



江西理工大学信息工程学院
JIANGXI UNIVERSITY OF SCIENCE AND TECHNOLOGY SCHOOL OF INFORMATION ENGINEERING

Mobile application development

移动应用开发



Lecture 02:

Getting Started With APP Inventor



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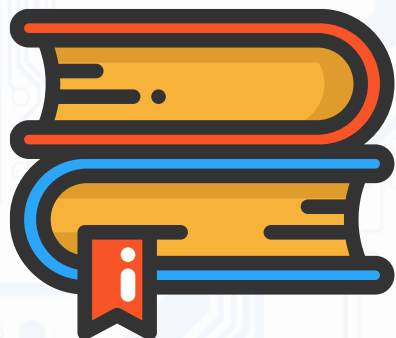


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Autumn _2021



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Mobile application development 移动应用开发

LECTURE 02: **Getting Started With APP Inventor**



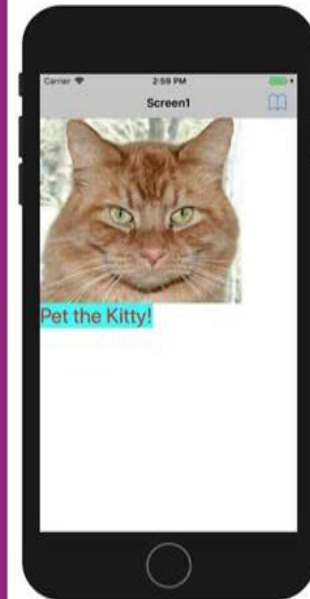
APP inventor Advantage

- Under web software for Mobile application development
- No need for installation and have the heavy /complex file
- Cover the multi OS system (IOS and Android)
- Independent of coding language

Thanks for helping us launch iOS!

Thanks to everyone who donated to our campaign to launch our **iOS version**.

Please go to our **Crowdfund site** to see who's donated!





Installing App Inventor Setup for Windows

Installing the Windows software for App Inventor Setup has two parts :

- **Part1:** Installing the App Inventor Setup software package. This step is the same for all Android devices, and the same for Windows XP, Vista, and 7,10.
- **Part2:** If it choose to use the USB cable , it need to install Windows drivers for the Android phone. This is not necessary if it choose to use WiFi .





Installing the App Inventor Setup software package

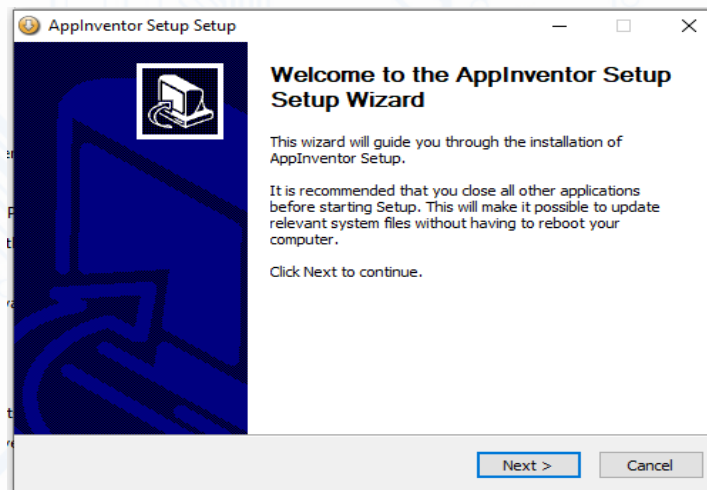
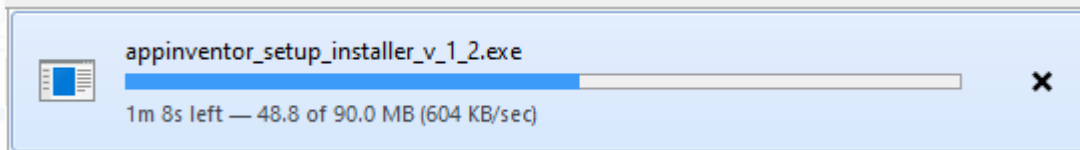
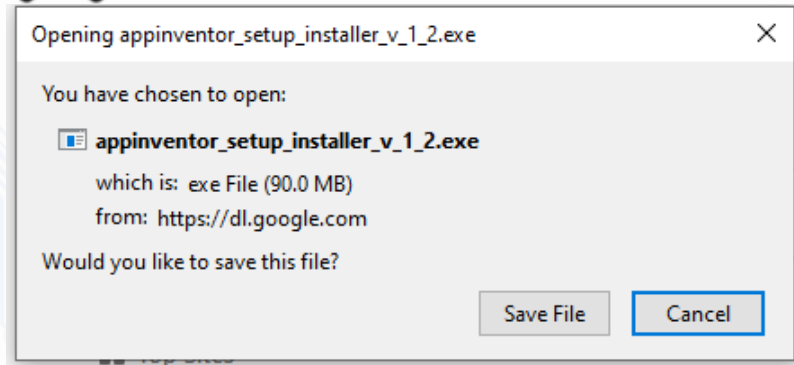
- its recommend the installation process from an account that has administrator privileges. This will install the software for all users of the your computer .
- If it does not have administrator privileges, the installation should still work, but App Inventor will be usable only from the user account someone used when someone installed.

Step1:	Download the installer: http://dl.google.com/dl/appinventor/installers/windows/appinventor_setup_installer_v_1_2.exe
Step2:	Locate the file AppInventor_Setup_Installer_v_1_2.exe (~92 MB) in the Downloads file or the Desktop. The location of the download on the computer depends on how the browser is configured.
Step3:	Open the file which has download .
Step4:	Click through the steps of the installer. Do not change the installation location but record the installation directory, because it might need it to check the driver. The directory will differ depending on the version of Windows and whether or not logging in as an administrator.



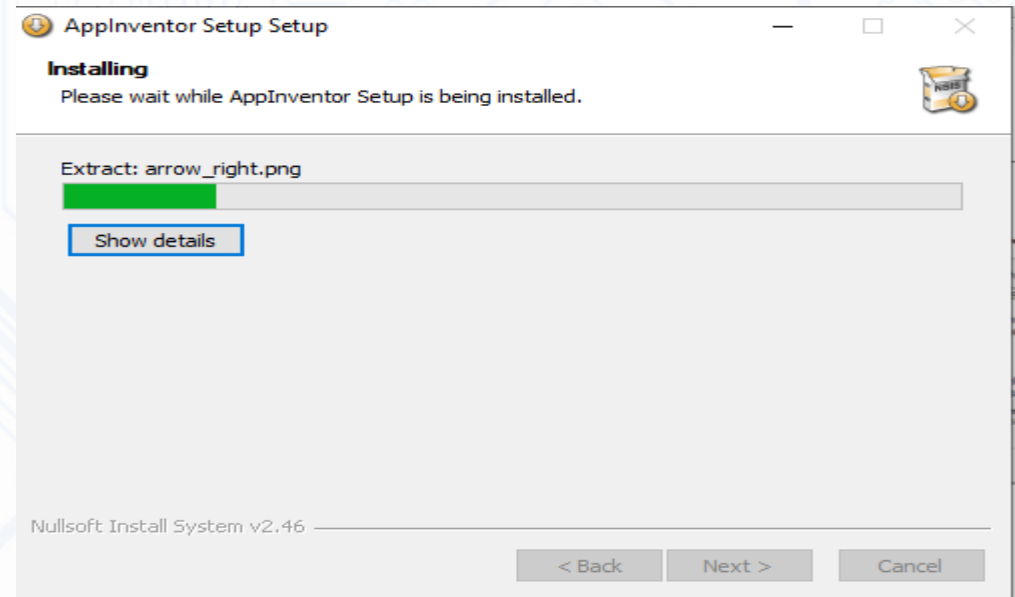
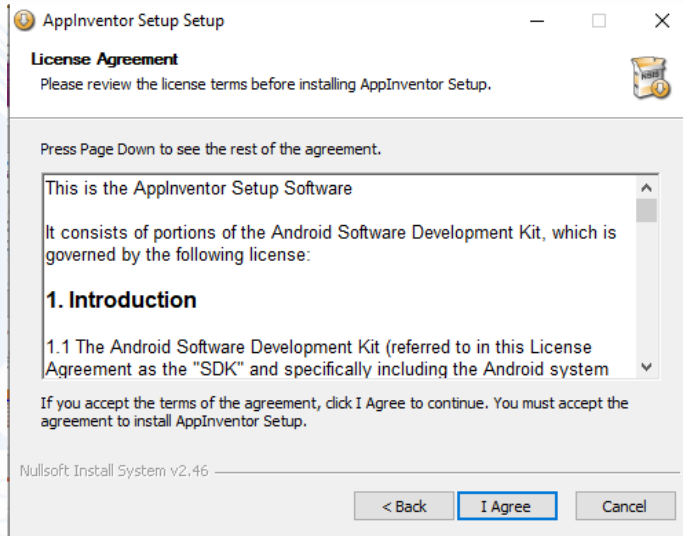


