جامعة الفيصل
Alfaisal University

SE 328 L: Mobile Development Lab
CoE – Software Engineering
Alfaisal University
Lab 9: Machine Learning & Object Detection

Course Lecturer: Dr. George Violettas **Lab Instructor: Eng. Hoda Elsayed**

Spring Semester 2022

Expected Time: 2 hrs **Student Name: Mohammed AlAlem**

Objectives

The objective of this lab is to:

- Getting introduced to a MIT App Inventor Tool
- Merging Machine Learning concepts with mobile development
- Learn about object detection and Look extension for neural network processing

Learning Outcomes	Ex #
CLO3. Use Audio and other objects, other Android layout tools (SO1)	1

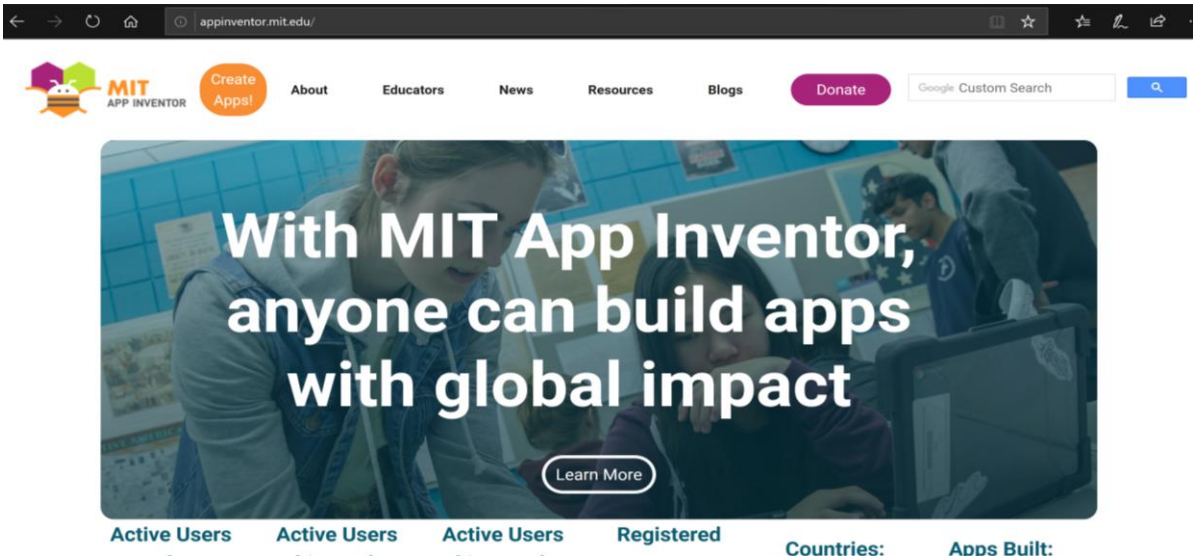
Submission Style:

- Add screenshot of the final mobile app screen you built to this template
- Add screenshot of the blocks coding you wrote to this template

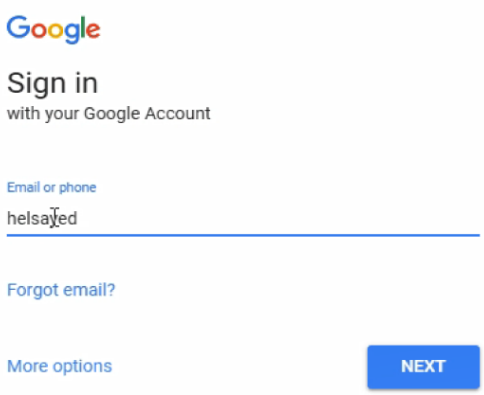
Ex#	*Grade*	*Out of*	*Grader Comment(s)*
Design (Run)		*5*	
Code		*5*	
Total		**10**	
Signature			

Create a project on MIT App Inventor (After Setup)

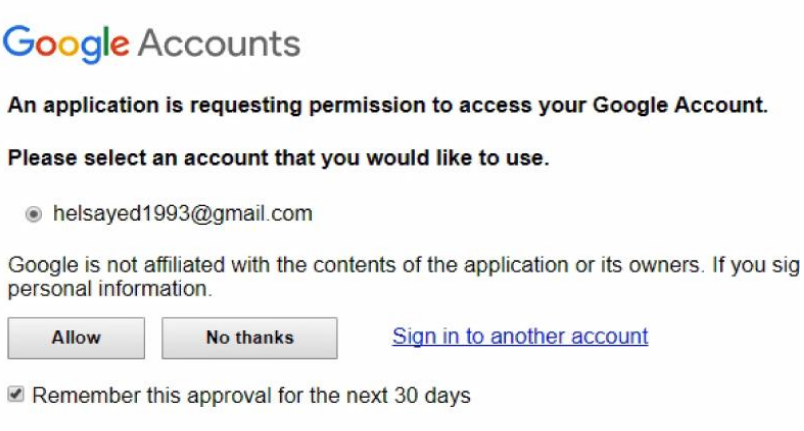
1. Open the following link on Chrome: http://appinventor.mit.edu/explore/ai2/windows.html then click on create apps button



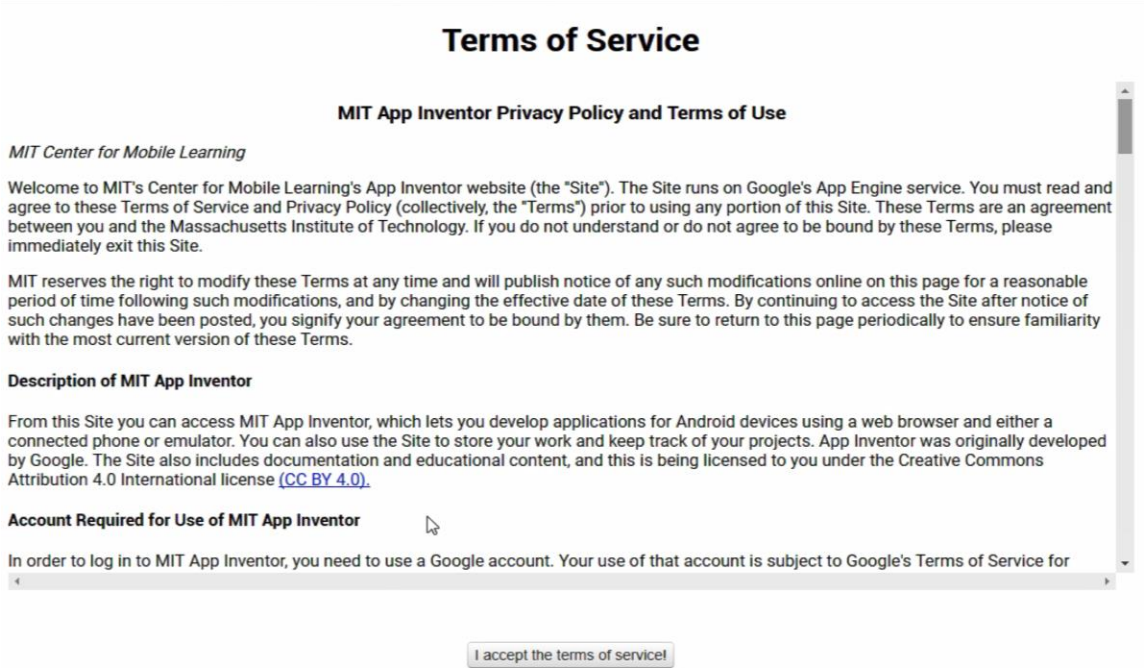
2. Sign in using your Gmail account:



3. Allow it a permission

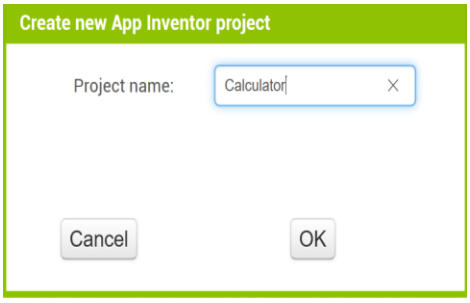


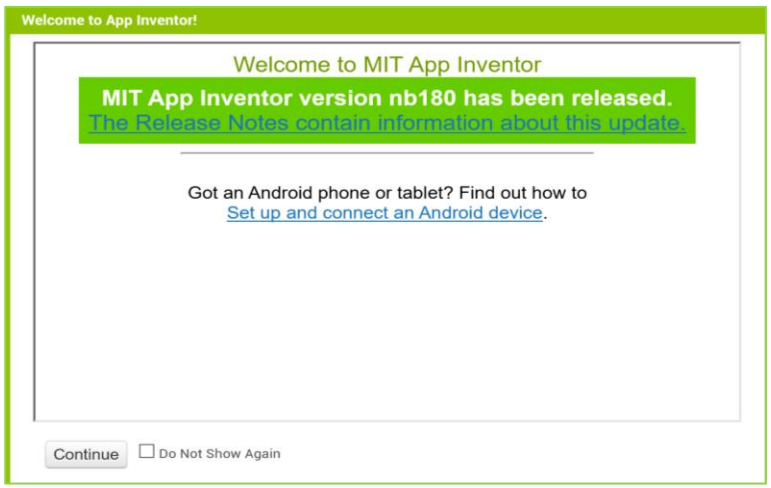
4. Accept terms of services:



5. Click on start new project

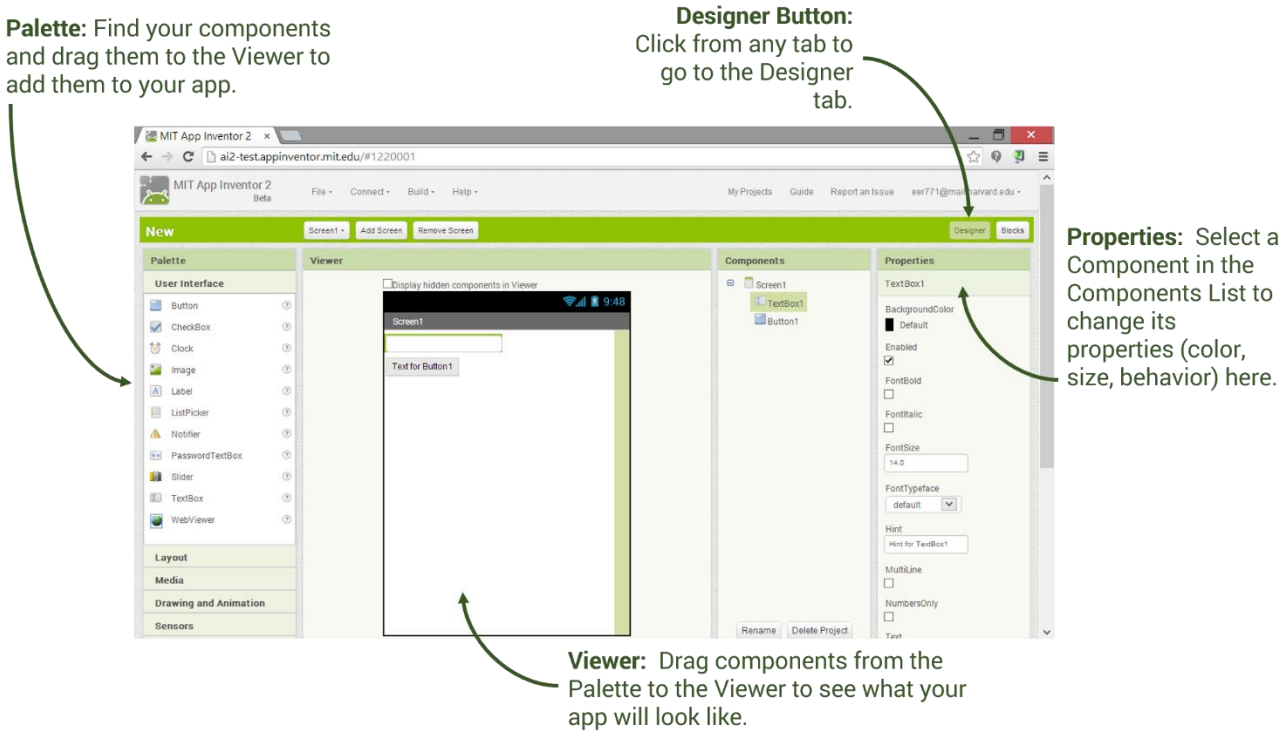
6. Enter a valid project name and click continue



