PROJECT REPORT

Team Id: PNT2022TMID16755

Project Title: Data Analytics for DHL Logistics Facilities

Team Members:

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CHAPTER-1 INTRODUCTION

Project Overview

DHL Logistics Facilities is concerned with getting the products and services where they are needed and when they are desired with the help of Data Analytics. It is difficult to accomplish any marketing or manufacturing without logistical support. It involves the integration of information, transportation, inventory, warehousing, material handling, and packaging. The operating responsibility of logistics is the geographical repositioning of raw materials, work in process, and finished inventories where required at the lowest cost possible. Logistics is practiced for ages since organized activity began. Without logistics support no activity can be performed to meet defined goal. The current challenge is to perform logistics scientifically in order to optimize benefits to the organization. Logistics is a planning function of management. Logistics function is concerned with taking products and services where they are needed and when they are needed.

Logistics is being transformed through the power of data-driven insights. Thanks to the vast degree of digital transformation and the Internet of Things, unprecedented amounts of data can be captured from various supply chain sources. Capitalizing on its value offers massive potential to increase operational efficiency, improve customer experience, reduce risk, and create new business models. Real-time process optimization and simulation are becoming increasingly important tools for supply chain management. As worldwide complexity grows, the ability to run global supply chain sat peak efficiency becomes more and more challenging.

Warehouse operators and supply chain managers can make better decisions with granular visibility of processes like order management, and inventory levels and resource utilization become transparent in live dashboards. we understand that dynamic technology markets demand dynamic solutions. So we seek strong partnerships with every customer, envisaging and creating the connections to achieve business success. You can rely on our unrivalled global reach, experience and engagement. We'll help you to imagine and enable new approaches and solutions. Together we will push the pace of change. And always we will enrich your experience with our industry- leading logistics services.

Purpose:

The DHL family of specialized Business Units offers an unrivalled portfolio of logistics products and solutions ranging from domestic and international parcel delivery to international express, road, air and ocean freight to end- to-end supply chain management.

As a logistics company, we are the backbone of trading by providing everything that needs to be delivered. We not only deliver packages: we deliver prosperity, transport health, feed development and bring joy. Every day we connect people to improve their lives.

In the Supply Chain business, DHL Supply Chain provides customers in many industry sectors with logistics services along the entire supply chain
– from planning, sourcing, production, storage and delivery to returns logistics and value-added services – in order to ensure logistics flow.

It is the physical movement of goods from one point to another, such as the moving merchandise from the warehouse to the customer. The shipping process follows the manufacturing and the packing of goods and is controlled and overseen by a shipping or logistics company.

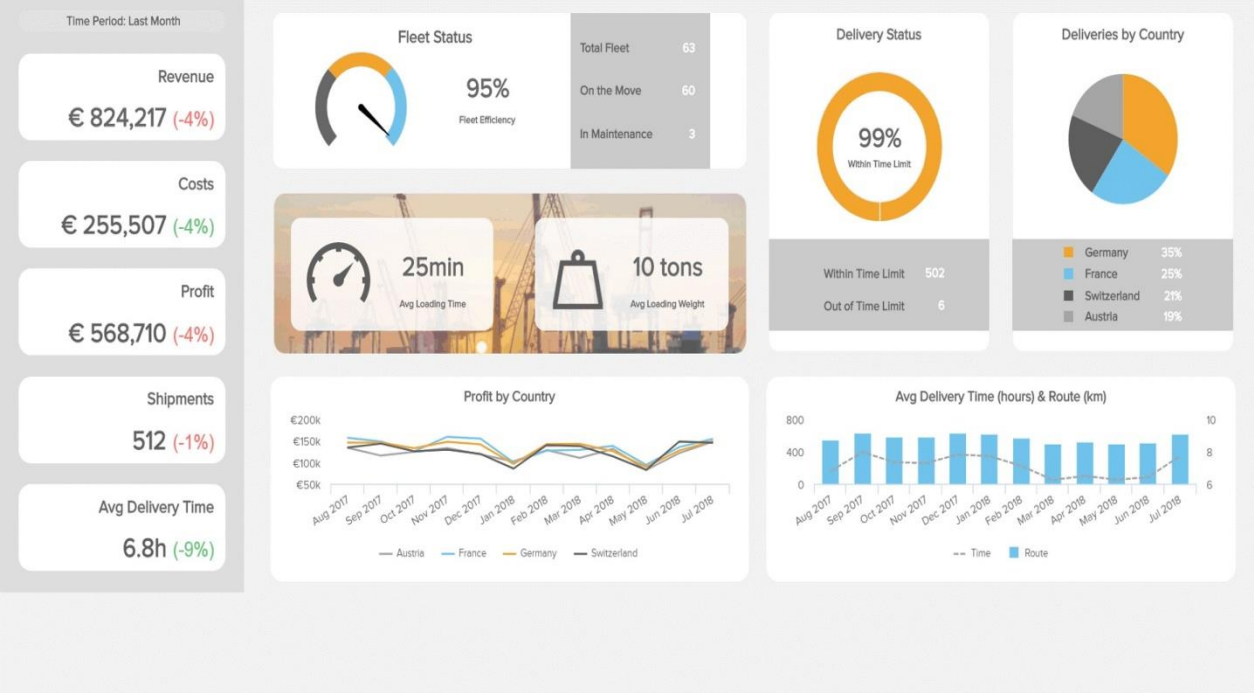
CHAPTER-2
LITERATURE SURVEY

Existing Problem

DHL is a global expertise in express, air and ocean freight and overland transport with an in-depth understanding of local markets. DHL India has an outstanding reputation in the market for providing a reliable, fast and easy-to-use service. DHL offers Highly trained and professional staff, committed to being responsive to all customers' needs Customer Service Agents, available round-the-clock, 365 days of the year, to serve customers whenever and wherever they need them. Electronic pre-clearance of shipments through Customs Five international gateways proving direct-to- air networks and faster sorting of inbound and outbound shipments.

DHL India is a proven facilitator of trade, across the globe. His strength lies in our global network and the know-how of our people. Backed by strategic alliances with world-class partners and the innovative use of technology, they strive to continuously improve the quality of our service. Our services range from fast, responsive and cost-

effective express deliveries toe-commerce fulfillment and intelligent logistics solutions. DHL Core Services consist of door-to-door air express delivery of documents and parcels of all sizes (and weight), both into and out of the country.



Other value-added services are a. Kitting/Pre-Assembling

Kitting is the addition of items such as accessories and batteries to the product pack. Pre-assembling is completion of a finished product from component parts or pre-programming of products. b. Re-Working/Re-Packing

Repacking for a specific customer can include repalletization. Reworking is the modification of products to suit a local market. c. Packaging/Bundling

Packaging includes packing of products into suitable media for transportation and retail display. Bundling is the assembly of a number of pre-packaged products to make up an integrated product offering d. QA Control

Quality control ensures that product is received into and dispatched from the warehouse in a suitable condition, free from faults and defects. e. Labeling/Merchandising.

DISADVANTAGES OF EXISTINGSYSTEM

1. Logistics industry requires huge investment to set up operations and grows. DHL also require heavy investment to grow its business and to generate return on investment.
2. DHL is expected to act in compliance with regulatory guidelines and local authorities. Regulations can be different in the source and destination locations, and so it can be impossible to obey different rules.
3. Logistic Market is filled with many local and international players and the market growth is distributed among all the players and due to high pricing strategy DHL market share is restricted in developed and developing economies.
4. Due to a very large market and a large network of delivery partners are required. DHL also depends on small and local entities for delivery. And this has a direct influence on DHL efficacy, and so teamwork becomes very necessary.
5. DHL has less marketing cost as compared to FedEx or UPS and does not spend much on advertisement and branding practices. This impacts the success and recognition of brands.

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Heding , T., Knudtzen,C. F. & Bjerre,

Problem Statement:

DHL is an international umbrella brand and trademark for the courier, package delivery, and express mail service which is a division of the German logistics firm Deutsche Post. The company group delivers over 1.6 billion parcels per year.

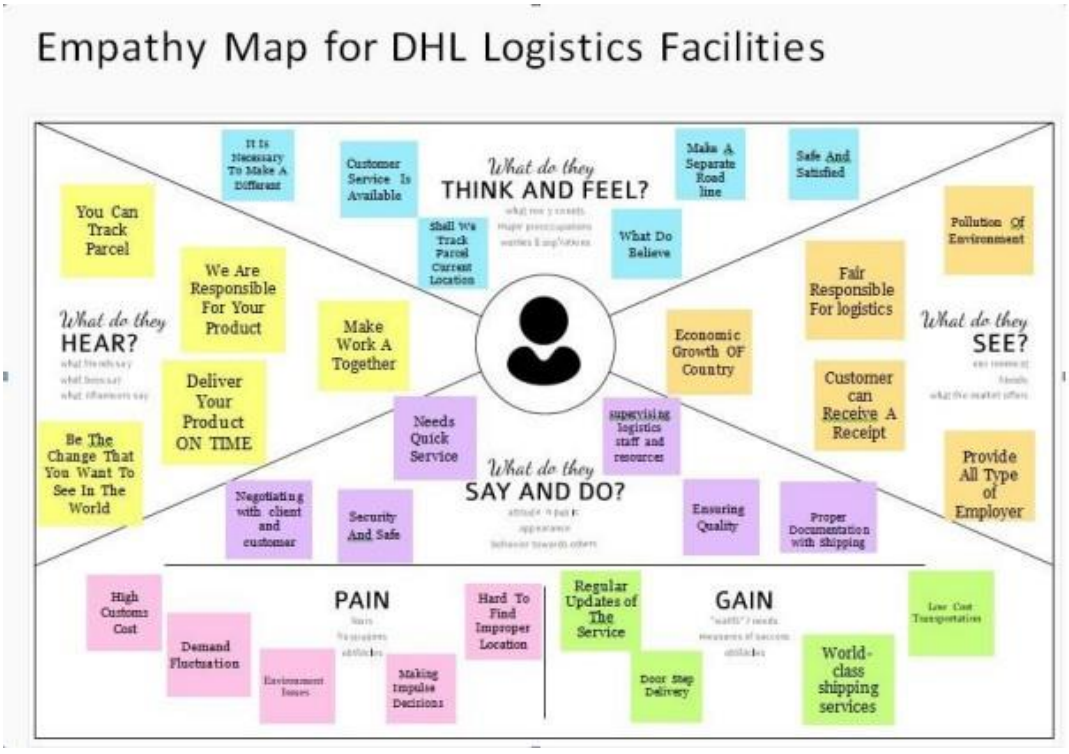
The company DHL itself was founded in San Francisco, USA, in 1969 and expanded its service throughout the world by the late 1970s. In 1979, under the name of DHL Air Cargo, the company entered the Hawaiian Islands with an inter-island cargo service using two DC-3 and four DC-6 aircraft. Adrian Dalsey and Larry Hillblom personally oversaw the daily operations until its eventual bankruptcy closed the doors in 1983. At its peak, DHL Air Cargo employed just over 100 workers, management, and pilots.

Logistics is being transformed through the power of data-driven insights. Thanks to the vast degree of digital transformation and the Internet of Things, unprecedented amounts of data can be captured from various supply chain sources.

CHAPTER-3
IDEATION & PROPOSED SOLUTION

Empathy Map Canvas

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours and attitudes. It is a useful tool to helps teams better understand their users. Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with hisor her goals and challenges.



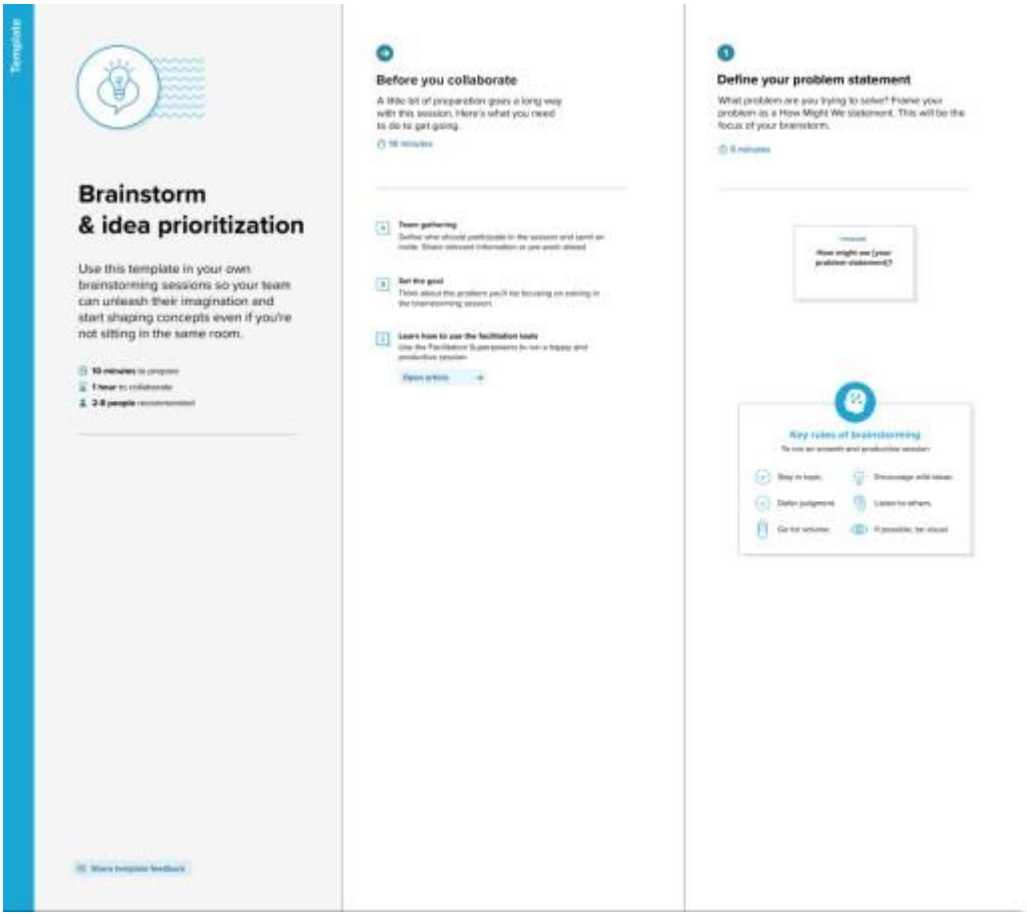
Ideation & Brainstorming

Brainstorm & Idea Prioritization Template

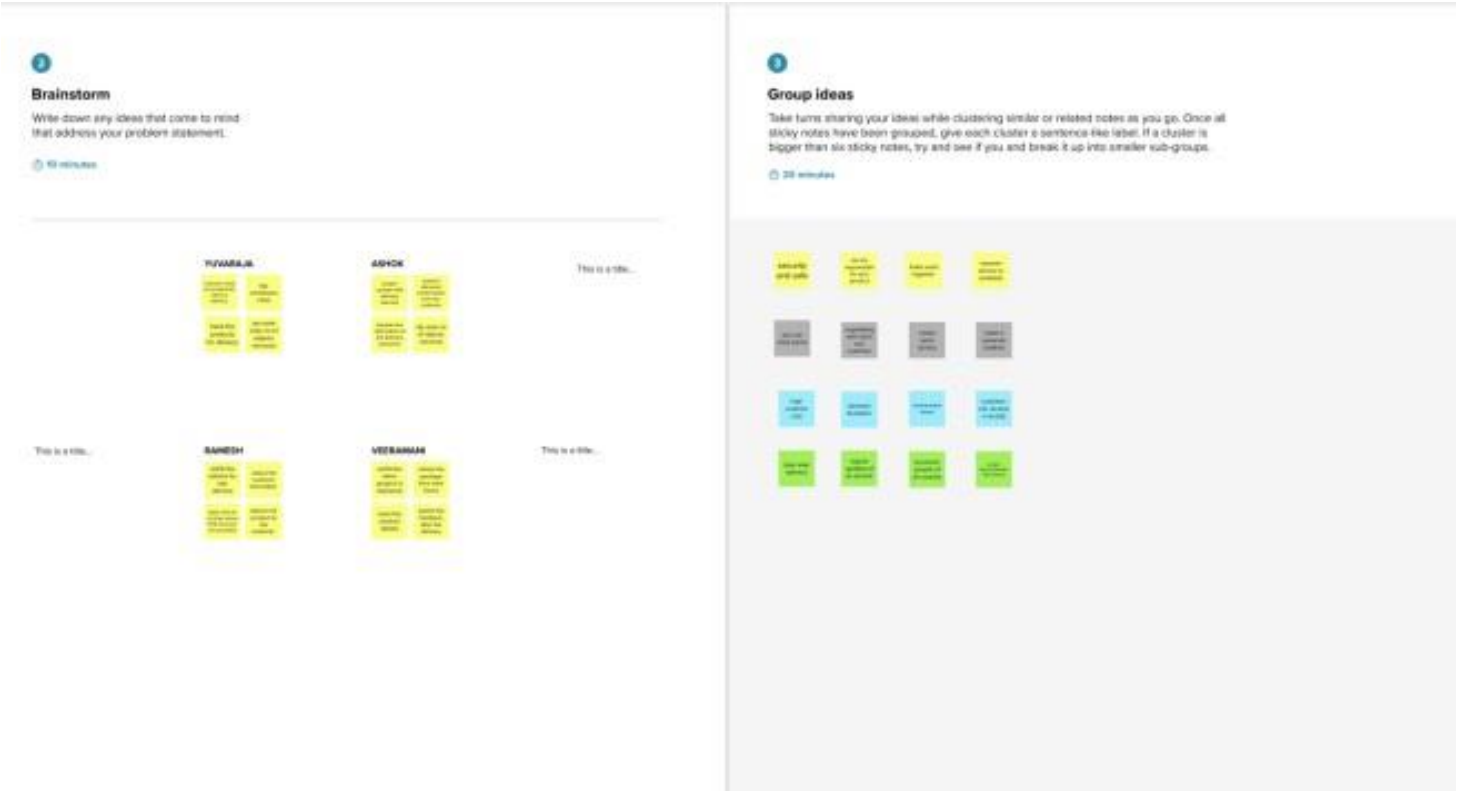
Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

Step-1:Team Gathering, Collaboration and Select the Problem Statement



STEP-2 Brain storm and Group Ideas



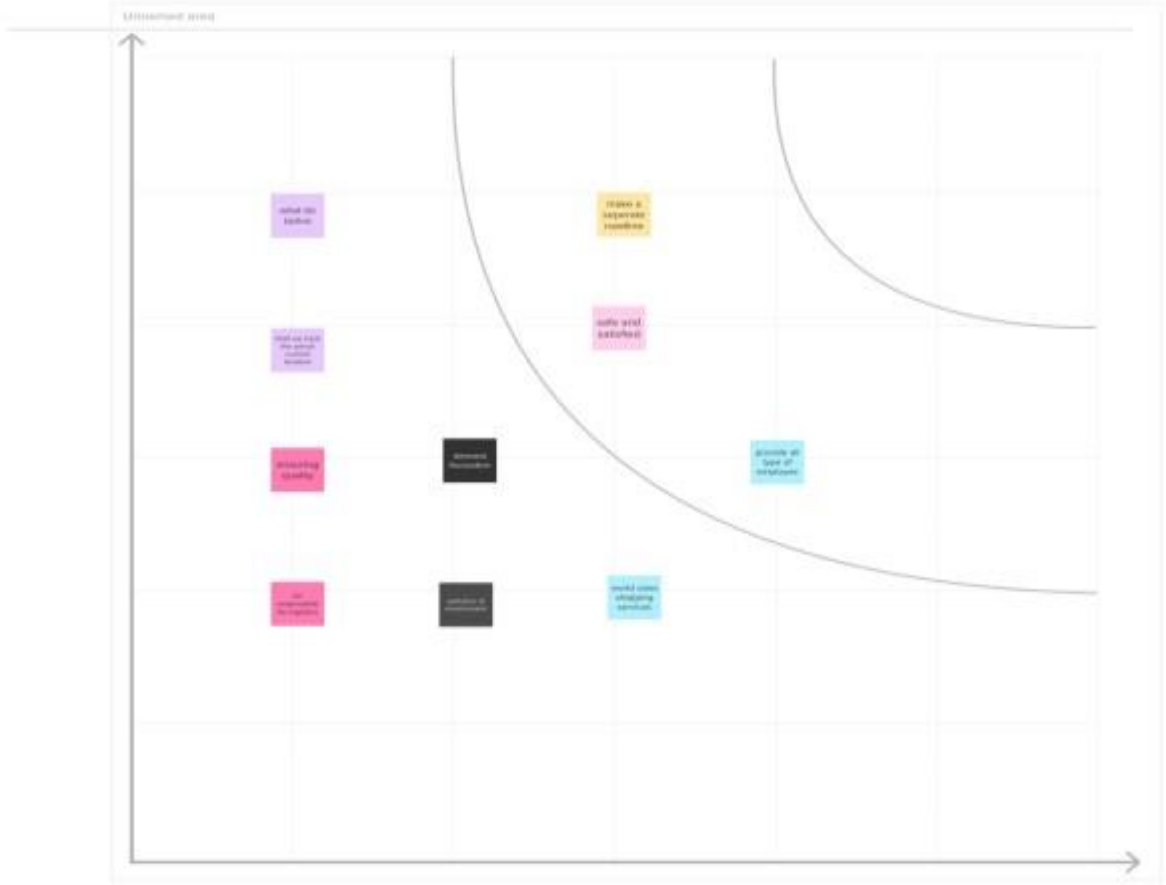
Step-3: Idea Prioritization

4

Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

20 minutes



Feasibility

Proposed solution

S.No.	Parameter	Description
1	Problem Statement	Never before has logistics been as complicated as it is now. A company's profitability may be severely impacted by continually shifting dynamics brought about by the global nature of the supply chain. The enormous burden that the COVID pandemic placed on logistics made this clear. As a result, manufacturers, shippers, and retailers are using data analytics to better understand their processes and optimise them in order to be more prepared for unforeseen events. Data-driven businesses are growing their profit margins and customer satisfaction levels as a result.
2	Idea	New technology plays a vital part in improving operations, removing costs and improving customer service. With DHL you like technology advances and investments as we constantly review, evaluate and adopt new technological solutions.