How install the installer





How install the installer





Chinese version & AI Version:

- The Chinese version of App inventor called WxBit is developed by Professor Yang Daoquan of South China University of Technology based on MIT App Inventor Open Source Project. It runs independently and provides free services for everyone.
- Servers and networks are supported by Guangdong Provincial Key Laboratory of Computer Networks, and have nothing to do with other institutions and individuals outside the school.
- App Inventor 2 is also abbreviated as ai, in order to distinguish it from Artificial Intelligence.





Chinese version & AI Version:

- AI is a visual Android application production platform. Users use browsers to open the AI platform website (App Inventor 2 WxBit Chinese version, abbreviated as WxBit version), which provides Gaud Map, Gaud Location, Baidu Voice Synthesis and Recognition, FTP Client and other components, and supports multi-touch, dynamic creation of components and common events.
- If the user has scratch experience, AI has no obstacles at all.
- AI and scratch both use block to implement building block drag programming.
- AI Partner, a real-time debugging tool provided by AI platform, can connect and debug Android applications in real time through AI connection codes after installation of mobile phones or Android simulators.
- Welcome to <https://app.wxbit.com/login/?www> to see the more detail.





Start in the web

- The MIT provide a web server for enter the environment of App Inventor , and it with the same UI as the software .
- What need to just to get the web and enter the account.
- The user can access the web by: <https://appinventor.mit.edu/> and for Chinese , it is better to go to: <https://app.wxbit.com/login/?www>



