ImageGuess

ImageGuess is an Android Application that features a Google Api, *Google API Vision,* and utilizes the users Android device's camera hardware. It features a dark layout, with a horizontal scroll view that holds three different options for the user to implement an image. It also features a space reserved for the image chosen in question, and a green "yes" button as well as a red "no" button, to confirm or deny that the image has been chosen correctly. Pressing either button will result in a different result based on the outcome, but more notably, pressing the "no" button will transfer the user to another activity where they will be asked to input the correct answer. In this new view, they can navigate back to the main page, or they can submit their answer to the Google API. I wrote this application because it was assigned for me to complete, and the general purpose for this Android application was for it to be a form of entertainment and interesting to the user. A particular application that I could potentially see this Android application applied to other than a game, is an image file organization tool, which groups images together based on image recognition compatibility.

System Design

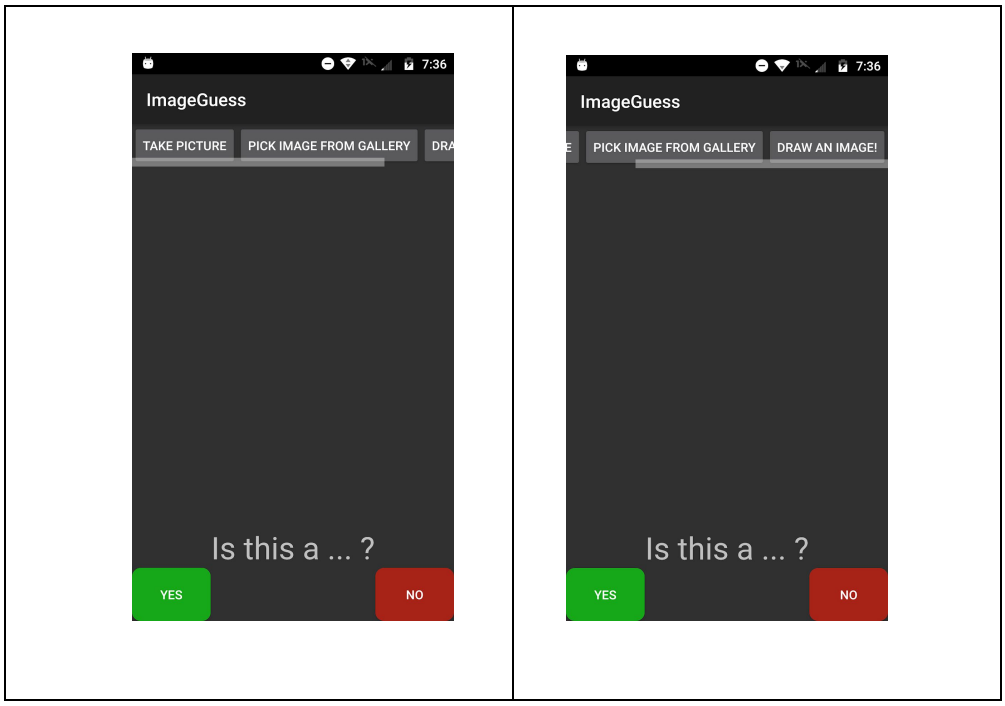
The requirements for ImageGuess are as follows: An Android device with Android 7.1.1 Nougat installed, at maximum, with functioning camera software and hardware, and enough device storage to install the app. In ImageGuess, the user is given three separate imaging options: taking a picture using their device's camera, choosing an image already saved in their device's gallery app, or to draw an image themselves. Choosing either one of these options, will initialize and utilize the integrated Google API Vision, to analyze the image and present to the user its best guess as to what is depicted in the image. The user has the option to choose whether the Google API has guessed correctly, by pressing yes, displaying that the image was guessed correctly, or the option to press no, to display an option and a query for the user to input the correct answer themselves. If the answer the user has inputted is in the Google API's library of potential answers, it will say that there was a certain percentage that that was the answer, if the answer was not in the API's library, then the API will say that that answer was not in its library, and display the percentages of other potential answers. This Android application can be used for entertainment purposes to test the accuracy of the applications ability to accurately identify the objects in the user's images.

Usage

The directions to use the ImageGuess Android app are as follows:

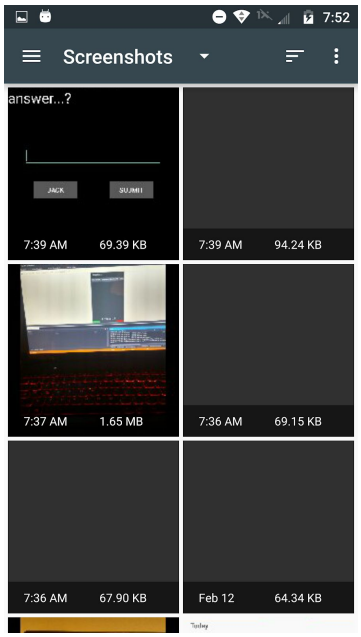
1. Open the ImageGuess Android application by pressing the app icon labeled ImageGuess.

