Global Sales Data Analytics

NALAIYA THIRAN PROJECT BASED LEARNING

PROFESSIONAL READINESS FOR INNOVATION, EMPLOYABILITY AND ENTREPRENEURSHIP

A PROJECT REPORT DONE BY

KARTHIKEYAN K - 727619BIT040
MANUDEV R - 727619BIT014
ROSANAKTHAR S - 727619BIT042
KAMESHWARAN M - 727619BIT056

BACHELOR OF TECHNOLOGY IN

INFORMATION TECHNOLOGY

Dr. Mahalingam College of Engineering and Technology
Pollachi - 642003
An Autonomous Institution
Affiliated to Anna University, Chennai - 600 025

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INTERNAL MENTOR

Mr. J. Ramprasath
Assistant Professor
Information Technology
Dr. Mahalingam College of Engineering and Technology

INDUSTRY MENTOR

Shanawaz Anwar, Indra Prakash

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ABSTRACT

Sales analytics refers to the technology and processes used to gather sales data and gauge sales performance. Sales leaders use these metrics to set goals, improve internal processes, and forecast future sales and revenue more accurately.

The goal of sales analytics is always to simplify the information available to you. It should help you clearly understand your team's performance, sales trends, and opportunities.

Sales analytics is your sales team's hidden superpower. It can enable your agents to spot key trends, dive deep, predict outcomes, and increase productivity.

Accurate analysis also gives your team the ability to tailor their efforts and prioritize high-value prospects. Plus, it may even help spotlight new opportunities for your business to pursue.

Sales analytics allows you to better gauge team performance and uncover areas for improvement, too. Understanding those strengths and weaknesses leads to better training, more attainable goals, and a cohesive team.

Data is at the heart of your analytics. Before you can dive into any sales analysis, you need to understand the metrics and key performance indicators (KPIs) you're looking at and why you're measuring them. Your team can track and analyze a variety of sales metrics

1. INTRODUCTION

Analytics is the discovery and communication of meaningful patterns in data. As a topic, analytics has found its way from being discussed at the sidelines of industry and technology conferences, to the top of the corporate agenda. With the existing promise of delivering performance improvements not seen since the redesign of core processes in the 1990s, these tools are likely to change the competitive landscape in many industries in the years to come.

1.1 Project Overview:

Sales target evaluates current sales and compares them to your bigger, long-term goals.To track this metric, you first have to determine your target.

Sales targets are often based on past growth rates and revenue needed to stay in business and remain competitive. Sales targets should strike a good balance between ambitious and achievable.

Now, depending on your company and what you want to measure, your sales target can be an actual monetary value, the number of sales made, or the number of accounts opened.

You can also look at various sales periods—weekly, monthly, quarterly, or yearly—to obtain the value that's most useful to you.

Once you know your sales target, it's easy to calculate the percentage. Simply divide the number of sales from the current period by the sales target, then multiply the result by 100.

That number will tell you how close you are to reaching your overall target or goal.

1.2 Purpose

The dramatic rise in e-commerce amid movement restrictions induced by COVID-19 increased online retail sales' share of total retail sales from 16% to 19% in 2020, according to estimates in an UNCTAD report published on 3 May.

UNCTAD released the report as it hosted a two-day meeting on measuring e-commerce and the digital economy.

According to the report, online retail sales grew markedly in several countries, with the Republic of Korea reporting the highest share at 25.9% in 2020, up from 20.8% the year before (Table 1).

Meanwhile, global e-commerce sales jumped to $26.7 trillion in 2019, up 4% from 2018, according to the latest available estimates.

This includes business-to-business (B2B) and business-to-consumer (B2C) sales, and is equivalent to 30% of global gross domestic product (GDP) that year.

"These statistics show the growing importance of online activities. They also point to the need for countries, especially developing ones, to have such information as they rebuild their economies in the wake of the COVID-19 pandemic," said Shamika Sirimanne, UNCTAD's director of technology and logistics.

