

Desarrollo de una aplicación de Android con App Inventor



MIT
APP INVENTOR

Desarrollo de una aplicación de Android con App Inventor

Organizadores:

- Isaac Lozano (isaac.lozano@urjc.es)
- Jesús Sánchez-Oro (jesus.sanchezoro@urjc.es)

¿Qué vamos a aprender?

- Objetivos
 - Conocer App Inventor
 - Desarrollar un juego
 - Probar el juego en nuestro móvil

Herramientas necesarias

- MIT AI2 Companion



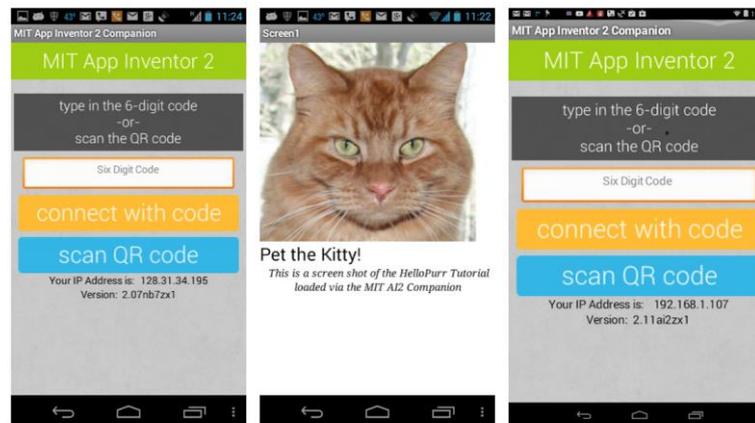
MIT AI2 Companion

MIT Center for Mobile Learning Educación ★★★★★ 23.678

4 PEGI 3

Esta aplicación es compatible con todos tus dispositivos.

Instalada



¿Qué es App Inventor?

- Entorno de Desarrollo para la creación de aplicaciones Android.



¿Aplicaciones similares?



Creación de un juego desde App Inventor

<https://appinventor.mit.edu/>

The screenshot shows the MIT App Inventor website homepage. At the top left is the MIT App Inventor logo, followed by a 'Create Apps!' button. The navigation menu includes 'About', 'Educators', 'News', 'Resources', 'Blogs', and a 'Donate' button. A search bar is located on the right. The main banner features a photo of students and the text 'With MIT App Inventor, anyone can build apps with global impact', with a 'Learn More' button. Below the banner is a statistics table:

Active Users today:	Active Users this week:	Active Users this month:	Registered Users:	Countries:	Apps Built:
90.9K	304.9K	883.0K	8.2M	195	34.0M

Below the table is a news section with a 'join' button and a '2020' tag, titled 'MIT App Inventor Hackathon'. The text reads: 'The finalists for the MIT App Inventor Hackathon 2020, A Global App Hackathon for Good, have been announced.' At the bottom are three icons: a flag, a lightbulb, and a person with a screen.

Creación de un juego desde App Inventor

 Iniciar sesión con Google

Iniciar sesión

Ir a mit.edu

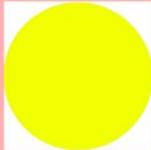
[¿Has olvidado tu correo electrónico?](#)

Para continuar, Google compartirá tu nombre, tu dirección de correo electrónico, tu preferencia de idioma y tu foto de perfil con mit.edu.

[Crear cuenta](#) [Siguiente](#)

Creación de un juego desde App Inventor

¿Qué color es?



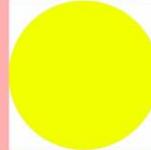
Amarillo

Azul

Naranja

Negro

¿Qué color es?



Amarillo

Azul

Naranja

Negro

¡Muy bien!

Jugar de Nuevo

Creación de un juego desde App Inventor

¡Descarga de archivos
adjuntados en el correo y chat!

Creación de un juego desde App Inventor

The screenshot shows the MIT App Inventor web interface. At the top, there is a navigation bar with the MIT App Inventor logo and menu items: Projects, Connect, Build, Settings, Help, My Projects, View Trash, Guide, Report an Issue, English, and isaac.lozano.osorio.97@gmail.com. Below the navigation bar is a green bar with buttons: Start new project (highlighted with a red arrow), Move To Trash, View Trash, Login to Gallery, and Publish to Gallery. Underneath is a 'Projects' section with a table listing existing projects:

Name	Date Created	Date Modified
<input type="checkbox"/> ColoresJuego	Nov 27, 2020, 1:17:19 AM	Nov 27, 2020, 1:18:58 AM
<input type="checkbox"/> APKCoche	Oct 24, 2016, 12:38:49 AM	Nov 26, 2020, 11:55:35 PM

In the center of the page, a dialog box titled 'Create new App Inventor project' is open. It contains a 'Project name:' label and an empty text input field. At the bottom of the dialog are 'Cancel' and 'OK' buttons. At the bottom of the page, there is a link for 'Privacy Policy and Terms of Use'.

