MIT APP INVENTOR

DAY 5

INSTRUCTIONS

Welcome to the course on MIT App Inventor. We will be using Zoom Application for delivering this course. Please adhere to the following instructions during the presentation.

- ❑ All of the participates other than the host are requested to mute (Alt+A) their microphone unless otherwise specified.
- ❑ Please use the chat window to type in your doubts and response to questions/tasks.

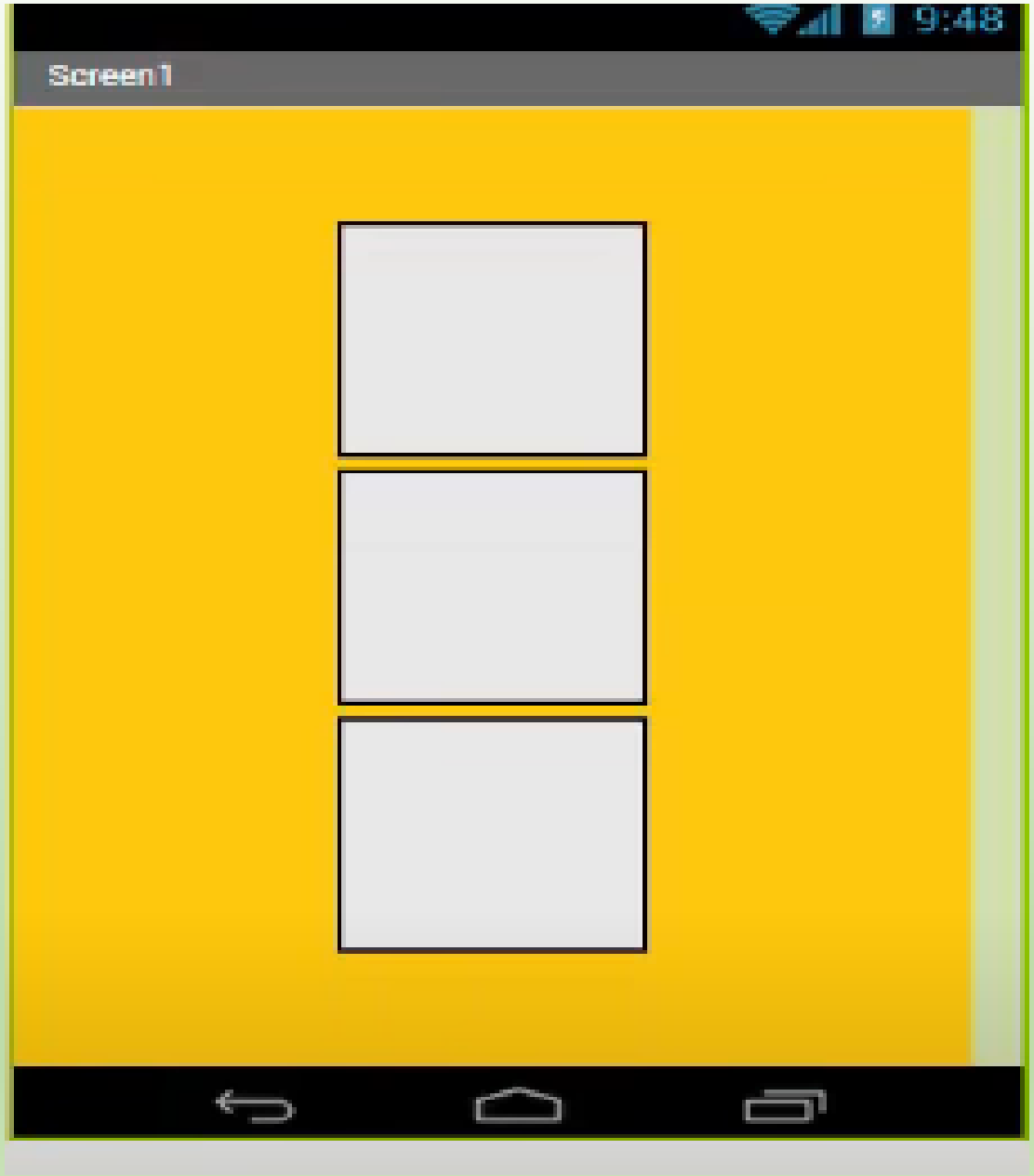
OVERVIEW

❖**Fidget Spinner :**

- Using speed and friction in the app.
- Activity for student (build your own app).

