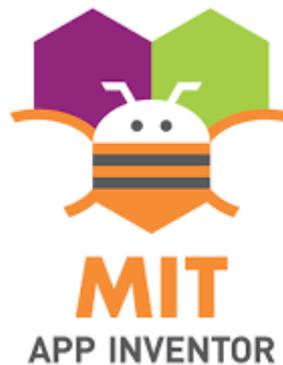




Tutorial to create a mini game



We will **create** a version of the **Snake game** using **AppInventor**.



- ❖ **App Inventor** is an **online software development** tool that allows users to **create** Android applications.



- ❖ **Snake** is a **classic video game** where the **player controls** a **snake** that **moves** around a field avoiding walls and **eating food** to grow. The aim of the game is to make the snake grow as much as possible **without hitting walls** or its own tail. If the snake hits a wall or its own tail, the game is over. The game was originally **developed** for **mobile phones**, but has been adapted for many other platforms, including **computers** and **game consoles**. It is also possible to **play online** versions of the game.

If you have the skills to create another game or make our game evolve you can!



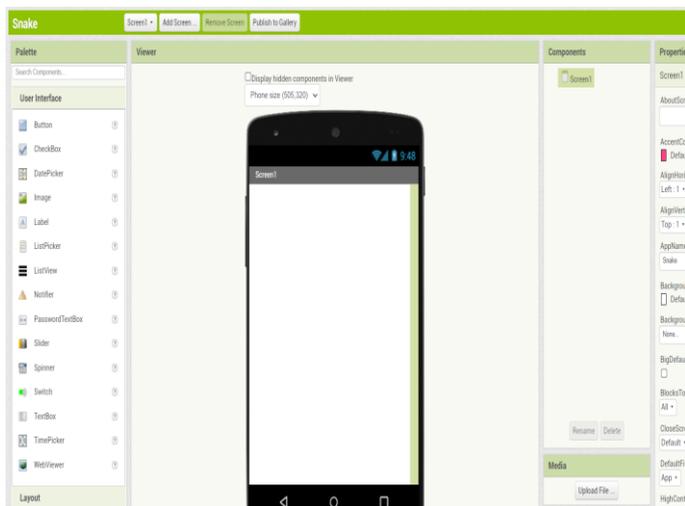
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Go to the following link: <http://appinventor.mit.edu/> and click on 'Create Apps!'. You need a google account.

Click on 'Projects' and 'Start new project'. Give your file a name, for example : 'Snake.Name'.

You have two tabs: 'Designer' and 'Blocks'. 