Creación de un juego desde App Inventor

The screenshot shows the MIT App Inventor web interface. At the top, there is a navigation bar with the MIT App Inventor logo and menu items: Projects, Connect, Build, Settings, and Help. On the right side of the navigation bar, there are links for My Projects, View Trash, Guide, Report an Issue, English, and the user's email address: isaac.lozano.osorio.97@gmail.com.

Below the navigation bar, there are three buttons: Start new project, Move To Trash, and View. A context menu is open over the 'View' button, listing the following options:

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

Below the context menu, there is a table of projects:

<input type="checkbox"/>	Name	Date Modified
<input type="checkbox"/>	ColoresGame	Nov 27, 2020, 2:11:43 AM
<input type="checkbox"/>	ColoresJuego	Nov 27, 2020, 1:18:58 AM
<input type="checkbox"/>	APKCoche	Nov 26, 2020, 11:55:35 PM

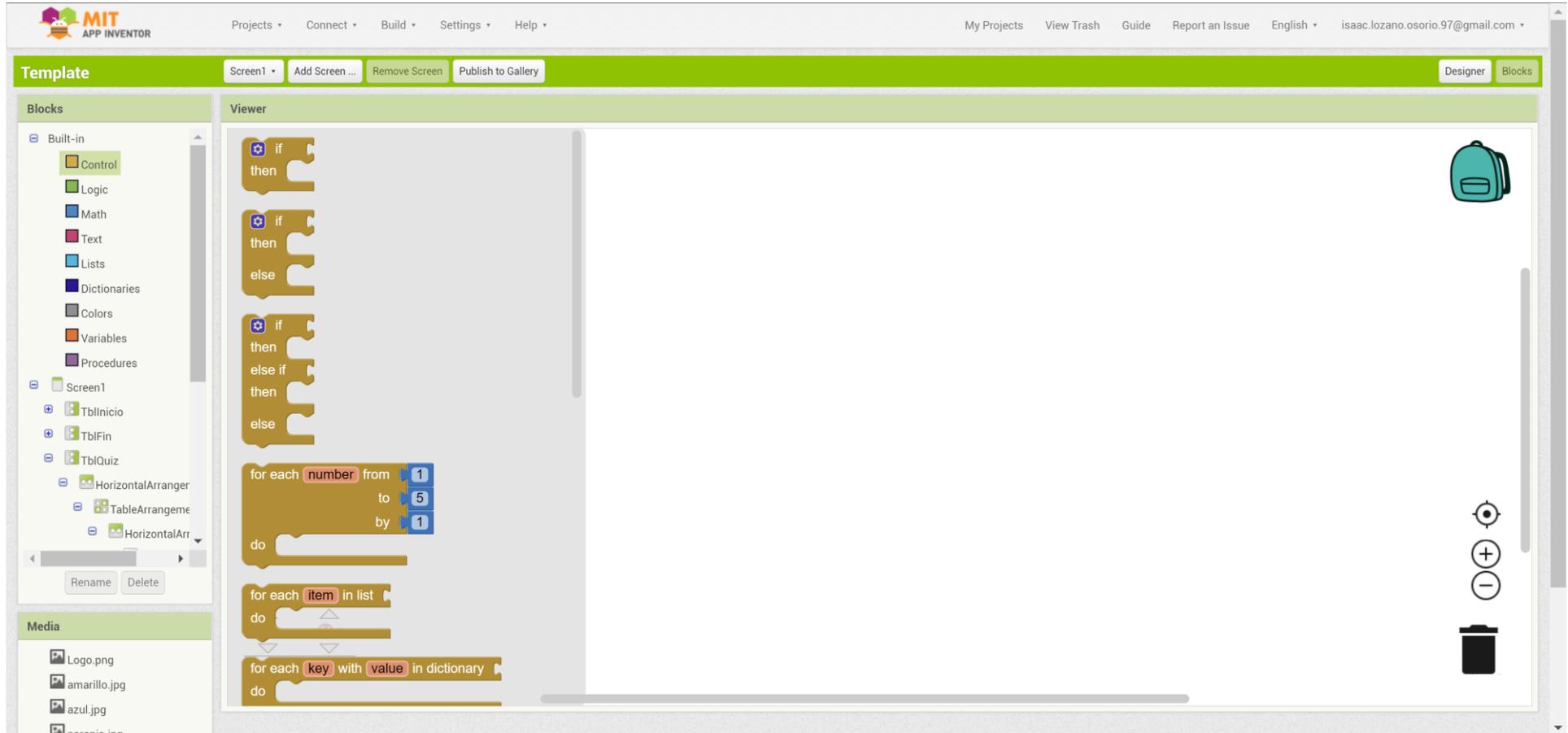
At the bottom of the page, there is a link for [Privacy Policy and Terms of Use](#).