2. LITERATURE SURVEY

1. Digital Transformat ion of IKEA's Supply Chain during and after the pandemic.

   Author : Rama Krishna Ponnana; Navya Uppalapati

IntroductionDi gital transformation in the supply chain is gaining popularity due to the recent customer behaviors and the market trends

2. Evaluation of Business Continuity Managemen t - A case study of disaster recovery during the Covid-19 pandemic.

Author : Fredrik Tegström; Filip Nilsson

Background The Company produces and sells specialised products and technical solutions worldwide through more than ten different technologybased and decentralised Business Units.

3. How to Integrate Purchasing with the Sales and Operations Planning Process.

Author: Matilda Davidsson; Frida Hansson.

Sales and Operations Planning, S&OP, is a crossfunctional, collaborative business manage- ment process where the goal is to balance demand and supply through an operational plan, aligned with the strategy of the company.

2.1 Existing Problem

Shopping in Online is currently need of the hour. Because of this Covid-19, it is not easy to walk into store and gather survey.

2.2 Problem Statement Definition

Shopping Online is currently need of the hour. Because of this Covid-19, it is not easy to walk into store and gather Surveys.

Every store be it online or offline needs evaluation and analysis to predict daily sales.It's also essential to know what goods customers want at a particular time and what the trend would be every day, month and year. The major focus of this analysis is to understand some things.

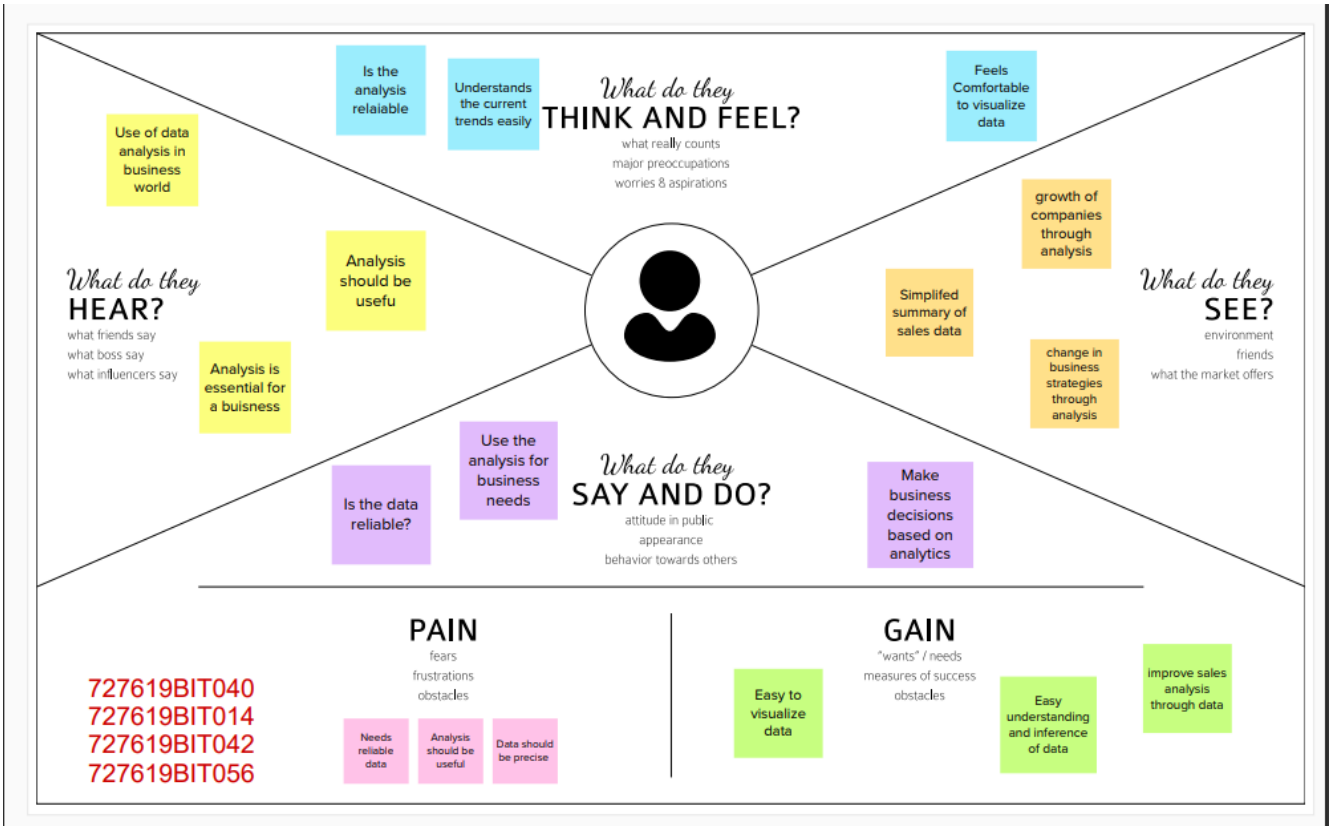
Like Sales Trend, Most Selling Products by Number of Sales, Least Selling Product by Number of Sales, Shipping Mode by Sales, Profitable Categories, Numbers of Product Sold by Category, Cities with Highest Sales Top Selling Products by Amount of Sales.

