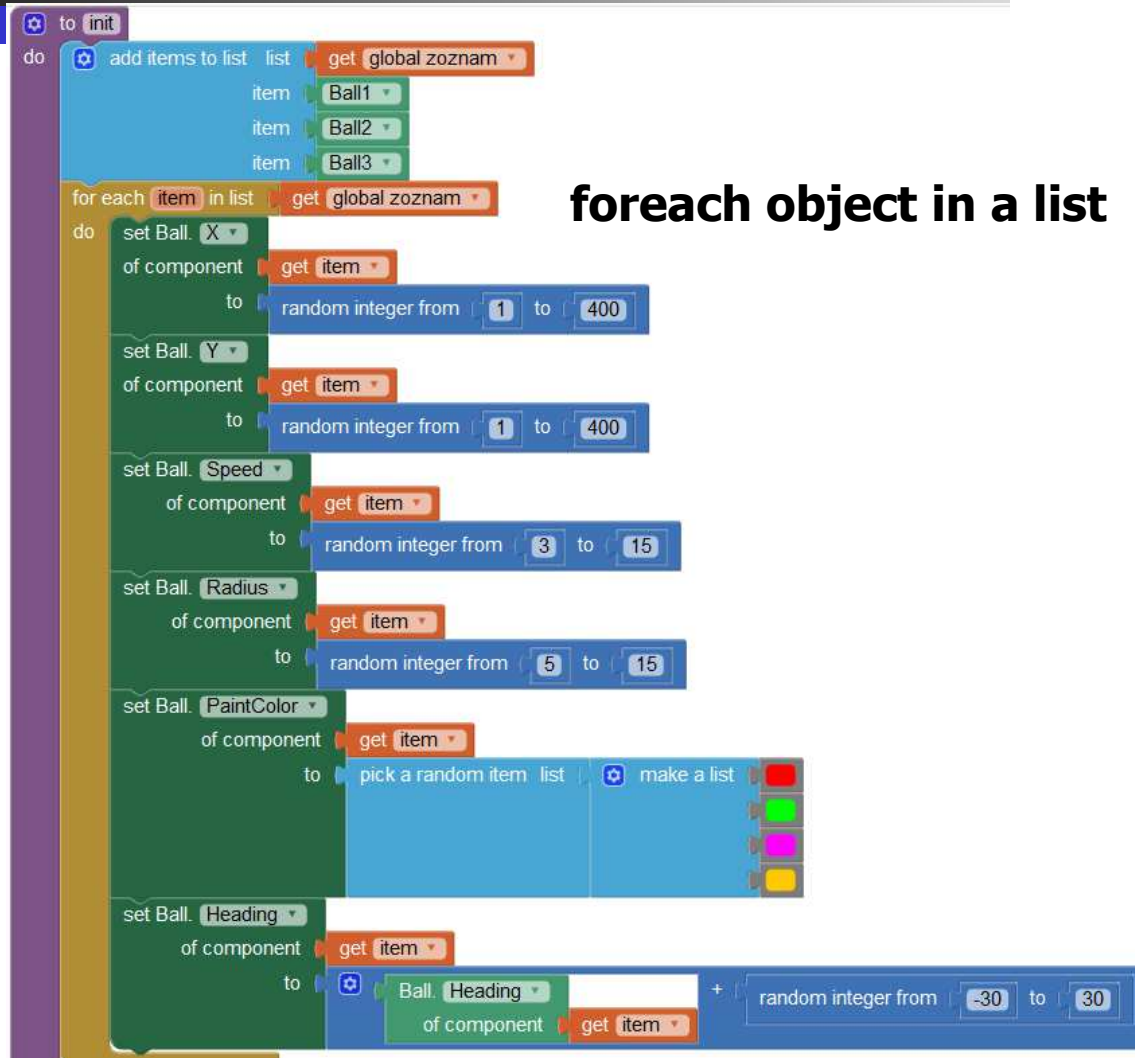
in set Canvas1.BackgroundImage to get subor

