A
Project Report
On
"BRANDRECON"

Prepared by

Het Patel (20DCS077)

Dhruv Rangras (20DCS100)

Darsh Shah (20DCS107)

Under the guidance of

Prof. Vaishali Vadhavana

&

Prof. Aishwariya Budhrani

A Report Submitted to

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Submitted at

Computer Science and Engineering

Devang Patel Institute of Advance Technology and Research

(DEPSTAR)

Faculty of Technology & Engineering (FTE), CHARUSAT

At: Changa, Dist: Anand – 388421

April 2023

CERTIFICATE

This is to certify that the report entitled "**BRANDRECON**" is a bonafide work carried out by **Mr. Het Patel (20DCS077)** under the guidance and supervision of **Assistant Prof. Vaishali V and Prof. Aishwarya B** for the subject CS357-**Software Group Project-IV** (CSE) of 6th Semester of Bachelor of Technology in **DEPSTAR** at Faculty of Technology & Engineering – CHARUSAT, Gujarat.

To the best of my knowledge and belief, this work embodies the work of candidate himself, has duly been completed, and fulfills the requirement of the ordinance relating to the B.Tech. Degree of the University and is up to the standard in respect of content, presentation and language for being referred to the examiner

Aishwariya Budhrani
Assistant Professor
Computer Science & Engineering
DEPSTAR, Changa, Gujarat.

Vaishali Vadhavana
Assistant Professor
Computer Science & Engineering
DEPSTAR, Changa, Gujarat.

Dr. Chirag Patel
Associate Professor
I/C Head of Department
Computer Science & Engineering, DEPSTAR
CHARUSAT, Changa, Gujarat.

Dr. Amit Nayak
Associate Professor
I/C. Principal,
DEPSTAR
CHARUSAT, Changa, Gujarat.

Devang Patel Institute of Advance Technology and Research At:

Changa, Ta. Petlad, Dist. Anand, PIN: 388 421. Gujarat

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Assistant Professor
Computer Science & Engineering
DEPSTAR, Changa, Gujarat.

Vaishali Vadhavana
Assistant Professor
Computer Science & Engineering
DEPSTAR, Changa, Gujarat.

Dr. Chirag Patel
Associate Professor
I/C Head of Department
Computer Science & Engineering, DEPSTAR
CHARUSAT, Changa, Gujarat.

Dr. Amit Nayak
Associate Professor
I/C. Principal,
DEPSTAR
CHARUSAT, Changa, Gujarat.

Devang Patel Institute of Advance Technology and Research At:

Changa, Ta. Petlad, Dist. Anand, PIN: 388 421. Gujarat

DECLARATION BY THE CANDIDATE

I hereby declare that the project report entitled "BRANDRECON" submitted by me to Devang Patel Institute of Advance Technology and Research, Changa in partial fulfillment of the requirement for the award of the degree of B.Tech in Computer Science & Engineering, DEPSTAR/FTE is a record of bonafide CS357 Software Group Project- IV carried out by me under the guidance of Prof. Aishwarya Budhrani and Prof. Vaishali V. I further declare that the work carried out and documented in this project report has not been submitted anywhere else either in part or in full and it is the original work, for the award of any other degree or diploma in this institute or any other institute or university.

Het Patel(20DCS077)
Darsh Shah (20DCS107)
Dhruv Rangras (20DCS100)

Aishwariya Budhrani
Assistant Professor
Computer Science & Engineering
DEPSTAR, Changa, Gujarat.

Vaishali Vadhavana
Assistant Professor
Computer Science & Engineering
DEPSTAR, Changa, Gujarat.

ABSTRACT

A brand logo detector is a computer vision system that is designed to identify and recognize brand logos in images. The system utilizes machine learning algorithms and deep neural networks to analyze visual features and patterns in the input images and compare them with a database of known logos. The process involves several stages, including image processing, feature extraction, and classification. Brand logo detection has various applications, such as in marketing, retail and security. It can be used to track the popularity of brands, monitor product placement and identify counterfeit products. The abstract of brand logo detector highlights its significance in the field of computer vision and its potential to revolutionize various industries.

ACKNOWLEDGEMENT

We would like to express our appreciation and acknowledge guidance and support during our project Prof. Vaishali Vadhavana & Prof. Aishwariya Budhrani. Your expertise and willingness to assist us have been instrumental in helping us achieve our goals.

Your dedication and enthusiasm for teaching have inspired us to work harder and strive for excellence. You have gone above and beyond to provide us with resources, feedback, and encouragement to ensure the success of our project "BrandRecon"-Brand Detector.

