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Chapter 5 Questions and Answers

1. How many camera(s) does the typical Android device have? What functions does the camera(s) typically serve?

A: Typical Android phones and tablets have 2 cameras, a front-facing camera and a back-facing camera. The front-facing camera is lower-resolution and is designed for lower resolution video calls. The back-facing camera is typically used to capture images and record HD video. (5.1 Introducing the Android Camera and APIs)

1. List 5 of the specialized KetaiCamera methods. Which one defines where to save the pictures?

A: onCameraPreviewEvent(), addToMediaLibrary(), autoSettings(), manualSettings(), enableFlash(), and disableFlash(). The method used to define where the picture is saved to is setSaveDirectory(). (5.2 Working With the KetaiCamera Class)

1. Look at section 5.5. Which method is first added to snap pictures and save them on the external storage? What functions does this method serve?

A: The savePhoto() method is added. This method takes care of capturing the image, and writing it to the device’s external storage into a folder that bears the app’s name. (5.5 Snap and Save Pictures)

1. What is PImage? List 3 PImage methods and briefly describe their function(s).

A: PImage is a datatype for storing images. loadImage() is used to load the pixel data for the image into its pixel() array. updatePixels() is used to update the image with the data in the pixels() array. get() is used to read the color of any pixel. (5.6 Superimpose and Combine Images)

1. When creating a magic marker game, what must happen to the values for an RGB color to be considered “blue”?

A: The blue() value needs to be high, while the red() and green() values must be low. (5.7 Detect and Trace the Motion of Colored Objects)

1. Look at the second lines of code in section 5.4. Which specific line of code is responsible for turning the flash on or off?

A: else if (mouseX >2\*(width/4) && mouseX < 3\*(width/4)). (5.4 Toggle Between the Front- and Back-Facing Cameras)

1. Look at the code under Figure 18. Which call function is used to center the camera images?

A: imageMode(). (5.3 Display a Back-Facing Camera Full-Screen Preview)

1. Which specialized KetaiCamera method(s) is used to toggle between auto and manual camera settings? Briefly describe the particular functions of the method(s).

A: autoSettings() and manualSettings(). manualSettings() locks the current camera exposure, white balance, and focus. autoSettings() lets the device adjust exposure, white balance, and focus automatically. (5.2 Working With the KetaiCamera Class)

1. What is KetaiCamera? What highly versatile Processing type do we use with it?

A: KetaiCamera is a Ketai library class that provides simplified access to cameras on a device. We use PImage with it. (5.1 Introducing the Android Camera and APIs)

1. What method do we use to display the camera preview after we update the screen?

A: We use Processing’s own image() method to display the camera preview. (5.3 Display a Back-Facing Camera Full-Screen Preview)