2. Once opened, choose one of the three options presented in the horizontal scroll option wheel located at the top of the app. The options are: *Take a picture, Pick Image From Gallery,* and *Draw Image.* Note: Choosing either the *Take a picture,* or *Pick Image From Gallery* will result in a notification asking for permission to use and access your device's

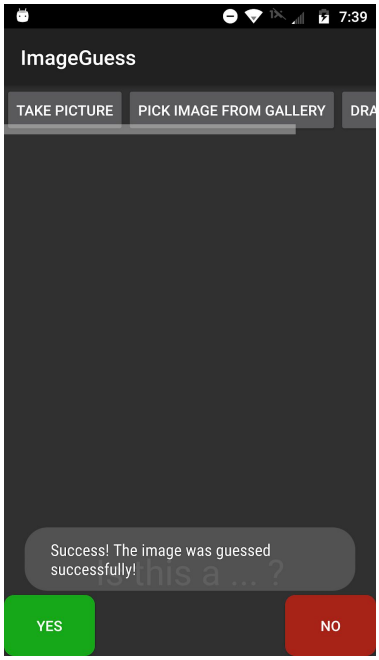


camera and/or gallery. Press Ok to allow access. The app will not work as intended if the app is not allowed access to the camera or gallery.

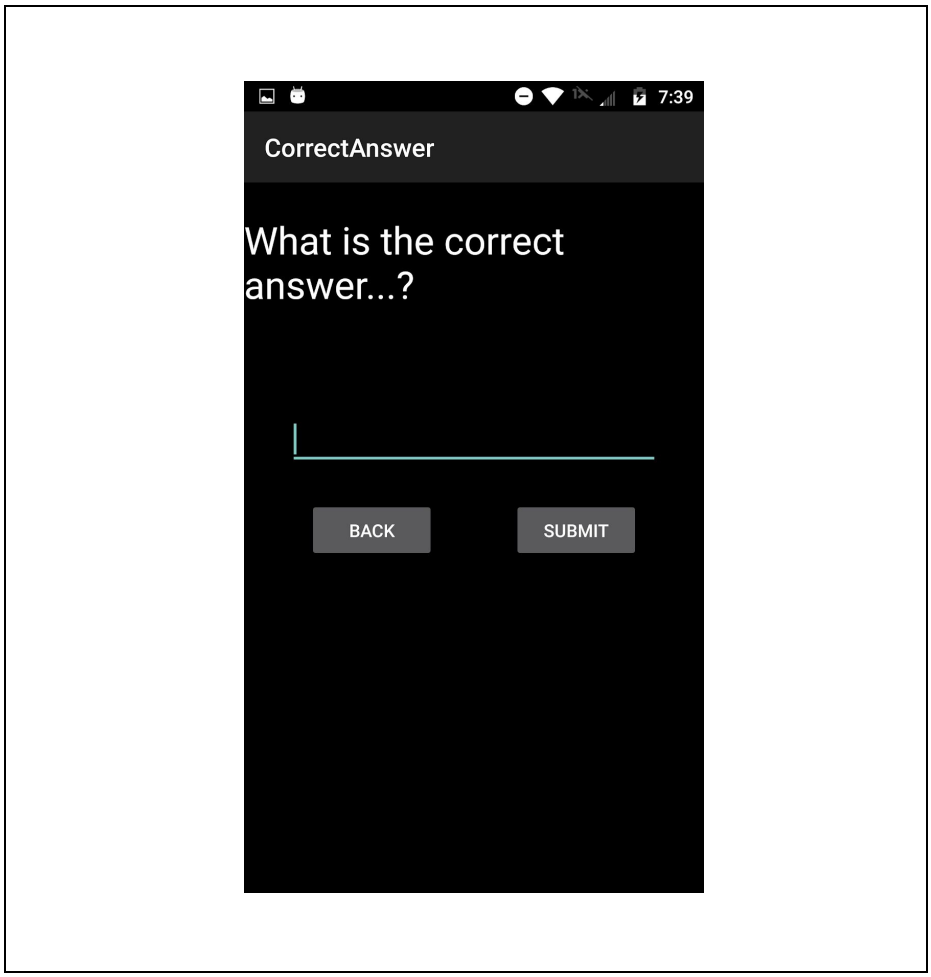
3. Once a picture has been taken, chosen from gallery, or drawn, confirm that is the image you would like to use, and that image will be set within the front page. The Google API Vision will assess the image you have chosen and display a question reading: "Is this a…(*insert image descriptor here*)?".



4. Confirm that the app guessed the image correctly by pressing the green ‘Yes’ button, in which a notification will pop up saying the image was guessed successfully! Once this is displayed, you can choose another image option of your choosing!



5. Press the red ‘No’ button to disprove that the app answered correctly. When pressed, another window will pop up asking you to input the correct answer. Input the correct answer in the text field provided and submit when ready. There is a back button to navigate back to the front page of the app if any mistakes were made.



6. Once the submit button has been pressed, one of two screens will appear based on the answer you have inputted. One potential outcome could be if the Google API recognizes the answer you have submitted, it will display that it had no idea that that was the correct answer, and promptly display the percentage of your answer in its integrated word library. The other outcome will be that the Google API does not recognize your answer at all, and display that that particular answer is not in its word library, and then display the all the potential outcomes and their percentages that are in the API’s library. On each of these screens, the user can navigate all the way back to the front page to start again.