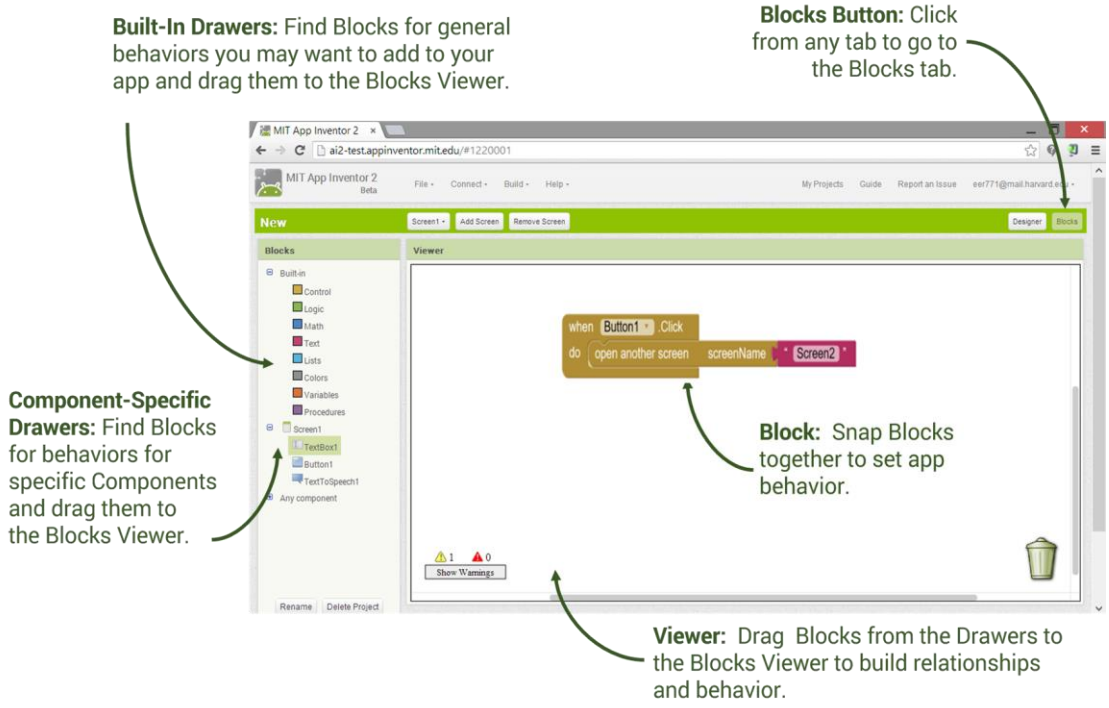


Understand your IDE:

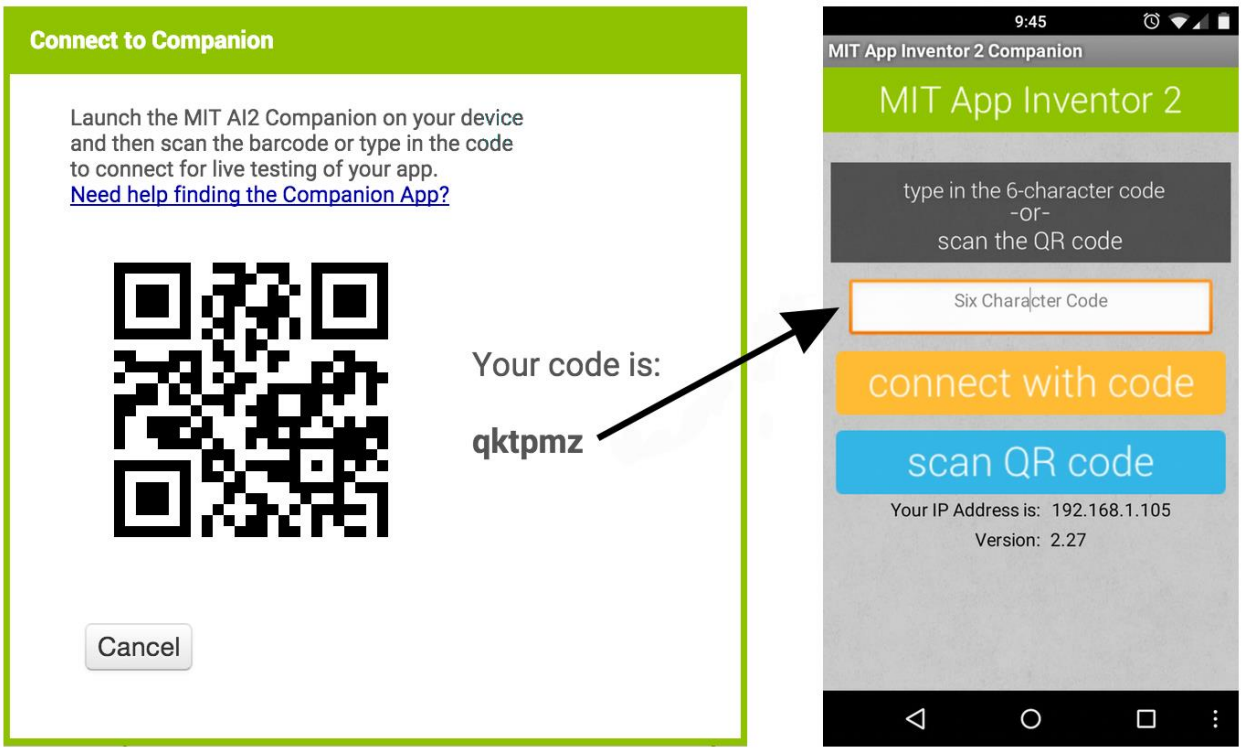
1. Design View



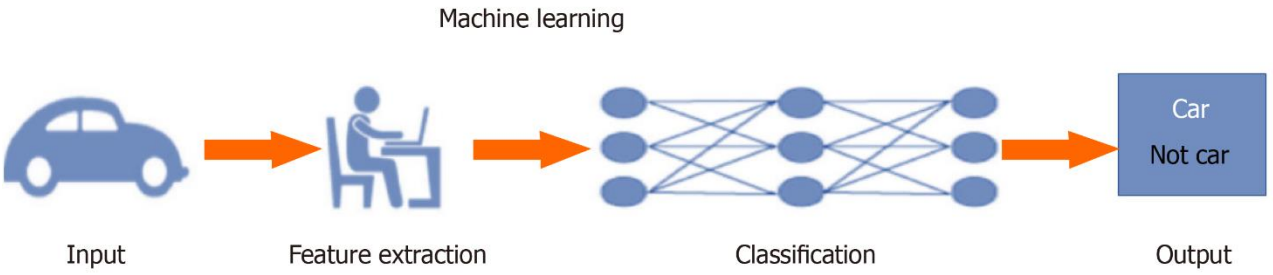
2. Blocks View

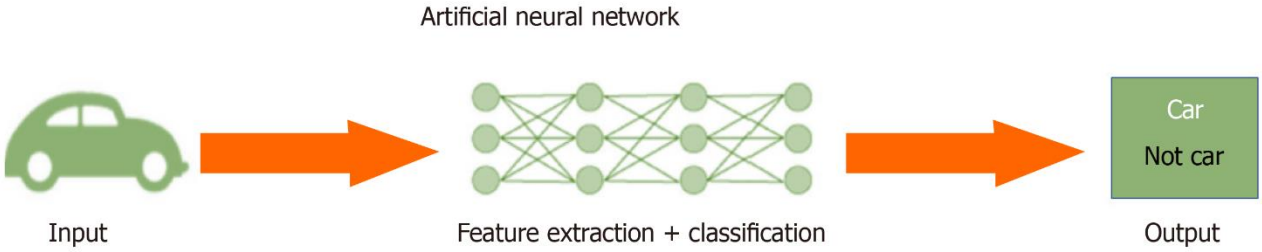


Install MIT AI2 Companion on smart phone  then click on connect (companion option) to scan generated QR Code:



What is Neural Networks classification:

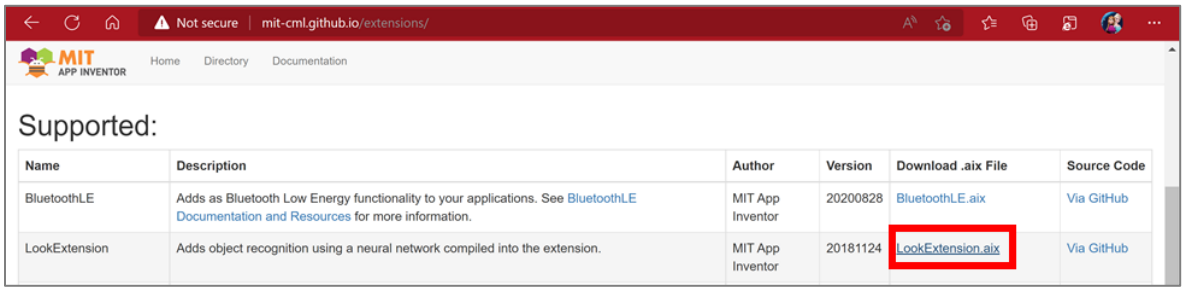




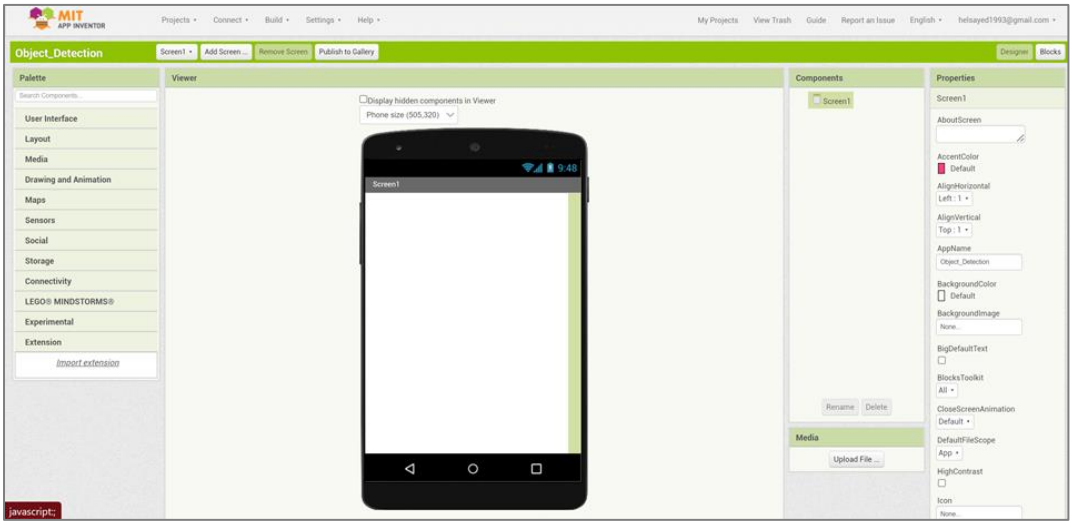
Exercise: Object Detector

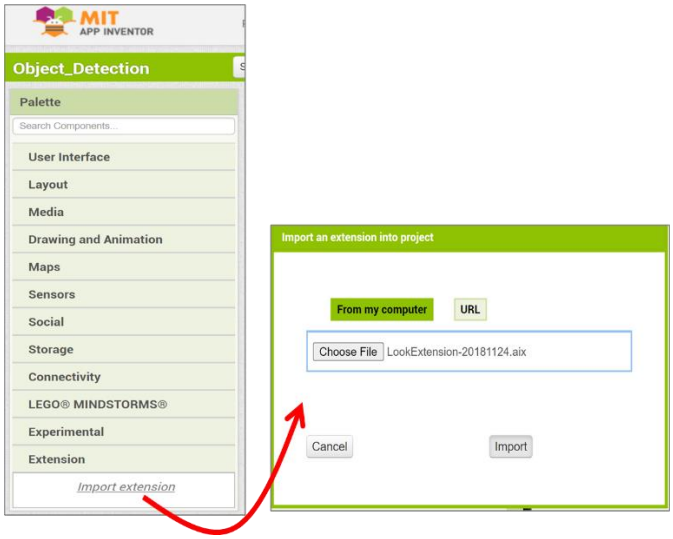
Follow these steps to build a mobile application that scans an object and scans it using Look library.

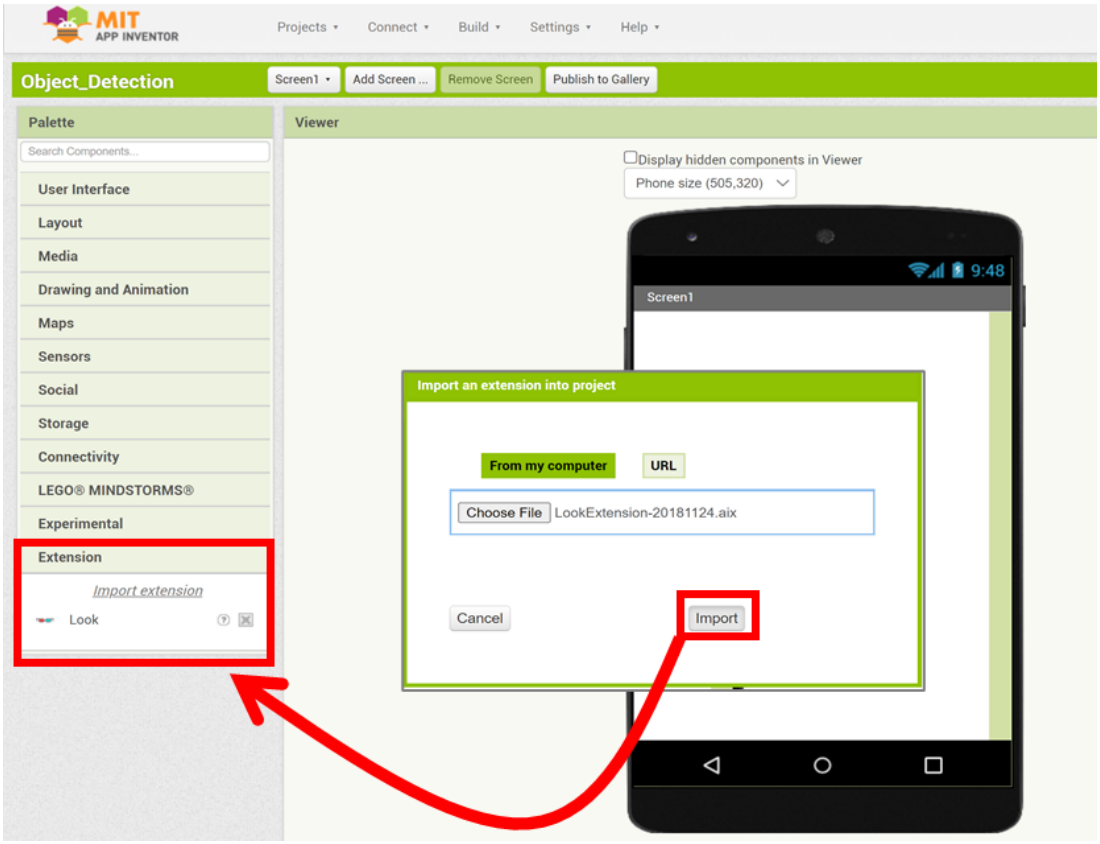
1- Open http://mit-cml.github.io/extensions/ and click on LookExtension.aia extension link to download