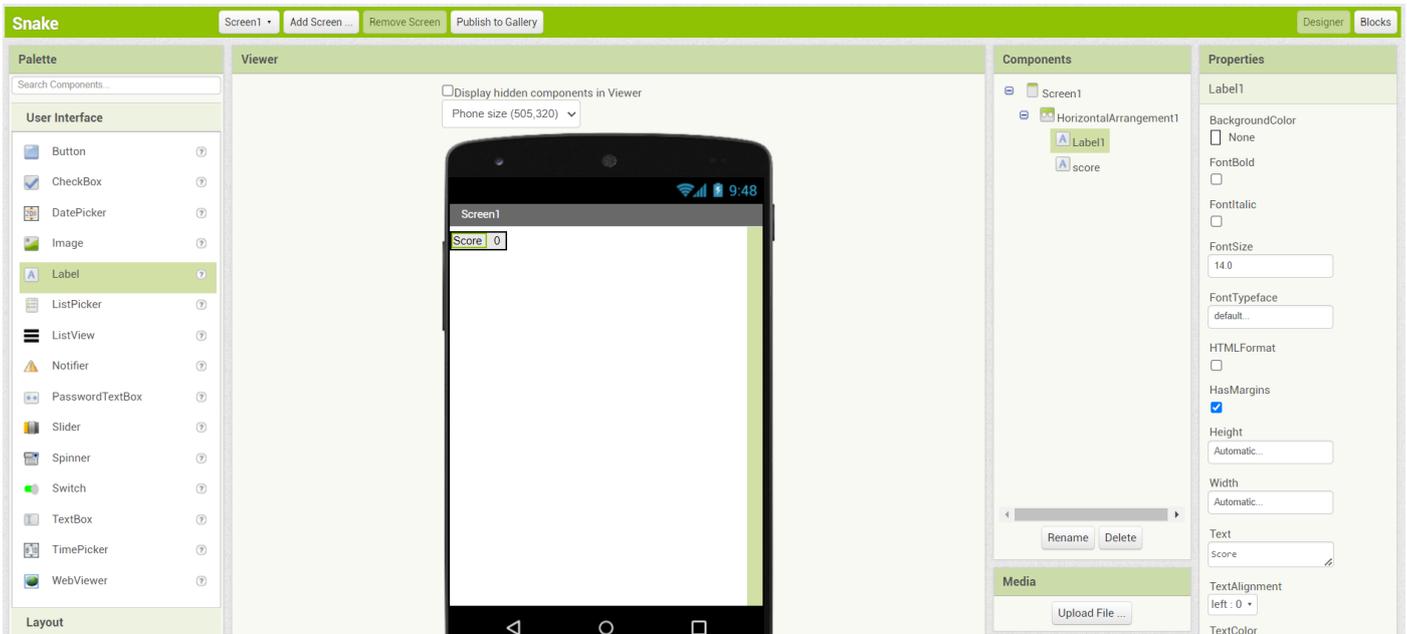


'Designer' is for the **creation of the man-machine interface**: this will be the **look and feel** of your application. The 'Palette' tab on the **left** contains all the **elements** that can be **positioned** on the **phone screen**.

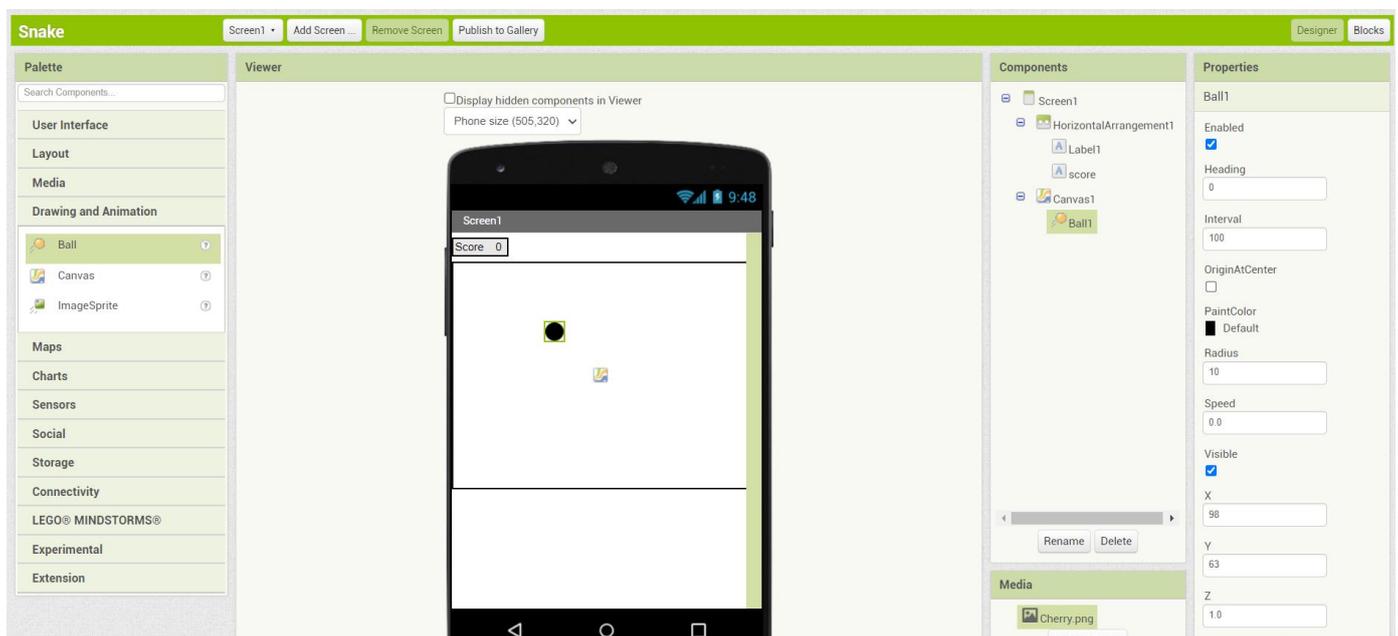
'Blocks' it is for the **programming** itself: it will allow, by **assembling blocks** to **create the behaviour** of the application.