Creación de un juego desde App Inventor

The screenshot displays the MIT App Inventor web interface. At the top, there is a navigation bar with 'Projects', 'Connect', 'Build', 'Settings', and 'Help' menus. The main workspace is divided into several panels:

- Template:** Shows 'Screen1' and buttons for 'Add Screen...', 'Remove Screen', and 'Publish to Gallery'.
- Palette:** A list of UI components under 'User Interface' (Button, CheckBox, DatePicker, Image, Label, ListPicker, ListView, Notifier, PasswordTextBox, Slider, Spinner, Switch, TextBox, TimePicker, WebViewer) and 'Layout' (Media, Drawing and Animation).
- Viewer:** A central area showing a mobile phone mockup. The screen displays a quiz question titled 'Pregunta' with the logo of 'Universidad Rey Juan Carlos' and four options: 'Opcion1', 'Opcion2', 'Opcion3', and 'Opcion4'. A checkbox 'Display hidden components in Viewer' is visible above the phone.
- Components:** A tree view of the app's structure, including 'Screen1', 'TblInicio', 'TblFin', 'TblQuiz', 'HorizontalArrangemen', 'TableArrangement1', 'HorizontalArranc', 'lblpregunta', 'Image2', 'HorizontalArranc', 'TableArrangem', 'btnopc2', 'btnopc1', 'btnopc3', and 'btnopc4'.
- Properties:** A panel for configuring the selected component (Screen1), with fields for 'AboutScreen', 'Colores', 'AccentColor', 'AlignHorizontal', 'AlignVertical', 'AppName', 'BackgroundColor', 'BackgroundImage', 'Blocks Toolkit', 'CloseScreenAnimation', 'Icon', 'OpenScreenAnimation', 'PrimaryColor', and 'PrimaryColorDark'.
- Media:** A list of image files: 'Logo.png', 'amarillo.jpg', 'azul.jpg', and 'narania.jpg'.

Creación de un juego desde App Inventor



Creación de un juego desde App Inventor

- Creación de lista de respuestas y preguntas.



Creación de un juego desde App Inventor

- Seleccionar botón y manejo de respuestas.

```
when btnopc1 .Click
do
  if
    select list item list
    index
    get global QuizRespuesta
    =
    1
    get global NumeroPregunta
  then
    call RespuestaCorreta
  else
    set btnopc1 . BackgroundColor
    to
    red
```

Creación de un juego desde App Inventor

- Eliminación de colores y siguiente pregunta.



Creación de un juego desde App Inventor

- Cargar nueva pregunta o finalizar.

```
to SiguientePregunta
do
  set global NumeroPregunta to (get global NumeroPregunta + 1)
  if (get global NumeroPregunta > 5)
  then
    set TblFin.Visible to true
    set TblQuiz.Visible to false
  else
    set lblpregunta.Text to (select list item list (get global QuizPreguntas) index (get global NumeroPregunta))
    set Image2.Picture to (select list item list (get global QuizImagenes) index (get global NumeroPregunta))
    set btnopc1.Text to (select list item list (get global QuizBoton1) index (get global NumeroPregunta))
    set btnopc2.Text to (select list item list (get global QuizBoton2) index (get global NumeroPregunta))
    set btnopc3.Text to (select list item list (get global QuizBoton3) index (get global NumeroPregunta))
    set btnopc4.Text to (select list item list (get global QuizBoton4) index (get global NumeroPregunta))
```

The image shows a block of code in App Inventor. It starts with a 'to SiguientePregunta' block, followed by a 'do' block. Inside the 'do' block, there is a 'set global NumeroPregunta to (get global NumeroPregunta + 1)' block. This is followed by an 'if' block with the condition '(get global NumeroPregunta > 5)'. If true, it sets 'TblFin.Visible' to true and 'TblQuiz.Visible' to false. If false, it sets the text of 'lblpregunta', 'Image2', and four buttons ('btnopc1' through 'btnopc4') to values selected from lists 'QuizPreguntas', 'QuizImagenes', and 'QuizBoton1' through 'QuizBoton4' respectively, using the current 'NumeroPregunta' as an index.