set TextBox1.Text to get subor

**[Pokemoni.zip, Pokemoni.apk](#)**

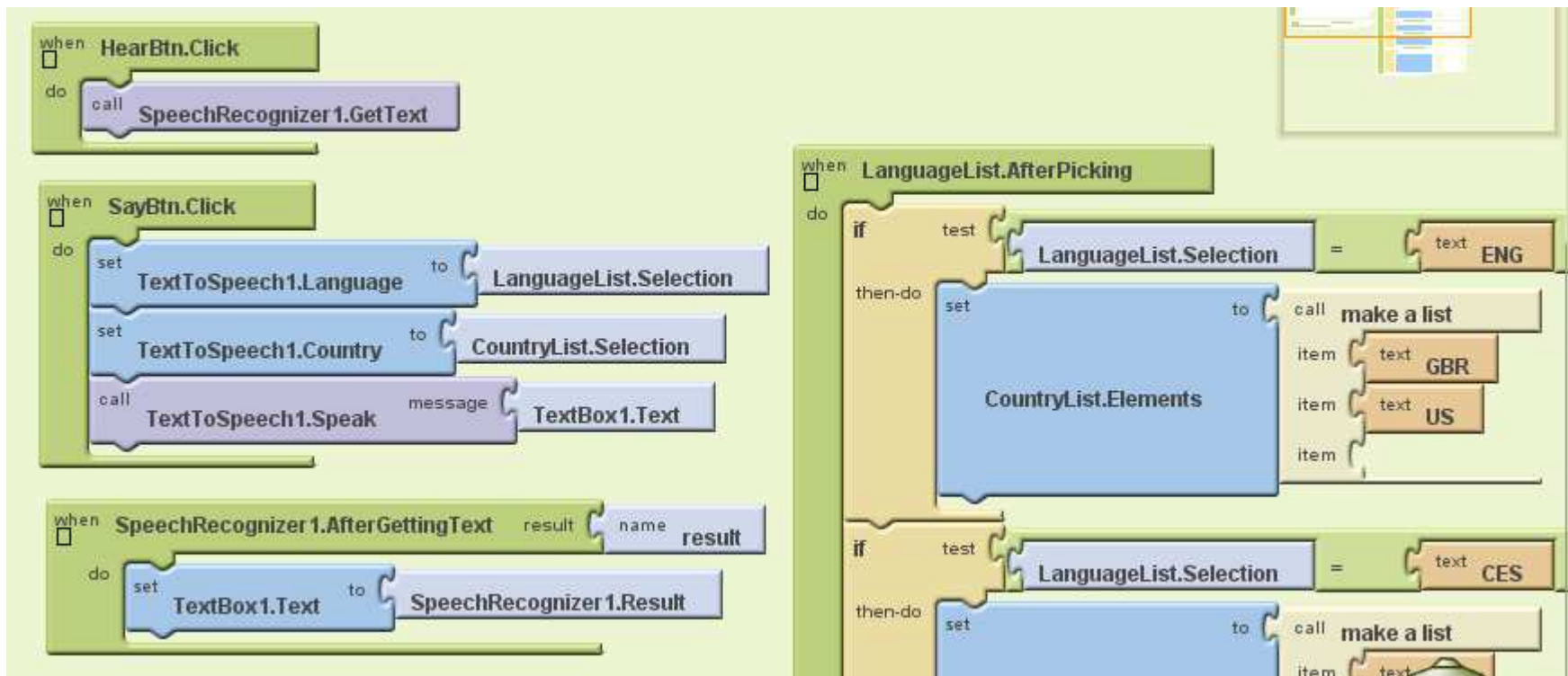


# Zoznam objektov

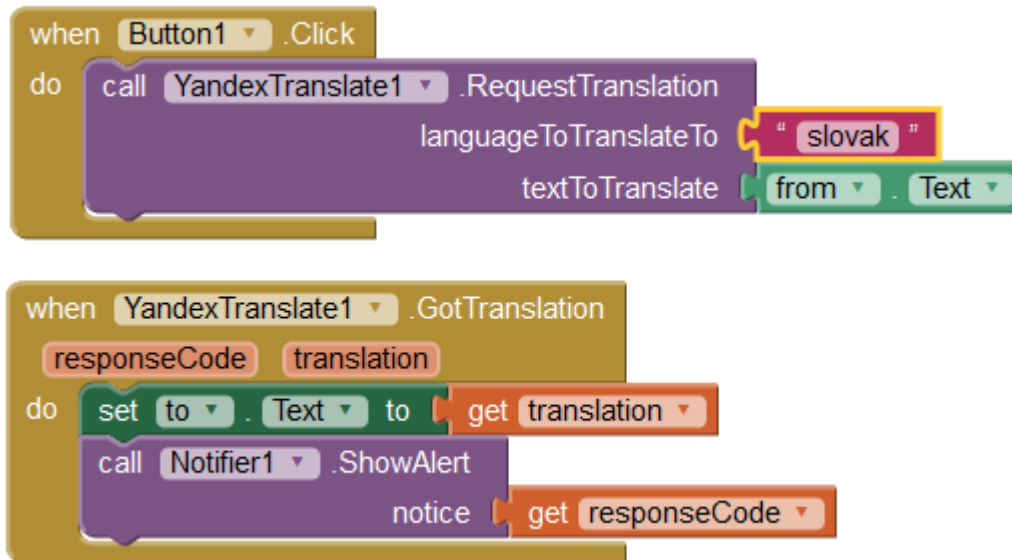


# TextToSpeech

- Nainštaluj eSpeak
