PRODUCT SCANNER ON THE GO

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Project Guide
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NEED FOR SYSTEM

- What if you are in a foreign country where you do not speak the language and cannot understand what the logo means?

- Or while sitting next to a stranger and you want to know the brand of the product they are using?

- The proposed method can be used by fashion enthusiasts, flummoxed tourists, business travelers , product designing professionals and every person who wants to know a particular logo name.

Subway in Russian

NEED FOR SYSTEM

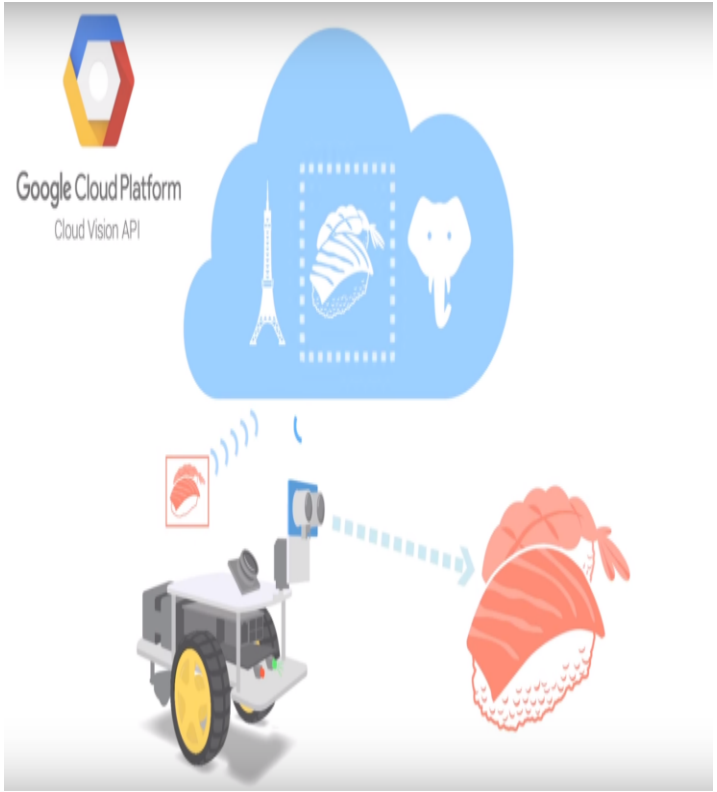
- A new survey found that 96% of millennials say that cameras are crucial to smartphones, and 68% of them said they would prefer to take a picture of something than have to type text in order to look something up.
- Very handy and simple application which gives quick information about the brand.

PROBLEM DEFINITION

- This application aims to develop a mobile product recognition and recommendation system.
- When a photo clicked from your mobile can rescue you -- and that too, quite regularly -- it changes behavior much like the way Internet text search changed our lives.
- Image processing is a technical analysis of the complex aspects of an image, deploying algorithms. The field borrows its power from the many recent advances in artificial intelligence and machine learning.

PROBLEM DEFINITION

- System will determine the logo of the product as well as certain label descriptions of what it perceives in the environment.
- The ability to robustly detect logos and extract them intact from volumes of documents is pivotal for logo recognition.
- System will determine brand name with a high level of accuracy and not taking into account any language parameters.