Creación de un juego desde App Inventor

- Reiniciar juego.

```
when btnreinicia .Click
do
  set TblQuiz . Visible to true
  set TblFin . Visible to false
  set global NumeroPregunta to 0
  call SiguientePregunta
```

Probar el juego en nuestro móvil

The screenshot shows the MIT App Inventor web interface for a project named "QuizJuego". The top navigation bar includes "Projects", "Connect", "Build", "Settings", and "Help". On the right, it shows "My Projects", "View Trash", "Guide", "Report an Issue", "English", and the user's email "isaac.lozano.osorio.97@gmail.com".

The main workspace is divided into several sections:

- Left Panel (Blocks):** A sidebar with categories like "Built-in", "Control", "Logic", "Math", "Text", "Lists", "Dictionaries", "Colors", "Variables", and "Procedures". Under "Screen1", there are components: "TblInicio", "TblFin", and "TblQuiz".
- Top Bar:** Shows "Screen1" and a dropdown menu with options: "AI Companion", "Emulator", "USB", "Refresh Companion Screen", "Reset Connection", and "Hard Reset". A red arrow points to the "AI Companion" option.
- Center (Viewer):** Displays the visual design of the app screen with various components and their associated logic blocks. A "Show Warnings" button is visible at the bottom left of the viewer.
- Right Panel:** Contains a "Designer" button, a "Blocks" button, and a trash icon.

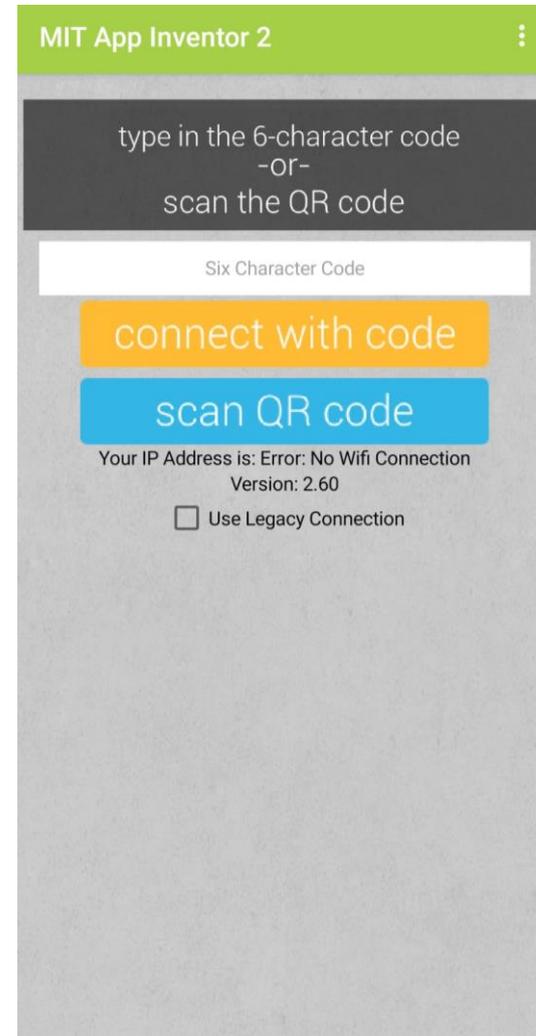
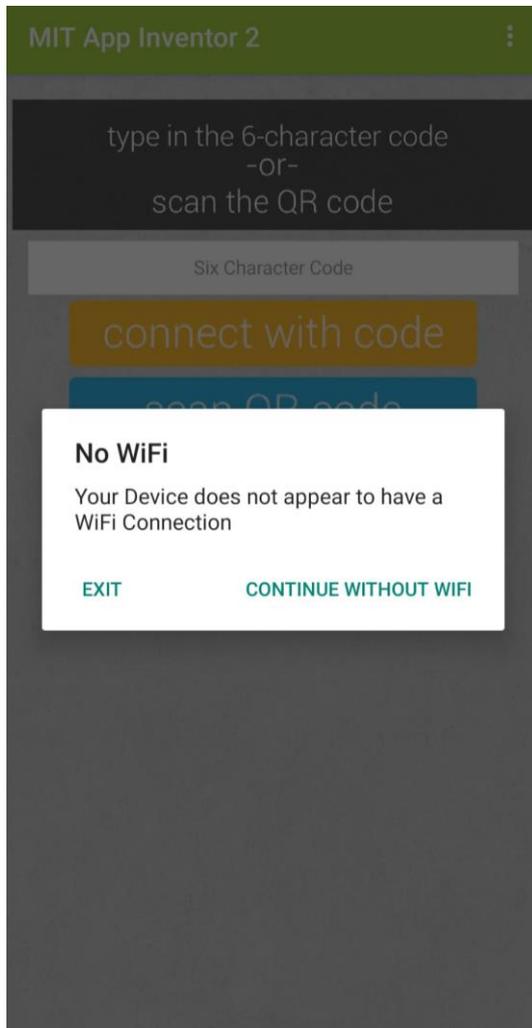
The logic blocks in the viewer include:

- Initialization blocks for "QuizBoton3" and "QuizBoton4" using "make a list" with items like "Naranja", "Negro", "Rojo", "Rosa", "Verde", "Amarillo", and "Azul".
- Click event handlers for "tblnrop3" and "tblnrop4" that check "QuizRespuesta" and "NumeroPregunta" and call "RespuestaCorreta".
- A "to SiguientePregunta" block that increments "NumeroPregunta" and updates the quiz state.
- A "to RespuestaCorreta" block that sets background colors for "tblnrop1" through "tblnrop4" and calls "SiguientePregunta".
- A "when btreinicia" block that sets "tblQuiz" visible to true and "NumeroPregunta" to 0, then calls "SiguientePregunta".

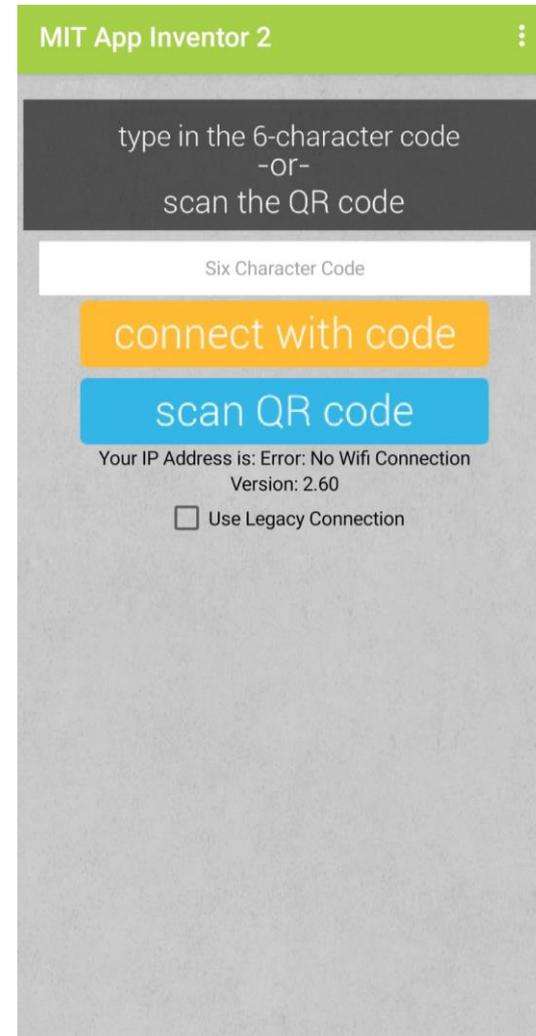
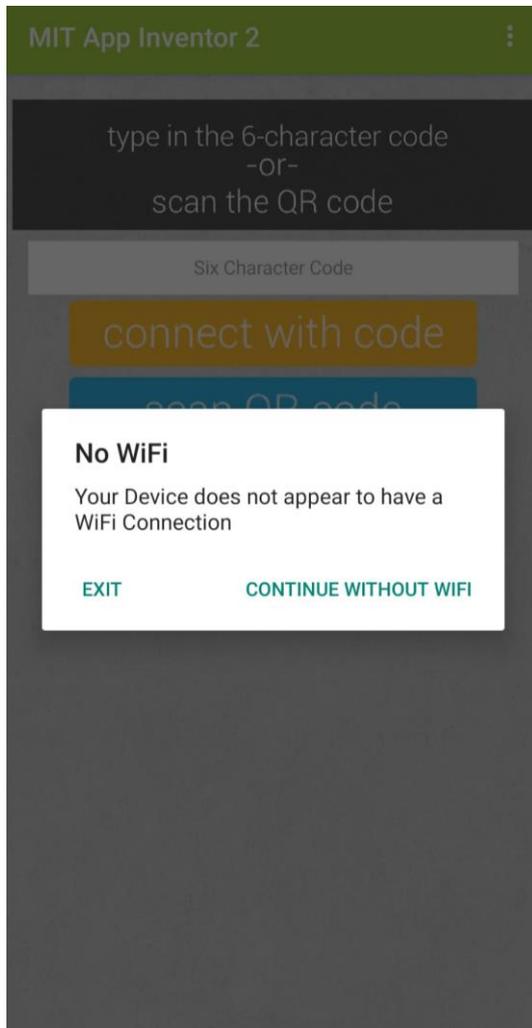
Probar el juego en nuestro móvil