Analysis of the sales data with particular focus given to how promotions and advertising translate into sales, in terms of both units sold and sales dollars.Usually, Data Redundancy might happen or missing of data when we do it manually.

So, we should aim to answer some basic questions that may arise for the store manager/owner/customers giving a much better insight about the store and how to increase the productivity.

3. IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas



An empathy map is a collaborative tool teams can use to gain a deeper insight into their customers. Much like a user persona, an empathy map can represent a group of users, such as a customer segment. The empathy map was originally created by Dave Gray and has gained much popularity within the agile community.

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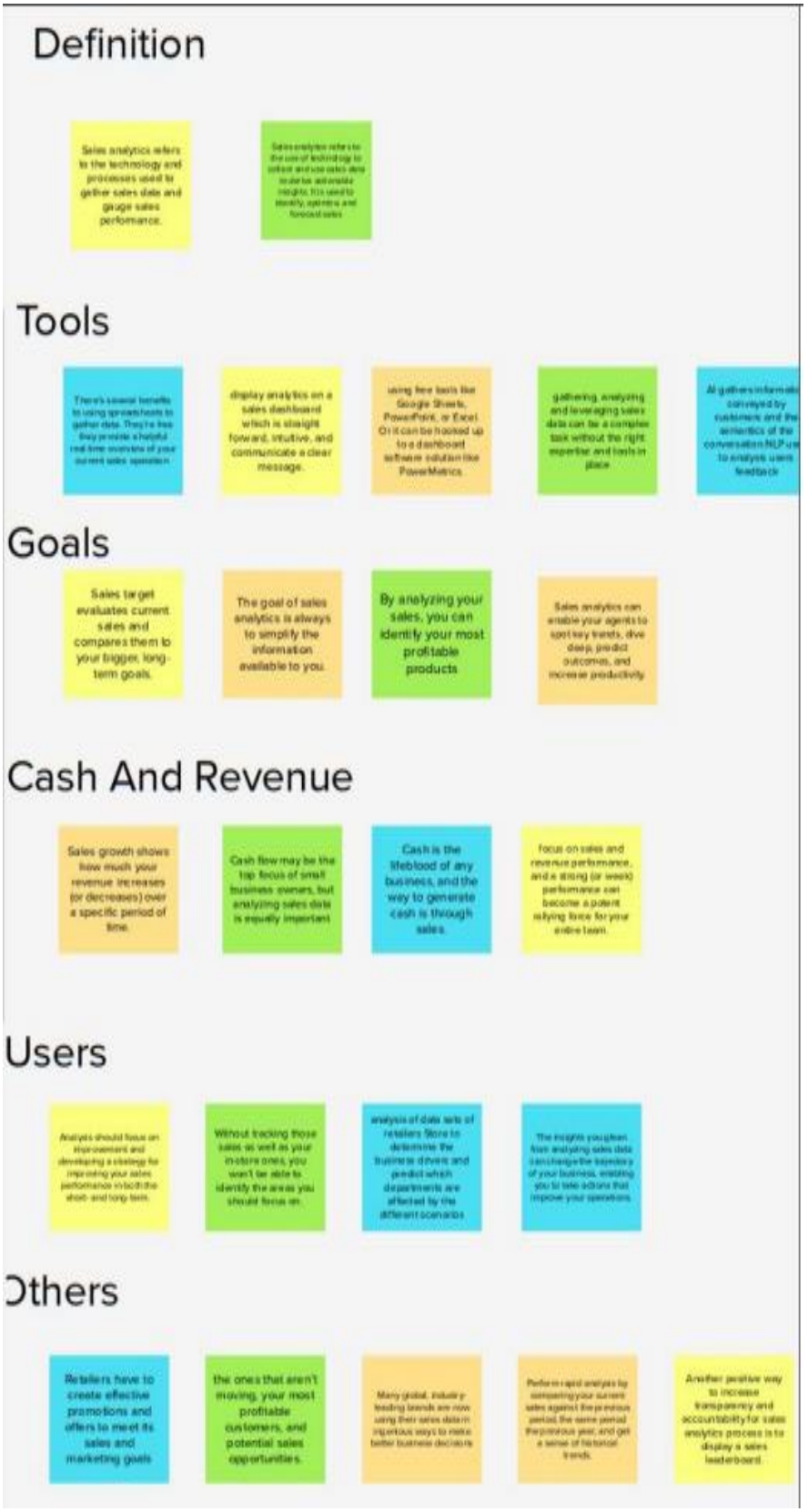
3.2 Ideation & Brainstorming