		Augmented Reality , for instance, is already getting used to optimize warehouse processes, while a spread of automated guided vehicles and robots are being tested and assessed for future deployment.
3	Novelty	The specialist knowledge of your team has been the foundation for your company's success. By entrusting DHL with your logistics, you can concentrate on your core business rather than being side tracked by the requirements and complications of the global supply chain. DHL offers a wide range of ready-to-use solutions, technologies, and assets that would otherwise take a lot of time and money to implement, freeing up your cash to expand your business in other ways. Furthermore, outsourcing your logistics allows you the freedom to quickly scale up and down in response to new opportunities or issues with the least amount of risk.
4	Social Impact	Customers want to understand when their

		items are delivered and whether a package's expected arrival date are later than expected. Customers are often happier as they get more knowledgeable. Real-time or nearly real-time status updates are now possible, and businesses that make it simple for purchasers to urge these logistics updates will enjoy higher customer satisfaction. Additionally, data can improve customer satisfaction in ways aside from just shipping monitoring.
5	Business Model	1 – Broker model This is the most common way 3PL works, and the one most organizations are probably familiar with. In the broker model, a 3PL buys cargo space in bulk from carriers and resells the space to its own customers at a premium. Oversized, his 3PL can afford to purchase large amounts of cargo space without delay, and can take advantage of economies of scale to significantly reduce costs. Even with a premium, they're still dealing with less than most sole proprietors could die for

		outright. 2 – Profit sharing With a profit-sharing model , 3PL works directly with customers to reduce costs. – Fee model In the commission model , the 3PL "works" for the carrier and acts as an intermediary between the carrier and the buyer. From there, it works like some standard commission-based system. Fee models offer a lot of transparency within the process, and in many cases 3PLs can rely on carrier proprietary technology, which rarely leads to the most effective technical solutions.
6	Scalability	As market growth requires an expansion of your distribution network, you ideally desire a partner that incorporates a presence within the markets where you wish help. the choice to tapping into a scalable logistics infrastructure is either working with a replacement provider or pushing an existing provider to enter new, unfamiliar markets. Look for partners who can walk the talk when it involves exchanging data between your two systems.Vet

		providers carefully during this area or it can return to bite you. The largest3PL providers will have virtually unlimited scale – a hugely attractive benefit. But their interest is also limited to serving only the most important companies out there. If that’snot you, you'll find yourself being the proverbial small fish within the big pond.

Problem Solution Fit

CHAPTER-4

REQUIREMENT ANALYSIS

Functional Requirements

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story/ Sub-Task)
FR-1	User Registration	Registration through any google account or social media accounts.
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	Dataset	The DHL_Facilities.csv record are collected as dataset and upload to Cognos analytics
FR-4	Prepare/Analyse	The dataset is moved around to prepare and analyse using Cognos
FR-5	Exploration	The data are explored Using logistics dataset by Cognos

Non-Functional Requirements

Following are the non-functional requirements of the proposed solution.

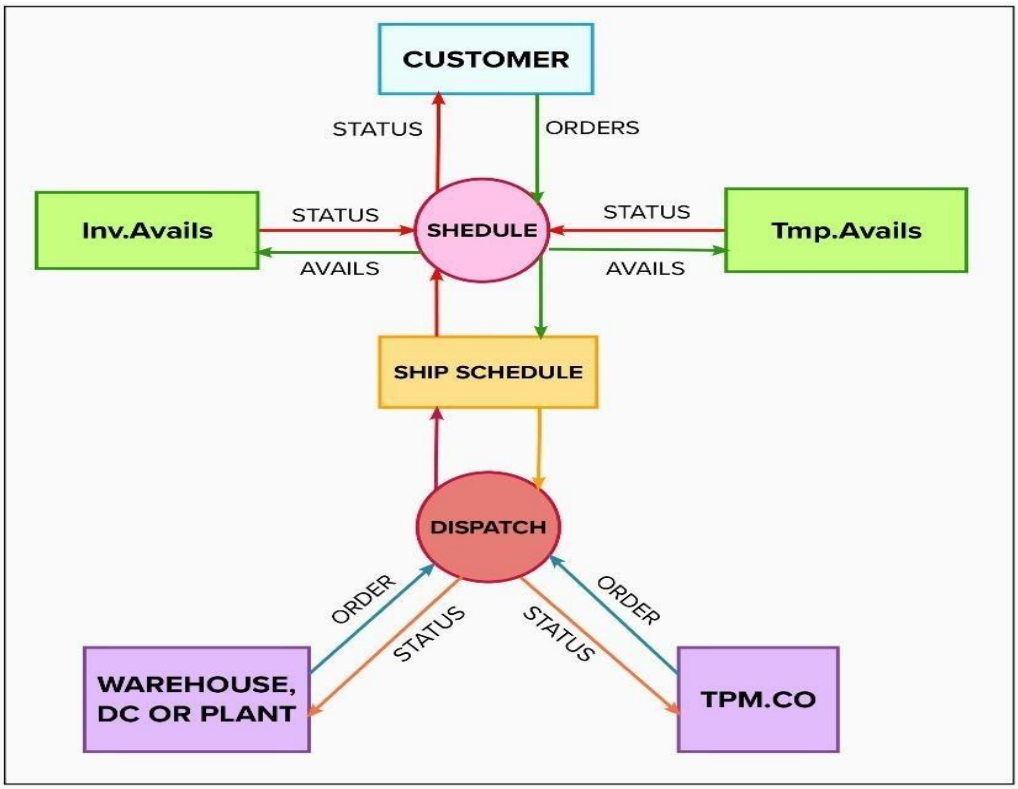
FR No.	Non-Functional Requirement	Description
NFR-1	Usability	No prior experience required to use the dashboard. People with basic understanding can use the system.
NFR-2	Security	Only registered user can use this application.
NFR-3	Reliability	The Analytics system ensures the Reliability
NFR-4	Performance	Gets updated regularly to improve the performance of the application.
NFR-5	Availability	The availability of dataset must be constrained for accurate data
NFR-6	Scalability	Any kind of data can be explored and the system is quiet expandable

CHAPTER-5

PROJECT DESIGN

Data Flow Diagram

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

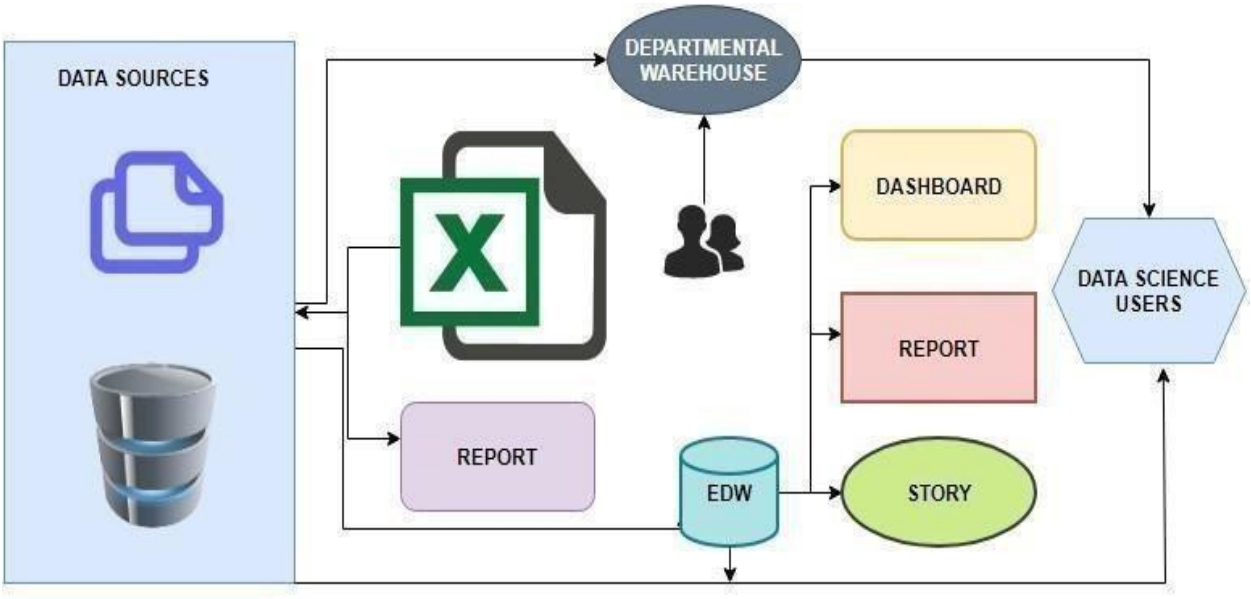


Solution & Technical Architecture

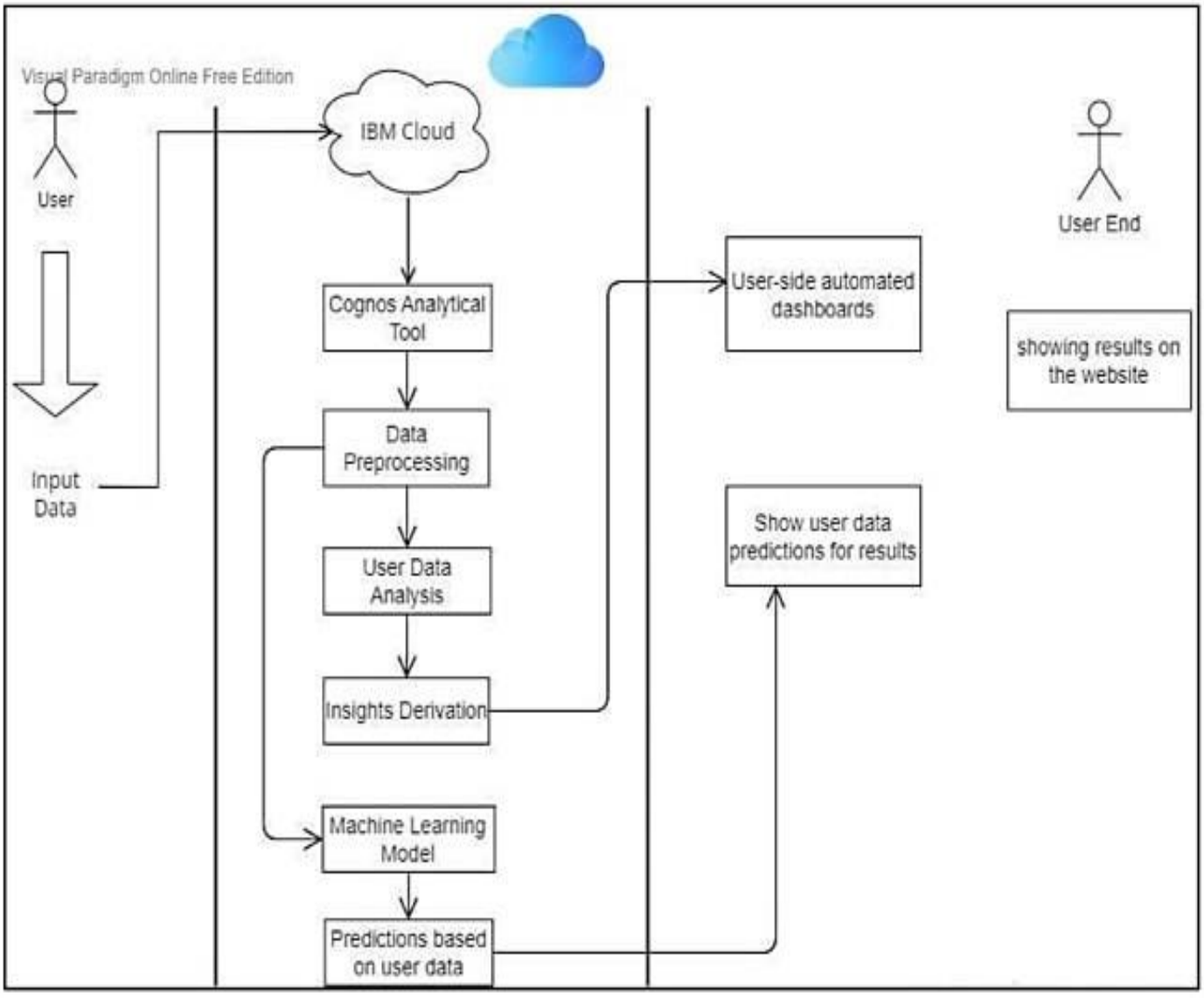
A Solution architecture (SA) is an architectural description of a specific solution. SAs combine guidance from different enterprise architecture viewpoints (business, information and technical), as well as from the enterprise solution architecture (ESA). Ultimately, solution architecture is aimed at the following overarching goals:

i. Streamlining of day-to-day activities
ii. Providing a more efficient production environment
iii. Lowering costs and gaining cost-effectiveness
iv. Providing a secure, stable, and supportable environment

Project - Data Analyticsfor DHL Logistics Facilities- SolutionArchitecture Diagram



Technical Architecture



User Stories

Use the below template to list all the user stories for the product

User Type	Functional Requirement (Epic)	User Story Number	User Story/ Task	Acceptance criteria	Priority	Release
Customer	Registration	USN-1	As a user, I can register for the application byentering my email, password, and confirming my	I can access my account / dashboard	High	Sprint-1

			password.			
		USN-2	As a user,I will receive confirmation email onceIhave registered for the application	I can receive confirm ati onemail & click confirm	High	Sprint -1
		USN-3	As a user, I can register for the applicatio nt hrough Facebook	I can register & access the dashboard with Facebo ok Login	Low	Sprint -2
		USN-4	As a user, I can register for the applicatio ntthrough Gmail	I can register &access the dashboar d withGmai l Login	Me di um	Sprint -1

	Login	USN-5	As a user,I can log into the application byentering email& password	I can login into the applicati on with Gmaillo gin	High	Sprint -1
	Dashboard	USN-6	As a user I can use the methods provided in theDashboar d.	I can accessthe dashboar d with various methods	High	Sprint -2

Customer CareExecutive	Login	USN-7	As a Customer Care Executive, I can log into the application by entering my Executive emailId & password	I can login with my credentials	Medium	Sprint-1
	Service	USN-8	As a Customer CareExecutive, I cananswerus er's queries	I can give thesolutions to theuser's queries	High	Sprint-3
Administrator	Login	USN-9	As an Administration, I can log into the application by entering my Administer emailId & password	I can login with my credentials	High	Sprint-1

	Access	USN-10	As an admin, I can makech anges to theinte rface Accordi	I have a full accesst o the applica tion	High	Sprint -3

			ng thenee ds			
Custo mert ools	Tools	USN-11	I can perform analysis by tools (Cognos andwith ML)	I have an eas e of Acce ssing tool s.	High	Sprint 1

CHAPTER-6
PROJECT PLANNING & SCHEDULING

Sprint Planning & Estimation

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Login	USN-1	As a user, I can register & log into the application by entering email & password	10	High	Yuvaraja
Sprint-1	Verify	USN-2	As a user, I can verify the email with given otp and check for correct subscription access	10	High	Yuvaraja
Sprint-2	Collect Data	USN-3	As an admin I can define questions & goals then collect data & provide the dataset in IBM Cognos analytics	10	High	Ashok
Sprint-2	Prepare & Explore	USN-4	As an admin I can prepare, explore & present the dataset in IBM Cognos analytics	10	High	Ashok
Sprint-3	Analyze	USN-5	As an admin, I will analyze the given dataset (Data pre-	10	High	Veeramani

			processing)			
Sprint-3	Predict	USN-6	As an admin, I will predict the length of stay (Prediction)	10	High	Veeramani
Sprint-4	Visualization	USN-7	As a user, I can select the visualization type like Report, Dashboard and story (Creating visualization)	7	Medium	Ramesh
Sprint-4	Dashboard	USN-8	As a user, I can upload the datasets to the dashboard and viewvisualizations	8	High	Ramesh
Sprint-4	Communicate	USN-9	As an admin, I can communicate to the client for user queries and visualize the best dashboards in any platform as a user expected	5	Low	Ramesh

Sprint Delivery Schedule

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	6 Days	24 Oct	29 Oct 2022	20	29 Oct

			2022			2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	20	05 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	12 Nov 2022
Sprint-4	20	6 Days	14Nov 2022	19 Nov 2022	20	19 Nov 2022

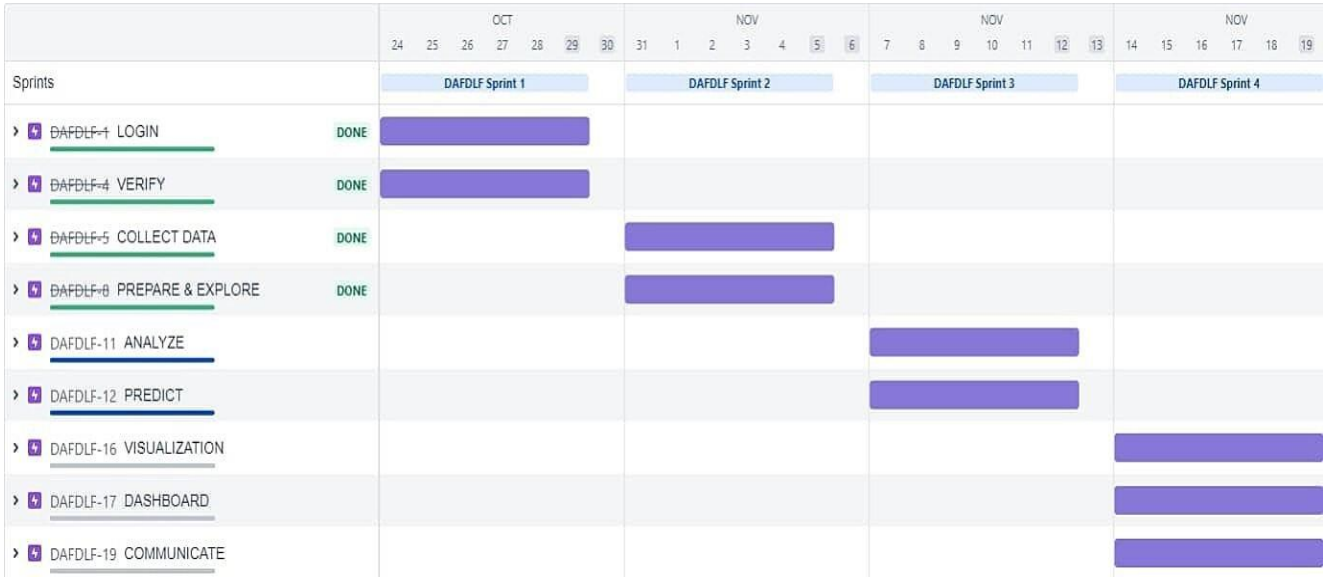
Velocity:

we have a 6-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iterationunit (story points per day).