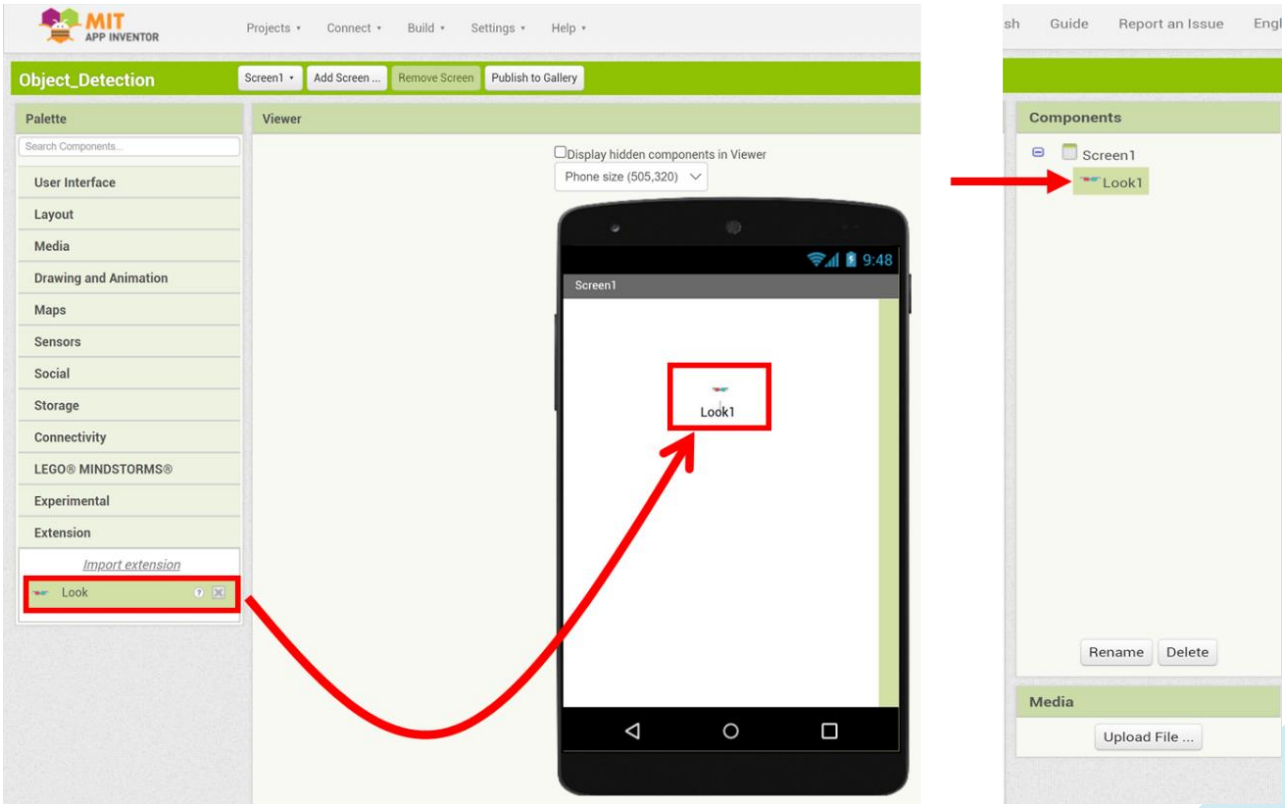
2- Open MIT project and scroll down to extensions then import it from the location on your PC