Definition
Sales analytics refers to the technology and processes used to gather sales data and gauge sales performance.
Tools
display analytics on a sales dashboard which is straight foward, intuitive, and communicate a clear message.
using free tools like Google Sheets, PowerPoint, or Excel. Or it can be hooked up to a dashboard software solution like PowerMetrics
gathering, analyzing and leveraging sales data can be a complex task without the right expertise and tools in place
Goals
Sales target evaluates current sales and compares them to your bigger, long-term goals.
The goal of sales analytics is always to simplify the information available to you.
By analyzing your sales, you can identify your most profitable products
Cash And Revenue
Sales growth shows how much your revenue increases (or decreases) over a specific period of time.
Cash flow may be the top focus of small business owners, but analyzing sales data is equally important
Cash is the lifeblood of any business, and the way to generate cash is through sales.
Users
Without tracking those sales as well as your in-store ones, you won't be able to identify the areas you should focus on.
analysis of data sets of resellers Store to determine the business drivers and predict which departments are affected by the different scenarios
Others
Retailers have to create effective promotions and offers to meet its sales and marketing goals
the ones that aren't moving, your most profitable customers, and potential sales opportunities.

3.3 Proposed Solution

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Shopping Online is currently need of the hour. Because of this Covid-19, it is not easy to walk into store and gather Surveys.
2.	Idea / Solution description	So, we should aim to answer some basic questions that may arise for the store manager/owner/customers giving a much better insight about the store and how to increase the productivity.
3.	Novelty / Uniqueness	The major focus of this analysis is to understand some things, like Sales Trend, Most Selling Products by Number of Sales, Least Selling Product by Number of Sales, Shipping Mode by Sales, Profitable Categories, Numbers of Product Sold by Category, Cities with Highest Sales Top Selling Products by Amount of Sales.
4.	Social Impact / Customer Satisfaction	They have clear view about their sales and purchases
5.	Business Model (Revenue Model)	Dashboards on Cognos Analytics
6.	Scalability of the Solution	1. Selection of Right Sales Analytics Tool 2. Use eye appealing and narrative dashboards 3. Choosing the selective metrics present in our dataset to attain success

3.4 Problem Solution Fit

4. REQUIREMENT ANALYSIS

4.1 Functional Requirements

FR No.	Functional Requirement (Epic)	Sub Requirement (Story/Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	User Login	Login via Email and password
FR-4	User uploading data(administrative)	To store the data set through the cloud
FR-5	End user benefits	Getting higher state of efficiency and also to know entire data analysis