AV = Sprint duration / Velocity = 20/6 =3.33

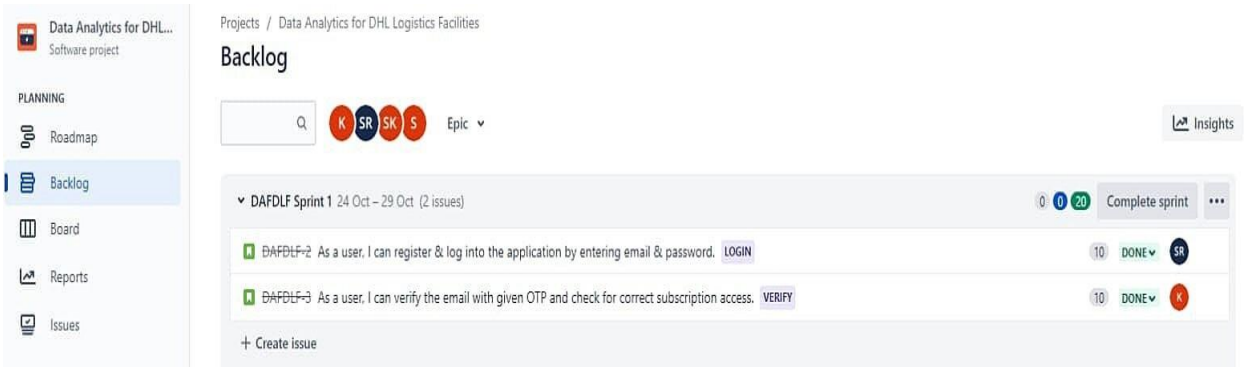
Burndown Chart:

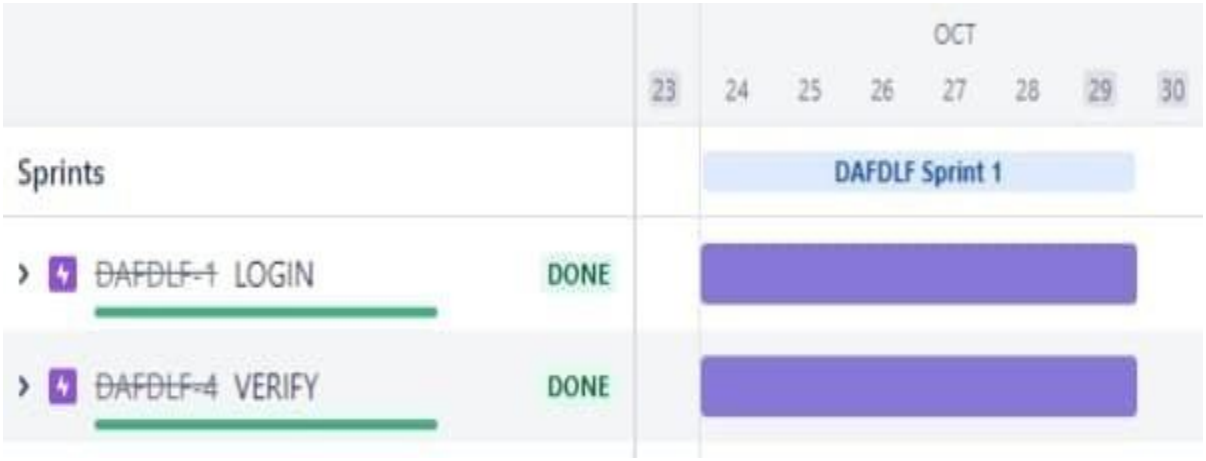
A burn down chart is a graphical representation of work left to do versus time. It is often used in agile software development methodologies such as Scrum. However,

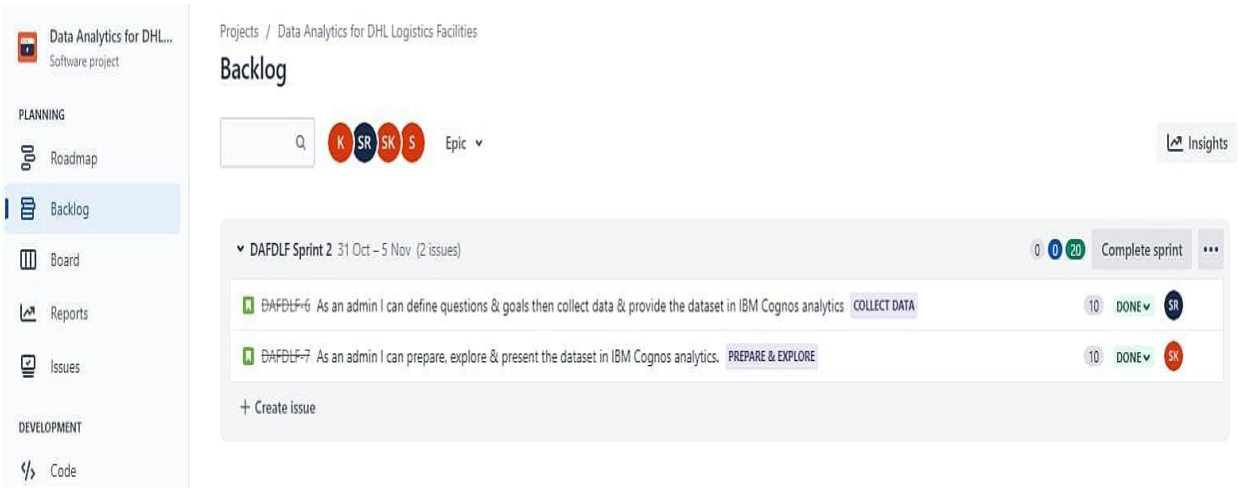


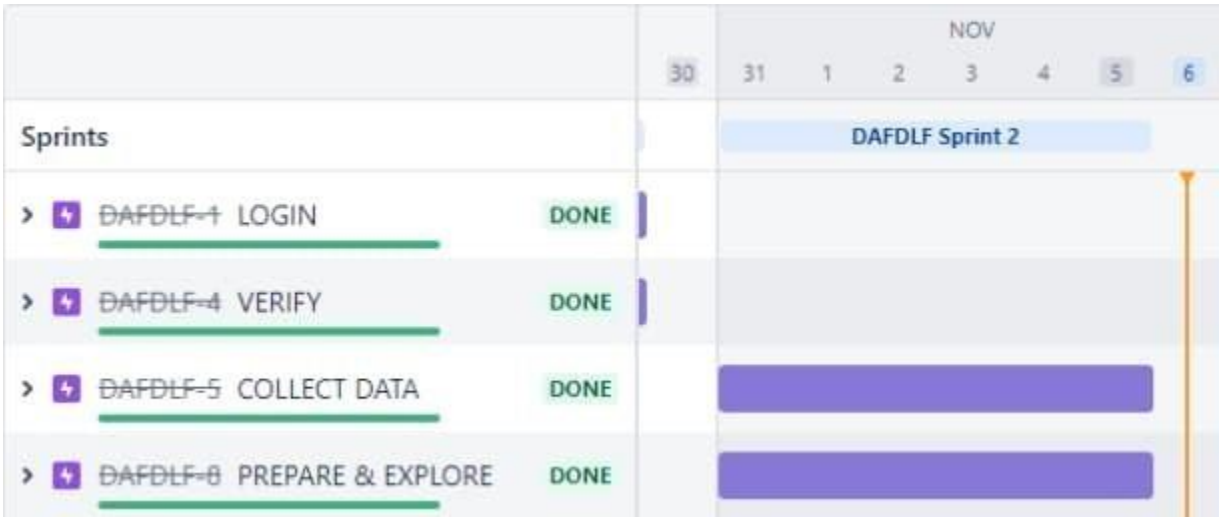
burn down charts can be applied to any projectcontaining measurable progress over time.

Reports From JIRA






Data Analytics for DHL...
Software project
PLANNING
Roadmap
Backlog
Board
Reports
Issues
DEVELOPMENT
Code
Projects / Data Analytics for DHL Logistics Facilities
Backlog
K SR SK S
Epic
Insights
DAFDLF Sprint 2 31 Oct – 5 Nov (2 issues)
0 0 20
Complete sprint
DAFDLF-6 As an admin I can define questions & goals then collect data & provide the dataset in IBM Cognos analytics
COLLECT DATA
10
DONE
SR
DAFDLF-7 As an admin I can prepare, explore & present the dataset in IBM Cognos analytics.
PREPARE & EXPLORE
10
DONE
SK
+ Create issue


NOV
30
31
1
2
3
4
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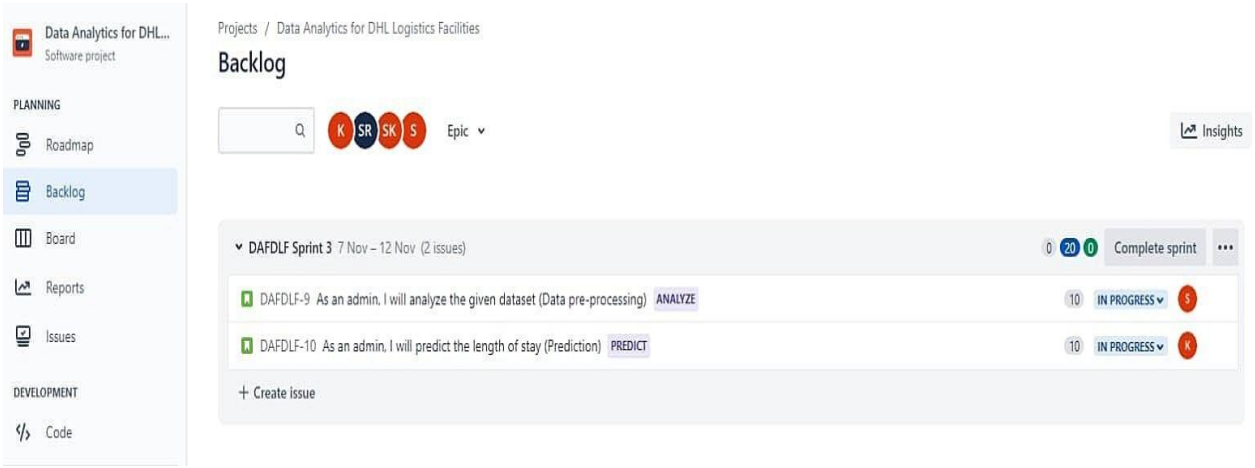
6
Sprints
DAFDLF Sprint 2
DAFDLF-1 LOGIN
DONE
DAFDLF-4 VERIFY
DONE
DAFDLF-5 COLLECT DATA
DONE
DAFDLF-8 PREPARE & EXPLORE
DONE


Data Analytics for DHL...
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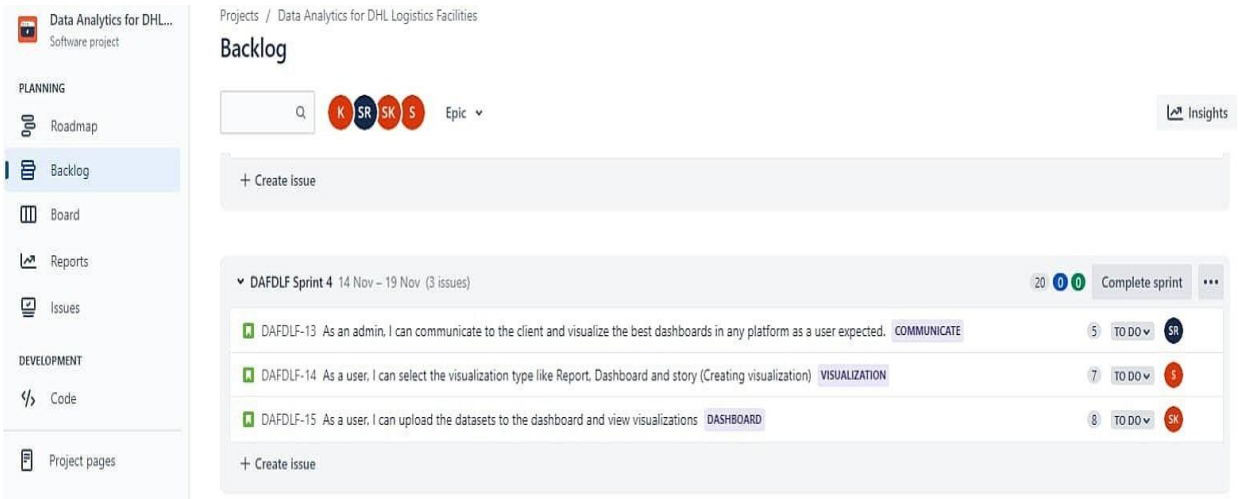
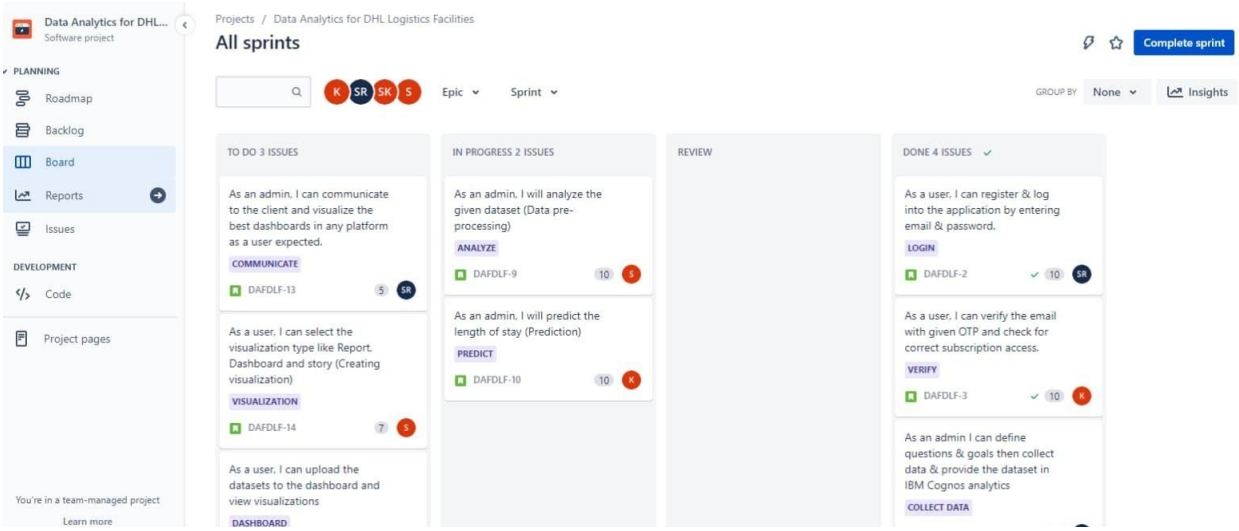
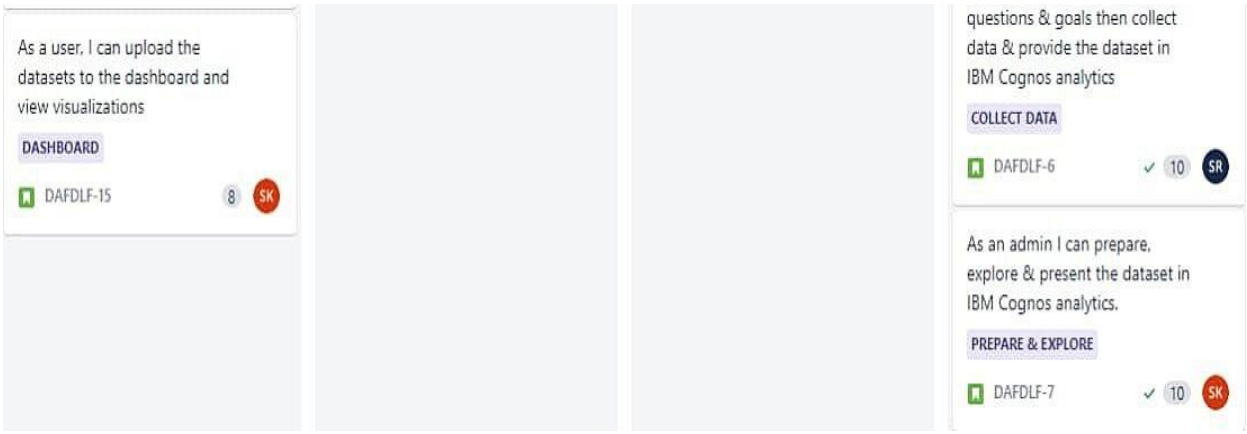
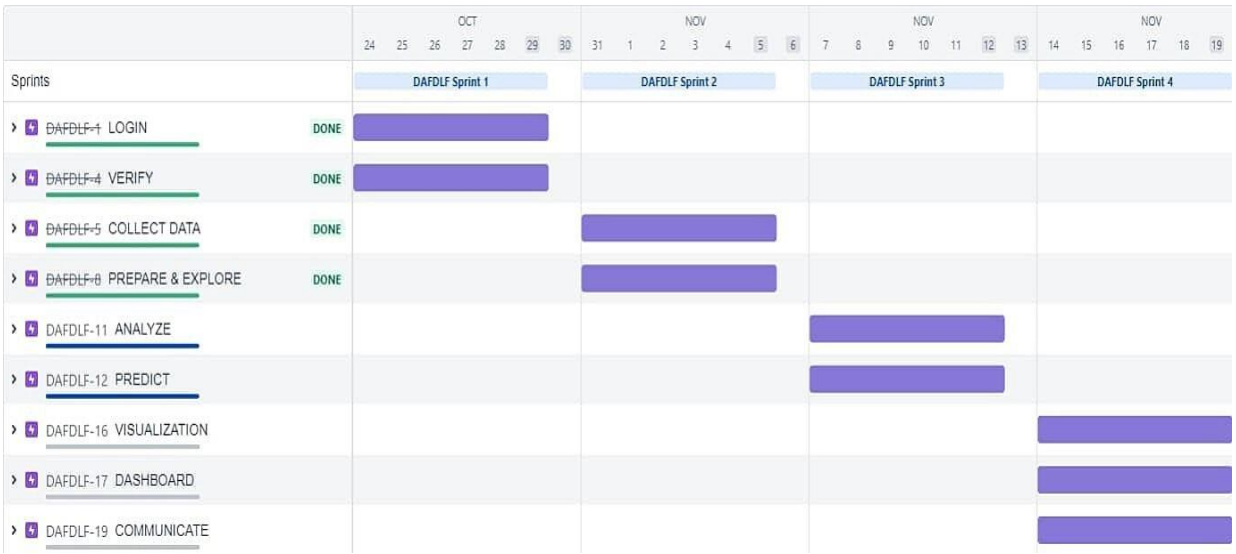
Issues
DEVELOPMENT
Code
Projects / Data Analytics for DHL Logistics Facilities
Backlog
Epic
Insights
DAFDLF Sprint 3 7 Nov – 12 Nov (2 issues)
0 20 0
Complete sprint
DAFDLF-9 As an admin, I will analyze the given dataset (Data pre-processing) ANALYZE
10 IN PROGRESS
DAFDLF-10 As an admin, I will predict the length of stay (Prediction) PREDICT
10 IN PROGRESS
+ Create issue