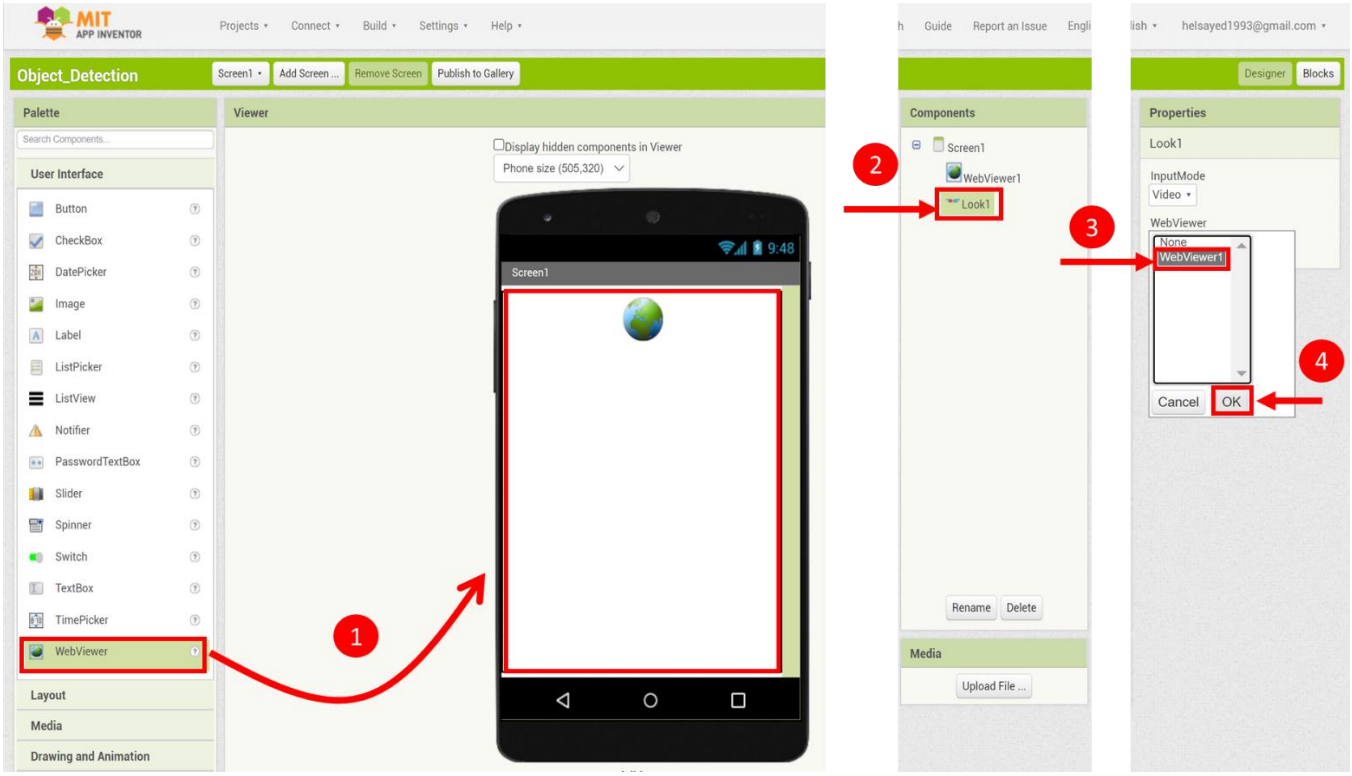




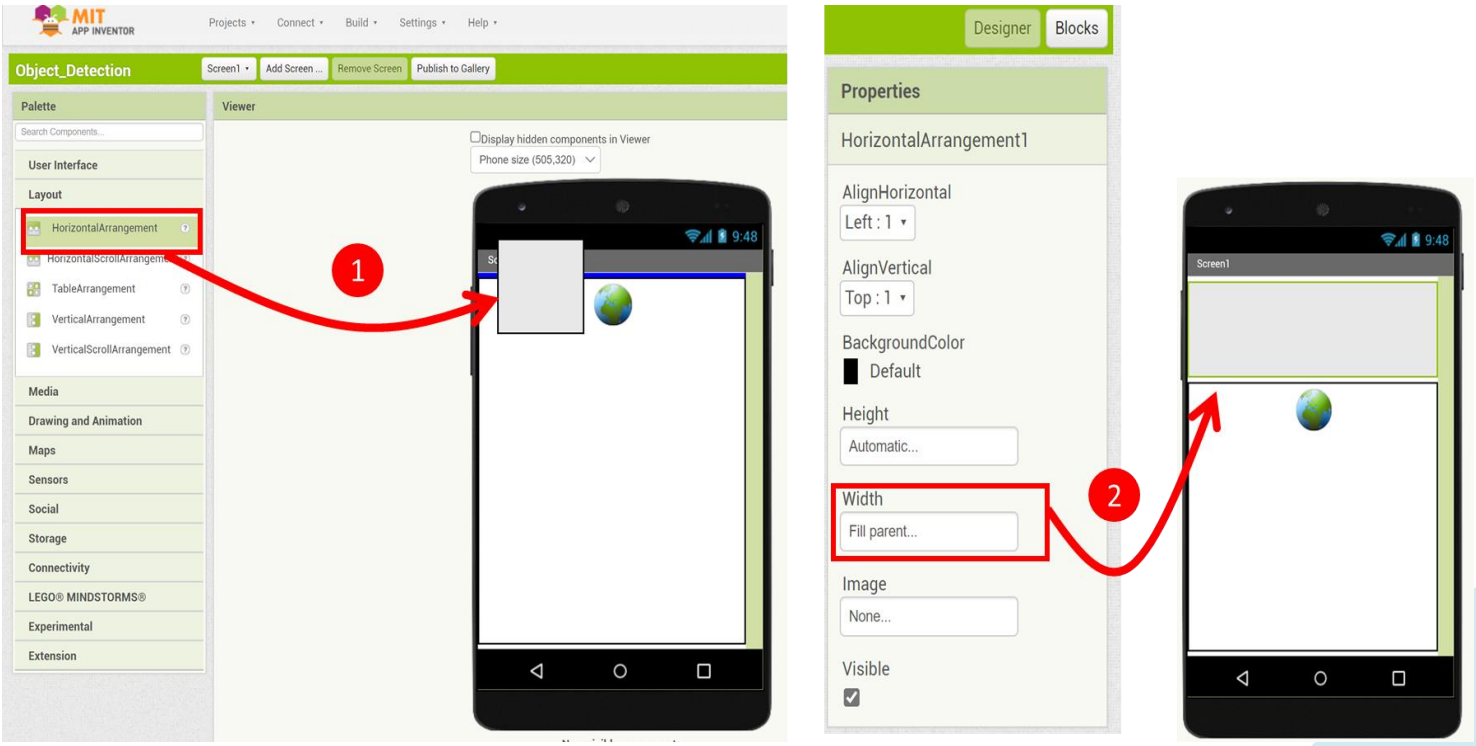
3- Drag and drop the extension into design area



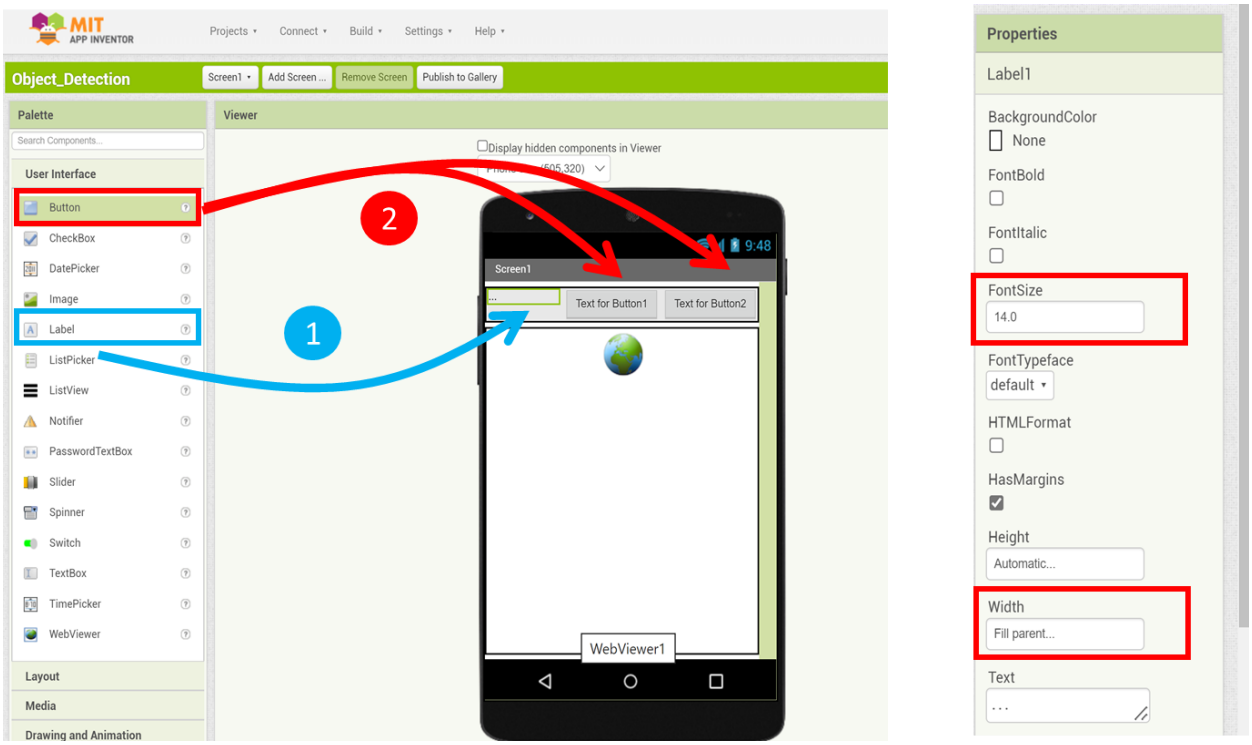
4- Drag and drop a web viewer into design area (from user interface palette) then change webviewer property of look component to be the web viewer you just created