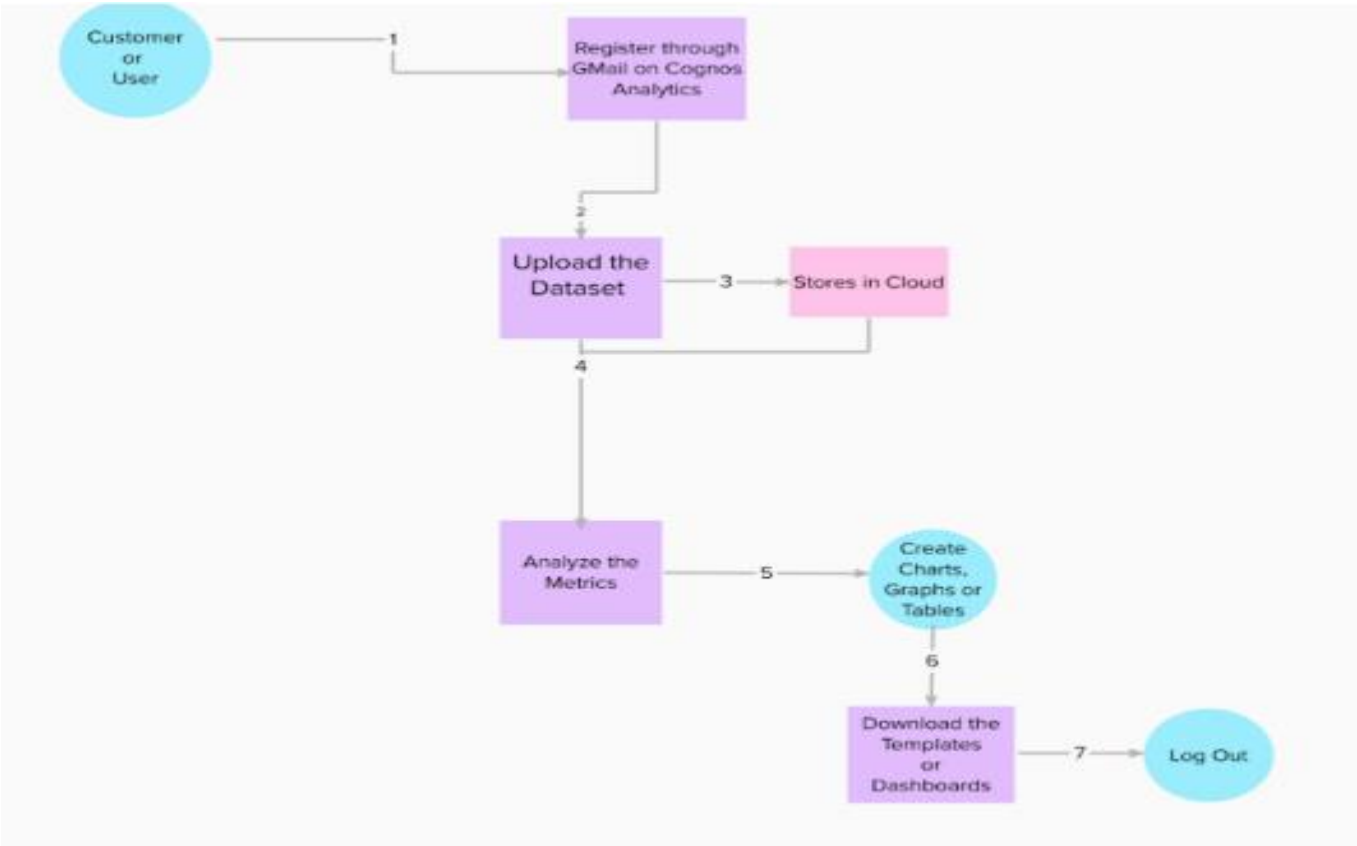
4.2 Non Functional Requirements

FR No.	Non-Functional Requirements	Description
NFR-1	Usability	Optimized resources and it can be used by everyone
NFR— 2	Security	It has securable because it has end to end encryption
NFR-3	Reliability	It has high reliability based on development.
NFR-4	Performance	It has high state of performance and efficiency.
NFR-5	Availability	It has available in all platforms and websites.
NFR—6	Scalability	The ability of a hardware and software parallel System to exploit increasing computing resources efficiency in the analysis of the (very)large datasets