Data Analytics for DHL...
Software project
PLANNING
Roadmap
Backlog
Board
Reports
Issues
DEVELOPMENT
Code
Project pages
Projects / Data Analytics for DHL Logistics Facilities
Backlog
Epic
Insights
+ Create issue
DAFDLF Sprint 4 14 Nov – 19 Nov (3 issues)
20 0 0
Complete sprint
DAFDLF-13 As an admin, I can communicate to the client and visualize the best dashboards in any platform as a user expected. COMMUNICATE
5 TO DO
DAFDLF-14 As a user, I can select the visualization type like Report, Dashboard and story (Creating visualization) VISUALIZATION
7 TO DO
DAFDLF-15 As a user, I can upload the datasets to the dashboard and view visualizations DASHBOARD
8 TO DO
+ Create issue


Data Analytics for DHL...
Software project
PLANNING
Roadmap
Backlog
Board
Reports
Issues
DEVELOPMENT
Code
Project pages
You're in a team-managed project
Learn more
Projects / Data Analytics for DHL Logistics Facilities
All sprints
Complete sprint
Epic
Sprint
GROUP BY
None
Insights
TO DO 3 ISSUES
As an admin, I can communicate to the client and visualize the best dashboards in any platform as a user expected.
COMMUNICATE
DAFDLF-13
As a user, I can select the visualization type like Report, Dashboard and story (Creating visualization)
VISUALIZATION
DAFDLF-14
As a user, I can upload the datasets to the dashboard and view visualizations
DASHBOARD
IN PROGRESS 2 ISSUES
As an admin, I will analyze the given dataset (Data pre-processing)
ANALYZE
DAFDLF-9
As an admin, I will predict the length of stay (Prediction)
PREDICT
DAFDLF-10
REVIEW
DONE 4 ISSUES
As a user, I can register & log into the application by entering email & password.
LOGIN
DAFDLF-2
As a user, I can verify the email with given OTP and check for correct subscription access.
VERIFY
DAFDLF-3
As an admin I can define questions & goals then collect data & provide the dataset in IBM Cognos analytics
COLLECT DATA

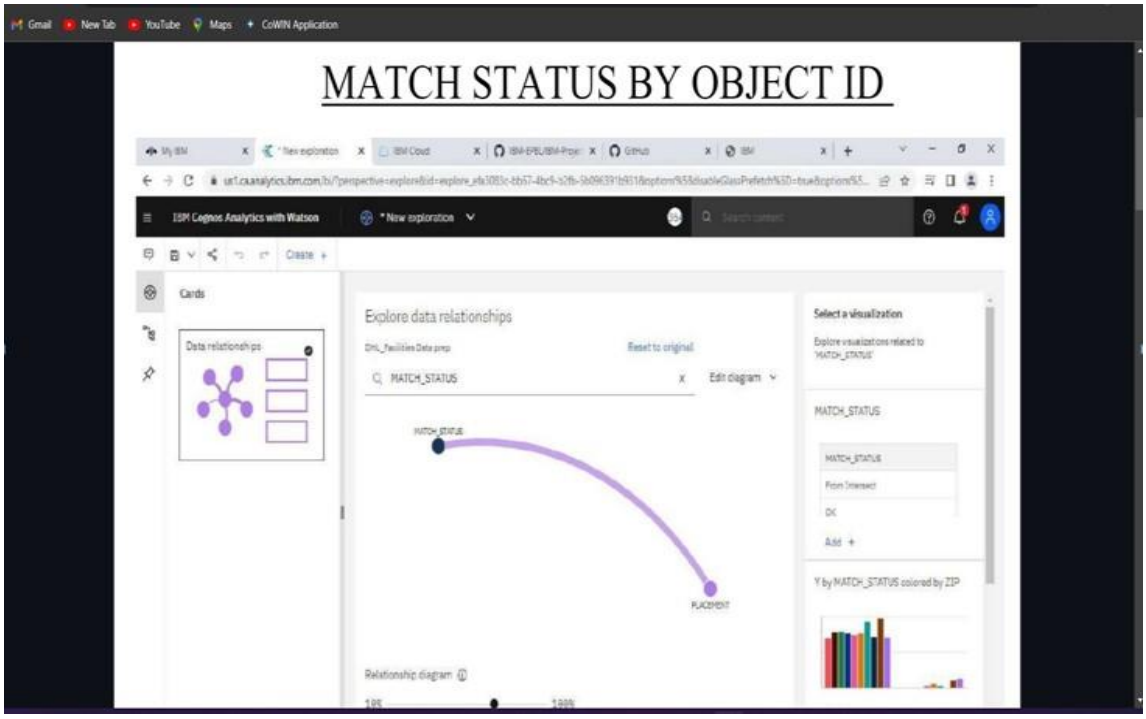

As a user, I can upload the datasets to the dashboard and view visualizations
DASHBOARD
DAFDLF-15
8
questions & goals then collect data & provide the dataset in IBM Cognos analytics
COLLECT DATA
DAFDLF-6
10
As an admin I can prepare, explore & present the dataset in IBM Cognos analytics.
PREPARE & EXPLORE
DAFDLF-7
10

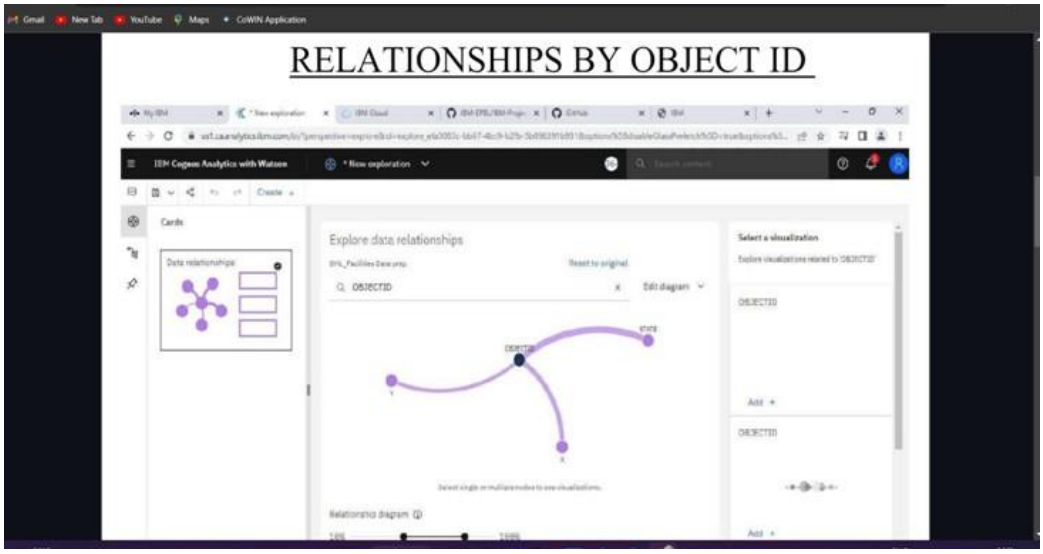

OCT
NOV
NOV
NOV
24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
Sprints
DAFDLF Sprint 1
DAFDLF Sprint 2
DAFDLF Sprint 3
DAFDLF Sprint 4
DAFDLF-1 LOGIN DONE
DAFDLF-4 VERIFY DONE
DAFDLF-5 COLLECT DATA DONE
DAFDLF-8 PREPARE & EXPLORE DONE
DAFDLF-11 ANALYZE
DAFDLF-12 PREDICT
DAFDLF-16 VISUALIZATION
DAFDLF-17 DASHBOARD
DAFDLF-19 COMMUNICATE

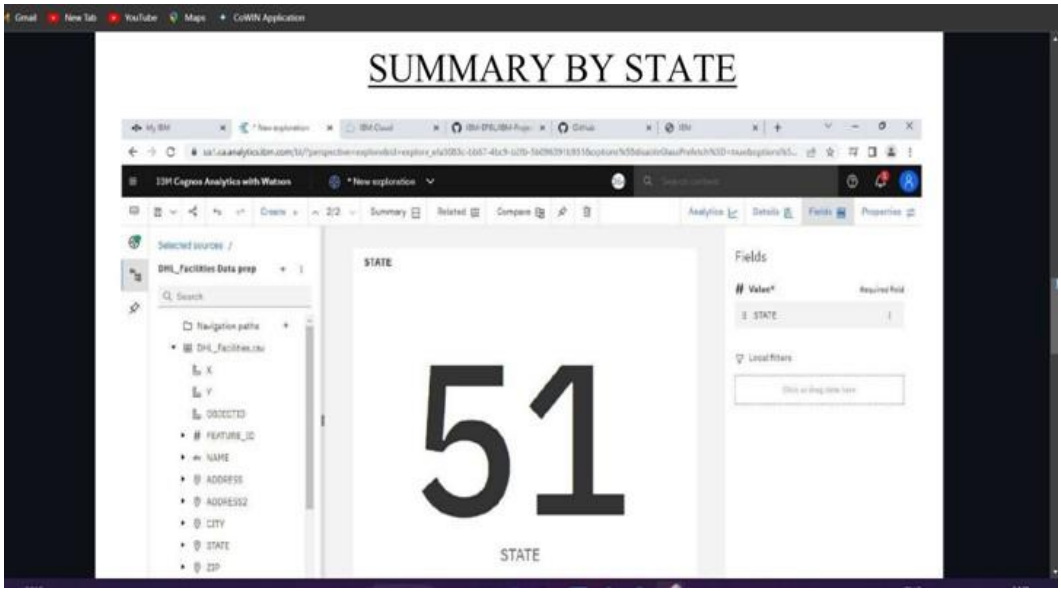
CHAPTER-7

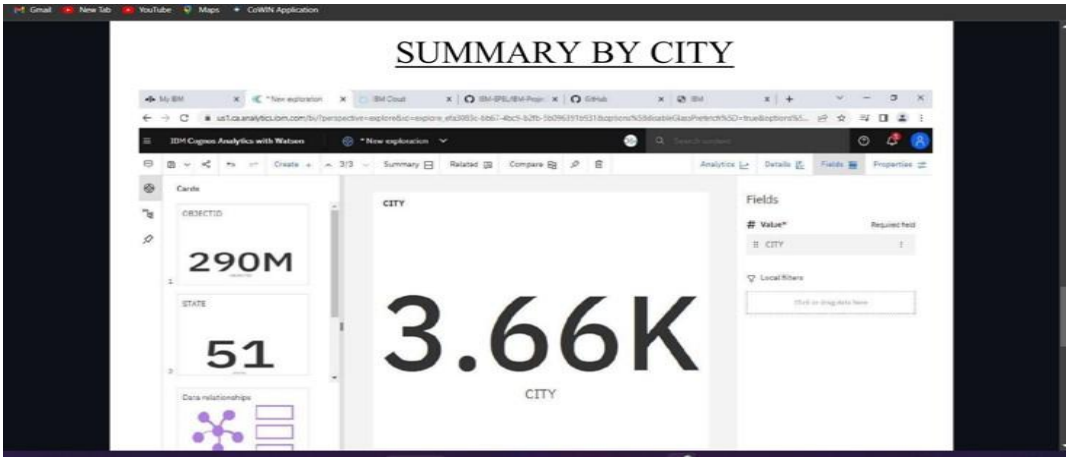
CODING AND RESOLUTION

Feature 1




RELATIONSHIPS BY OBJECT ID
IBM Cognos Analytics with Watson
Explore data relationships
OBJECTID


SUMMARY BY STATE
IBM Cognos Analytics with Watson
STATE
51
STATE
Fields

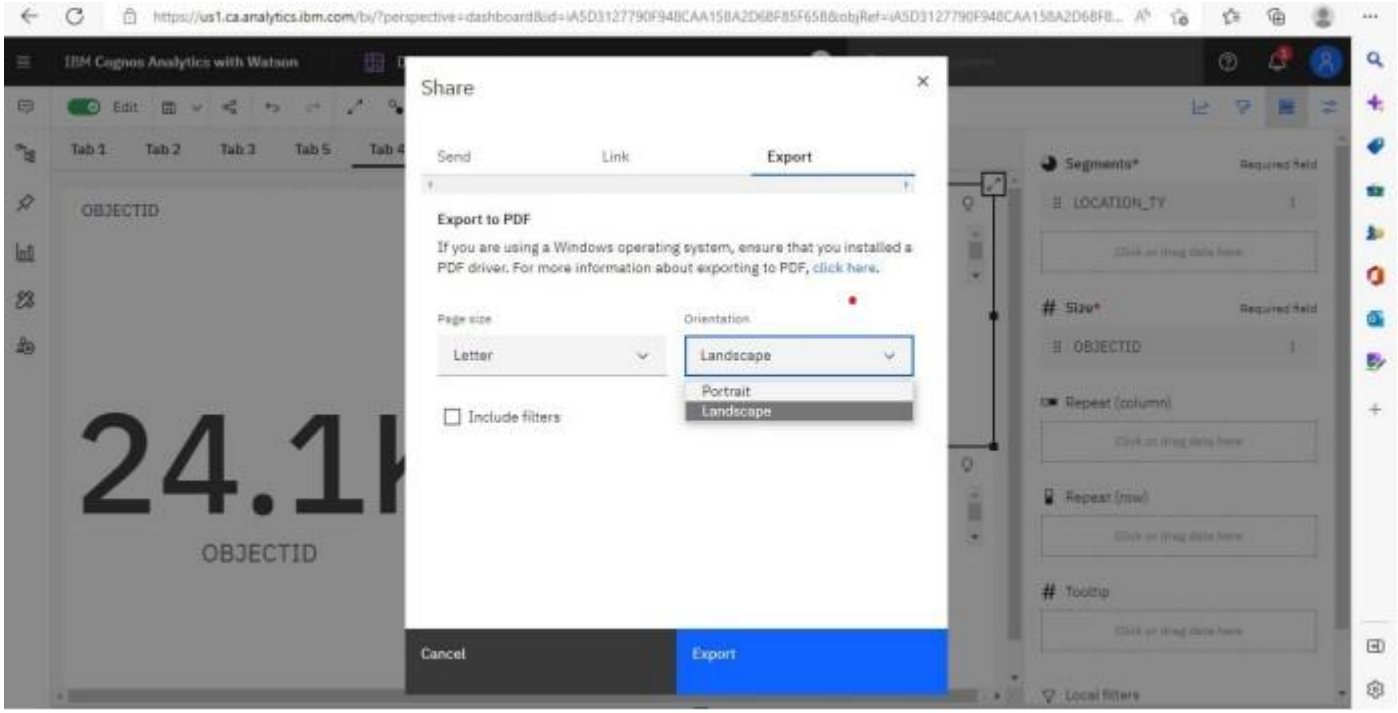

SUMMARY BY CITY
IBM Cognos Analytics with Watson
290M
51
CITY
3.66K
CITY
Fields

Feature 2

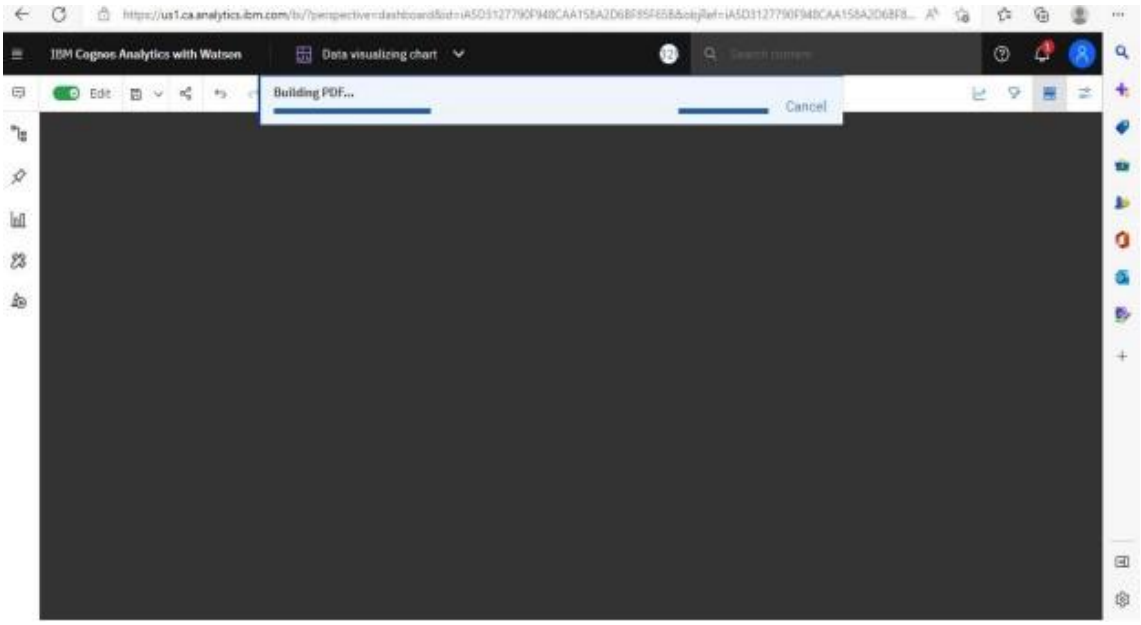
EXPORT THE ANALYTICS

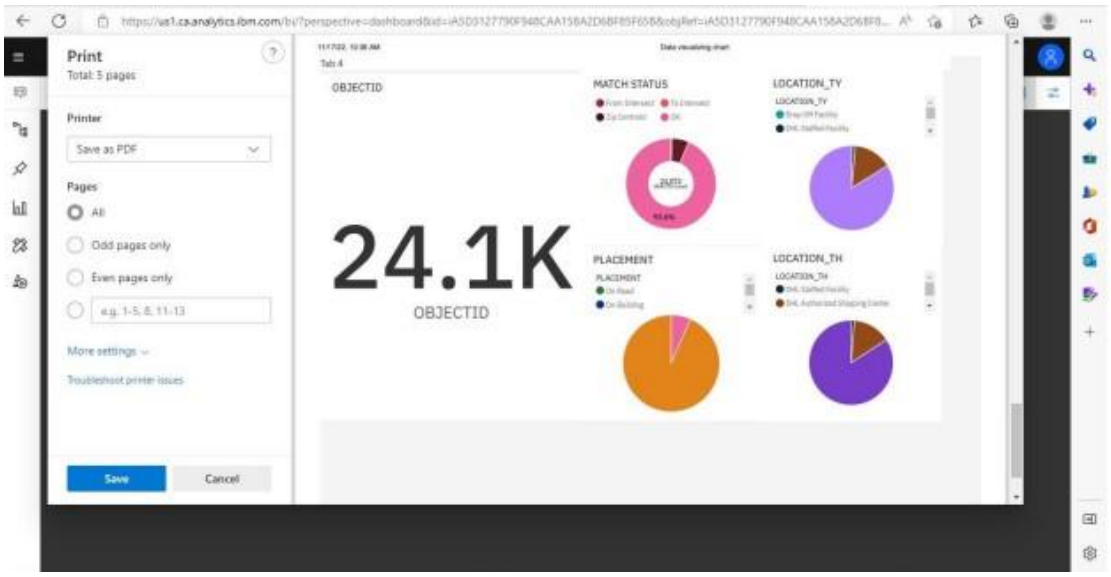
Finally, it's to share your work either through email or embeddedor pdf to Showcase your work to other.