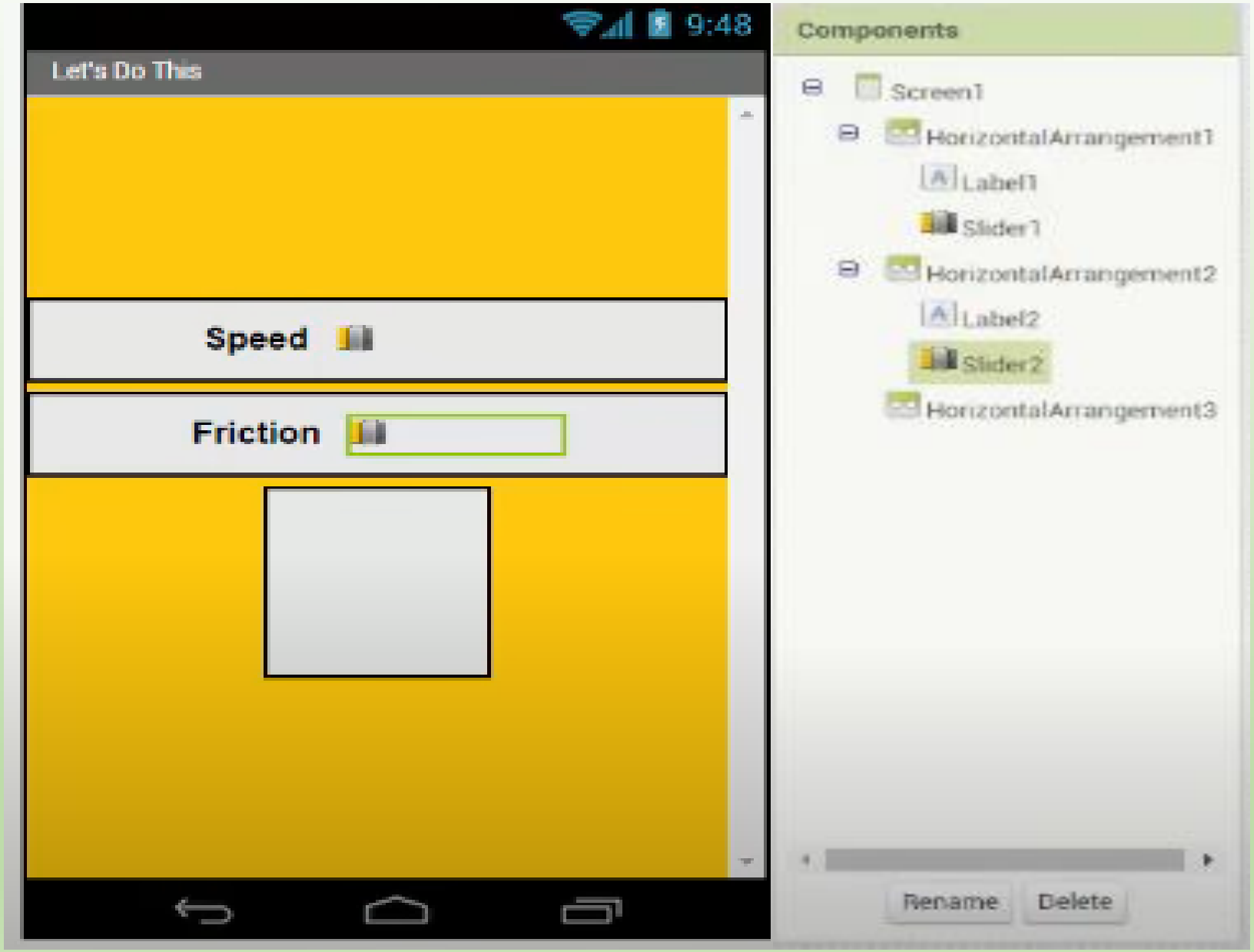
❑ App 1: Fidget Spinner

- Click on layout and drag three HorizontalArrangement and put it below each other .
- Change AlignHorizontal to center.
- Change AlignVertical to center.
- Change screen background color if you want .