We have learned a great deal from your instruction, and we are grateful for your commitment to our academic success. Your mentorship has been invaluable, and we feel fortunate to have had the opportunity to learn from you.

Once again, we want to express our sincere thanks for your unwavering support and guidance throughout our project. Your contributions have had a significant impact on our education, and we will always remember your mentorship with gratitude.

Sincerely,

Het Patel
Dhruv Rangras
Darsh Shah

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CHAPTER 1: PROJECT DEFINITION

1.1 PROJECT OVERVIEW

Basically, we have created a mobile app named "BRANDRECON". This app will be able to detect the brand logo and show you the information related to the brand and it is essential tool for anyone interested in learning more about the brand they encounter.

1.2 OBJECTIVE AND SCOPE

We want to make an app to detect brands logos and provide useful information to the users like when it was founded, current CEO, news related to it and many other things. To make it very simple and dynamic and it is very much useful for people who want to know about brands details and stuff and it has a personalized UI.

1.3 TECHNOLOGIES USED

Android with JAVA	• Used Android Studio and JAVA language to build the app.
Python and its libraries	• Used YOLOv5 & Tensorflow to bulid logo_detection model.
Object Detection	• Locates instances of Brand Logos from images/videos.
Image Processing	• To perform some operations on image resulting in an enhanced image.
Machine learning	• ML algorithms used to train model to recognize logos more accurately from given input.
Firebase	• Used Firebase as database to store information/data.

Fig 1.1.1 Technologies Used

CHAPTER 2: DESCRIPTION

2.1 PROJECT PLANNING

- The first stage of our Project management is of learning. We are going to take reference from google and YouTube. First, we learn about Tensorflow Lite framework and its functions to make one amazing framework of application. After learning we Start implementing are project.

- Then we start testing our application.