SYSTEM - OBJECTIVES

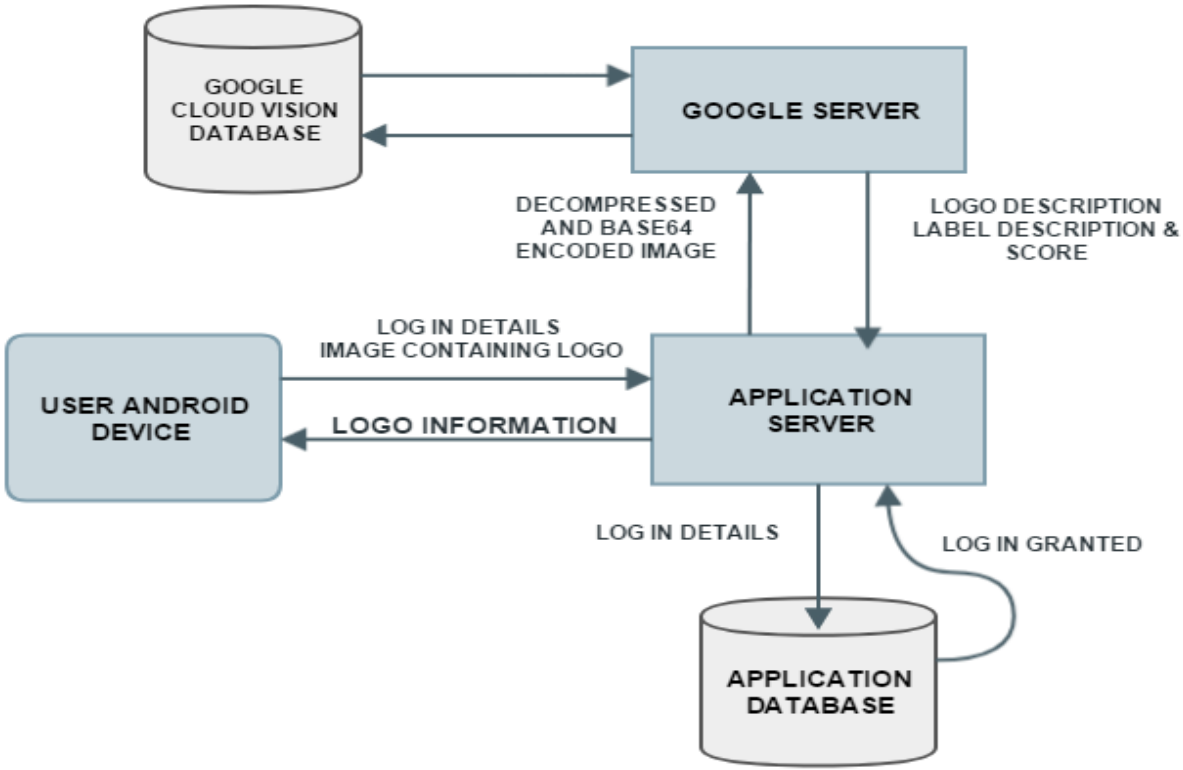
- Provide various fashion enthusiasts and others a solution to immediately find brand name and relevant information.
- Easy way to find information about the brand no matter which language the logo is in
- Very handy to use,reliable and very fast and very high accuracy.5

LITERATURE SURVEY- EXISTING SOLUTION

•The iOS app **Pounce** allows shoppers to scan images they spot in print media with their device's camera, then purchase the item online directly from the retailer running the advertisement.

•The app **Slyce** seamlessly handles barcodes, QR codes, coupons

SYSTEM BLOCK DIAGRAM



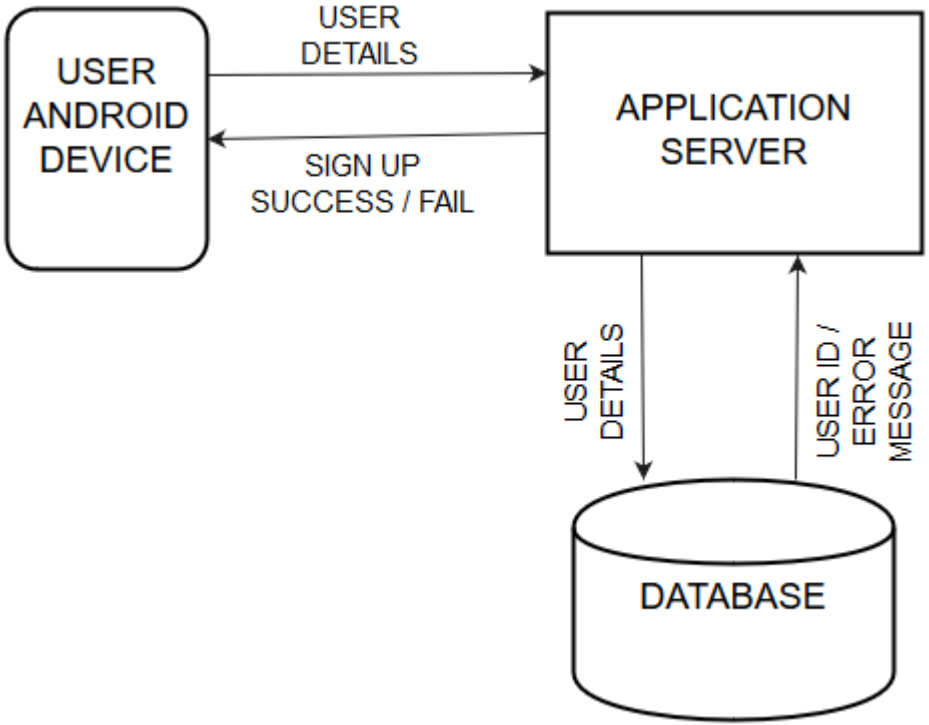
SYSTEM DESIGN

USER REGISTRATION

- User Details:

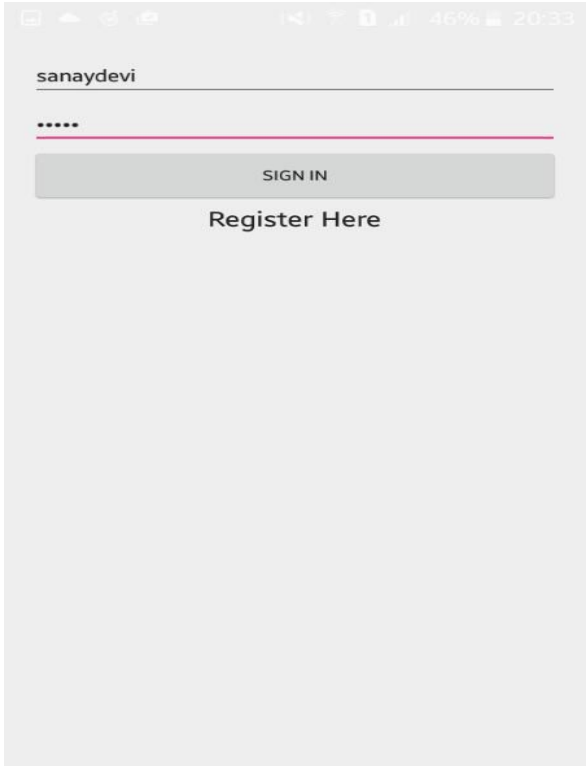
1) Name
2) User Name
3) Password
4) Age

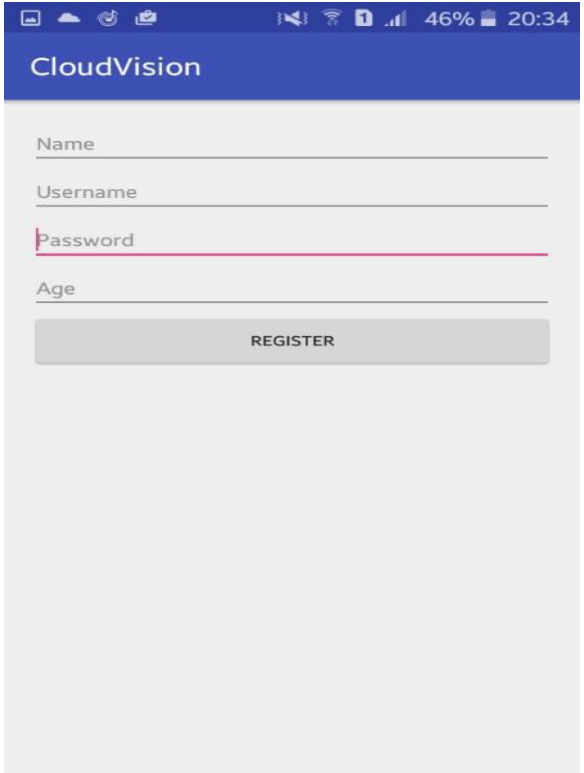
- If Sign Up Successful
  Assign User ID
- Otherwise
  Error Message



IMPLEMENTATION: LOG IN

- The user logs-in to the app by filling the his respective details.