9:48
Screen1

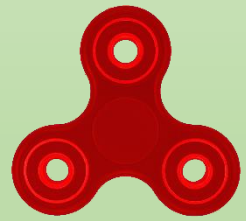
❑ Add speed & friction

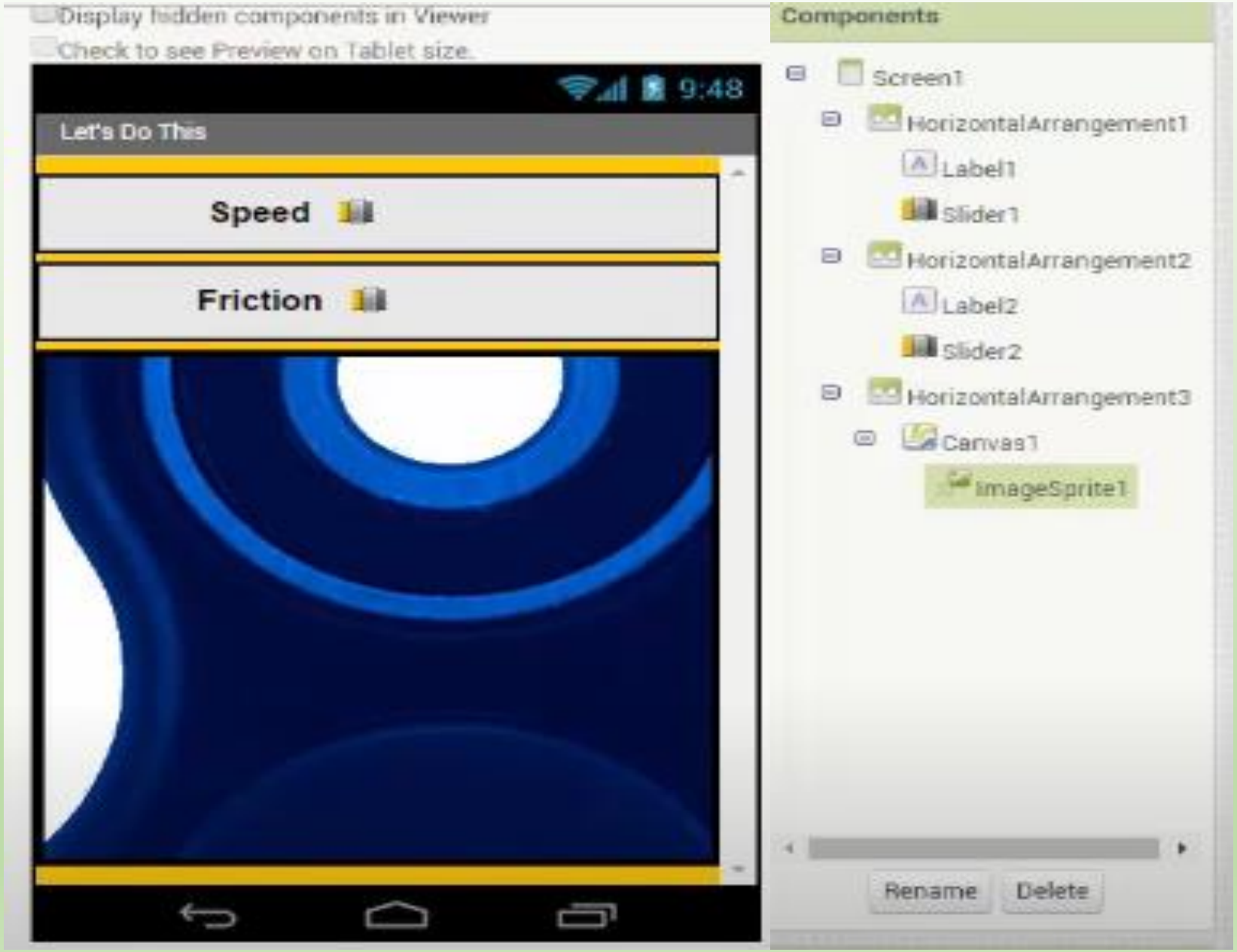
- Drag label and slider to HorizontalArrangement1 .
- Rename it to speed.
- Chang the HorizontalArrangement1 height to 10 percent and width to fill parent.
- Change slider width to 30 present , maxvalue to 10 , minvalue 1 and thumbposition to 5.
- Same process goes with HorizontalArrangement2 except rename lable2 to friction.