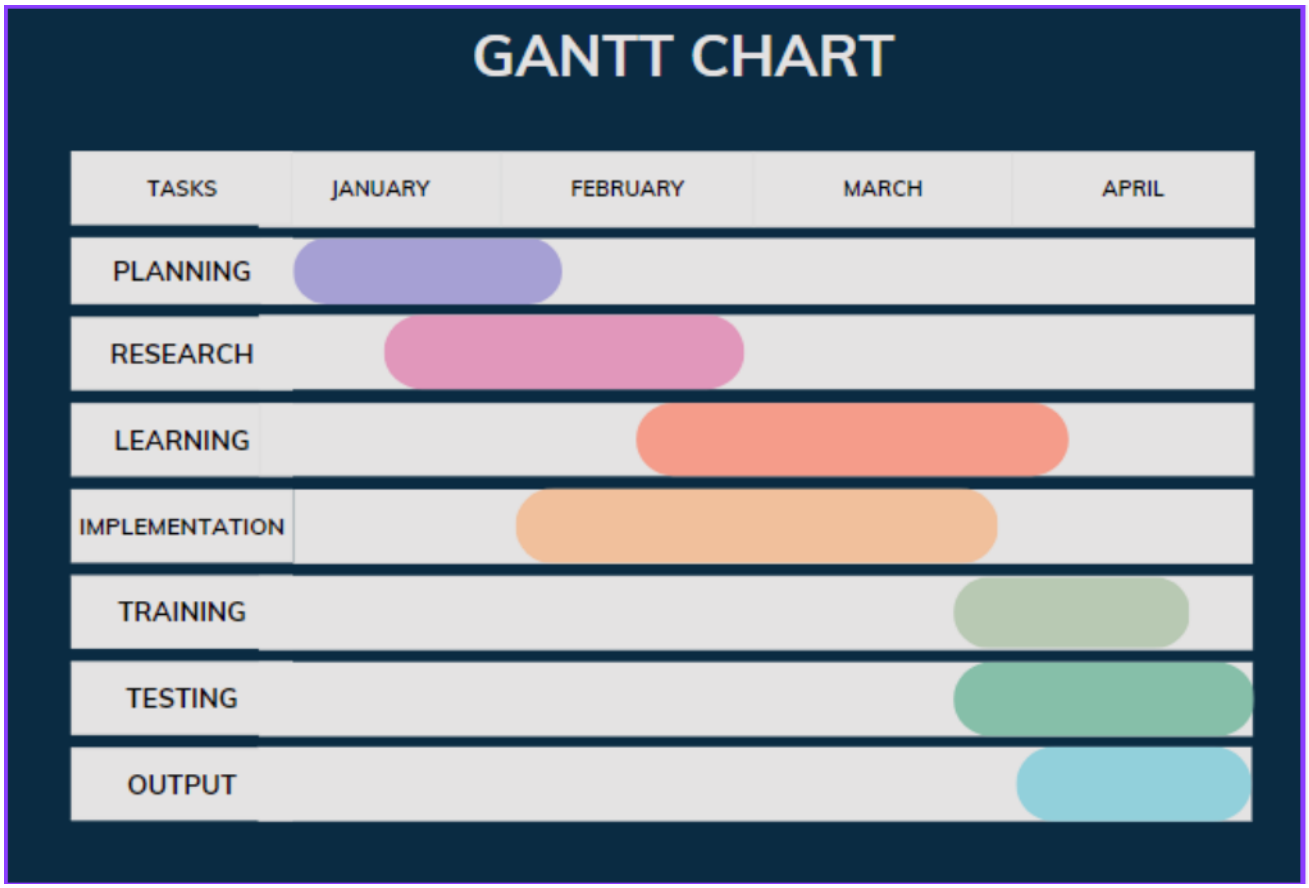

Fig 2.1.1 Gantt Char

CHAPTER 3: SYSTEM REQUIREMENTS

3.1 Hardware and Software Specification:

3.1.1. Hardware Specification:

- Should have an android phone for now.
- Should have internet connectivity.
- Should have good camera quality.

3.1.2 Software Specification:

No special requirements for the app.

CHAPTER 4: MAJOR FUNCTIONALITY

4.1 FUNCTIONALITIES

- Logo Detection: This app can detect and recognize logos from images or photos. It uses machine learning to accomplish this.
- Brand Identification: Once a logo is detected, your app can identify the brand associated with the logo. This includes a database of known logos and brands to make a match.
- Brand Details: This app can then provide information about the brand that has been identified. This includes details such as current CEO, company description, when it was founded and by whom and other relevant information.
- User Interface: This app includes a user interface that allows users to upload or take photos, view results and interact with the app in other ways.
- Data Storage: This app also include a database of storing user data, such as photos and brand information.