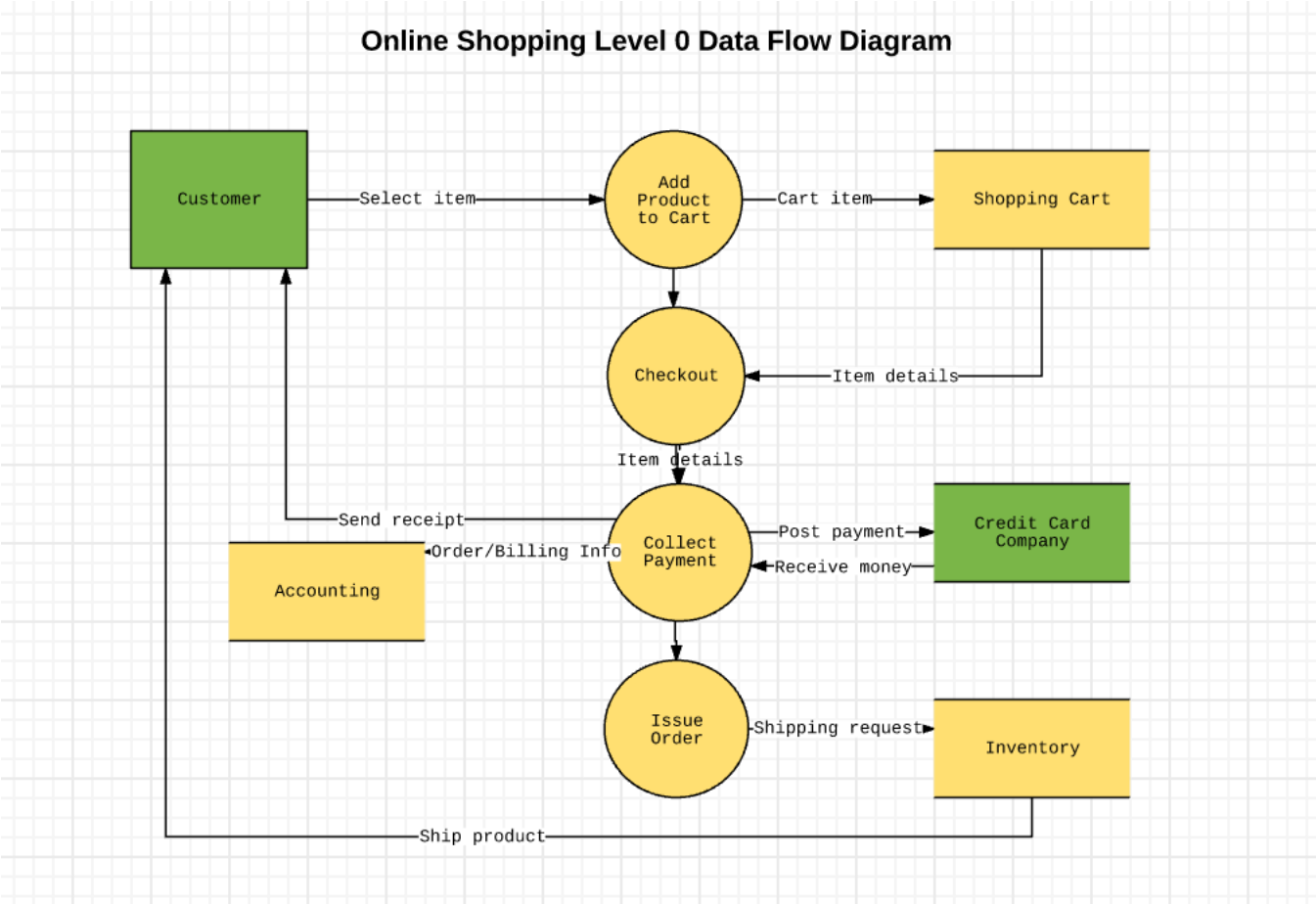
5. PROJECT DESIGN

5.1 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.