9:48
Let's Do This
Speed
Friction
Components
Screen1
HorizontalArrangement1
Label1
Slider1
HorizontalArrangement2
Label2
Slider2
HorizontalArrangement3
Rename
Delete

❑ Add Fidget Spinner

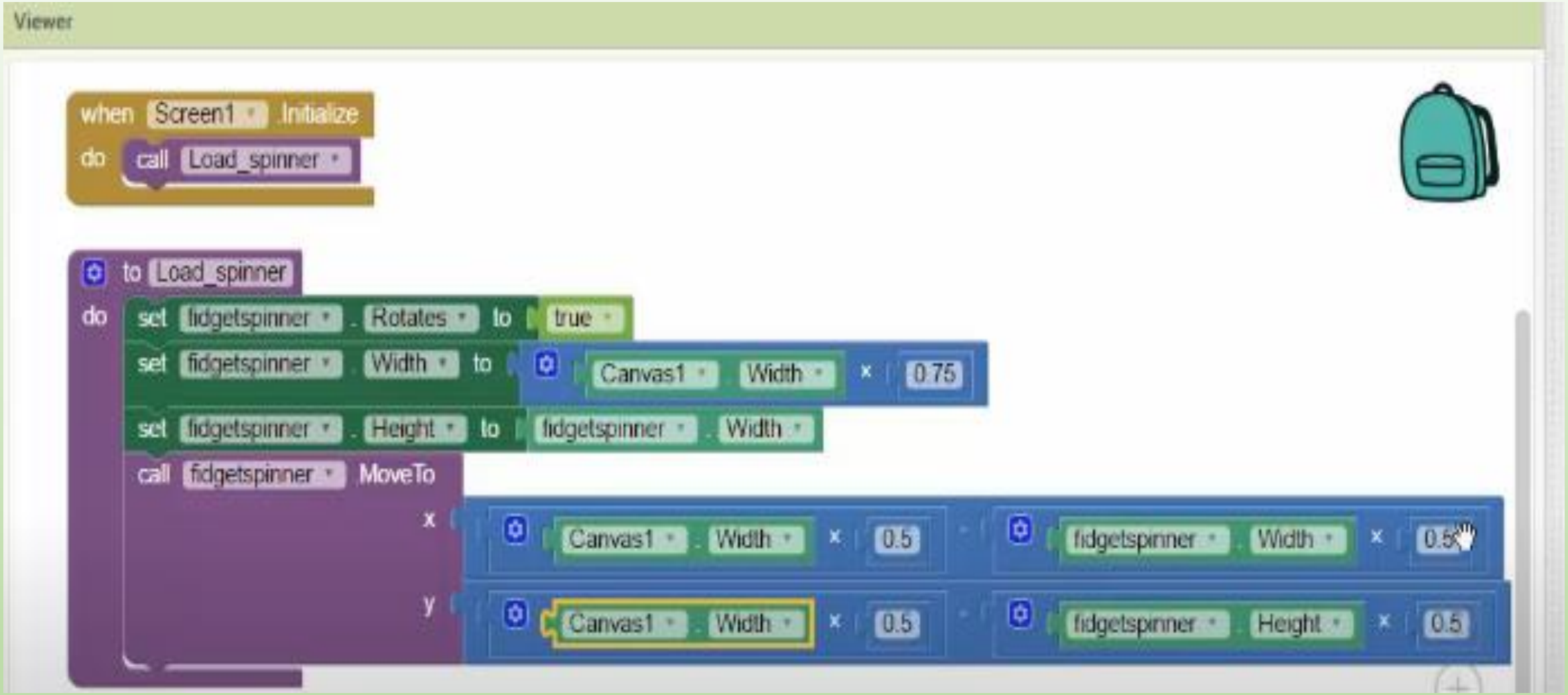
- Change HorizontalArrangement3 height to 70percent .
- Change HorizontalArrangement3 width to fill parent .
- Drag canvas to HorizontalArrangement3 .
- Change the height and width to fill parent.
- Drag image sprite and change height and width to fill parent .
- Copy the image file, then import it to image sprite and rename it to fidget Spinner.
- Unclick the rotates button in properties side.