- <https://play.google.com/store/apps/details?id=com.googlecode.eyesfree.espeak&hl=sk>

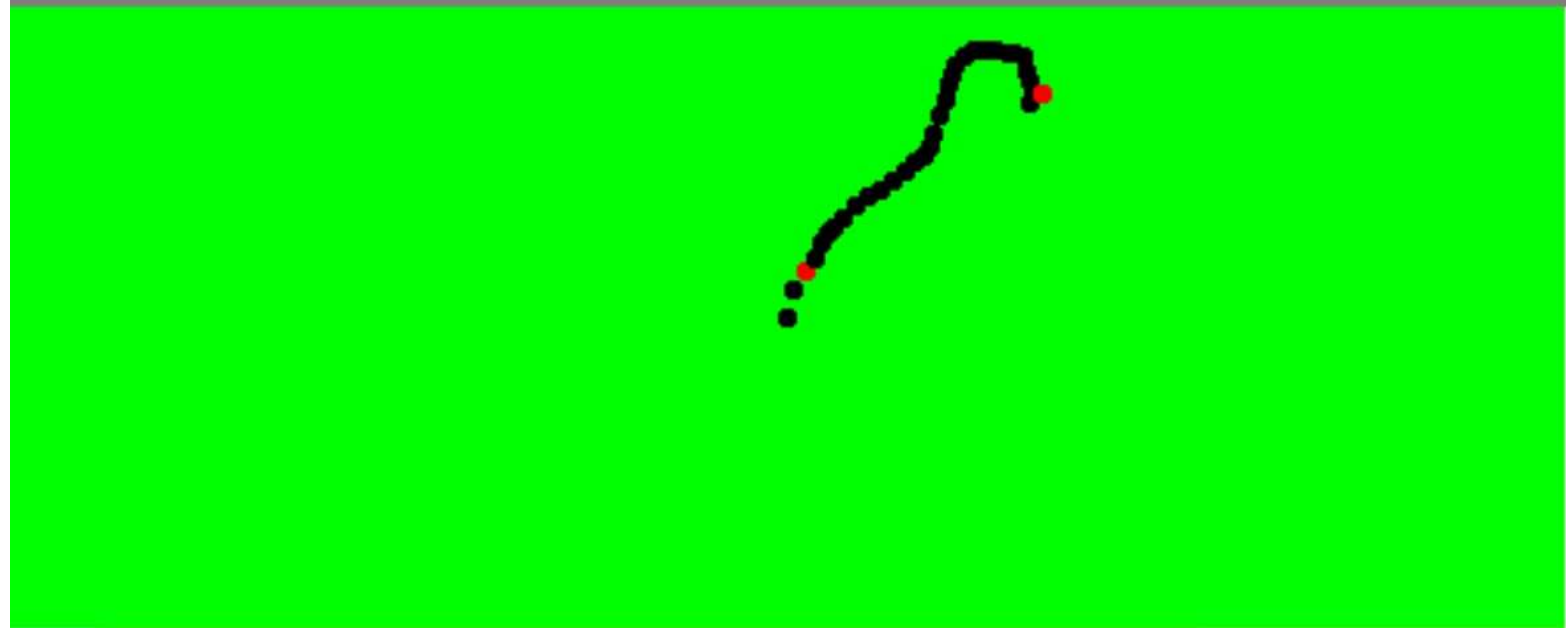


# Translator



# GPS Art

GPSArt



[x,y] | 82.37588, long.: -71.55161, accur.: 32.0, prov.: gps, adr: Jeséniova 5A 83101 N