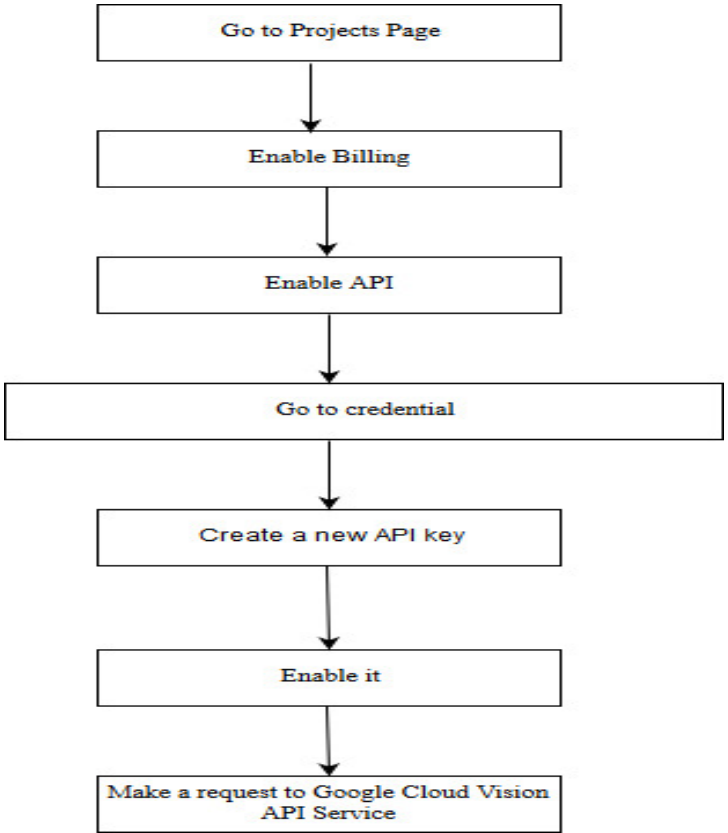


IMPLEMENTATION: Cloud Console

•As with all Google Cloud APIs, every call to the Vision API must be associated with a project within the Google Cloud Vision that has the Vision API enabled.

•We created a project called “Image Matching” in the Cloud Console.
Enabled billing and the Vision API.

•Created an API key:**AIzaSyCJtf5WXsV9ofF-45Z5_vKD0pfgXzB4ULw**



IMPLEMENTATION

The algorithm involves three main steps :

(a) Compressing and converting the image:

Data → Uri → bitmap → scaleBitmapDown → base64 encode the image.

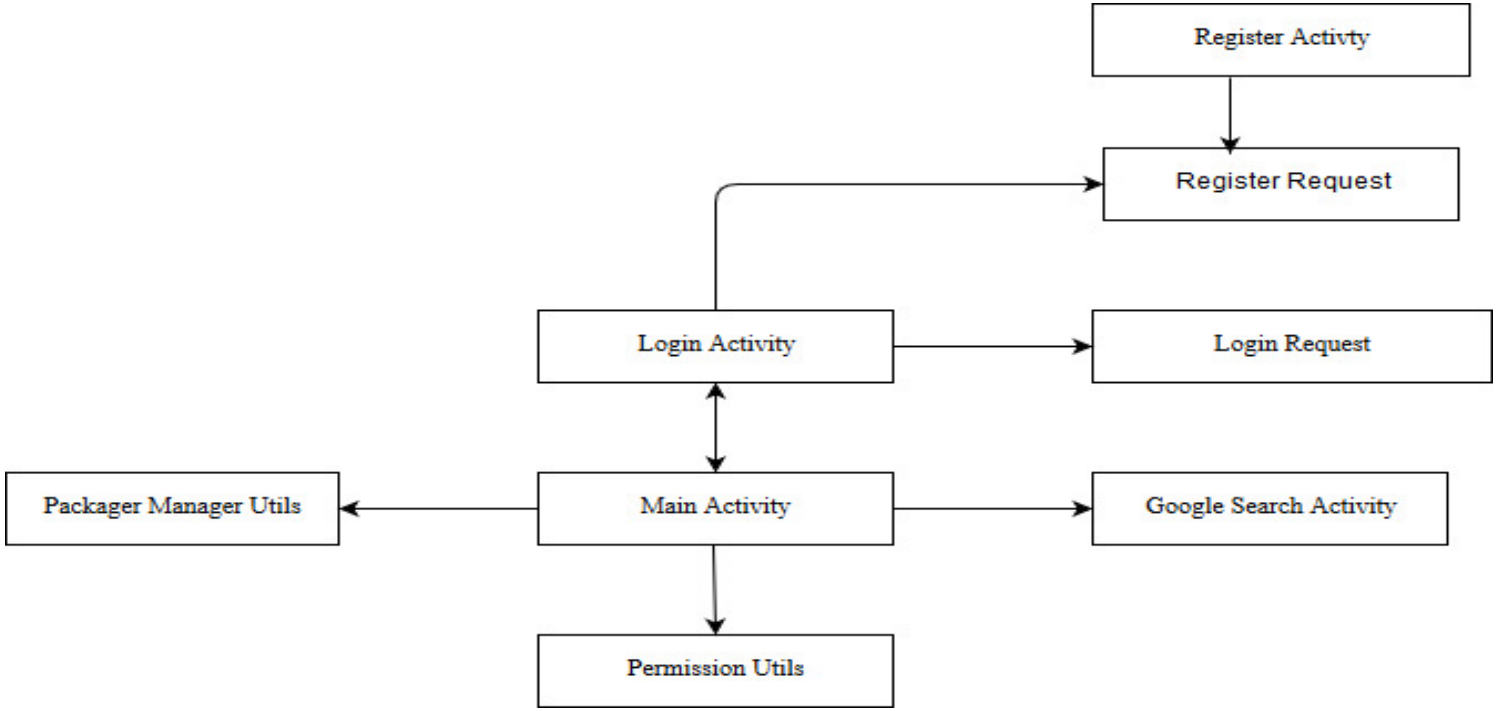
(b) Connecting to Google Cloud Console and applying necessary functions:

Set Vision RequestInitalizer → Send the API key → Set feature as Logo & Label Detection

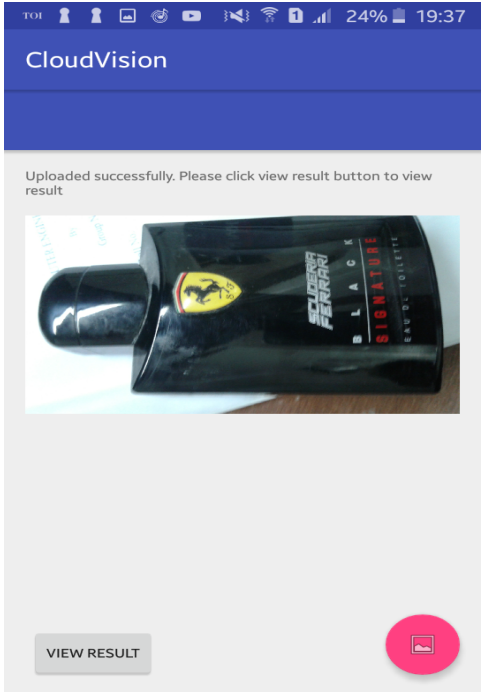
(c) Retrieving information related to the image:

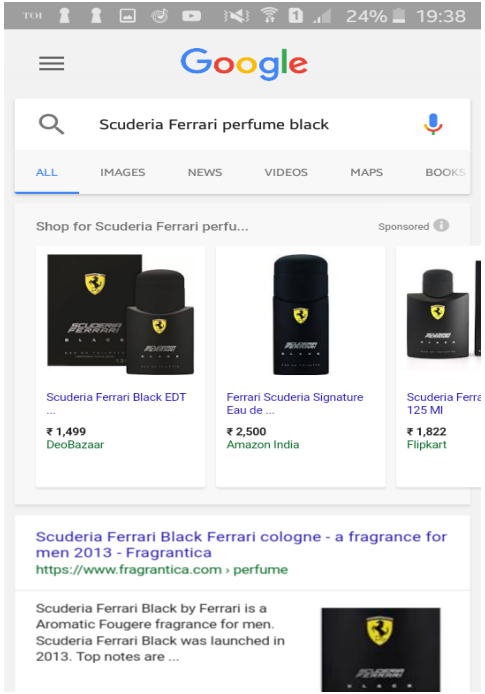
convertResponseToString → Returns a message array containing the logo name, logo score , label descriptions and label scores → Send this to the ResultActivity

