FOOD CHASE GAME: PART 1

In this unit, you will create an animated game where you chase food and grow bigger!

DESIGNER

1 Login to the MIT App Inventor website (http://ai2.appinventor.mit.edu) and open the FoodChase_template project provided by your teacher.

2 Add the following components, and update their properties as shown in the table below.

Drawer	Component	Name	Property	Setting
Drawing and Animation	Canvas	Canvas1	*Width* *Height*	**"Fill Parent"** **"Fill Parent"**
Drawing and Animation	Ball	RedBall	*Radius* *PaintColor*	**2** **Red**
Drawing and Animation	Ball	GreenBall	*Radius* *PaintColor*	**2** **Green**
Drawing and Animation	ImageSprite (4)		*Width (all)* *Height (all)*	30 pixels 30 pixels
		Food1	*Picture*	**"bananas.png"**
		Food2	*Picture*	**"bread.png"**
		Food3	*Picture*	**"Cheese-310.png"**
		Food4	*Picture*	**"Corn-1000.png"**
User Interface	Notifier	Notifier1		

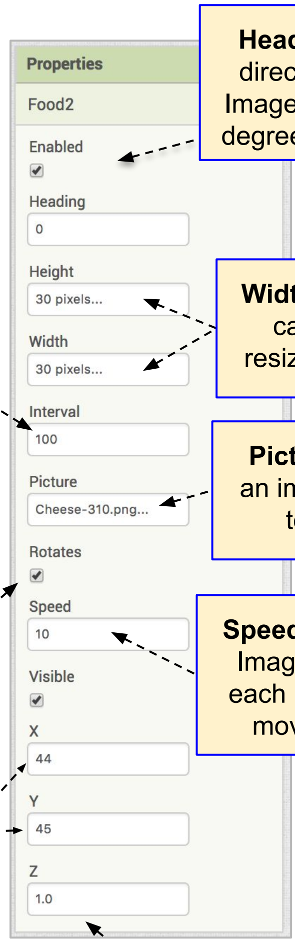
MIT APP INVENTOR

Copyright MIT 2021

GAME SPRITES

For this game, you have six sprites - 2 **Ball** sprites, and 4 **ImageSprites**. They all work the same way. **Ball** sprites are automatically round. **ImageSprites** let you change shape and appearance by attaching images.

3 Look below at the Properties panel for an **ImageSprite** to become familiar with each property.



Properties

Food2

Enabled ☑

Heading: 0

Height: 30 pixels...

Width: 30 pixels...

Interval: 100

Picture: Cheese-310.png...

Rotates ☑

Speed: 10

Visible ☑

X: 44

Y: 45

Z: 1.0

Heading is the direction of the ImageSprite (270 degrees is down).

Width and **Height** can be set to resize your sprite.

Interval is how often the ImageSprite moves. 100 means every 1/10th of a second. 1000 means every second!

Picture can be set to an image file uploaded to your project.

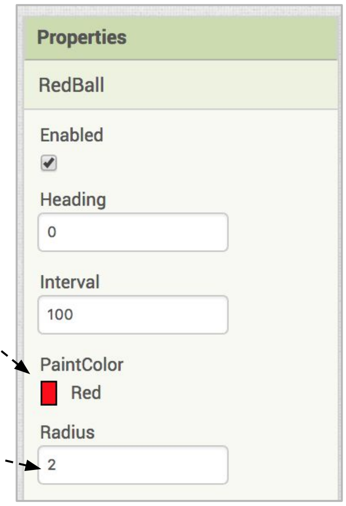
Rotates here is checked, meaning the ImageSprite rotates according to its heading.

Speed is how fast the ImageSprite moves each Interval. Here it moves 10 pixels.

X and **Y** are the positions of the ImageSprite (before it starts moving).

Z is not used in this app.

4 Note that the Properties for **Ball** components are very similar to **ImageSprites**, except for a few related to color and size.



Properties

RedBall

Enabled ☑

Heading: 0

Interval: 100

PaintColor: 🟥 Red

Radius: 2

PaintColor lets you change the Ball's color.

Radius lets you change the size of the Ball.

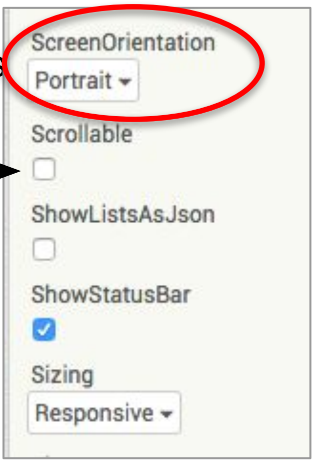
Copyright MIT 2021

SCREEN1

5 Set the properties for **Screen1** so the animations appear and work well. Click on **Screen1** in the Components panel,

and set its

- *ScreenOrientation* to **Portrait**
- Uncheck the *Scrollable* property.
- *Sizing* to **Responsive**


ScreenOrientation: Portrait

Scrollable: ☐

ShowListsAsJson: ☐

ShowStatusBar: ☑

Sizing: Responsive

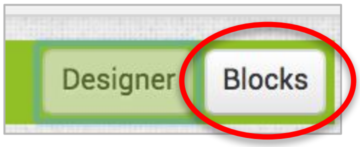
Scrollable property allow the user to scroll on the screen if checked. No scrolling allowed if unchecked.