Lat 48.16678

Long 17.10979

GPS

Exit

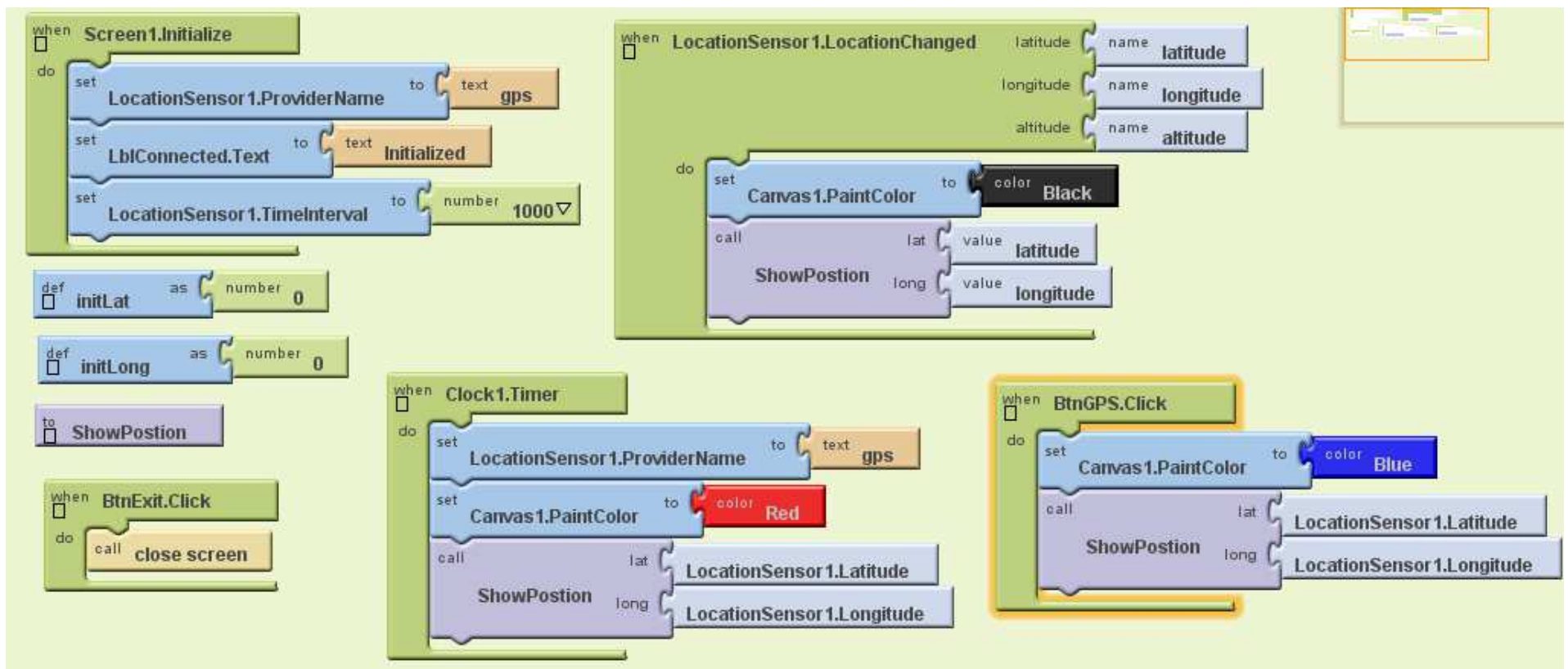
1000



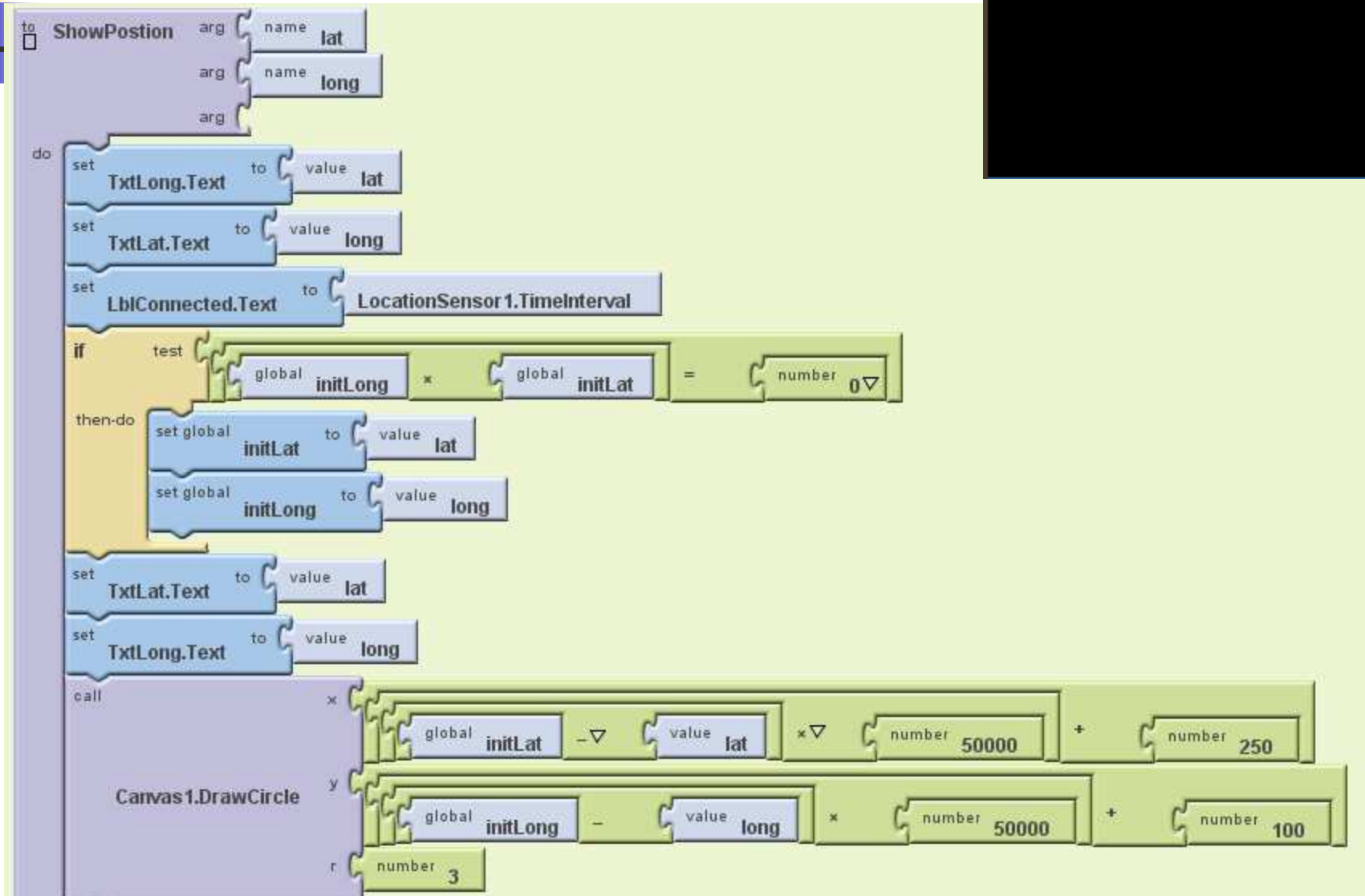
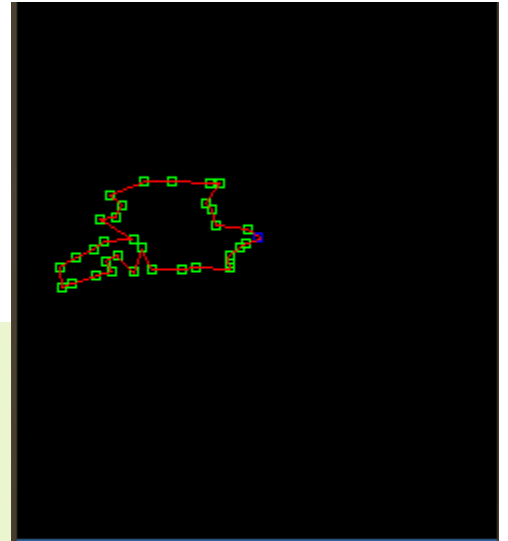
15:26



# GPS Art



# GPS Art





# GPS Art