Display hidden components in Viewer
Check to see Preview on Tablet size.
9:48
Let's Do This
Speed
Friction
Components
Screen1
HorizontalArrangement1
Label1
Slider1
HorizontalArrangement2
Label2
Slider2
HorizontalArrangement3
Canvas1
ImageSprite1
Rename
Delete

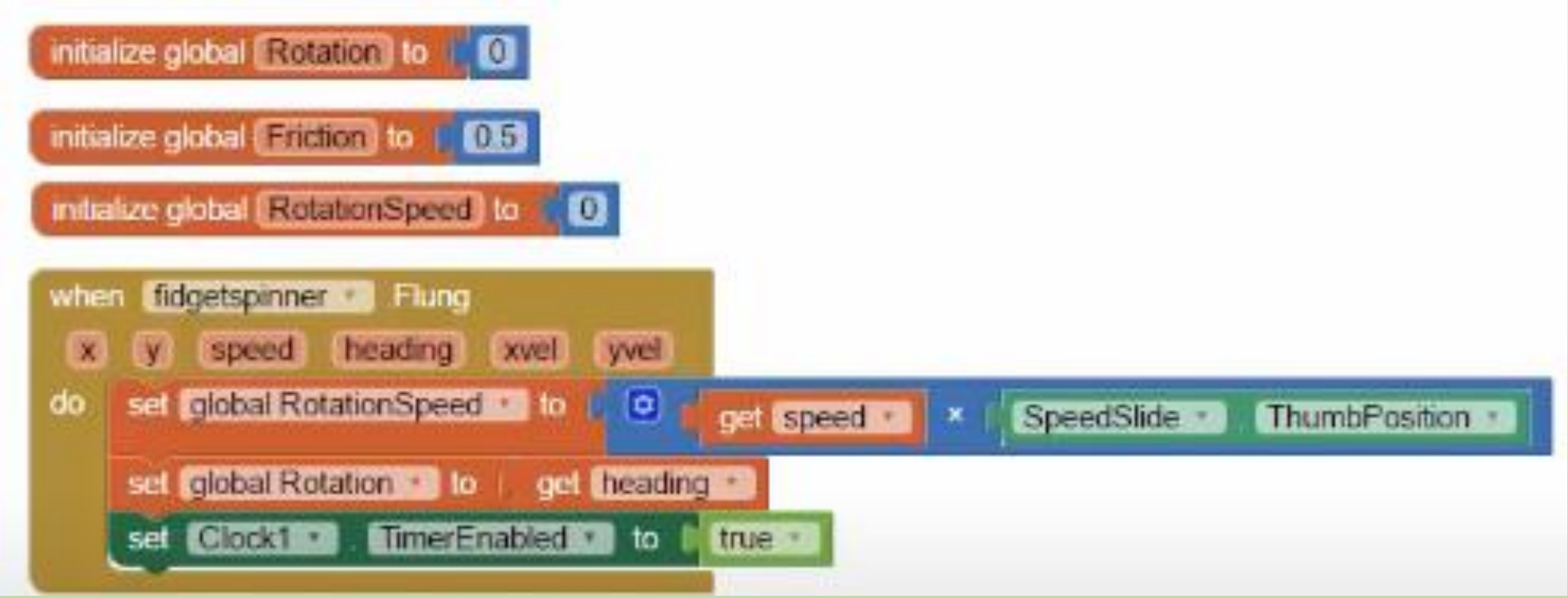
❑ Block editor

- User must be able to control rotation of the sprite manually .
- Change size width and height of the sprite.
- After initializing the basic setting of the fidget spinner you need to position this onto the screen .
- Call out the procedure when user enter the app.