Responsive *Sizing* changes the size of components based on the resolution of the device.

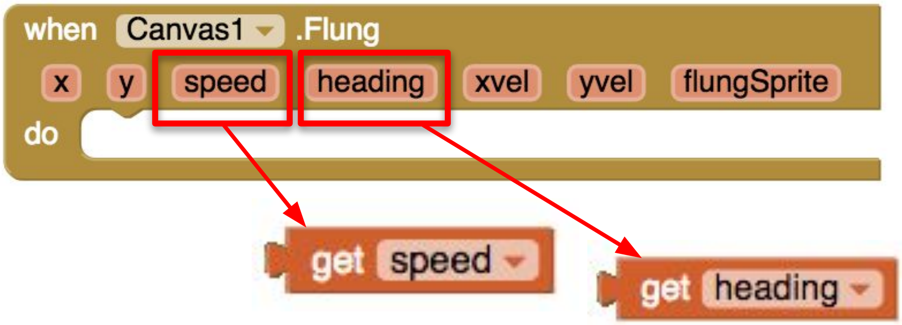
MOVING REDBALL

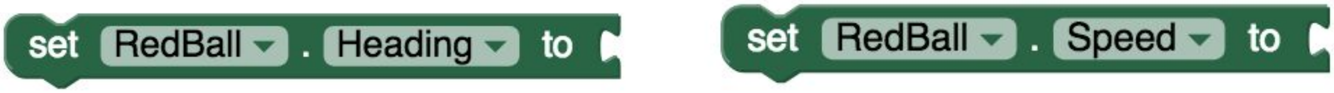
The **RedBall** will be controlled by the user, by a flinging action on the **Canvas**.

6 Switch to the Blocks Editor.



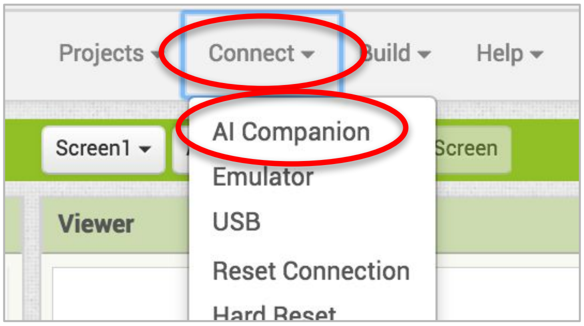
7 Using the following blocks, set the **RedBall's** *Heading* and *Speed* according to the heading and speed of the flinging event.





All the orange input parameters are information about the fling action captured by the app.

8 Try that out with the MIT AI Companion! Start MIT AI Companion on your device. Try flinging the red ball. It should respond to your fling actions.



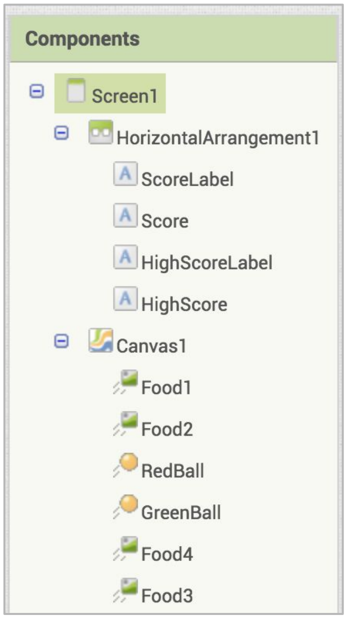
Copyright MIT 2021

COMPUTATIONAL THINKING CONCEPTS

The following are the Computational Thinking Concepts learned in Part 1.

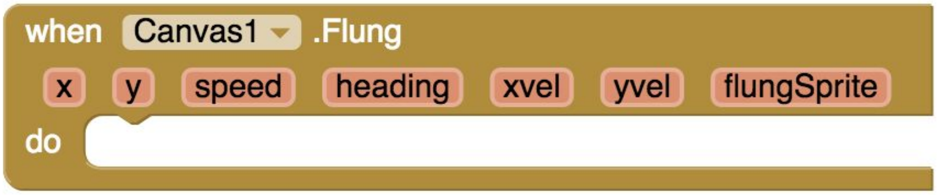
Food Chase Game

1. Naming:



```
Components
⊟ Screen1
    ⊟ HorizontalArrangement1
        ScoreLabel
        Score
        HighScoreLabel
        HighScore
    ⊟ Canvas1
        Food1
        Food2
        RedBall
        GreenBall
        Food4
        Food3
```

2. Events:



```
when Canvas1 .Flung
  x  y  speed  heading  xvel  yvel  flungSprite
do
```

Copyright MIT 2021