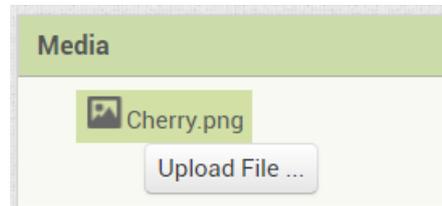
1) Put a **'horizontal arrangement'**. And insert two labels. In label 1 put the text **'Score'**. In label 2 put the text **'0'** and rename this label 2 to **'Score'**.



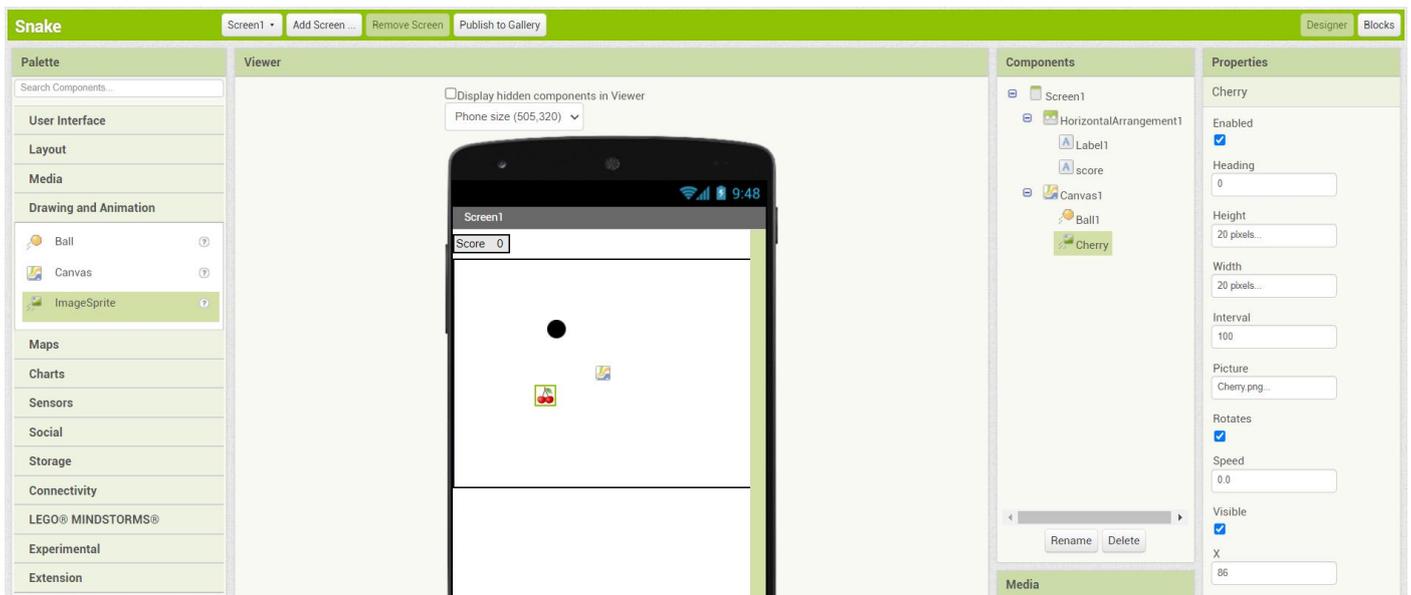
2) Set the **playspace** as follows: in **'Drawing and Animation'** select **'Canvas'** and insert it into the screen. Make sure to respect the **properties** as in the image below: **60% height** and **100% width**. Still in **'Drawing and Animation'** you have **'Ball'**. Insert the ball and in **'Properties'** set the ball to a **radius of 10**.