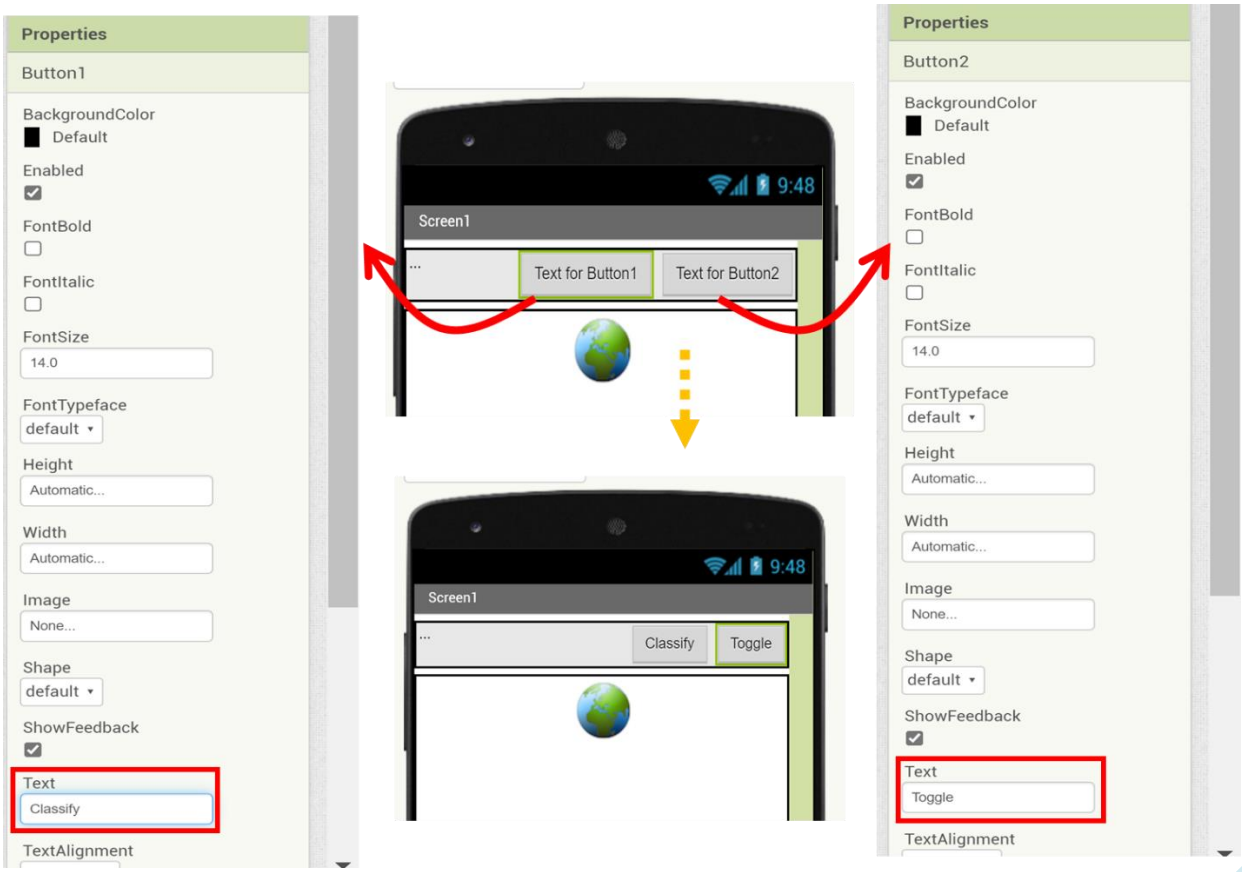


5- Drag a horizontal arrangement to the layout above the webviewer then set width property to fill parent