**Build your project on
your computer**



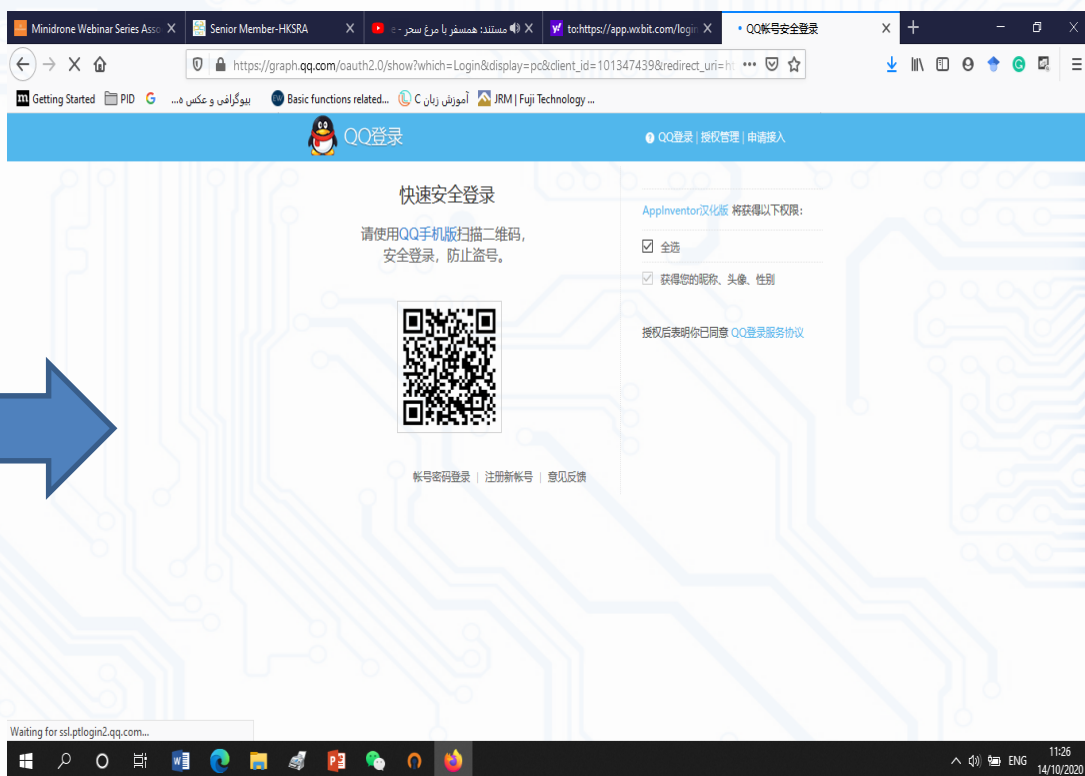
**Test it in real-time on
your device**





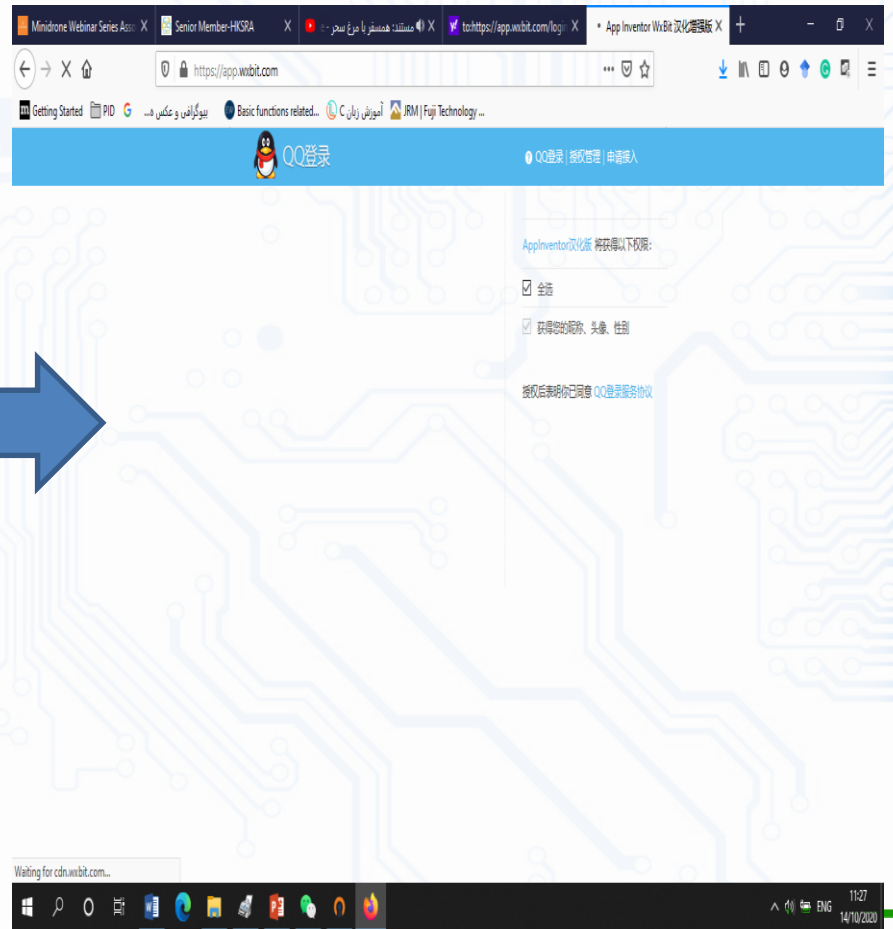
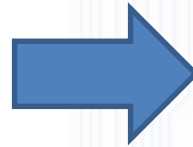
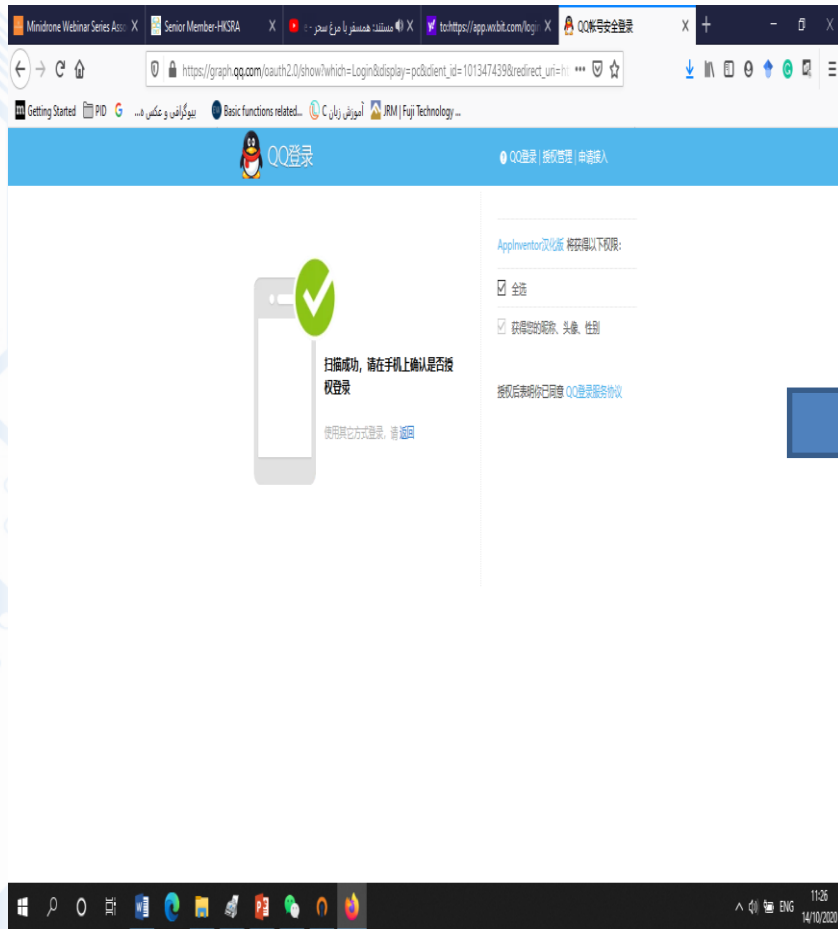
Start in the web

- <https://app.wxbit.com/login/>





Start in the web





Start in the web

Minidrone Webinar Series Ass... Senior Member-HKSR... to:https://app.wxbit.com/login 服务条款

https://app.wxbit.com/Ya_tos_form.html?ref=login

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WxBit 汉化增强版用户使用协议

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wxbit.com
2020/10/01

请先阅读使用协议 (3)

Minidrone Webinar Series Ass... Senior Member-HKSR... to:https://app.wxbit.com/login App Inventor 2

https://app.wxbit.com/?locale=en

Getting Started PID 生物识别与... Basic functions related... آموزش زبان C IRM | Fuji Technology...

App Inventor 2
WxBit 汉化增强版

Projects Help

My Projects

Start new project Delete Project Publish to Gallery

Welcome to WxBit Enhanced App Inventor 2!

3.29.0720

1. 在可见组件的任何组件块中，支持动态设置组件的事件回调
2. 合并现有组件块（屏幕和布局）的动态创建组件块
3. 现有组件块“显示顺序”属性，用于获取和设置组件在容器中的显示顺序
4. “拖拽动画”增加“拖拽组件”属性，能够对视图组件运行动画效果
5. “高亮动画”增加“拖拽组件”与“屏幕”坐标相互转换的方法
6. 为布局、按钮、图像等增加“是否启用点击”属性，关闭后点击将穿透该组件

感谢 ColinTree, KevinKun, Taifun, Zhang20 提供中文方案
欢迎更多开发者提供方案或建议

注意：文件管理器不再默认读写存储卡，需要明确加上 /sdcard/ 前缀
访问素材文件，使用 / 前缀，访问应用私有数据目录，使用 ~/ 前缀

注册会员 更新日志 入门教程 隐私政策和用户条款

☒ Do Not Show Again

Theme Color: [Color Picker] Dark Mode ☐

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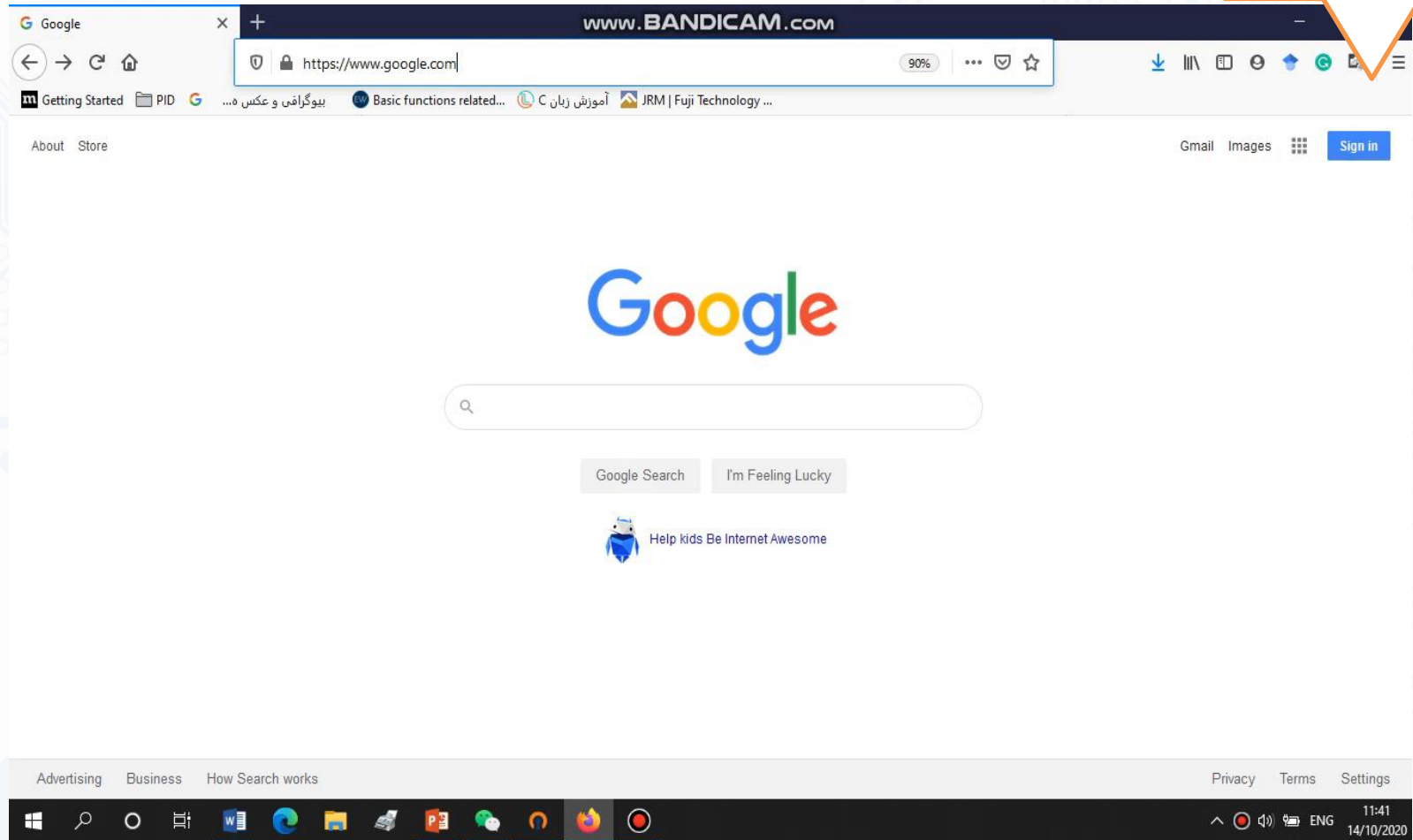
11:28
14/10/2020