IMPLEMENTATION



IMPLEMENTATION- UPLOADING IMAGE





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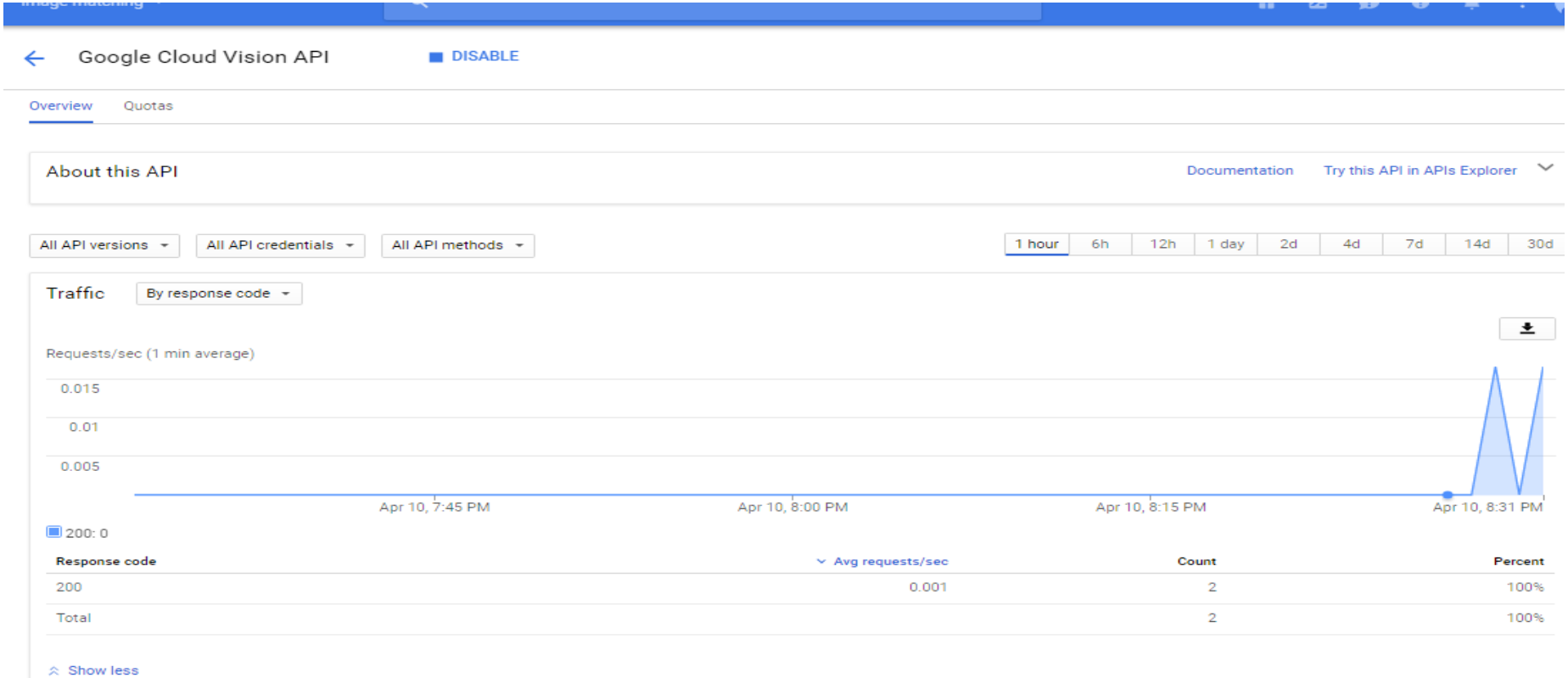
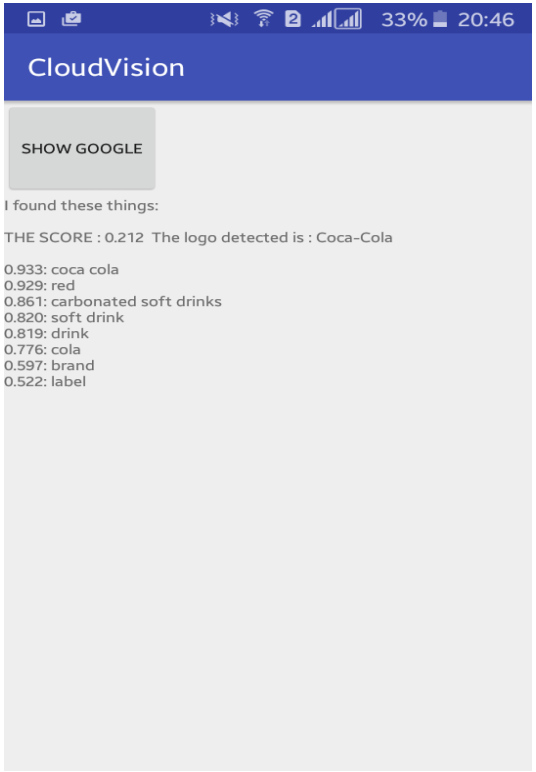