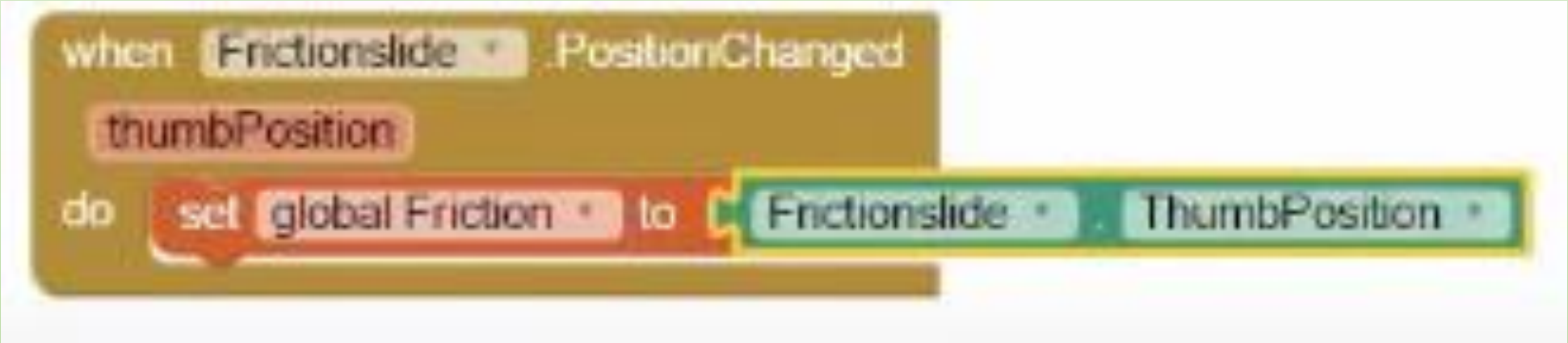

Viewer
when Screen1 . Initialize
do call Load_spinner
to Load_spinner
do set fidgetspinner . Rotates to true
set fidgetspinner . Width to Canvas1 . Width x 0.75
set fidgetspinner . Height to fidgetspinner . Width
call fidgetspinner MoveTo
x Canvas1 . Width x 0.5 - fidgetspinner . Width x 0.5
y Canvas1 . Width x 0.5 - fidgetspinner . Height x 0.5

❑ Add functionality to the fidget Spinner

- Set up variables rotation, rotationspeed and friction.
- Set up their values 0 to rotation and rotation speed, 0.5 for friction.
- Drag a clock to the screen so when user fling the fidget start running.
- Disable the Timer and set TimerInterval to 10.
- Rotationspeed is the speed multiply by the speed slider.


initialize global Rotation to 0
initialize global Friction to 0.5
initialize global RotationSpeed to 0
when fidgetspinner Flung
x y speed heading xvel yvel
do set global RotationSpeed to get speed × SpeedSlide ThumbPosition
set global Rotation to get heading
set Clock1 TimerEnabled to true

- When user fling the fidget the app detect a movement, something must be done about that.
- Set the friction value equals thump position.



❑ Clock function

- App must know where fidget is spinning.
- Set a condition if fidget is spinning, speed will keep going down, otherwise it won’t spin until user spin it .


when Clock1 Timer
do if get global Rotation ≤ 0
then if get global RotationSpeed > 0
then set global RotationSpeed to get global RotationSpeed - get global Friction
set fidgetspinner . Heading to fidgetspinner . Heading - get global RotationSpeed
else set Clock1 . TimerEnabled to false
else if get global RotationSpeed > 0
then set global RotationSpeed to get global RotationSpeed - get global Friction
set fidgetspinner . Heading to fidgetspinner . Heading + get global RotationSpeed
else set Clock1 . TimerEnabled to false

❑ App 2: Create an App

- Build an app and show it to your tutor.
- Enjoy using MIT App Inventor.

❑ HOME ASSIGNMENT

❑ INTERMEDIATE

- Sharing Component

https://appinventor.mit.edu/explore/ai2/file-sharing

- Photo Booth
https://docs.google.com/document/d/1trt9smFfyiztdVoaq5ONaOM8GWOMoSFxTRJ7Eyyajuw/pub

❑ ADVANCED

- Colored Dots
https://appinventor.mit.edu/explore/ai2/colored-dots

- Where's My Car?

https://appinventor.mit.edu/explore/ai2/android-wheres-my-car

THANK YOU!