APP inventor running on web

Let us
see





#Demo

to:https://app.wxbit.com/login x App Inventor 2 x www.BANDICAM.COM@gmail.com x +

← → ↻ ↗ https://app.wxbit.com/?locale=en#640992

Getting Started PID ۱۰۰ یوگرافی و عکس ه Basic functions related... آموزش زبان C JRM | Fuji Technology ...

App Inventor 2 WxBit 汉化增强版 Projects Connect Build Help My Projects Gallery Supports English Ata Jahangir VIP

APP_01 Screen1 Imp / Exp Add Screen Copy Screen Remove Screen Designer Blocks

Palette Search Components... User Interface Button Switch Label Image AnimationImage TextBox PasswordTextBox RadioButton CheckBox Spinner HorizontalSlider VerticalSlider Notifier LayoutDialog

Viewer Display hidden components Phone size (505,320) Screen1

Components Screen1 Rename Delete

Properties Screen1 PackageName wxbit. AppName APP_01 Icon None... Title Screen1 AboutScreen AlignHorizontal Left: 1 AlignVertical Top: 1 Sizing

Theme Color Dark Mode Copyright © www.wxbit.com | Privacy Policy and Terms of Use

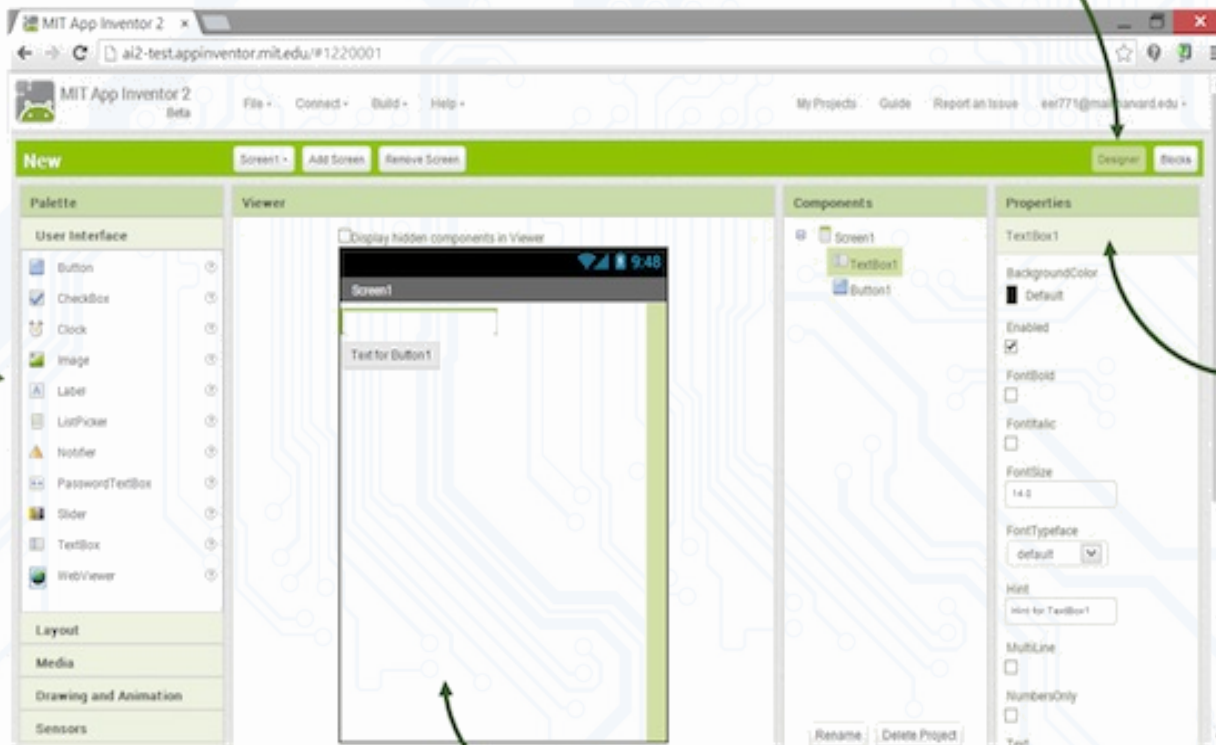
Windows taskbar: 12:41 14/10/2020



MIT APP sections

Palette: Find your components and drag them to the Viewer to add them to your app.

Designer Button:
Click from any tab to go to the Designer tab.



Properties: Select a Component in the Components List to change its properties (color, size, behavior) here.


Viewer: Drag components from the Palette to the Viewer to see what your app will look like.





MIT APP sections



<i>Logo</i>	<i>Tools</i>	<i>Function</i>
User Interface	<i>User interface</i>	To add some tools, like button
Layout	<i>Layout</i>	To arrange the app space and editor the style of the UI.
Media	<i>Media</i>	Achieve the videos and voice for APP
Sensors 	<i>Sensors</i>	With some sensor to control, like <u>NearField</u>
Drawing and Animation	<i>Drawing and Animation</i>	A tool to build a space for drawing and animation.
Storage	<i>Storage</i>	For data storage, as file, <u>TinyDB</u> and so on.
Connectivity	<i>Connectivity</i>	For build the connect with Bluetooth, <u>HttpClient</u> ...
Artificial Intelligence	<u><i>Artificial Intelligence</i></u>	The AI tools. It contains TF, Baidu Speech.
Gaode Maps	<u><i>Gaode Maps</i></u>	Provide the API for <u>Gaode Maps</u> .
Enhancement	<i>Enhancement</i>	The <u>Tencent X5 webview</u> .
Social	<i>Social</i>	For calling function, <u>EmailPicker</u> and <u>Sharing</u> .
Extension	<i>Extension</i>	Add the extension.