See the below snapshots for understanding about sharing the

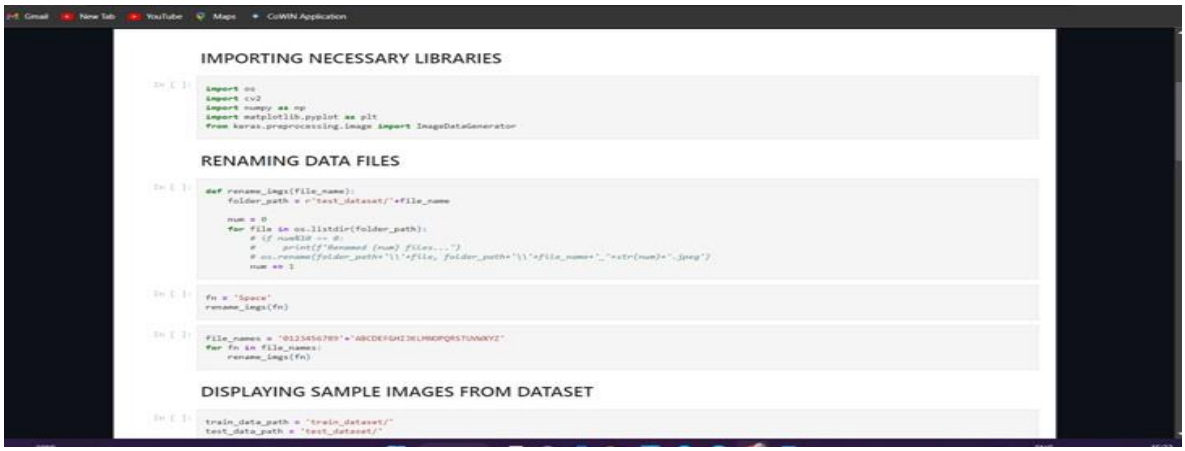


work as pdfdoc.


IBM Cognos Analytics with Watson
Data visualizing chart
Edit
Building PDF...
Cancel


Print
Total: 5 pages
Printer
Save as PDF
Pages
All
Odd pages only
Even pages only
e.g. 1-5, 8, 11-13
More settings
Troubleshoot printer issues
Save
Cancel
OBJECTID
24.1K
OBJECTID
MATCH STATUS
LOCATION_TY
PLACEMENT
LOCATION_TH

Database Schema



IMPORTING NECESSARY LIBRARIES

```
import os
import cv2
import numpy as np
import matplotlib.pyplot as plt
from keras.preprocessing.image import ImageDataGenerator
```

RENAMING DATA FILES

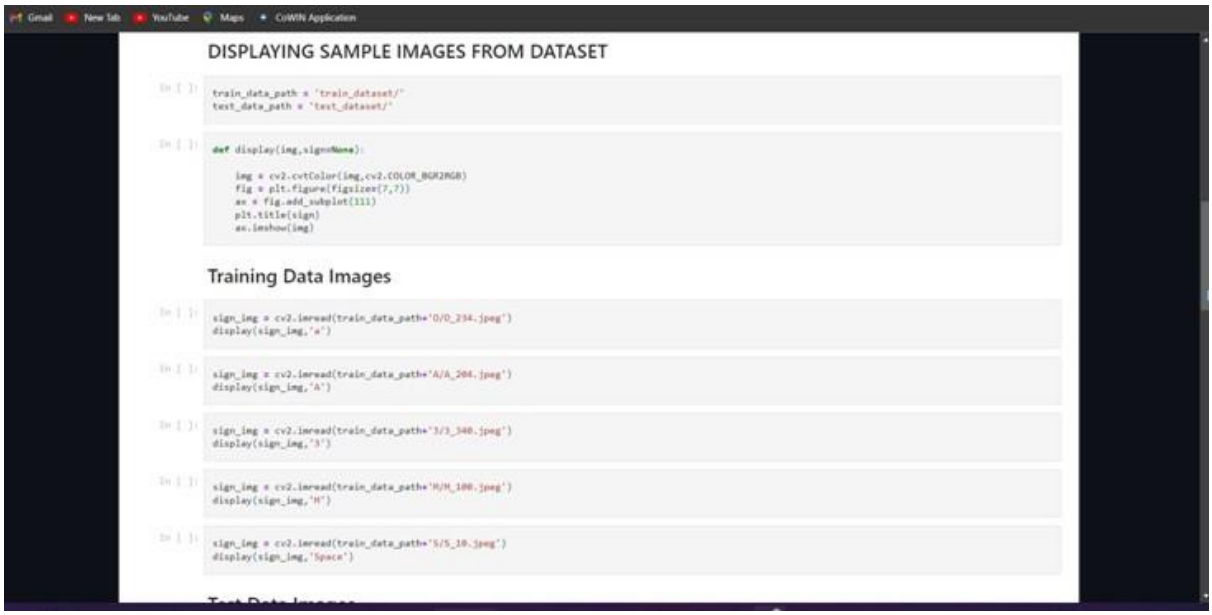
```
def rename_imgs(file_name):
    folder_path = r'test_dataset/'+file_name

    num = 0
    for file in os.listdir(folder_path):
        # if num%10 == 0:
        #     print(f'Renamed {num} files...')
        # os.rename(folder_path+'\\'+file, folder_path+'\\'+file_name+'_'+str(num)+'.jpeg')
        num += 1
```

```
fn = 'Space'
rename_imgs(fn)
```

```
file_names = '0123456789'+'ABCDEFGHIJKLMNOPQRSTUVWXYZ'
for fn in file_names:
    rename_imgs(fn)
```

DISPLAYING SAMPLE IMAGES FROM DATASET

```
train_data_path = 'train_dataset/'
test_data_path = 'test_dataset/'
```



DISPLAYING SAMPLE IMAGES FROM DATASET

```
train_data_path = 'train_dataset/'
test_data_path = 'test_dataset/'
```

```
def display(img,sign=None):

    img = cv2.cvtColor(img,cv2.COLOR_BGR2RGB)
    fig = plt.figure(figsize=(7,7))
    ax = fig.add_subplot(111)
    plt.title(sign)
    ax.imshow(img)
```

Training Data Images

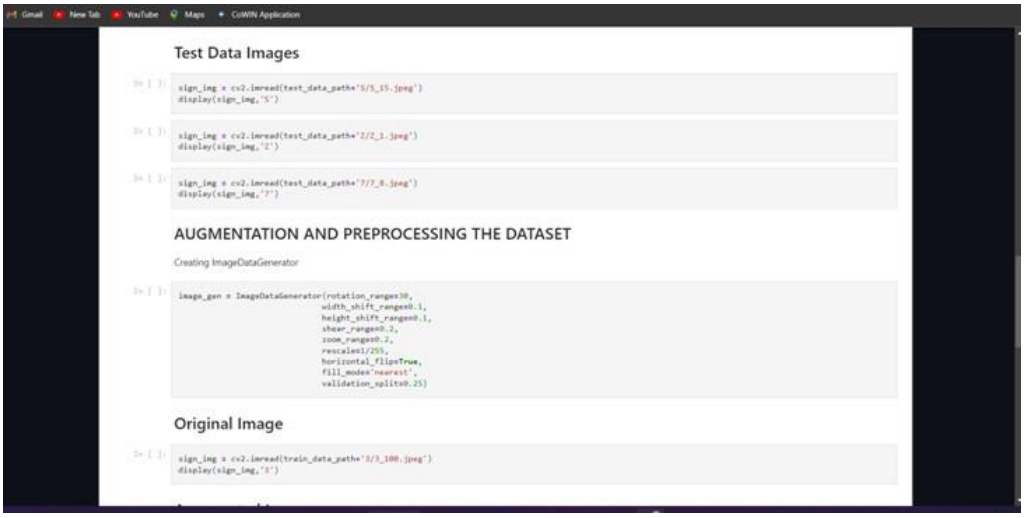
```
sign_img = cv2.imread(train_data_path+'0/0_234.jpeg')
display(sign_img,'0')
```

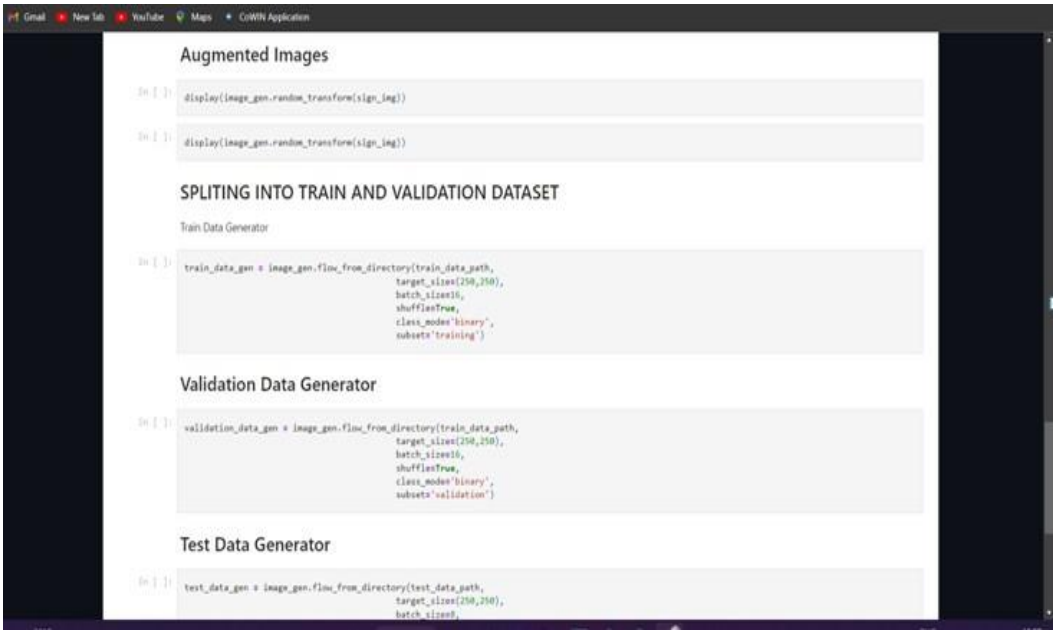
```
sign_img = cv2.imread(train_data_path+'A/A_204.jpeg')
display(sign_img,'A')
```

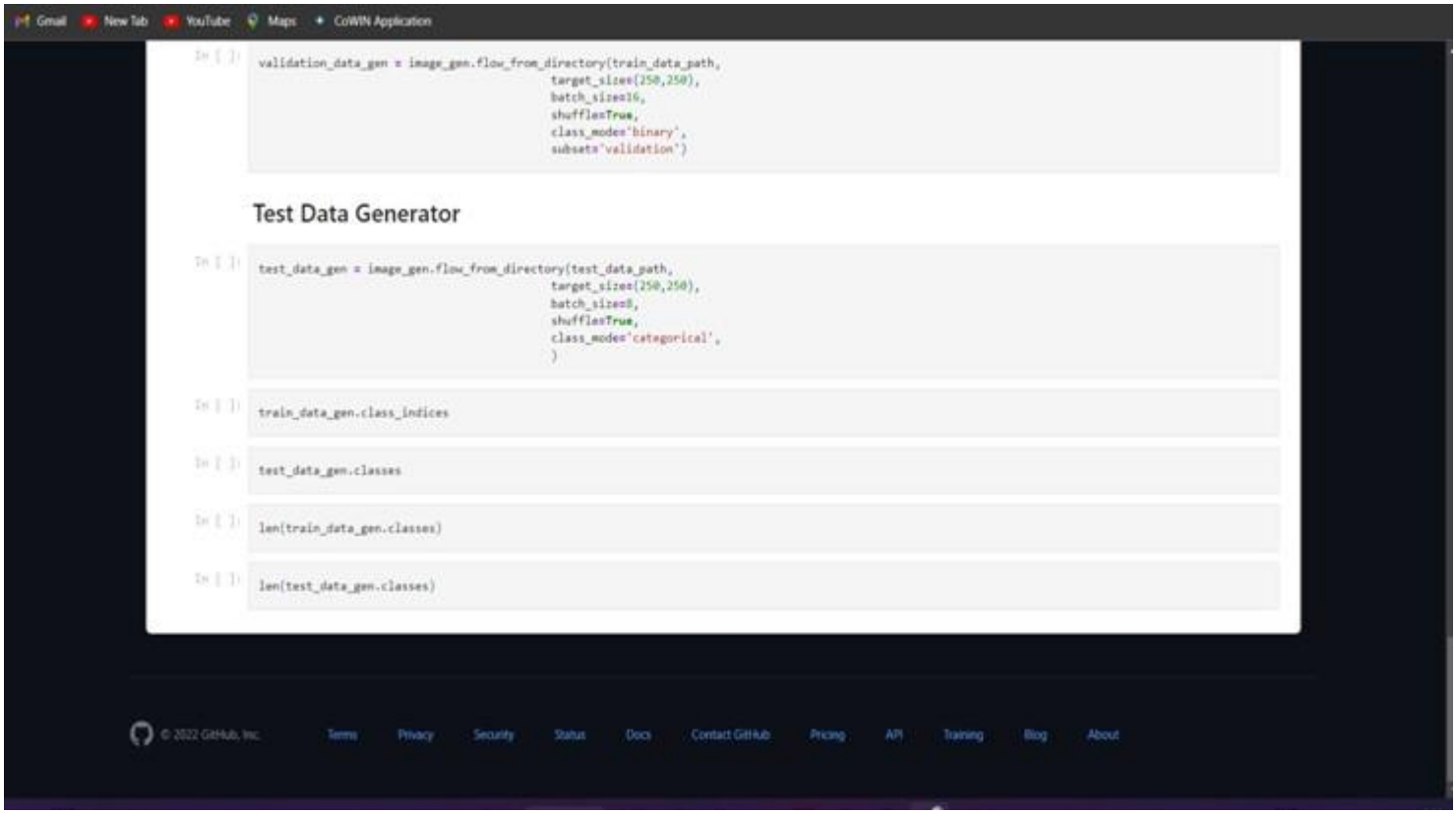
```
sign_img = cv2.imread(train_data_path+'3/3_340.jpeg')
display(sign_img,'3')
```

```
sign_img = cv2.imread(train_data_path+'H/H_100.jpeg')
display(sign_img,'H')
```

```
sign_img = cv2.imread(train_data_path+'5/5_10.jpeg')
display(sign_img,'Space')
```


Gmail
New Tab
YouTube
Maps
CoWIN Application
Test Data Images
sign_img = cv2.imread(test_data_path+'5/5_15.jpeg')
display(sign_img,'5')
sign_img = cv2.imread(test_data_path+'2/2_1.jpeg')
display(sign_img,'2')
sign_img = cv2.imread(test_data_path+'7/7_8.jpeg')
display(sign_img,'7')
AUGMENTATION AND PREPROCESSING THE DATASET
Creating ImageDataGenerator
image_gen = ImageDataGenerator(rotation_range=30,
width_shift_range=0.1,
height_shift_range=0.1,
shear_range=0.2,
zoom_range=0.2,
rescale=1/255,
horizontal_flip=True,
fill_mode='nearest',
validation_split=0.25)
Original Image
sign_img = cv2.imread(train_data_path+'3/3_100.jpeg')
display(sign_img,'3')


Gmail
New Tab
YouTube
Maps
CoWIN Application
Augmented Images
display(image_gen.random_transform(sign_img))
display(image_gen.random_transform(sign_img))
SPLITING INTO TRAIN AND VALIDATION DATASET
Train Data Generator
train_data_gen = image_gen.flow_from_directory(train_data_path,
target_size=(250,250),
batch_size=16,
shuffle=True,
class_mode='binary',
subset='training')
Validation Data Generator
validation_data_gen = image_gen.flow_from_directory(train_data_path,
target_size=(250,250),
batch_size=16,
shuffle=True,
class_mode='binary',
subset='validation')
Test Data Generator
test_data_gen = image_gen.flow_from_directory(test_data_path,
target_size=(250,250),
batch_size=8,