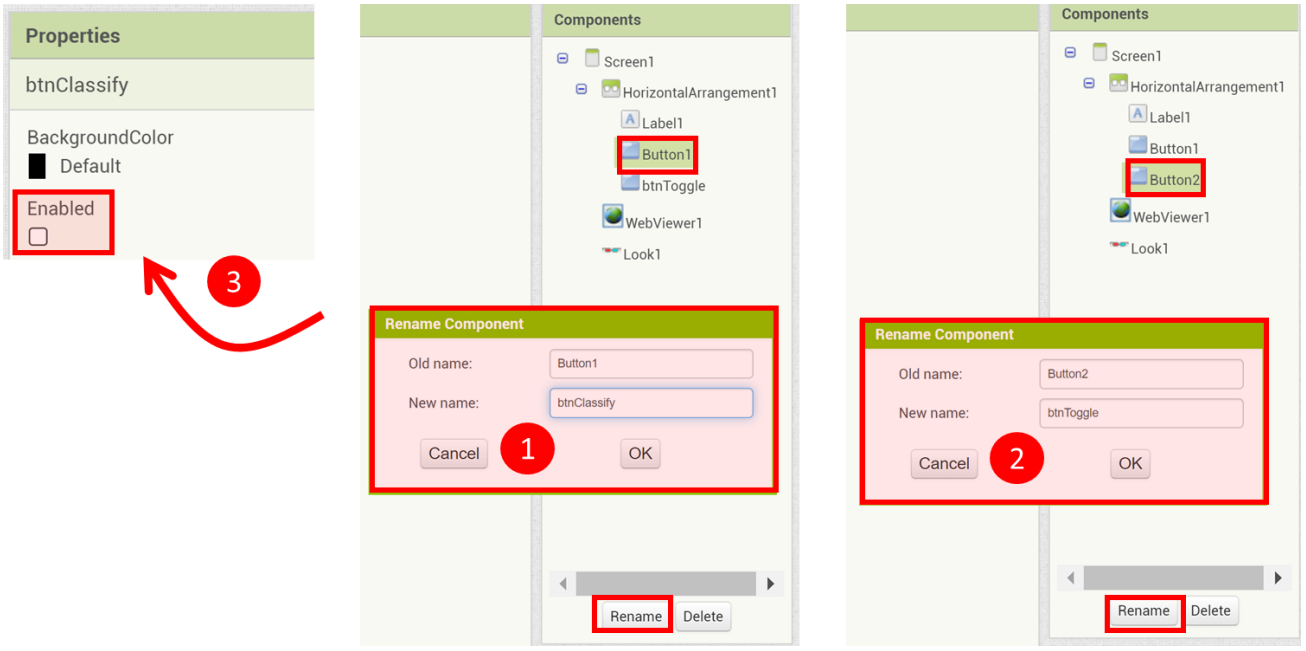


6- Drag a label and 2 buttons inside it with these properties





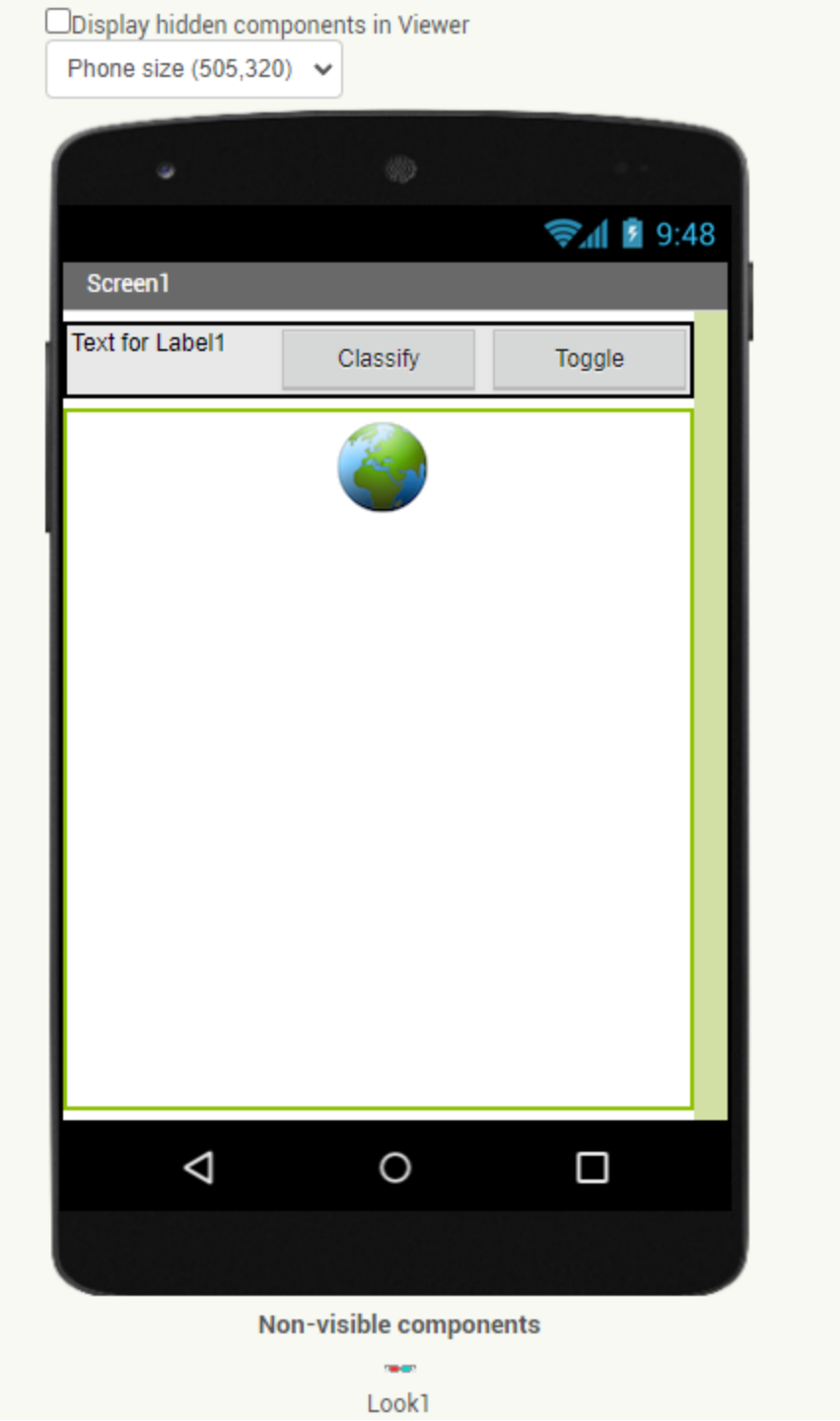
7- Rename buttons if needed and disable classify button by default



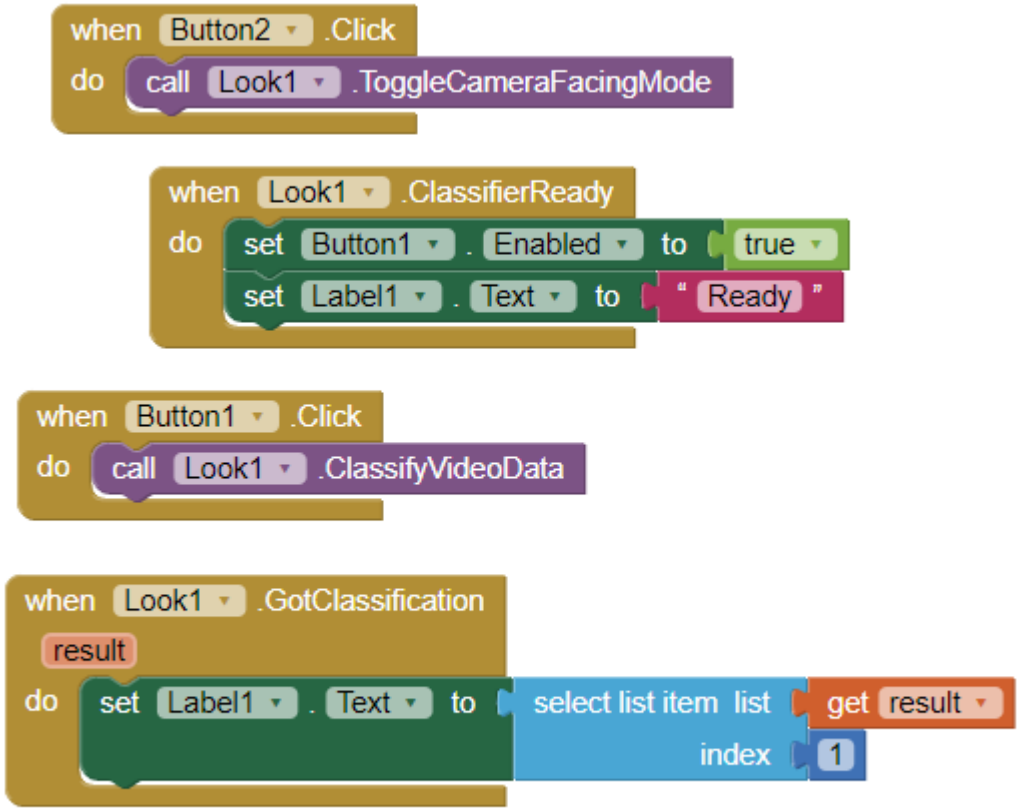
8- Play around with the properties for a better look and add Backend Code

Answer:

Layout


Display hidden components in Viewer
Phone size (505,320)
9:48
Screen1
Text for Label1
Classify
Toggle
Non-visible components
Look1

Code



Object detection runs (2 exs)

Look Extension are not compatible with IOS there is a demo video showing the error