App Inventor Blocks Editor

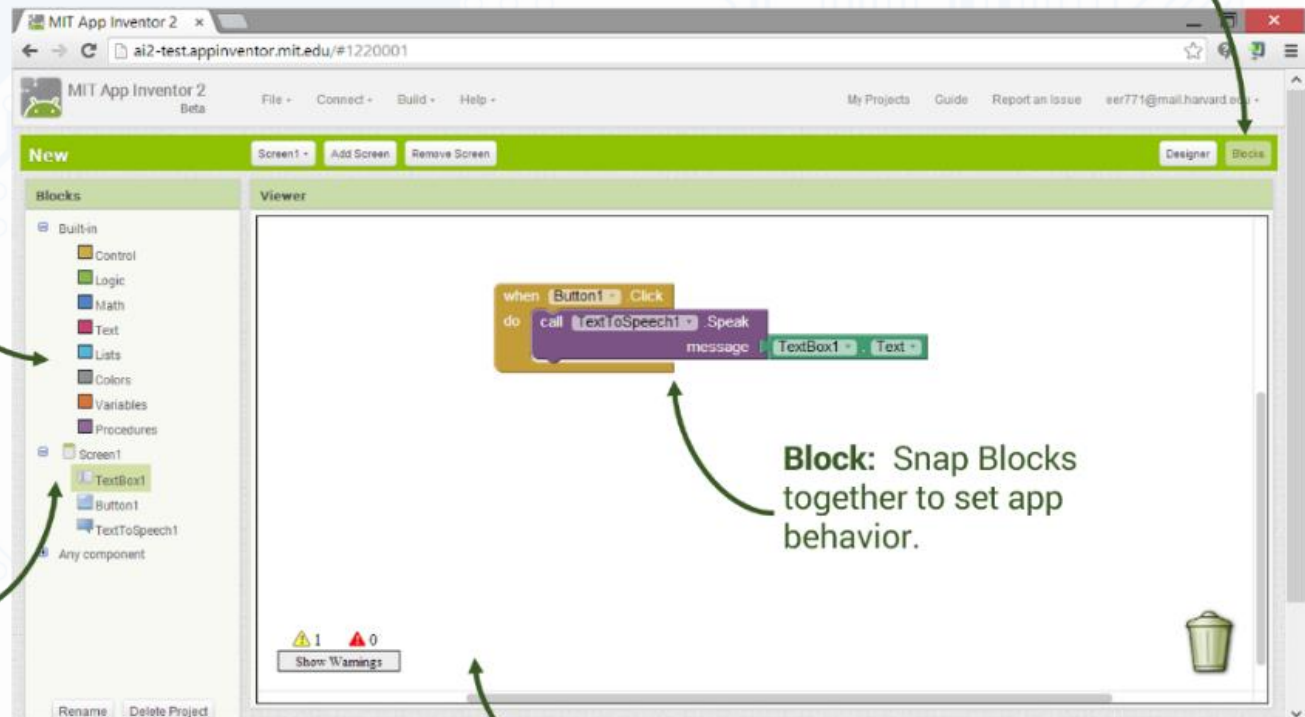
Built-In Drawers: Find Blocks for general behaviors you may want to add to your app and drag them to the Blocks Viewer.

Blocks Button: Click from any tab to go to the Blocks tab.

Component-Specific Drawers: Find Blocks for behaviors for specific Components and drag them to the Blocks Viewer.

Block: Snap Blocks together to set app behavior.

Viewer: Drag Blocks from the Drawers to the Blocks Viewer to build relationships and behavior.





Let us start out first APP

Browser tabs: Hello Codi | Sharing and Packaging Apps | App Inventor 2

Address bar: <https://app.wxbit.com/?locale=en#641534>

App Inventor 2 interface:

- Top bar: Projects, Connect, Build, Help
- Left sidebar: Palette (User Interface, Layout)
- Center: Viewer (Screen1)
- Right sidebar: Components, Medias, Properties (Screen1)

Properties panel for Screen1:

- PackageName: wxbit
- AppName: test
- Icon: None
- Title: Screen1
- AboutScreen: [Empty]
- AlignHorizontal: Left: 1
- AlignVertical: Top: 1
- Sizing: Responsive
- Scrollable: [Unchecked]
- KeepScreenOn: [Unchecked]
- ScreenOrientation: Unspecified: unspecified
- BackgroundColor: Default
- BackgroundImage: None

Windows taskbar: Windows logo, Search, Task View, Edge, File Explorer, PowerPoint, Chrome, Firefox, System tray (21:29, 14/10/2020)





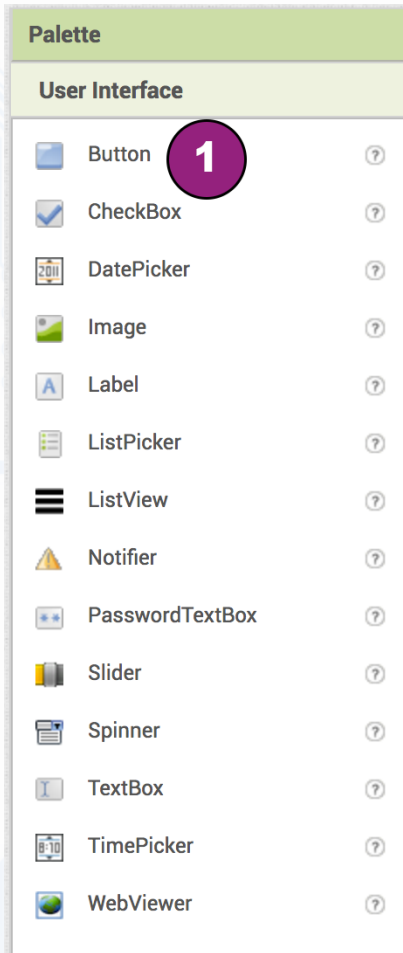
Building your first app: HelloCodi

- HelloCodi
- By press the label have some sound





Building your first app: HelloCodi



- The App Inventor **Components** are located on the left hand side of the *Designer Window* under the title **Palette**.
- Components are the basic elements you use to make apps on the Android phone. They're like the ingredients in a recipe.
- Some components are very simple, like a **Label** component, which just shows text on the screen, or a **Button** component (#1 left) that you tap to initiate an action.





Building your first app: HelloCodi

Viewer1

1

☐ Display hidden components in Viewer

☐ Check to see Preview on Tablet size.

Screen1

Text for Button1

Components2

2

Screen1

Button1

Properties3

3

Button1

BackgroundColor

Default

Enabled

☒

FontBold

☐

FontItalic

☐

FontSize

14.0

FontTypeface

default

Height

Steps for selecting components and setting properties





Building your first app: HelloCodi

HelloCodi2 Screen1 Add Screen ... Remove Screen Designer Blocks

Palette

User Interface

- 1 Button
- CheckBox
- DatePicker
- Image
- Label
- ListPicker
- ListView
- Notifier
- PasswordTextBox
- Slider
- Spinner
- TextBox
- TimePicker
- WebView

Layout

Media

Drawing and Animation

Viewer

☐ Display hidden components in Viewer
☐ Check to see Preview on Tablet size.

Screen1

Text for Button1

Upload File ...

3 Choose File No file chosen

Cancel OK

Components

Screen1

Button1

Rename Delete

Media

2 Upload File ...

Properties

Screen1

AboutScreen

AlignHorizontal

Left: 1

AlignVertical

Top: 1

AppName

HelloCodi2

BackgroundColor

☐ White

BackgroundImage

None...

CloseScreenAnimation

Default

Icon

None...

OpenScreenAnimation

Default

ScreenOrientation

Unspecified

Scrollable

☐

ShowListsAsJson





Building your first app: **HelloCodi**

Shape

default ▾

ShowFeedback



Text

~~Text for Button1~~

TextAlignment

center : 1 ▾

TextColor



Default

Step 2. Change the Button's **Text** property:
Delete "Text for Button1", leaving the Button's text property blank so that there is no writing over the bee image.





Building your first app: HelloCodi

Screenshot of the App Inventor interface showing the steps to create a "HelloCodi" app.