Gmail
New Tab
YouTube
Maps
CoWIN Application
validation_data_gen = image_gen.flow_from_directory(train_data_path,
target_size=(250,250),
batch_size=16,
shuffle=True,
class_mode='binary',
subset='validation')
Test Data Generator
test_data_gen = image_gen.flow_from_directory(test_data_path,
target_size=(250,250),
batch_size=8,
shuffle=True,
class_mode='categorical',
)
train_data_gen.class_indices
test_data_gen.classes
len(train_data_gen.classes)
len(test_data_gen.classes)
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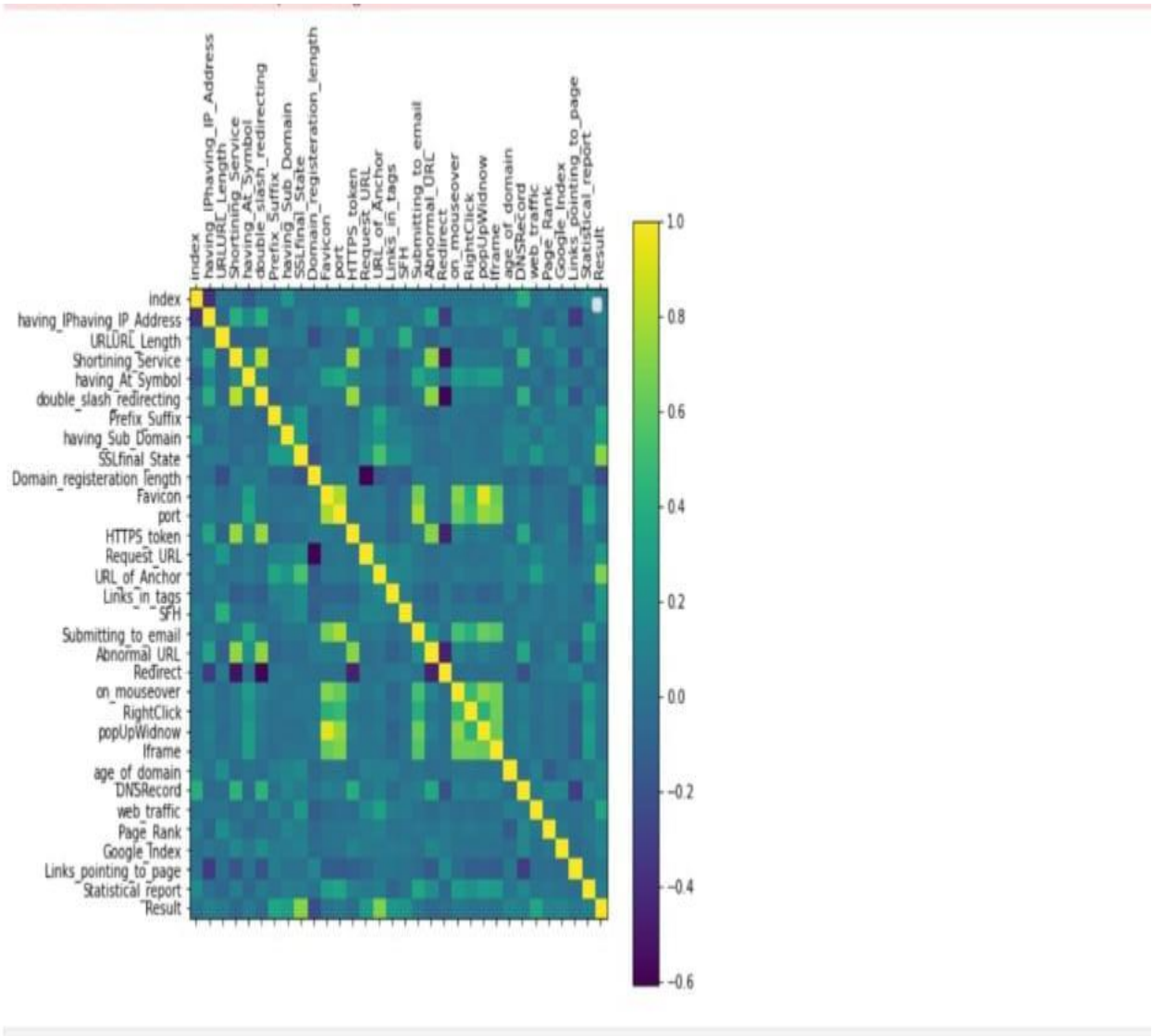
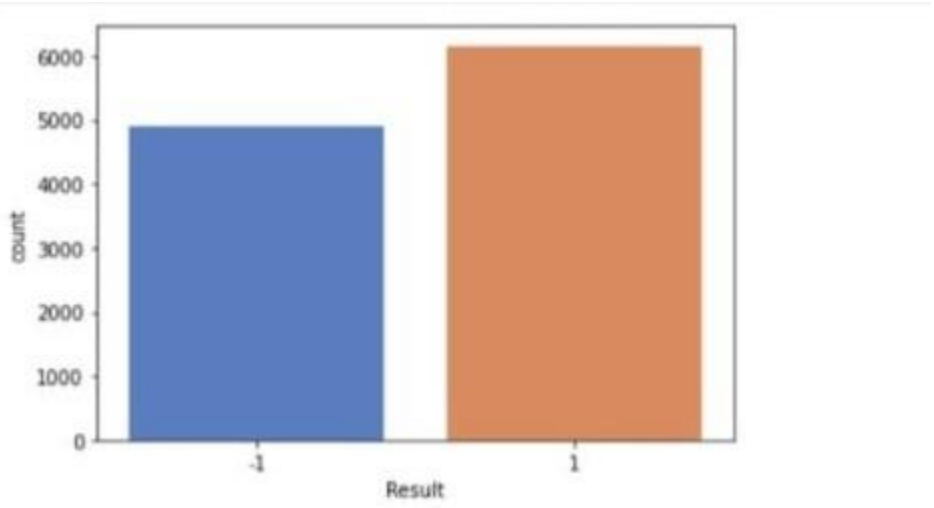
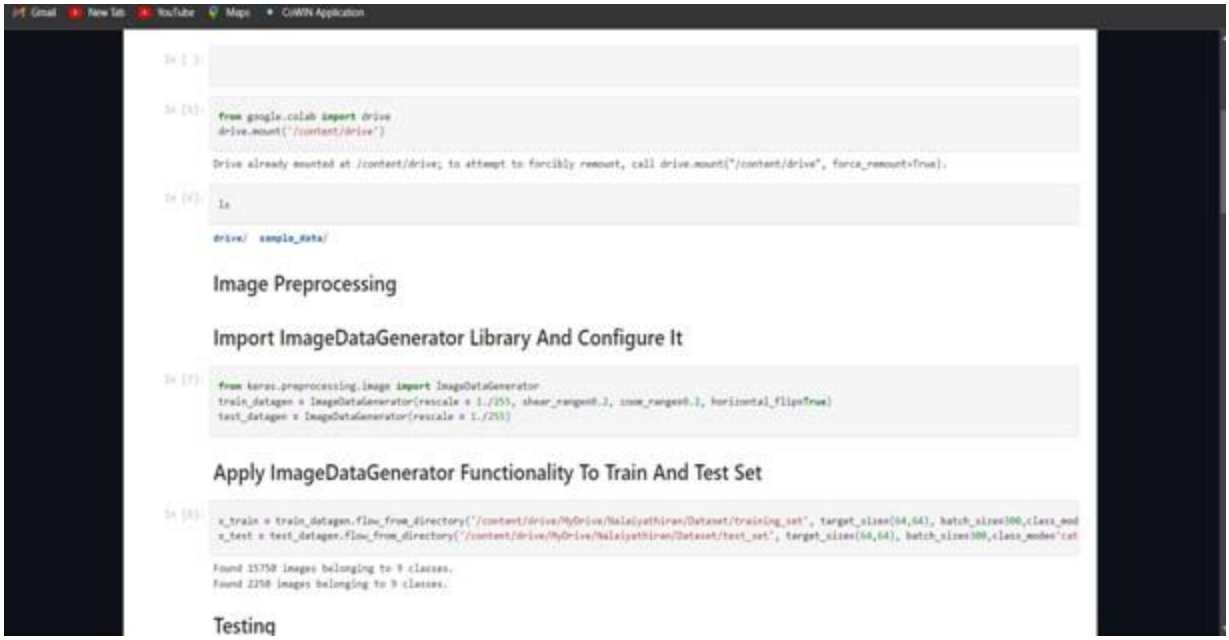
CHAPTER-8TESTING

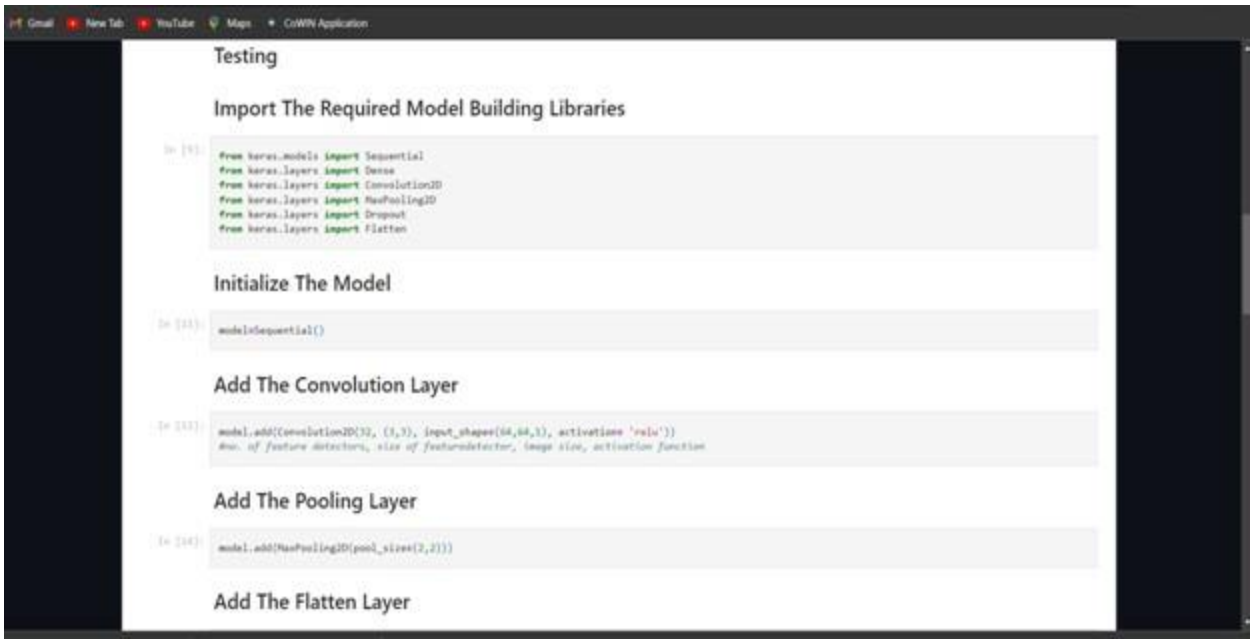
Test Cases





User Acceptance Testing





Testing

Import The Required Model Building Libraries

```
from keras.models import Sequential
from keras.layers import Dense
from keras.layers import Convolution2D
from keras.layers import MaxPooling2D
from keras.layers import Dropout
from keras.layers import Flatten
```

Initialize The Model

```
model=Sequential()
```

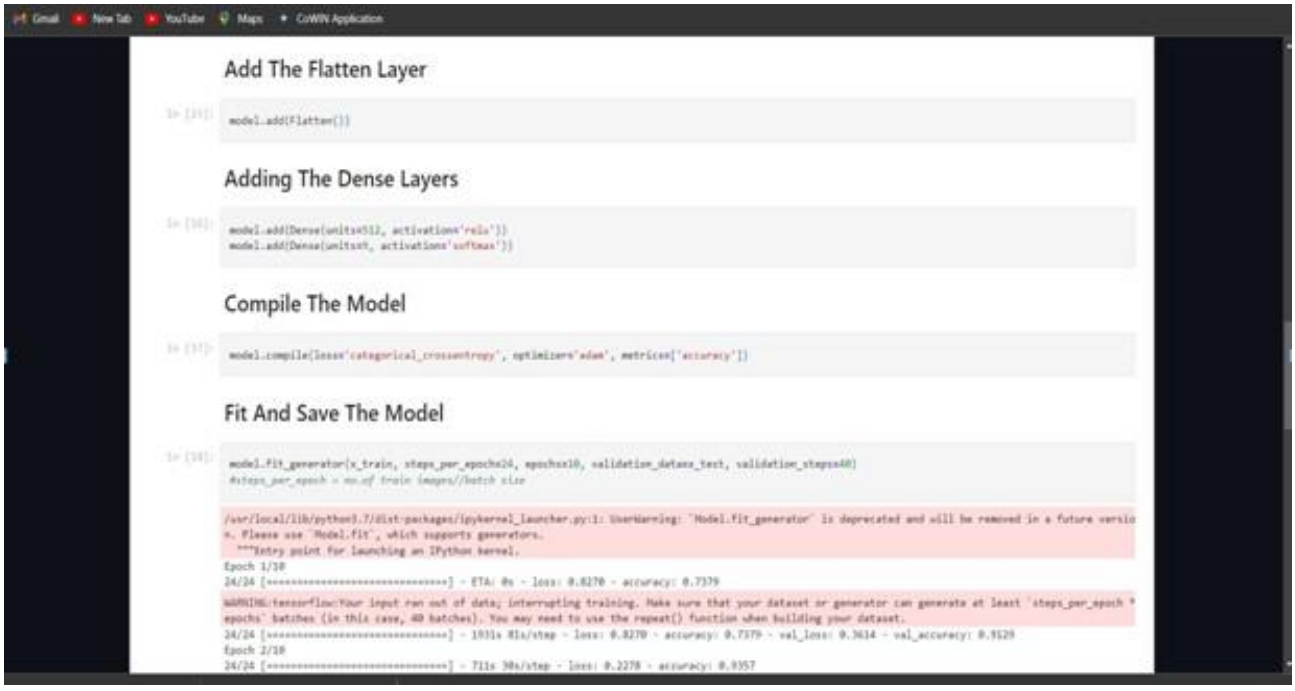
Add The Convolution Layer

```
model.add(Convolution2D(32, (3,3), input_shape=(64,64,3), activation= 'relu'))
#no. of feature detectors, size of featuredetector, image size, activation function
```

Add The Pooling Layer

```
model.add(MaxPooling2D(pool_size=(2,2)))
```

Add The Flatten Layer



Add The Flatten Layer

```
model.add(Flatten())
```

Adding The Dense Layers

```
model.add(Dense(units=512, activation='relu'))
model.add(Dense(units=5, activation='softmax'))
```

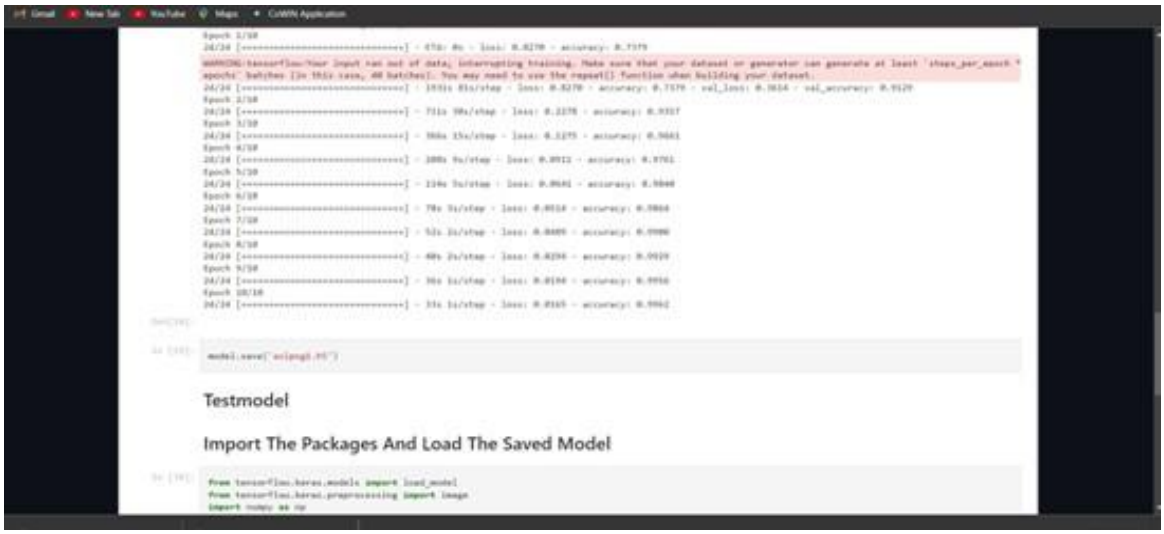
Compile The Model

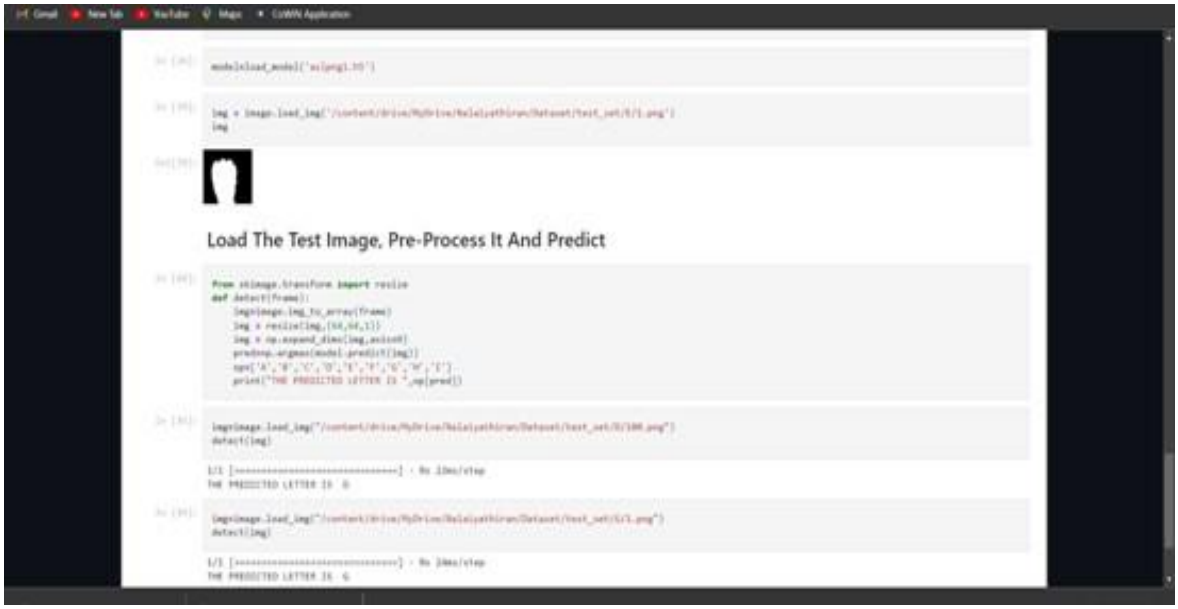
```
model.compile(loss='categorical_crossentropy', optimizer='adam', metrics=['accuracy'])
```

Fit And Save The Model

```
model.fit_generator(x_train, steps_per_epoch=24, epochs=10, validation_data=x_test, validation_steps=40)
#steps_per_epoch = no.of train images//batch size
```

```
/usr/local/lib/python3.7/dist-packages/ipykernel_launcher.py:1: UserWarning: `Model.fit_generator` is deprecated and will be removed in a future versio
n. Please use `Model.fit`, which supports generators.
  """Entry point for launching an IPython kernel.
Epoch 1/10
24/24 [==============================] - ETA: 0s - loss: 0.8270 - accuracy: 0.7379
WARNING:tensorflow:Your input ran out of data; interrupting training. Make sure that your dataset or generator can generate at least `steps_per_epoch *
epochs` batches (in this case, 40 batches). You may need to use the repeat() function when building your dataset.
24/24 [==============================] - 1931s 81s/step - loss: 0.8270 - accuracy: 0.7379 - val_loss: 0.3614 - val_accuracy: 0.9129
Epoch 2/10
24/24 [==============================] - 711s 30s/step - loss: 0.2278 - accuracy: 0.9357
```


Testmodel
Import The Packages And Load The Saved Model


Load The Test Image, Pre-Process It And Predict

CHAPTER-9
RESULTS

Performance Metrics

- On-Time Final Delivery

This metric shows a carrier's ability to deliver successfully on time to their scheduled required arrival date and/or to the appointment time. Missing an appointment is not only financially costly (in the form of retailer chargebacks), it also adds time to the delivery as you'll likely need to schedule a new appointment, which could be several days out. If your carrier is performing below 98% with this metric, then an operations review should look for process improvement and efficiencies.

- Cost Per Pound

This metric measures gross net with total weight moved each month/quarter to show the buying and usage patterns of your customers. The trends revealed in cost-per-pound performance can help you and your customers to buy smarter and save money by not over- or under-buying product.

Warehousing metrics

- Inventory accuracy – This warehousing metric measures the accuracy of orders pulled from the warehouse. High accuracy scores show that the correct products in the correct quantities are going to the correct customers. Low inventory accuracy can create angry customers and result in additional costs to fix orders.

- Dock to Stock – While much attention is paid to outbound order cycle time, inbound cycle time is just as important to your supply chain. The dock-to-stock KPI measures the time between receipt of an order and the time that it is put away. Fast dock-to-stock times boost the efficiency of inbound activities and ensure that product is ready for resale as quickly as possible.
- On-Time Shipping – Shipping speed is vital in both the B2C and B2B worlds, and this metric shows the percentage of shipments that left the warehouse on time. Of course, "on time" can vary between those two worlds. B2C orders generally need to ship the same day (up to a cutoff time), while B2B orders have more of a set cadence with retailers (e.g., retailer may give advance notice of 48 hours, 72 hours, or even a week). Failure to ship on time can result in disappointed customers and can decrease the likelihood that B2B shipments make it to store shelves prior to a holiday surge or big promotion weekend (e.g., Valentine's Day and "Back to School" season)
- Order Accuracy – Customers – both B2C and B2B – not only expect
  orders to ship in a timely manner, they expect to receive exactly what they ordered. This metric shows accuracy (%) in terms of the number of orders filled correctly. When orders are filled incorrectly, charge backs and

delays are the likely result (e.g., Walmart's On-Time-In-Full [OTIF] policy made a splash years ago by announcing significant penalties for both late and incorrect orders).