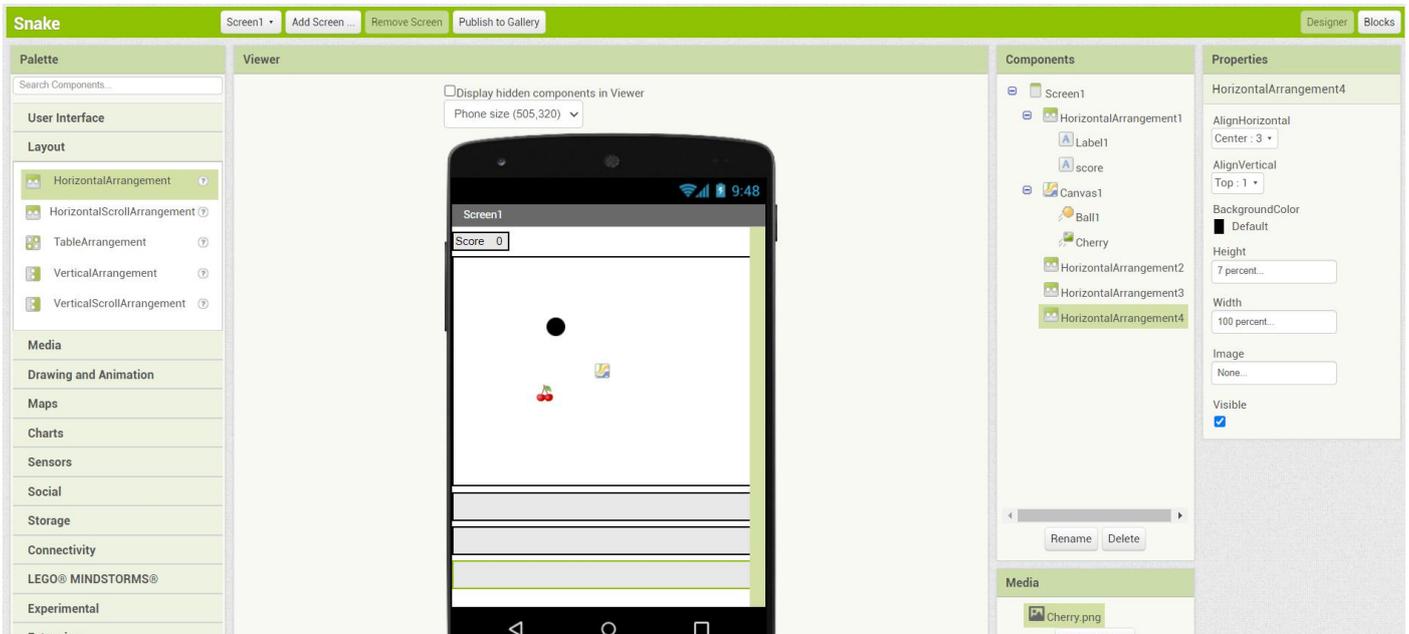
3) **Download** the **image** of any **fruit**. In '**Media**' insert the **image** of this fruit.