The interface is divided into four main panels:

- Palette:** Contains various UI components. The **Label** component is highlighted with a red box and a circled "1". A red arrow points from this box to the label in the Viewer.
- Viewer:** Displays a mobile app preview. It shows a screen with a bee character and a label that says "Touch the Bee!". The label is highlighted with a red box.
- Components:** Lists the components added to the app: Screen1, Button1, Label1, and Sound1. Label1 is highlighted with a red box and a circled "4".
- Properties:** Shows the properties for the selected component (Label1). The following properties are highlighted with red boxes and numbered:
 - BackgroundColor:** Cyan (Circled "4")
 - FontSize:** 30 (Circled "3")
 - Text:** Touch the Bee! (Circled "2")
 - TextColor:** Blue (Circled "5")





Building your first app: HelloCodi

The screenshot displays the App Inventor web interface with four numbered callouts indicating the steps to add a sound component:

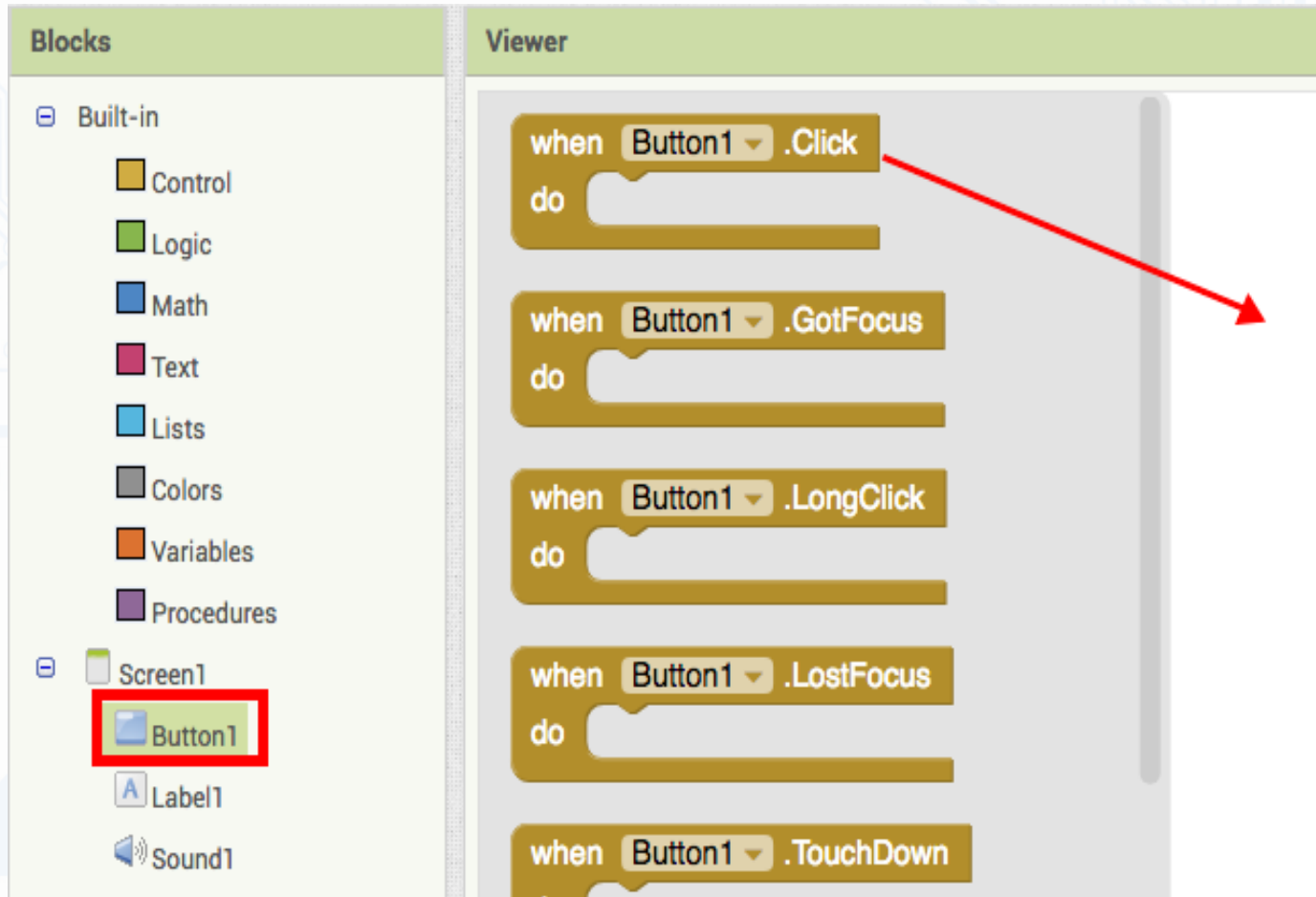
- 1**: A red box highlights the **Sound** component in the **Media** section of the **Palette** on the left.
- 2**: A red box highlights the **Upload File ...** button in the **Media** section of the **Components** pane on the right.
- 3**: A red box highlights the **Upload File ...** dialog box in the center, which is open over the **Sound1** component in the **Non-visible components** section.
- 4**: A red box highlights the **Source** property in the **Properties** pane on the right, which is currently set to **None...**.

The **Viewer** pane in the center shows a mobile app preview with a bee character and the text "Touch the Bee!". The **Components** pane lists **Screen1**, **Button1**, **Label1**, and **Sound1**. The **Properties** pane shows the **Sound1** component's properties, including **MinimumInterval (ms)** set to 500 and **Source** set to **None...**.





Building your first app: HelloCodi





Building your first app: HelloCodi

Blocks

- Built-in
 - Control
 - Logic
 - Math
 - Text
 - Lists
 - Colors
 - Variables
 - Procedures
- Screen1
 - Button1
 - Label1
 - Sound1**
- Any component

Viewer

```
when Sound1 .SoundError
  message
do

call Sound1 .Pause

call Sound1 .Play

call Sound1 .Resume

call Sound1 .Stop

call Sound1 .Vibrate
  millisecs

Sound1 . MinimumInterval (ms)
```

when Button1 .Click
do

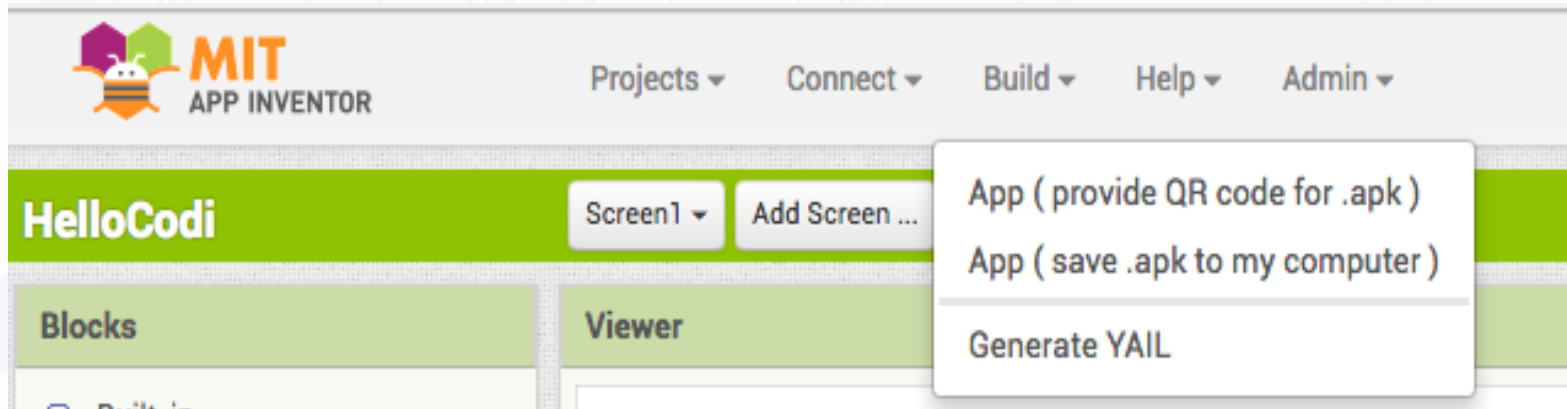
when Button1 .Click
do call Sound1 .Play





Packaging your app

- While your device (emulator or phone/tablet) has been connected to App Inventor, your app has been running in real time on your device. If you disconnect the emulator/device from the Blocks Editor, the app will vanish.
- You can always make it return by reconnecting the device. To have an app running without being connected to App Inventor, you must "**package**" the app to produce an application package (apk file).
- To "package" the app to install on your device or to send to someone else, click the **Build** tab at the top of the screen. Under Build, there are two options available for you to choose from:





Packaging your app

Methode 1:

- App (provide QR code): You can generate a Barcode (a QR Code), which you can use to install the app on a mobile device that has a camera, with the aid of a barcode scanner, like the ZXing barcode scanner (freely available in Google Play).
- this barcode is only good for two hours. If you want to share your app with others via barcode over a longer period, you'll need to download the .apk file to your computer and use a third-party software to convert the file into a barcode. More information can be found here.