CHAPTER 5: SYSTEM FLOWCHART

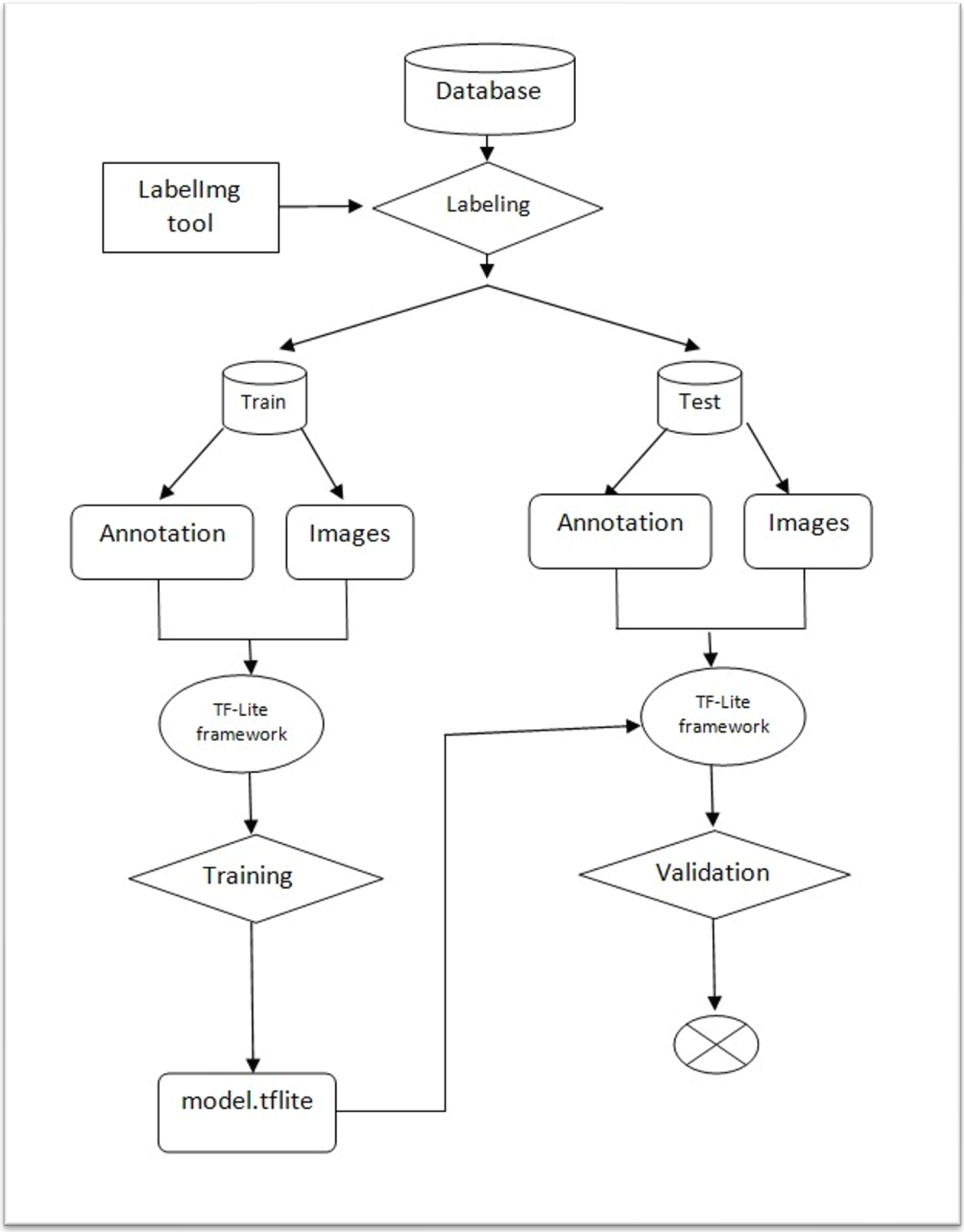

Fig 5.1 Flowchart

CHAPTER 6: SCREENSHOTS OF PROJECT OUTPUT

Fig 6.1 Welcome Page/ Home screen
It includes two options:
search brand and
scan logo to get details.

Fig 6.2 Details screen
It includes details of the company such as company name, CEO name and photo, description, field/industry in which company is in,etc.

Fig 6.3 Statistical Data screen

It includes the ranking of the company, revenue, net worth, last project, no. off employees, stock price, etc.

Fig 6.4 Camera screen

It shows last photos taken and permission button to click photos.

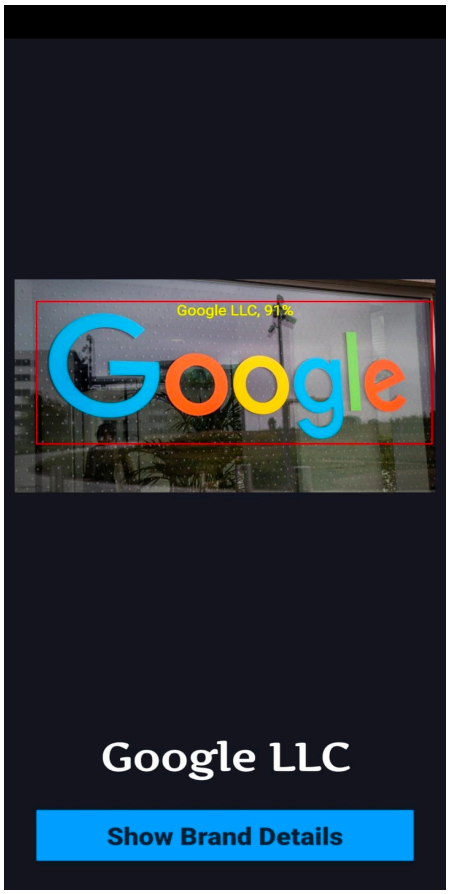

Fig 6.5 Detected image and accuracy

After image is clicked, it shows the brand name with the accuracy.

CHAPTER 7: LIMITATIONS

7.1 Limitations

- Limited Brand coverage
- Accuracy
- Cost
- Limited language support.
- Dependence on internet Connection.
- Privacy Concerns.
- Competitions from other apps.

CHAPTER 8: FUTURE ENHANCEMENTS

8.1 Future Enhancements:

- Adding more features like Google Image Search. (Making it more handy)
- Making it real-time. (Just hold phone and click and there you go)
- Important information and news about the brand. (Job postings, project working on, annual revenue and latest news about the brand)

CHAPTER 9: REFERENCES

9.1 References:

- https://firebase.google.com/docs
- https://www.tensorflow.org/api_docs
- https://docs.python.org/3/
- https://developer.android.com/docs
- https://docs.oracle.com/en/java/
- https://youtube.com/playlist?list=PL0aoTDj9Nwghdp04hgPPSC8pSzgOkyCXS