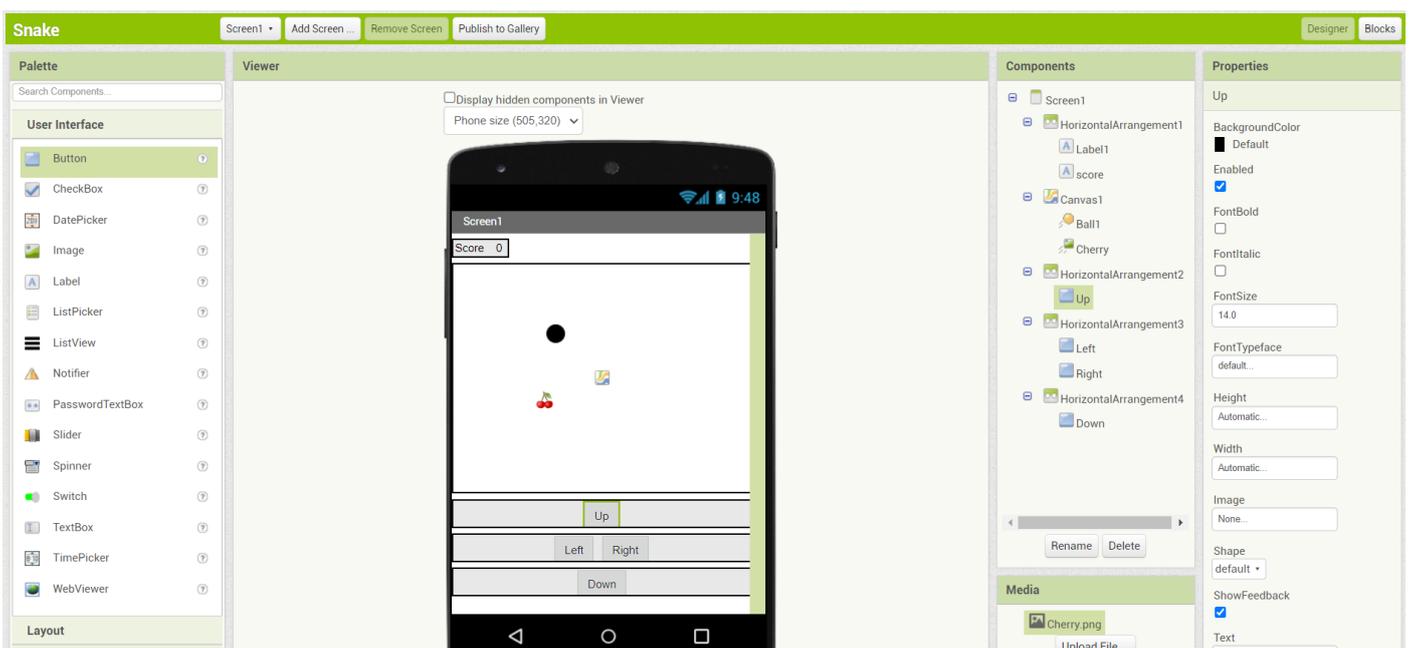
4) **Insert 'ImageSprite'** into the **game space**. In the '**Properties**' tabs and '**Picture**' select the **fruit image** to be downloaded. Set the **height** and **width** to **20 pixels**.