- Fill Rate – Fill rate measures the ability of a warehouse to fill orders from a specific distribution center, without having to ship from multiple locations. For a 3PL, high fill rates result from good systems integration that ensures the warehouse inventory count for each SKU matches the figure in the customer's internal system. When these numbers don't match up, retailers can accept more orders than they can fill with current inventory, – resulting in backorders, delays and potential chargebacks.

Using logistics metrics with a 3PL partner

When you're working with a 3PL partner, expensive systems and advanced automation don't always equate to exceptional operational performance. Make sure that your 3PL is capturing, managing, and continually improving the KPIs that matter to you – and your customers' – business.

When partnering with a 3PL, discuss the metrics that your company needs to master. This discussion should also cover the steps your 3PL will take when operations are falling short of the mark, as well as any continuous improvement program that your 3PL has implemented to bolster operations.

CHAPTER-10
ADVANTAGES AND DISADVATAGES

Advantages of DHL

- Established global presence in about 220 countries
- Door-to-door delivery of packages
- Air and sea delivery
- No pickup fees
- 24/7 international support
- Offers refunds for service failures on its part
- Complete control over transport chain ,e.g..Temperature sensitive
- Possibility to provide value added services
- More flexible dispatching
- Important for reputation as driver represents the company
- No fixed costs
- Better planning in a volatile market
- Improved utilisation of vehicles.

Disadvantages of DHL

- Less significant presence in the U.S.
- Occasional extra charges or surcharges.
- Higher Costs
- Difficulties archeiving good vehicles utilisation
- Own fleet management structures
- Less flexibility and control for retailer
- Loss of direct contract with recipient.

CHAPTER – 11 CONCLUSION

Logistics is one the most important and integral part of any organisations strategy and function. When the logistical process is carried out accurately then not only the company reduces the production cost but also improves the efficiency and customer satisfaction. Overall logistics management is very important for today's highly competitive and cut throat corporate world.

DHL has the world's largest express and logistics Network. Over the past decades it had turned delivering goods into a finely oiled process. Be it a book, pen. WIP material, drugs, hazardous chemicals, clothes, documents, wild animals and any other thing under the sun DHL delivers it. With a network spanning 200 countries and with its private fleet of airplanes, mobile vans, cargo ship carriers & even rail way automotives in some counties DHL can handle any type of goods. Not only has that with international network there come the hassle of documentation and paperwork, standard packaging and other formalities to adhere to. But DHL has its own department which looks into the international laws and other formalities. In the end what matters is delivering well in good condition at the door step of the customer. A happy and satisfied customer makes the business grow. Competitors have come and gone but DHL has been able to keep its No 1 position intact. This is because of its dynamic nature and attitude of maintaining good customer relations. Logistics

management is important for every organization but more so DHL

We have tried to incorporate all the facets of logistics which propel DHI. to be the best delievery and carriage-service around the world. No wonder that DHL is head and shoulders above all of its competitors.

CHAPTER – 12 FUTURE SCOPE

SCOPE OF THE STUDY

In order to understand the concepts of logistics in terms of practical usage and to glimpse into the how a real company or organization uses logistics as a formidable tool to gain customer satisfaction reduce overall cost and increase efficiency I selected "DHL the world's leading courier Service Company, The study is done only how Dhl use logistics system effectively. There are following strength and weakness of DHL

COMPANY STRENGTHS

- Strong Brand Image: In 1997, DHL became the global express transportation company to obtain simultaneous system- wide ISO 9001 certification in international quality standards. DHL has also developed their own quality system that matches their customer's standards.
- Globalism: DHL operates on a global scale. They operate in more than
  220 countries. They provide services that appeal to most of the world. They have such a large market in which to operate, and thus realize tremendous revenues. They can also achieve global economies of scale.
- eServices and Technology: DHL uses and continues to

search for new technology. They spend nearly 10% of total revenues, for information technology. DHL also has excellent eServices that provide access to systems that ensure customers have control and visibility of their supply chains at all times. Products can be tracked, queried and ordered online.

-

- Corporate symbiosis:DHL has developed its own organizational structure to serve the global market, which it has called "corporate symbiosis." This approach encompasses the empowerment of the DHL personnel at a local level, at the same time recognizing the interdependence of the parts of DHL as a corporate whole.
- Smart-Truck Project. It is the programme which allows DHL to deliver faster. The data are transmitted directly to the dynamic route planning system, which recalculates the routes, depending on the current order situation and volume of traffic.

COMPANY WEAKNESS

- High Prices: DHL's prices are above their competitors. This can be a weakness if their customers do not perceive a difference between DHL and its competitors' services.

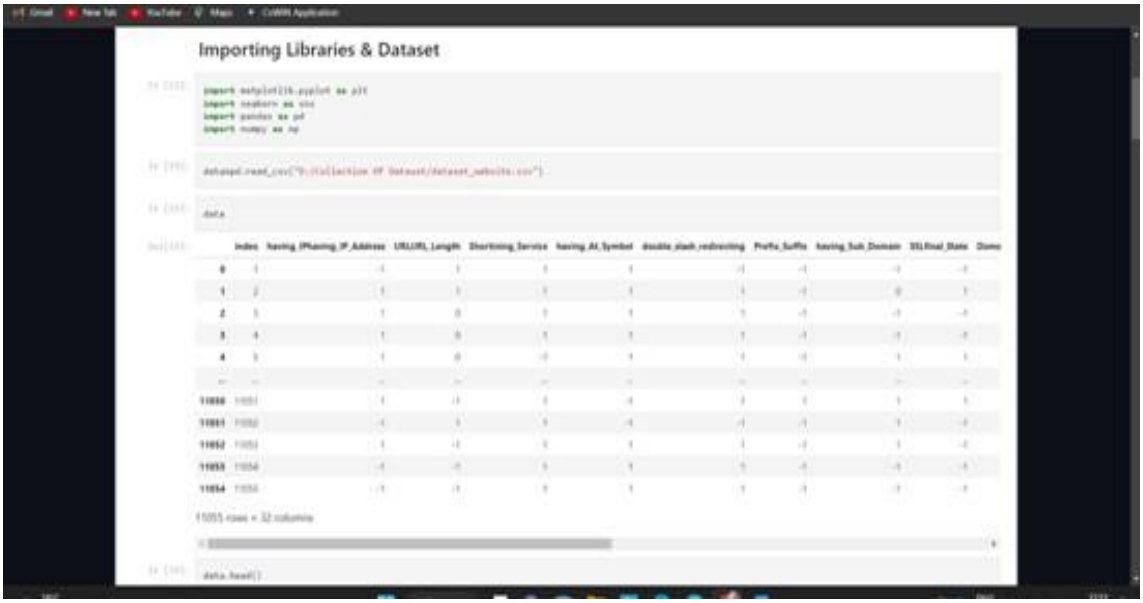
- Mistakes in Market-Share Estimate: The biggest weakness is DHL's market-share estimate. It is difficult to estimate even when the market is stagnant and contains few competitors, and all market- share estimates should be viewed with circumspection.

- Weak Visibility: It has weak visibility in the

communitycompared with its potential.

CHAPTER-13
APPENDIX

Source Code



	index	having_IPhaving_IP_Address	URLURL_Length	Shortening_Service	having_At_Symbol	double_slash_redirecting	Prefix_Suffix	having_Sub_Domain	SSLfinal_State	Domain_re
0	1	-1	-1	1	1	-1	-1	-1	-1	
1	2	1	1	1	1	1	-1	0	1	
2	3	1	0	1	1	1	-1	-1	-1	
3	4	1	0	1	1	1	-1	-1	-1	
4	5	1	0	-1	1	1	1	1	1	

5 rows × 32 columns

Numerical Analysis

```
data.shape
```

```
(11055, 32)
```

```
data.size
```

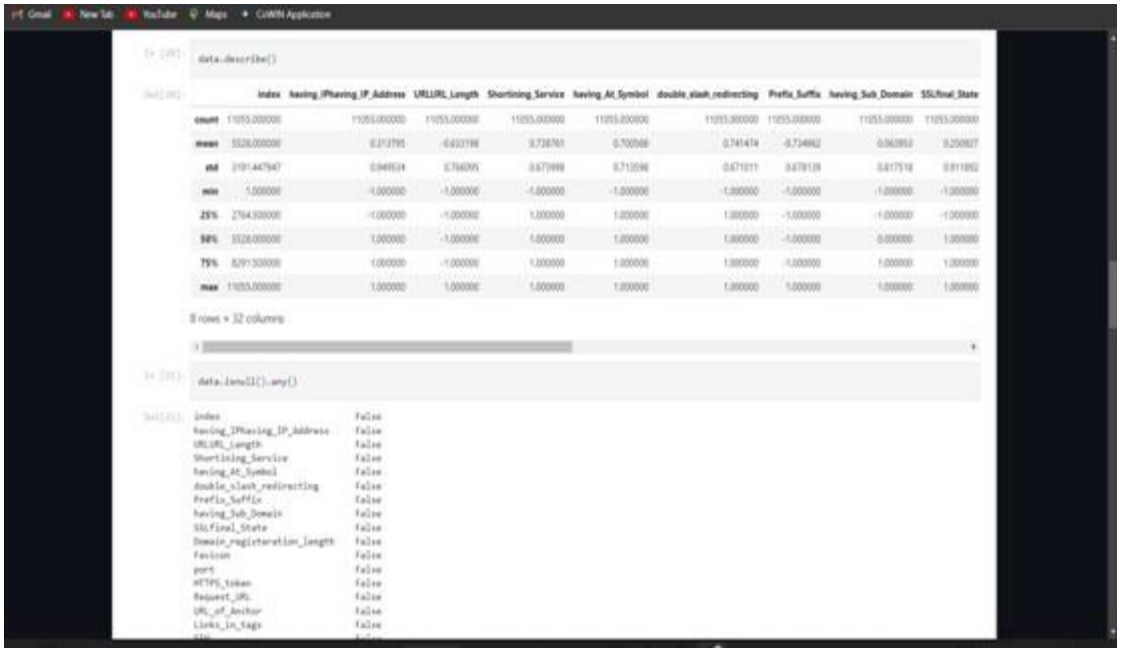
```
353760
```

```
data.info()
```

```
RangeIndex: 11055 entries, 0 to 11054
Data columns (total 32 columns):
 #   Column                       Non-Null Count  Dtype
---  ------                       --------------  -----
 0   index                        11055 non-null  int64
 1   having_IPhaving_IP_Address   11055 non-null  int64
 2   URLURL_Length                11055 non-null  int64
 3   Shortening_Service           11055 non-null  int64
 4   having_At_Symbol             11055 non-null  int64
 5   double_slash_redirecting     11055 non-null  int64
 6   Prefix_Suffix                11055 non-null  int64
 7   having_Sub_Domain            11055 non-null  int64
 8   SSLfinal_State               11055 non-null  int64
 9   Domain_registeration_length  11055 non-null  int64
 10  Favicon                      11055 non-null  int64
 11  port                         11055 non-null  int64
 12  HTTPS_token                  11055 non-null  int64
 13  Request_URL                  11055 non-null  int64
 14  URL_of_Anchor                11055 non-null  int64
 15  Links_in_tags                11055 non-null  int64
 16  SFH                          11055 non-null  int64
 17  Submitting_to_email          11055 non-null  int64
 18  Abnormal_URL                 11055 non-null  int64
 19  Redirect                     11055 non-null  int64
 20  on_mouseover                 11055 non-null  int64
 21  RightClick                   11055 non-null  int64
 22  popUpWidnow                  11055 non-null  int64
 23  Iframe                       11055 non-null  int64
 24  age_of_domain                11055 non-null  int64
 25  DNSRecord                    11055 non-null  int64
 26  web_traffic                  11055 non-null  int64
 27  Page_Rank                    11055 non-null  int64
 28  Google_Index                 11055 non-null  int64
 29  Links_pointing_to_page       11055 non-null  int64
 30  Statistical_report           11055 non-null  int64
 31  Result                       11055 non-null  int64
dtypes: int64(32)
memory usage: 2.7 MB
```

```
data.describe()
```

	index	having_IPhaving_IP_Address	URLURL_Length	Shortening_Service	having_At_Symbol	double_slash_redirecting	Prefix_Suffix	having_Sub_Domain	SSLfinal_State



```
In [30]: data.describe()
```

Out[30]:

	index	having_IPhaving_IP_Address	URLURL_Length	Shortining_Service	having_At_Symbol	double_slash_redirecting	Prefix_Suffix	having_Sub_Domain	SSLfinal_State
count	11055.000000	11055.000000	11055.000000	11055.000000	11055.000000	11055.000000	11055.000000	11055.000000	11055.000000
mean	5528.000000	0.313795	-0.633198	0.738761	0.700588	0.741474	-0.734962	0.063953	0.250927
std	3191.447047	0.949534	0.766095	0.673998	0.713598	0.671011	0.678139	0.817536	0.911982
min	1.000000	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000
25%	2764.500000	-1.000000	-1.000000	1.000000	1.000000	1.000000	-1.000000	-1.000000	-1.000000
50%	5528.000000	1.000000	-1.000000	1.000000	1.000000	1.000000	-1.000000	0.000000	1.000000
75%	8291.500000	1.000000	-1.000000	1.000000	1.000000	1.000000	-1.000000	1.000000	1.000000
max	11055.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000

8 rows × 32 columns

```
In [31]: data.isnull().any()
```

Out[31]:

```
index                        False
having_IPhaving_IP_Address   False
URLURL_Length                False
Shortining_Service           False
having_At_Symbol             False
double_slash_redirecting     False
Prefix_Suffix                False
having_Sub_Domain            False
SSLfinal_State               False
Domain_registeration_length  False
Favicon                      False
port                         False
HTTPS_token                  False
Request_URL                  False
URL_of_Anchor                False
Links_in_tags                False
SFH                          False
```

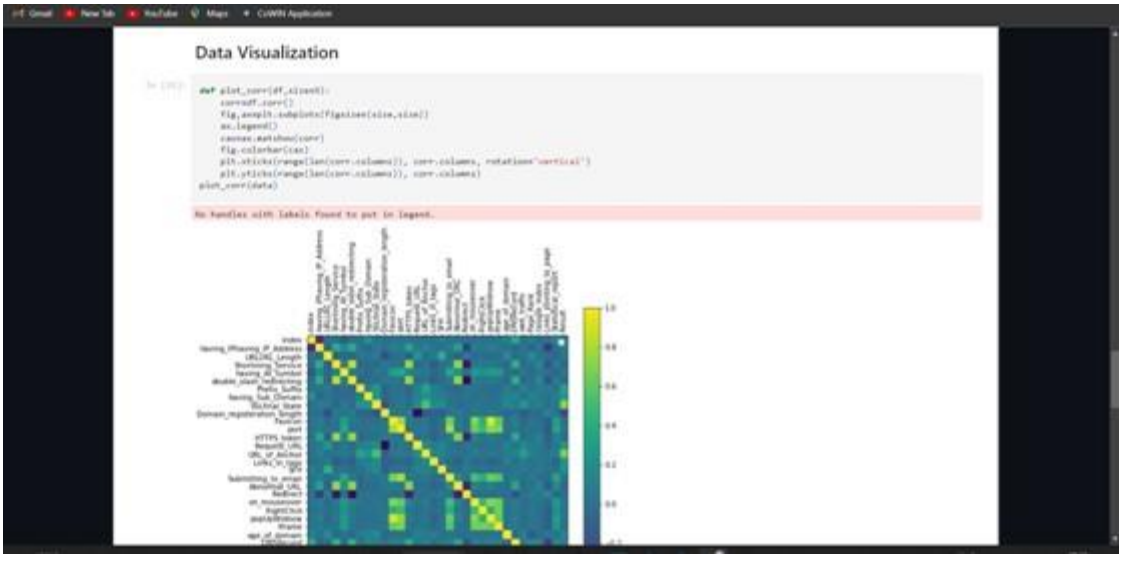
```
Out[31]:
index                        False
having_IPhaving_IP_Address   False
URLURL_Length                False
Shortining_Service           False
having_At_Symbol             False
double_slash_redirecting     False
Prefix_Suffix                False
having_Sub_Domain            False
SSLfinal_State               False
Domain_registeration_length  False
Favicon                      False
port                         False
HTTPS_token                  False
Request_URL                  False
URL_of_Anchor                False
Links_in_tags                False
SFH                          False
Submitting_to_email          False
Abnormal_URL                 False
Redirect                     False
on_mouseover                 False
RightClick                   False
popUpWidnow                  False
Iframe                       False
age_of_domain                False
DNSRecord                    False
web_traffic                  False
Page_Rank                    False
Google_Index                 False
Links_pointing_to_page       False
Statistical_report           False
Result                       False
dtype: bool
```

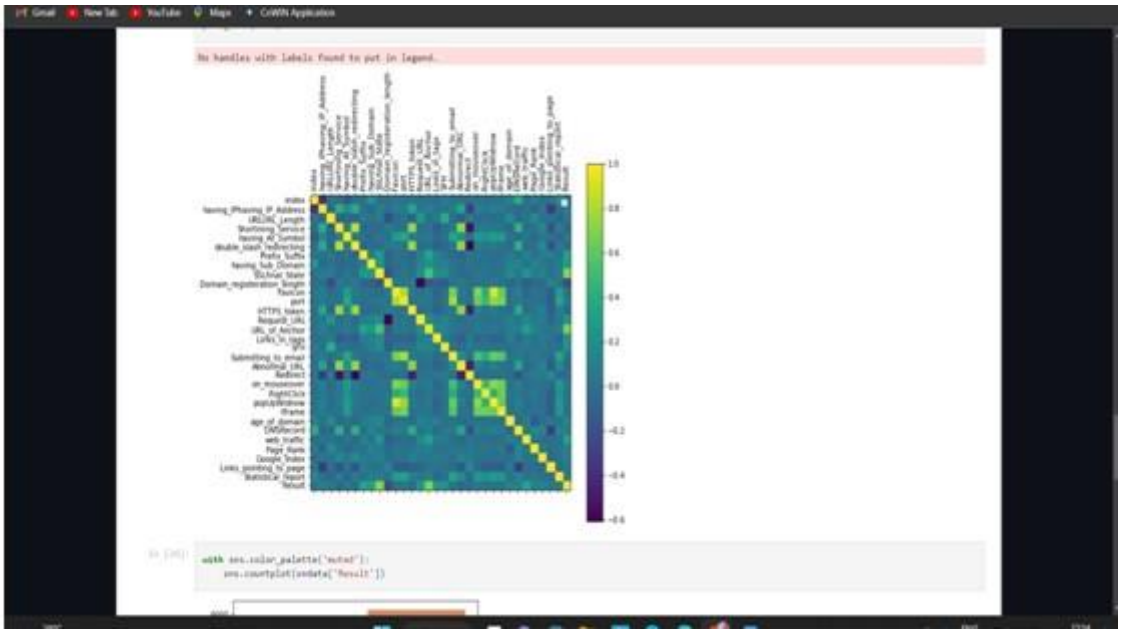
```
In [32]: data.isnull().sum()
```

Out[32]:

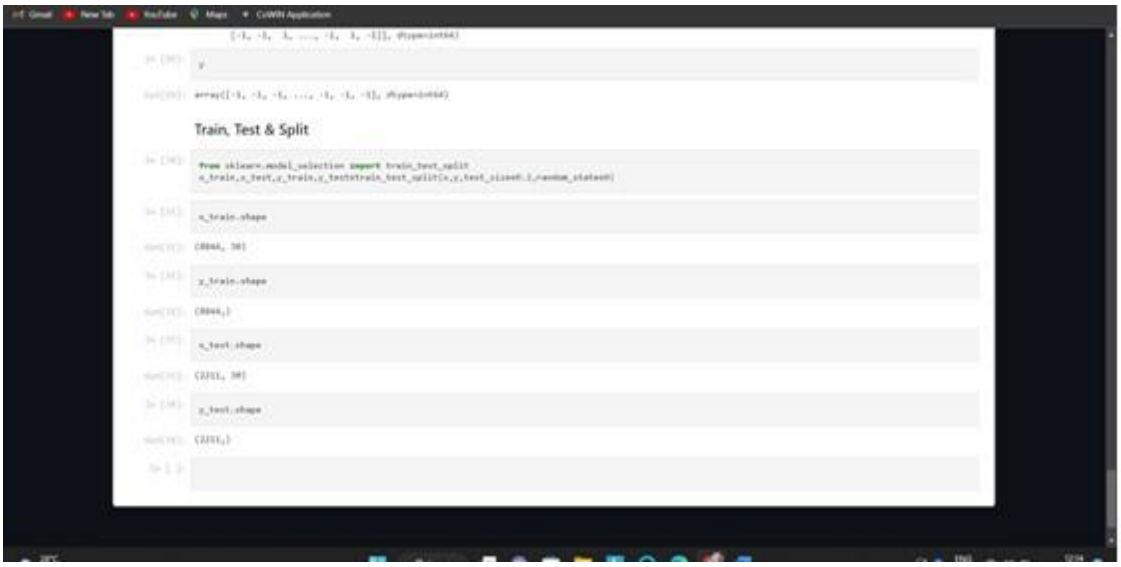
```
index                        0
having_IPhaving_IP_Address   0
URLURL_Length                0
Shortining_Service           0
having_At_Symbol             0
double_slash_redirecting     0
```

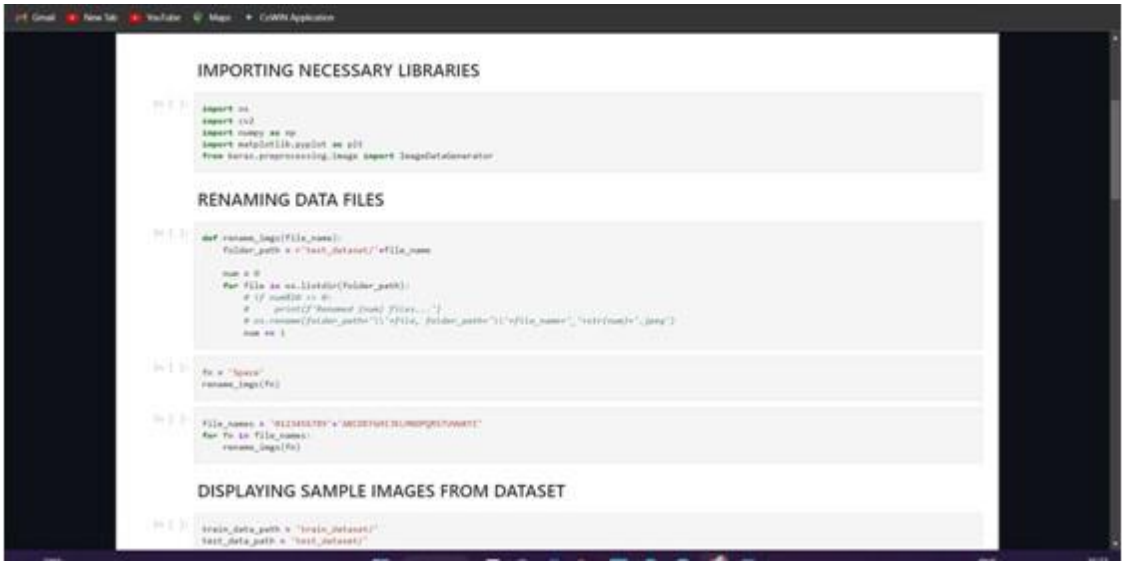

Gmail
New Tab
YouTube
Maps
CoWIN Application
index 0
having_IPhaving_IP_Address 0
URLURL_Length 0
Shortining_Service 0
having_At_Symbol 0
double_slash_redirecting 0
Prefix_Suffix 0
having_Sub_Domain 0
SSLfinal_State 0
Domain_registeration_lenght 0
Favicon 0
port 0
HTTPS_token 0
Request_URL 0
URL_of_Anchor 0
Links_in_tags 0
SFH 0
Submitting_to_email 0
Abnormal_URL 0
Redirect 0
on_mouseover 0
RightClick 0
popUpWidnow 0
IFrame 0
age_of_domain 0
DNSRecord 0
web_traffic 0
Page_Rank 0
Google_Index 0
Links_pointing_to_page 0
Statistical_report 0
Result 0
dtype: int64
Data Visualization


Gmail
New Tab
YouTube
Maps
CoWIN Application
Data Visualization
def plot_corr(df,size=8):
corrdf.corr()
fig,axsplt.subplots(figsize=(size,size))
ax.legend()
cax=ax.matshow(corr)
fig.colorbar(cax)
plt.xticks(range(len(corr.columns)), corr.columns, rotation='vertical')
plt.yticks(range(len(corr.columns)), corr.columns)
plot_corr(data)
No handles with labels found to put in legend.


No handles with labels found to put in legend.
with sns.color_palette('muted'):
sns.countplot(ysdata['Result'])


with sns.color_palette('muted'):
sns.countplot(ysdata['Result'])
count
Result
Splitting the data
xsdata.iloc[:,1:31].values
ysdata.iloc[:,-1].values
x
array([[-1, 1, 1, ..., 1, 1, -1],
[1, 1, 1, ..., 1, 1, 1],
[1, 0, 1, ..., 1, 0, -1],
...,
[1, -1, 1, ..., 1, 0, 1],
[-1, -1, 1, ..., 1, 1, 1],
[-1, -1, 1, ..., -1, 1, -1]], dtype=int64)
y


Train, Test & Split


IMPORTING NECESSARY LIBRARIES
RENAMING DATA FILES
DISPLAYING SAMPLE IMAGES FROM DATASET

DISPLAYING SAMPLE IMAGES FROM DATASET

```
train_data_path = 'train_dataset/'
test_data_path = 'test_dataset/'
```

```
def display(img,sign=None):

    img = cv2.cvtColor(img,cv2.COLOR_BGR2RGB)
    fig = plt.figure(figsize=(7,7))
    ax = fig.add_subplot(111)
    plt.title(sign)
    ax.imshow(img)
```

Training Data Images

```
sign_img = cv2.imread(train_data_path+'0/0_154.jpg')
display(sign_img,'0')
```

```
sign_img = cv2.imread(train_data_path+'A/A_184.jpg')
display(sign_img,'A')
```

```
sign_img = cv2.imread(train_data_path+'3/3_149.jpg')
display(sign_img,'3')
```

```
sign_img = cv2.imread(train_data_path+'M/M_109.jpg')
display(sign_img,'M')
```

```
sign_img = cv2.imread(train_data_path+'S/S_10.jpg')
display(sign_img,'Space')
```

Test Data Images

```
sign_img = cv2.imread(test_data_path+'5/5_13.jpg')
display(sign_img,'5')
```

```
sign_img = cv2.imread(test_data_path+'1/1_1.jpg')
display(sign_img,'1')
```

```
sign_img = cv2.imread(test_data_path+'7/7_8.jpg')
display(sign_img,'7')
```

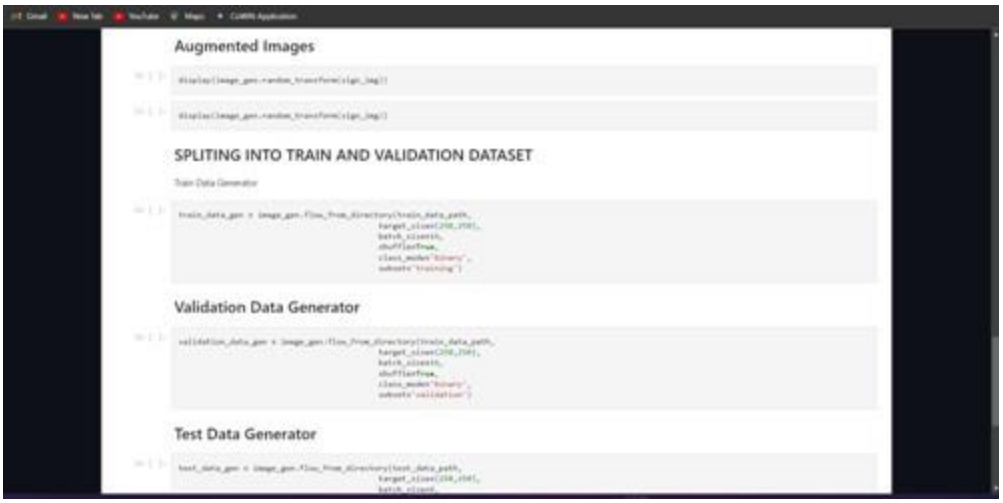
AUGMENTATION AND PREPROCESSING THE DATASET

Creating ImageDataGenerator

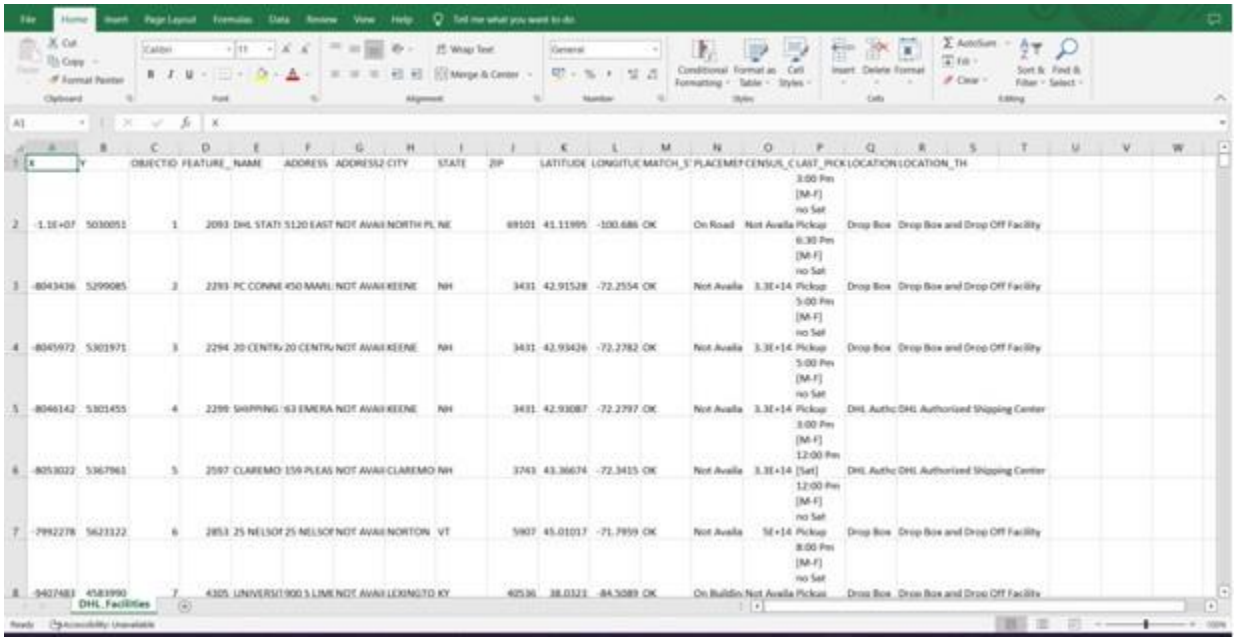
```
image_gen = ImageDataGenerator(rotation_range=30,
                               width_shift_range=0.1,
                               height_shift_range=0.1,
                               shear_range=0.2,
                               zoom_range=0.1,
                               rescale=1/255,
                               horizontal_flip=True,
                               fill_mode='nearest',
                               validation_split=0.25)
```

Original Image

```
sign_img = cv2.imread(train_data_path+'1/1_109.jpg')
display(sign_img,'1')
```

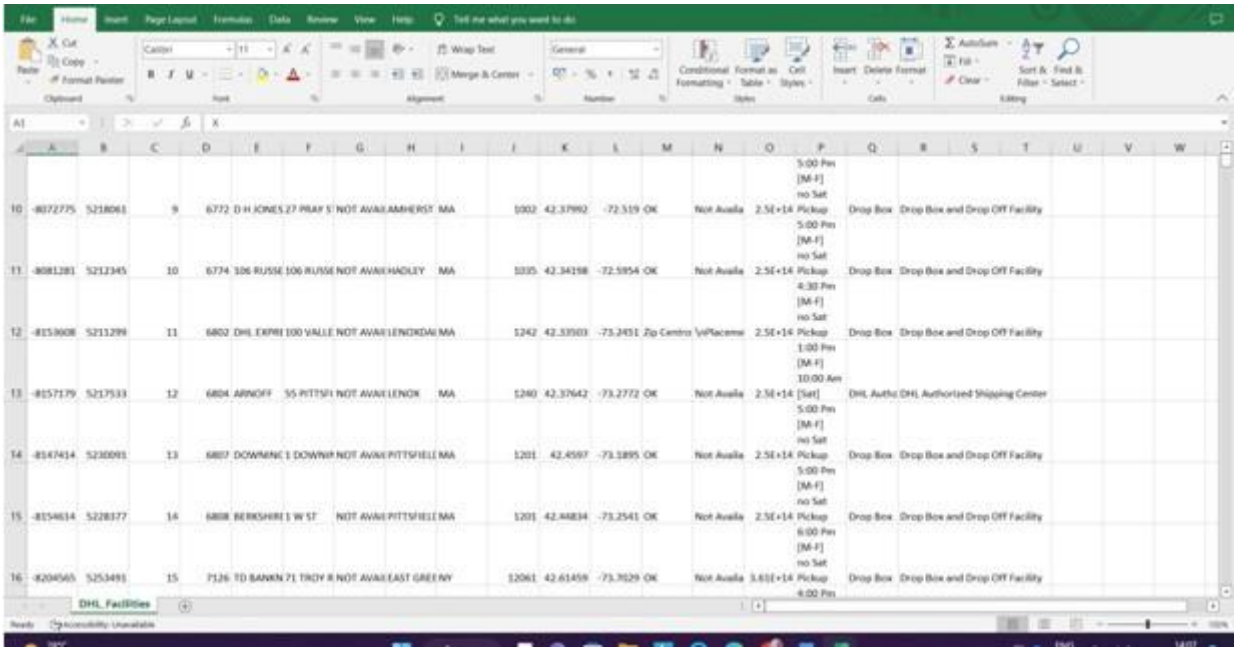

Augmented Images
SPLITING INTO TRAIN AND VALIDATION DATASET
Train Data Generator
Validation Data Generator
Test Data Generator


Test Data Generator



	X	Y	OBJECTID	FEATURE_	NAME	ADDRESS	ADDRESS2	CITY	STATE	ZIP	LATITUDE	LONGITUDE	MATCH_S	PLACEMEN	CENSUS_L	LAST_PICK	LOCATION	LOCATION_TH
2	-1.1E+07	5030051	1	2093	DHL STATI	5120 EAST	NOT AVAIL	NORTH PL	NE	69101	41.11995	-100.686	OK	On Road	Not Availa	3:00 Pm [M-F] no Sat Pickup	Drop Box	Drop Box and Drop Off Facility
3	-8043436	5299085	2	2293	PC CONNE	450 MAIN	NOT AVAIL	KEENE	NH	3431	42.91528	-72.2554	OK	Not Availa	3.3E+14	6:30 Pm [M-F] no Sat Pickup	Drop Box	Drop Box and Drop Off Facility
4	-8045972	5301971	3	2294	20 CENTR	20 CENTR	NOT AVAIL	KEENE	NH	3431	42.93426	-72.2782	OK	Not Availa	3.3E+14	5:00 Pm [M-F] no Sat Pickup	Drop Box	Drop Box and Drop Off Facility
5	-8046142	5301455	4	2299	SHIPPING	63 EMERA	NOT AVAIL	KEENE	NH	3431	42.93087	-72.2797	OK	Not Availa	3.3E+14	5:00 Pm [M-F] no Sat Pickup	DHL Authc	DHL Authorized Shipping Center
6	-8053022	5307961	5	2597	CLAREMO	159 PLEAS	NOT AVAIL	CLAREMO	NH	3743	43.38674	-72.3415	OK	Not Availa	3.3E+14	3:00 Pm [M-F] 12:00 Pm [Sat]	DHL Authc	DHL Authorized Shipping Center
7	-7992278	5623322	6	2853	25 NELSOI	25 NELSOI	NOT AVAIL	NORTON	VT	5907	45.01017	-71.7959	OK	Not Availa	5E+14	12:00 Pm [M-F] no Sat Pickup	Drop Box	Drop Box and Drop Off Facility
8	-9427483	4583990	7	4305	UNIVERSI	900 S LIME	NOT AVAIL	LEXINGTO	KY	40536	38.0321	-84.5089	OK	On Buildin	Not Availa	8:00 Pm [M-F] no Sat Pickup	Drop Box	Drop Box and Drop Off Facility

DHL_Facilities



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
10	-8072775	5218061	9	6772	D H JONES	27 PRAY S	NOT AVAIL	AMHERST	MA	1002	42.37992	-72.519	OK	Not Availa	2.5E+14	5:00 Pm [M-F] no Sat Pickup	Drop Box	Drop Box and Drop Off Facility
11	-8081281	5212345	10	6774	106 RUSSE	106 RUSSE	NOT AVAIL	HADLEY	MA	1035	42.34198	-72.5954	OK	Not Availa	2.5E+14	5:00 Pm [M-F] no Sat Pickup	Drop Box	Drop Box and Drop Off Facility
12	-8153608	5211299	11	6802	DHL EXPRI	100 VALLE	NOT AVAIL	LENOXDAI	MA	1242	42.33503	-73.2451	Zip Centro	\nPlaceme	2.5E+14	4:30 Pm [M-F] no Sat Pickup	Drop Box	Drop Box and Drop Off Facility
13	-8157179	5217533	12	6804	ARNOFF	55 PITTSFI	NOT AVAIL	LENOX	MA	1240	42.37642	-73.2772	OK	Not Availa	2.5E+14	1:00 Pm [M-F] 10:00 Am [Sat]	DHL Authc	DHL Authorized Shipping Center
14	-8147414	5230091	13	6807	DOWNINC	1 DOWNI	NOT AVAIL	PITTSFIELI	MA	1201	42.4597	-73.1895	OK	Not Availa	2.5E+14	5:00 Pm [M-F] no Sat Pickup	Drop Box	Drop Box and Drop Off Facility
15	-8154614	5228377	14	6808	BERKSHIRE	1 W ST	NOT AVAIL	PITTSFIELI	MA	1201	42.44834	-73.2541	OK	Not Availa	2.5E+14	5:00 Pm [M-F] no Sat Pickup	Drop Box	Drop Box and Drop Off Facility
16	-8204565	5253491	15	7126	TD BANKN	71 TROY R	NOT AVAIL	EAST GRE	NY	12061	42.61459	-73.7029	OK	Not Availa	3.61E+14	6:00 Pm [M-F] no Sat Pickup	Drop Box	Drop Box and Drop Off Facility

DHL_Facilities

GITHUB LINK :

https://github.com/IBM-EPBL/IBM-Project-15864-1659605580.git

DEMO VEDIO LINK:

https://drive.google.com/file/d/18Cf9a66cnECAj7JRdgSLdQWzADTw1iAX/view?usp=share_link