

Sketch and Guess

One person draws on their device - other players
guess what they are drawing!

Essential Questions

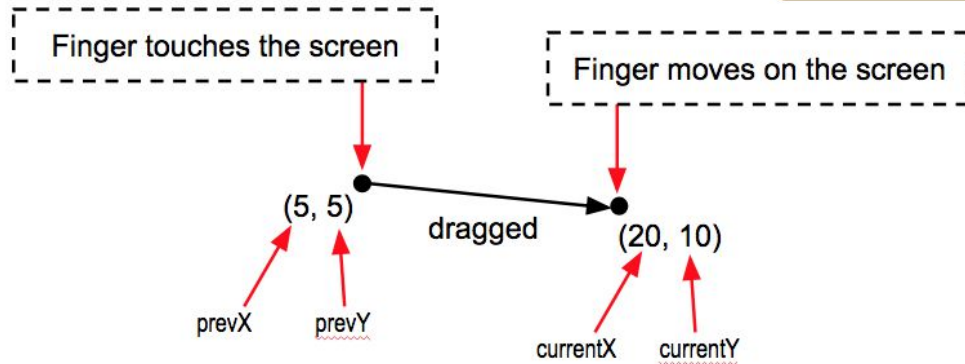
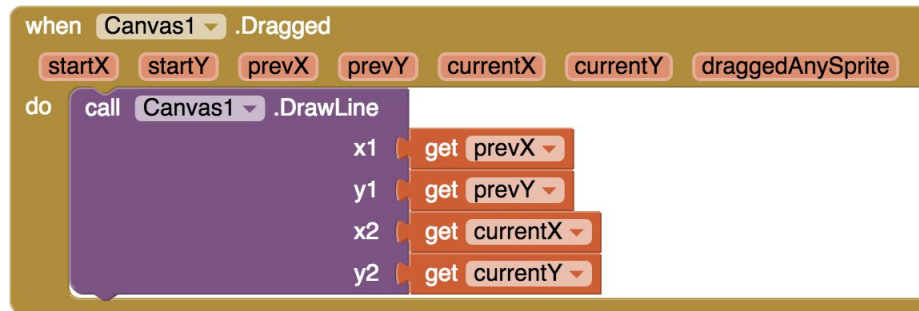
- How can drawing information be passed from one device to another within an app?
- How does an app manage multiple players?

Objectives

1. Make a multiplayer drawing app that uses CloudDB.
2. Use CT concepts such as sequences, events, conditionals, parallelism, naming, operators, and data manipulation in creating an app.
3. Use the boolean “not” and “and” operators and nested if statements correctly.
4. Demonstrate understanding of how to use CloudDB to pass multiple pieces of information between devices;.
5. Work collaboratively to code and test a working multiplayer app.

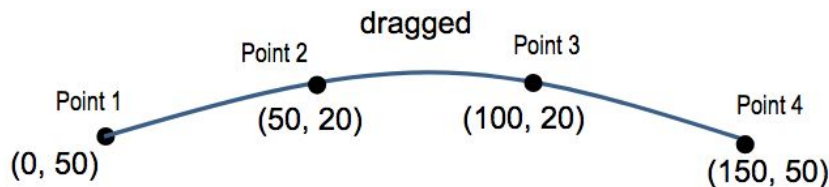
Lesson 1: Drawing on the Canvas

- Use Canvas1.Dragged event.
- Draw line from prevX,prevY to currentX, currentY.



Lesson 1: Drawing on the Canvas

- As the user drags, a series of tiny lines are joined to make the drawing.



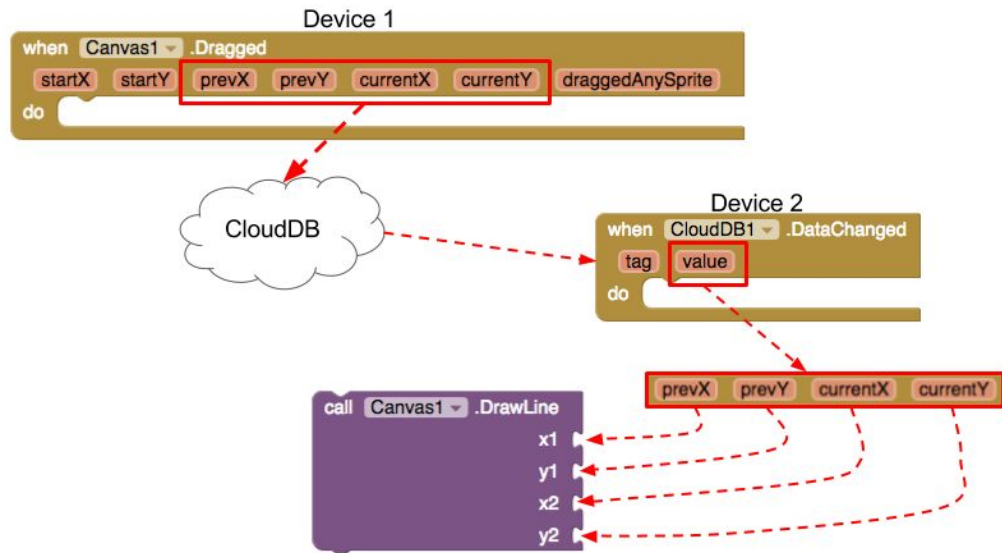
Lesson 1: Complete tables on pages 2,3 of Student Guide Part 1:

Lesson 1: Simple drawing app

Complete Student Guide Part 1:

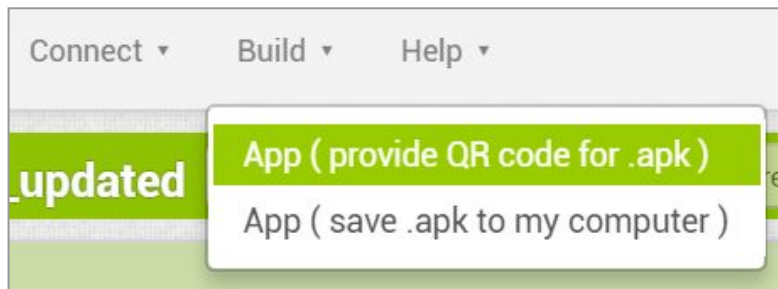
Lesson 2: Drawing over Devices

- Store the drawing information in **CloudDB**.
- **DataChanged** event retrieves the information on other Devices.
- Because 4 values are stored, use a list to store them.



Testing

Because you are testing with multiple devices, instead of connecting with MIT AI2 Companion, build the apk (use QR Code option) and download to device to test.



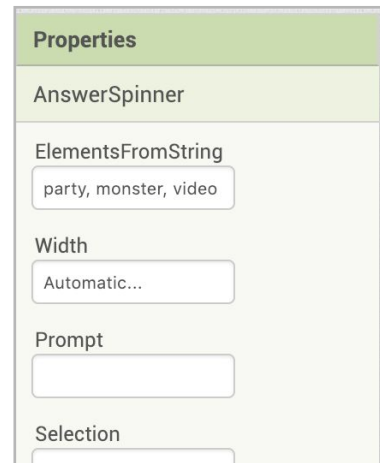
Note this installs the app on your device.

Lesson 2: draw on one device, see it on a second

Complete Student Guide Part 2:

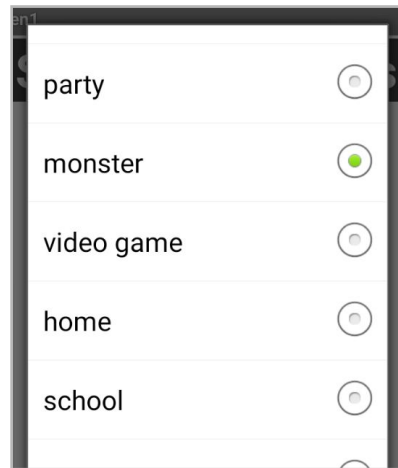
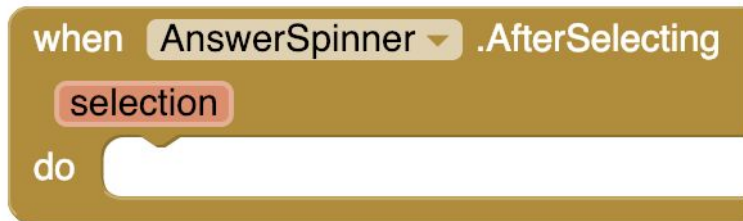
Lesson 3: Spinner Component

- Allows user to choose from a list.
- Set the list items in *ElementsFromString* property. ----->
- Or you can set it in the Blocks Editor.



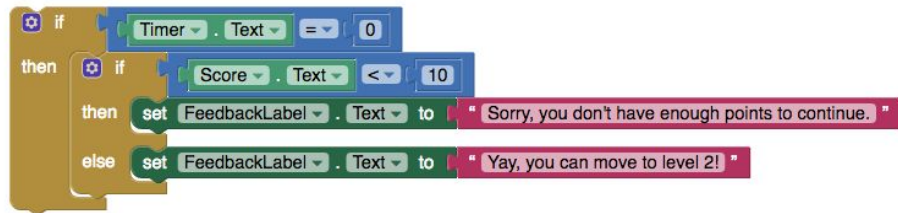
Lesson 3: Spinner Component

- User chooses an item in the list. ----->
- AfterSelecting event is triggered.



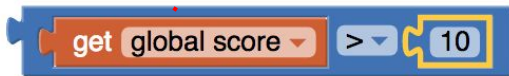
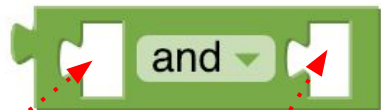
Lesson 3: Boolean operators

You have used nested if blocks, where if blocks are nested inside other if blocks.



Another way to test for multiple conditions at the same time is with the **and** and **or** blocks.

and (both must be true)



or (at least one must be true)



Lesson 3:

Complete Advanced Conditionals Worksheet

Lesson 3: Boolean variables

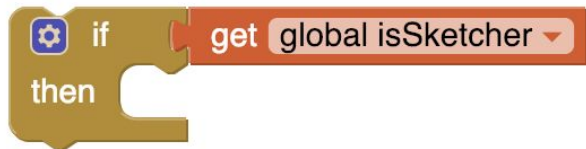
- You can set variables to the logical value of **true** or **false**.
- These variables are called “boolean” variables.
- Because they are **true** or **false**, they can be use as a condition in an **if** block.



set global isSketcher to true



set global isSketcher to false



if then
get global isSketcher

same as



if then
get global isSketcher = true

Lesson 3:

Complete Student Guide: Part 3

Lesson 4: test if guess is correct or not

Complete Student Guide: Part 4

Lesson 5: Continue completing app or Complete Student Guide Challenge:

Vocabulary Words

Spinner

Spinner.Elements

Boolean operators

and

or

Boolean variables