Packaging your app

2. App (save to my computer):

You can download the app to your computer as an apk file, which you can distribute and share as you like by manually installing it on other devices. (sometimes called "side loading").





Here are the key ideas covered so far:

- You build apps by selecting components (ingredients) and then telling them what to do and when to do it.
- You use the Designer to select components and set each component's properties. Some components are visible and some aren't.
- You can add media (sounds and images) to apps by uploading them from your computer.
- You use the Blocks Editor to assemble blocks that define the components' behavior
- when ... do ... blocks define event handlers, that tell components what to do when something happens.
- call ... blocks tell components to do things.





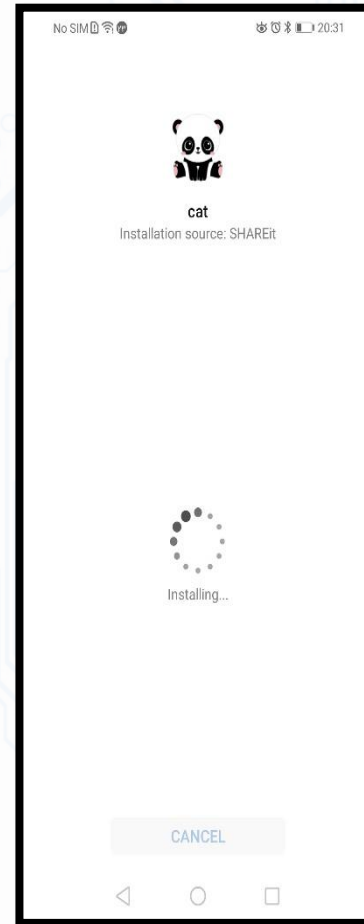
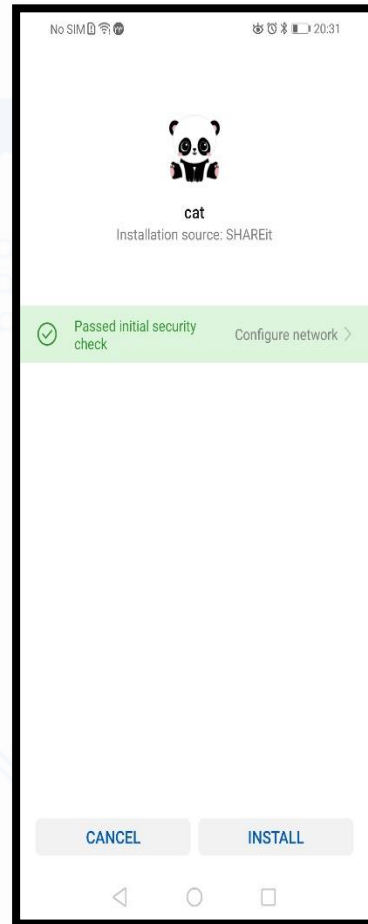
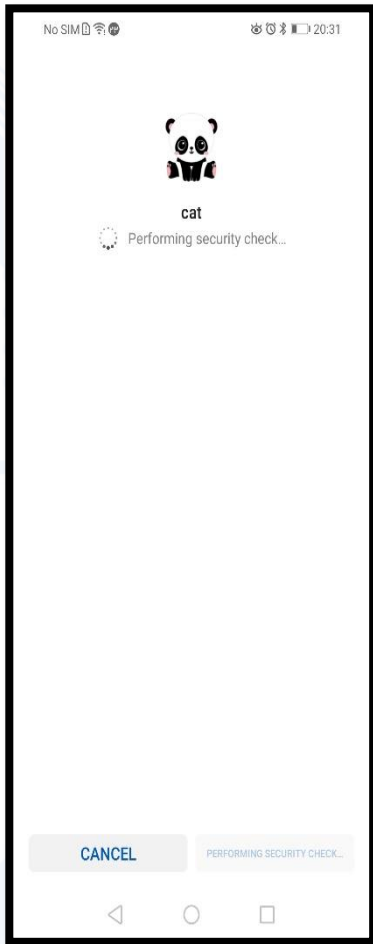
Example

Screenshot of the App Inventor 2 web interface in a browser window. The browser tabs include "Hello Codi!", "Sharing and Packaging Apps", and "App Inventor 2". The address bar shows the URL: <https://app.wxbit.com/?locale=en#641528>. The App Inventor 2 header includes the logo, "Projects", "Help", and navigation links: "My Projects", "Gallery", "Supports", "English", and a user profile "Ata Jahangir". Below the header is a green bar with buttons: "Start new project", "Delete Project", and "Publish to Gallery". The main area is titled "My Projects" and contains a table with columns: "Name", "Date Created", "Date Modified", and "Published". The table is currently empty. At the bottom of the browser window, there is a "Theme Color" bar and a "Dark Mode" toggle. The Windows taskbar is visible at the very bottom, showing various application icons and the system clock displaying 20:42 on 14/10/2020.