The image shows the MIT App Inventor web interface. At the top, there's a navigation bar with 'Projects', 'Connect', 'Build', 'Settings', and 'Help'. The main area is divided into 'Blocks' on the left, 'Viewer' in the center, and 'Designer' on the right. A modal dialog box titled 'Connect to Companion' is centered over the viewer. It contains the following text: 'Launch the MIT AI2 Companion on your device and then scan the barcode or type in the code to connect for live testing of your app. [Need help finding the Companion App?](#)' Below the text is a QR code and the text 'Your code is: ugbfsn'. A 'Cancel' button is at the bottom of the dialog. The background shows a quiz application with several click events and logic blocks for handling button clicks and displaying questions.

Probar el juego en nuestro móvil



Probar el juego en nuestro móvil



Descarga de aplicación

The screenshot displays the MIT App Inventor web interface for a project named "QuizJuego". The top navigation bar includes "Projects", "Connect", "Build", "Settings", and "Help". The "Build" menu is open, showing two options: "App (provide QR code for .apk)" and "App (save .apk to my computer)".

The interface is divided into several sections:

- Blocks:** A sidebar on the left lists built-in components: Control, Logic, Math, Text, Lists, Dictionaries, Colors, Variables, and Procedures. Under "Screen1", there are components for TblInicio, TblFin, TblQuiz, and Any component.
- Viewer:** The main workspace shows a visual representation of the app with several code blocks attached to it:
 - when bthop2 Click:** A logic block with an if statement. If the selected item index equals the global variable "NumeroPregunta" (value 2), it calls "RespuestaCorrecta". Otherwise, it sets the button's background color to red.
 - when bthop3 Click:** A logic block with an if statement. If the selected item index equals "NumeroPregunta" (value 3), it calls "RespuestaCorrecta". Otherwise, it sets the button's background color to red.
 - when bthop4 Click:** A logic block with an if statement. If the selected item index equals "NumeroPregunta" (value 4), it calls "RespuestaCorrecta". Otherwise, it sets the button's background color to red.
 - initialize global QuizBoton3:** A block to create a list with items: Naranja, Negro, Rojo, Rosa, Verde, and Amarillo.
 - initialize global QuizBoton4:** A block to create a list with items: Negro, Rojo, Naranja, Verde, Amarillo, and Azul.
 - to SiguientePregunta:** A procedure block that increments "NumeroPregunta" by 1. It then checks if the value is greater than 5. If true, it sets "TblFin" visible to true and "TblQuiz" visible to false. If false, it sets "TblPregunta" text to the selected item, "Image2" picture to the selected item, and sets the text of four buttons (bthop1 to bthop4) to the selected item from their respective lists.
 - to RespuestaCorrecta:** A procedure block that sets the background color of four buttons (bthop1 to bthop4) to white and calls "SiguientePregunta".
 - when btrencia Click:** A logic block that sets "TblQuiz" visible to true, "TblFin" visible to false, and resets "NumeroPregunta" to 0, then calls "SiguientePregunta".
- Warning:** A "Show Warnings" button at the bottom left indicates 0 warnings.
- Tools:** On the right side, there are icons for a backpack, a target, zoom in (+), zoom out (-), and a trash can.

Desarrollo de una aplicación de Android con App Inventor



MIT
APP INVENTOR