IMPLEMENTATION-EXAMPLES



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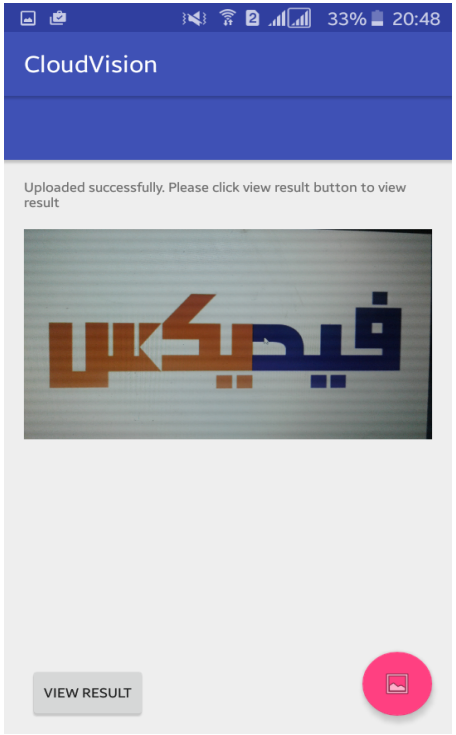

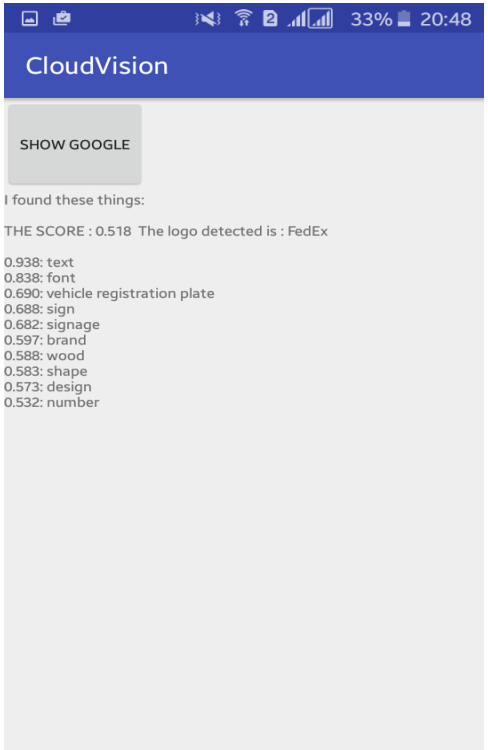

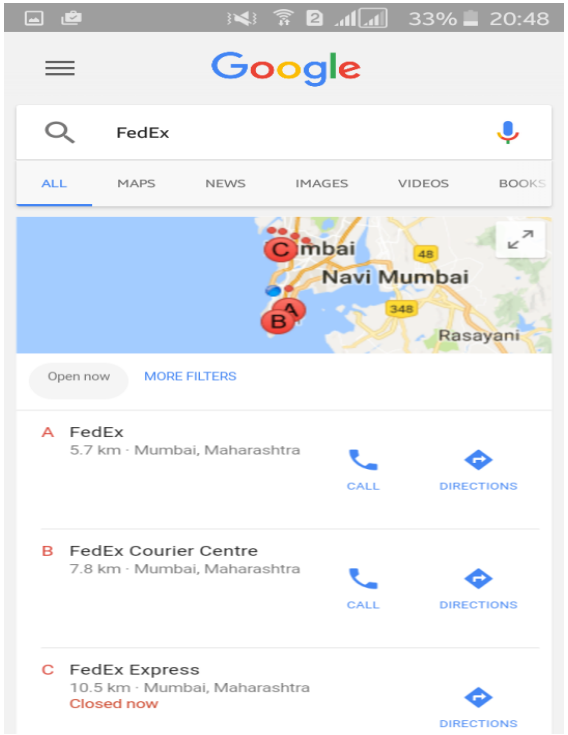

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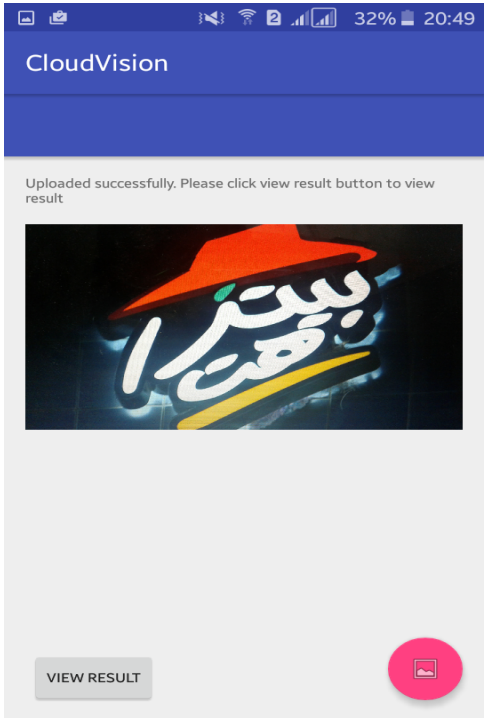

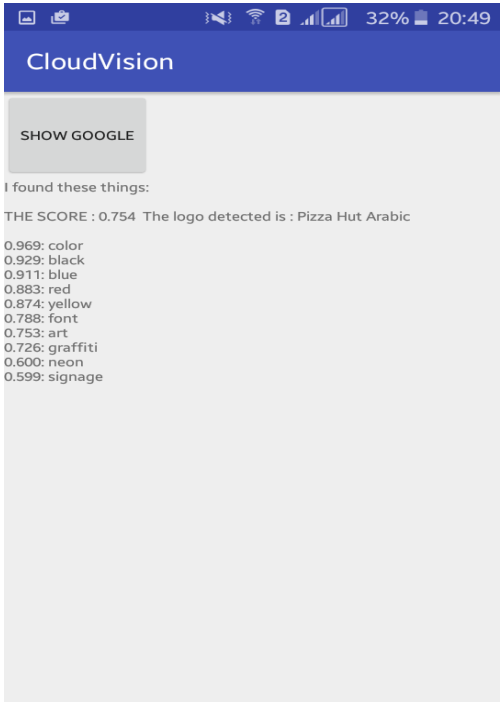

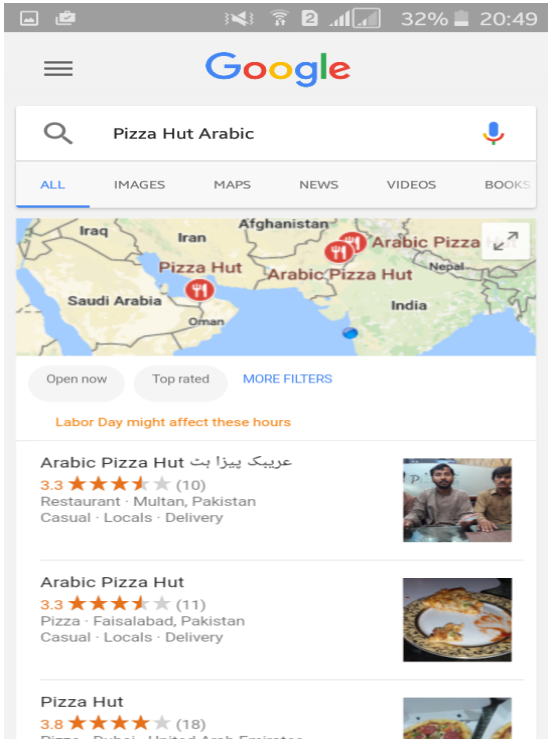

HARDWARE REQUIREMENTS

- Personal Computer
- Memory 4 GB RAM
- System Type:64-bit operating system,x64-based processor
- An Android devide running Android 5.0 or higher

SOFTWARE REQUIREMENTS

- Operating System: Windows XP, Windows 8 or 10
- An API key for the Cloud Vision API
- Android Studio
- Android Emulator
- PHP

CONCLUSION

- Our application is a very handy application which can be used by any user with an active internet connection.
- Our application lets the user take an image of the logo interested and runs it and successfully returns the product information.
- The accuracy achieved while using cloud vision is above 0.6 on a scale from 0-1.

FUTURE WORK

- The future work will be implemented keeping in mind the noise cancellation of the bitmap images and increasing the accuracy of the clicked image.
- Our main aim in the future will be to develop the application with an increase in the accuracy of images from 0.6 to atleast 0.9 on a scale of 0 to 1.
- The application will be beautified and will be more user friendly for connecting it with other platforms. We also want to create an ioS application for the same.

THANK YOU