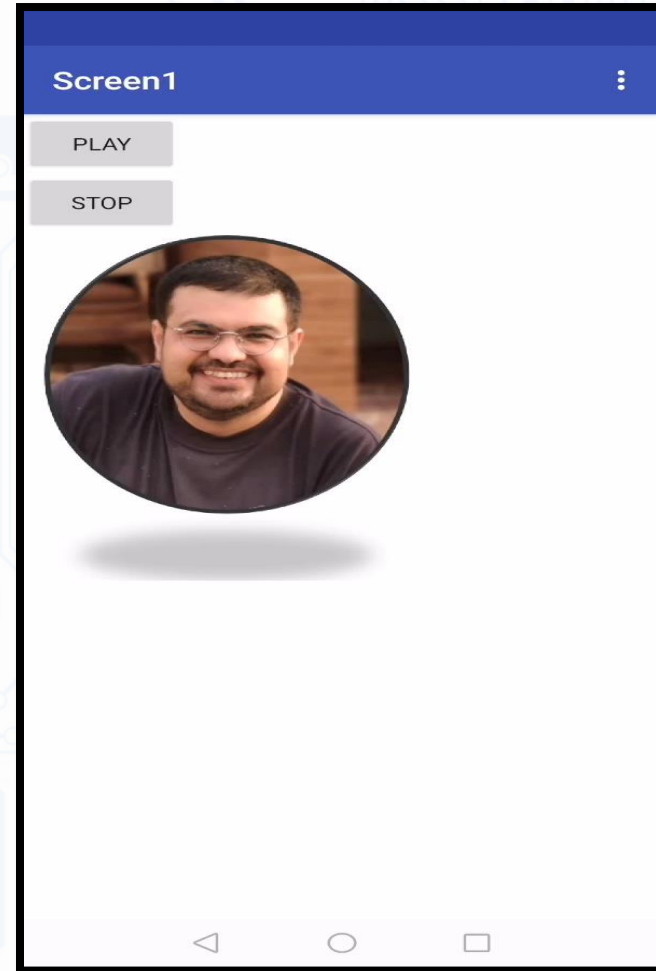
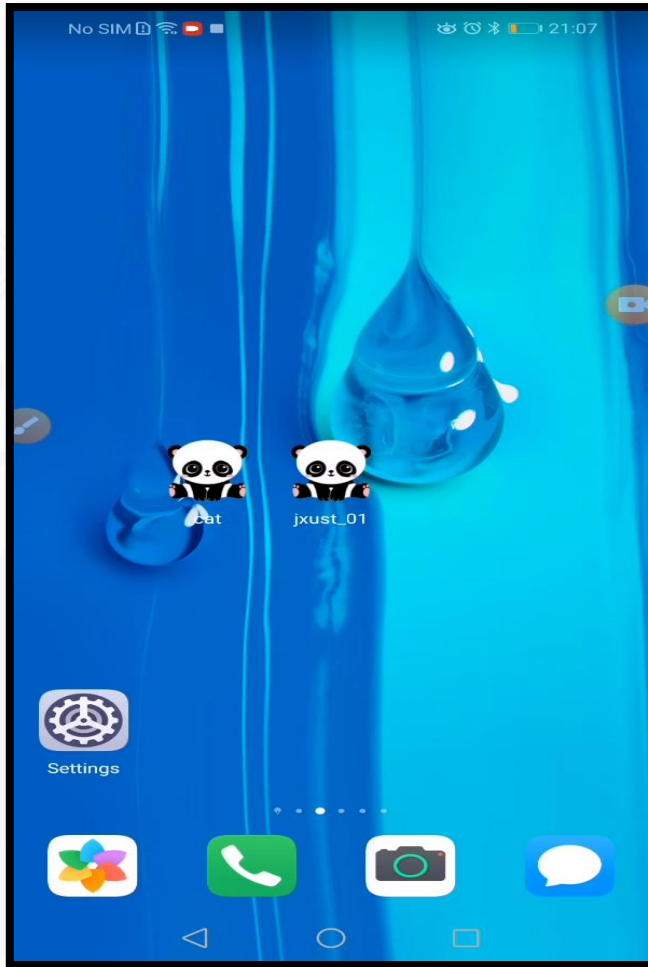


Example





Test on my mobile





Student Task_2



**1. Make your first app with JXUST logo
when you press the picture it should sing the school song
Make the video from your assignment**

Next lecture

- Send based on task format to MOOC system
- Your file should have this format of name
<Task number><student name><Student ID>.ppt

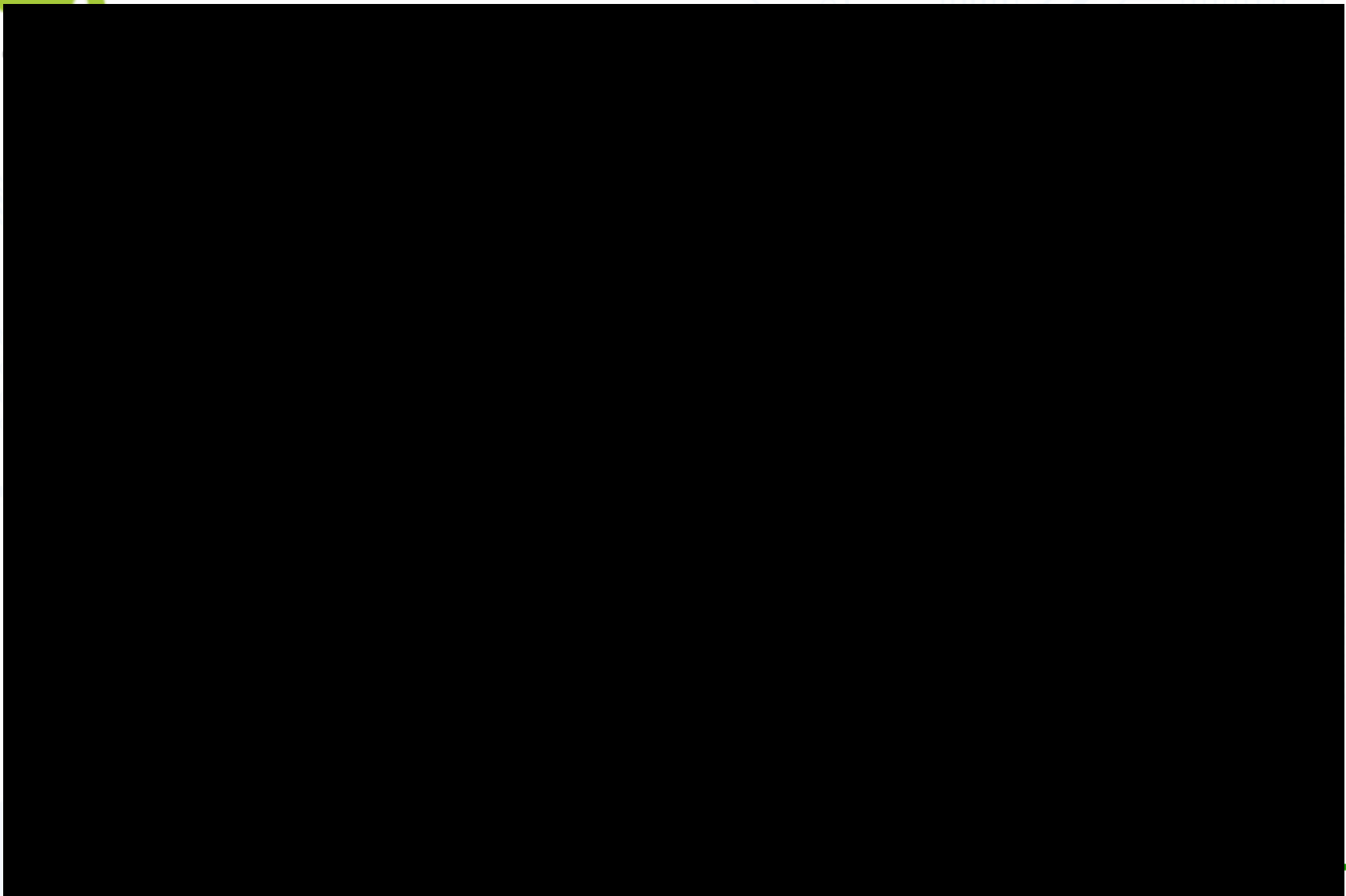




Reference

- **Teaching with AppInventor**
<http://appinventor.mit.edu/explore/teach.html>
- **AppInventor Tutorials:**
<http://appinventor.mit.edu/explore/ai2/tutorials.html>
- **Sounds** <http://www.soundbible.com>
- **App Inventor:** <http://appinventor.googlelabs.com/>
- **Appinventor.org:** <http://www.appinventor.org/>
- **Wolber, Abelson et al. text:** <http://www.appinventor.org/text2011>
- **Group:** <http://groups.google.com/group/app-inventor-instructors>
- **Wolber course:** <http://appinventor.org/course-in-a-box>
- **Morelli course:** <http://turing.cs.trincoll.edu/~ram/cpsc110/>







**“BE HUMBLE. BE HUNGRY.
AND ALWAYS BE THE
HARDEST WORKER
IN THE ROOM.”**



江西理工大学

Jiangxi University of Science and Technology

信息工程学院

School of information engineering

Digital Image Processing



THANK YOU



“The beauty of research is that you never know where it’s going to lead.”

RICHARD ROBERTS
Nobel Prize in Physiology or
Medicine 1993



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