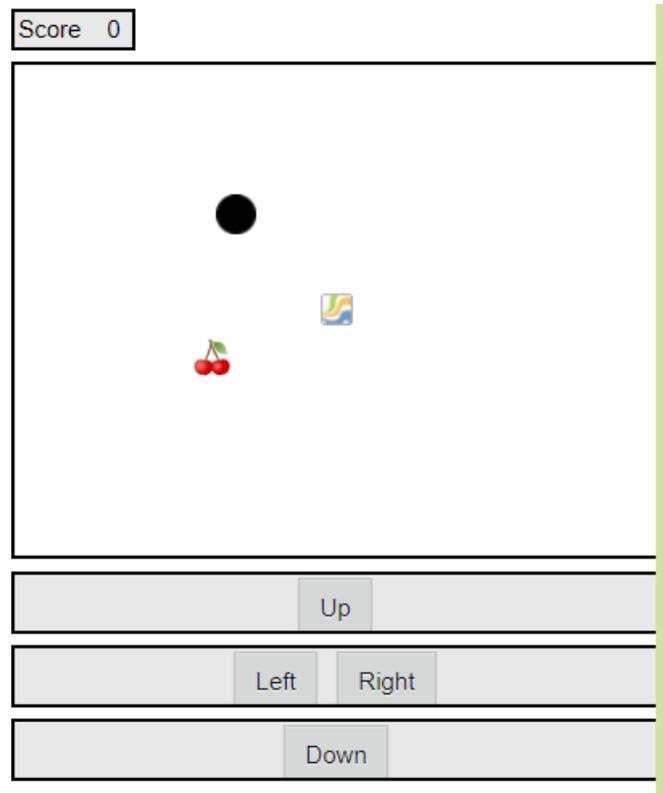


5) Insert three 'HorizontalArrangement' below the playing area. Set the **height** to **7%** and the **width** to **100%**.



6) Under 'User interface' you have 'Button'. Insert the four buttons 'Up', 'Down', 'Left', 'Right' in the horizontal arrangements. Don't forget to **rename** the buttons as below.





The **interface** of our **application** has been **designed!**

Now, to make the **application work**, we need to **program** our **game** to **describe** its **behaviour**.

7) In the '**Blocks**' tab, **do** the following **program**. Try to **understand** the **program** !

```

when Up .Click
do
  call Ball1 .MoveTo
    x Ball1 . X
    y Ball1 . Y + 1
  set Ball1 . Speed to 10
  set Ball1 . Heading to 90
  
```

```

when Down .Click
do
  call Ball1 .MoveTo
    x Ball1 . X
    y Ball1 . Y - 1
  set Ball1 . Speed to 10
  set Ball1 . Heading to 270
  
```



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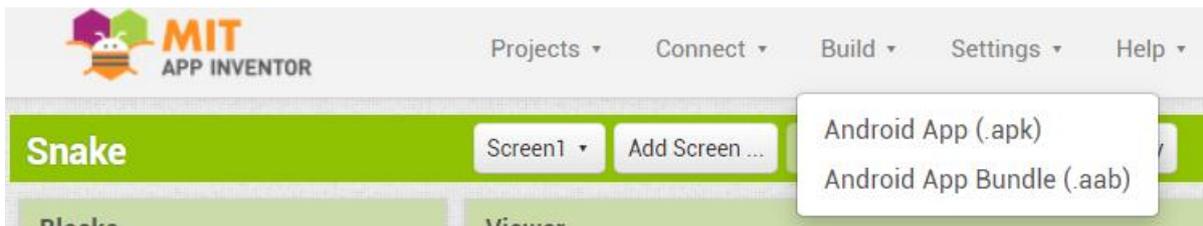


```
when Left .Click
do
  call Ball1 .MoveTo
  x Ball1 . X - 1
  y Ball1 . Y
  set Ball1 . Speed to 10
  set Ball1 . Heading to 180
```

```
when Right .Click
do
  call Ball1 .MoveTo
  x Ball1 . X + 1
  y Ball1 . Y
  set Ball1 . Speed to 10
  set Ball1 . Heading to 0
```

```
when Cherry .CollidedWith
  other
do
  set Cherry . X to random integer from 0 to Canvas1 . Width - Cherry . Width
  set Cherry . Y to random integer from 0 to Canvas1 . Height - Cherry . Height
  set score . Text to score . Text + 1
```

8) We **created** the **human machine interface** and **programmed** our application. Now we will **upload** our **game** to our **phone**. The phone we are using has to be **Android**. To do this click on '**Build** and '**Android App (.apk)**'. Wait and scan the **QR code** with your phone. **Download** your game.



Good Game!

The game is not perfect and even has its shortcomings. Improve your game!

You can also create another game if you wish.