- Customer Registers themselves through Mail ID on Cognos Analytics.
- Upload various kinds of Datasets.
- Those Datasets are saved in My Content section of Cognos Analytics tool.
- Select the Metrics and Visualize it.
- Create colourful Charts , Graphs or Tables.
- Save the Template and Download it for Business Decision purpose.
- Finally ,Log Out.

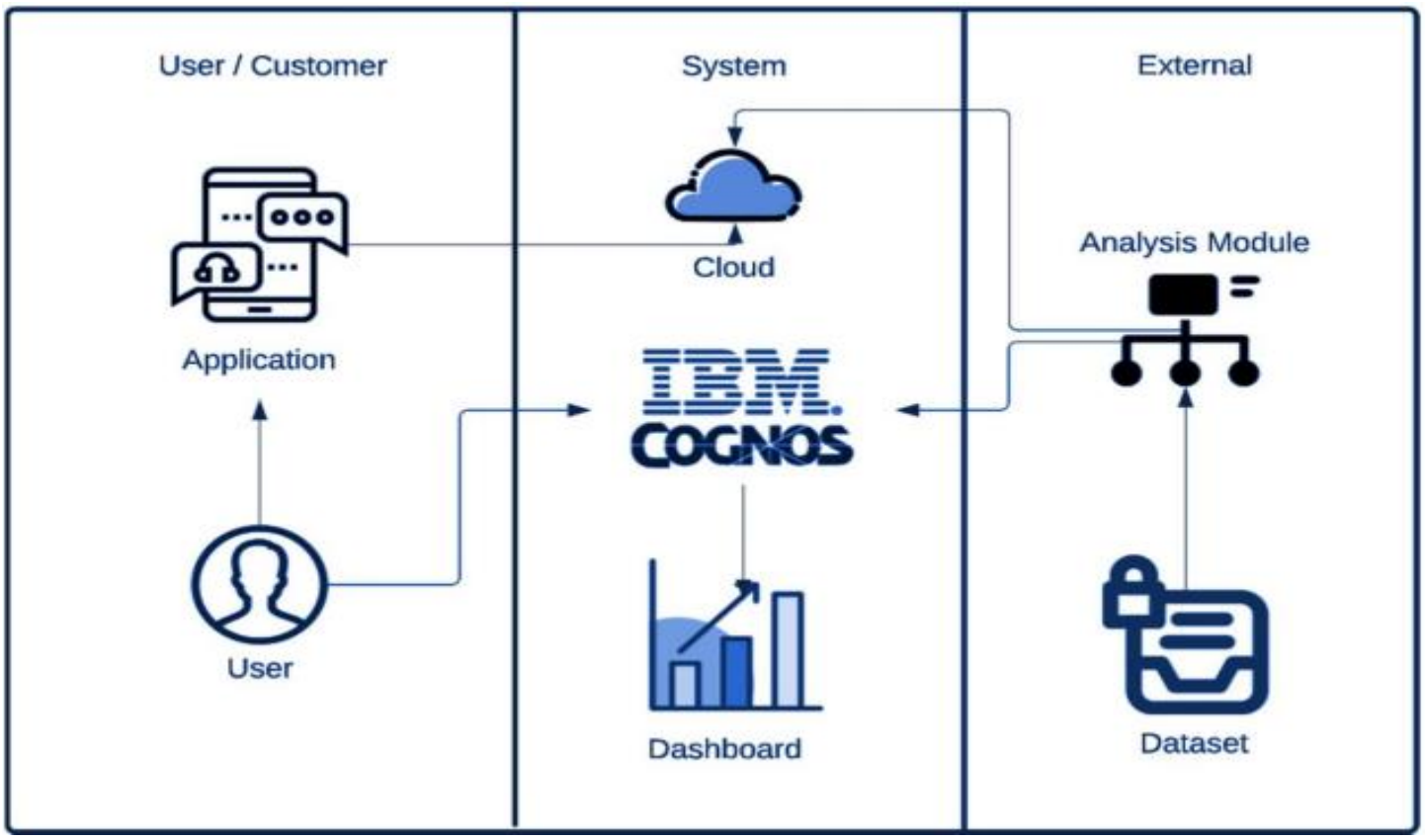


User Stories

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

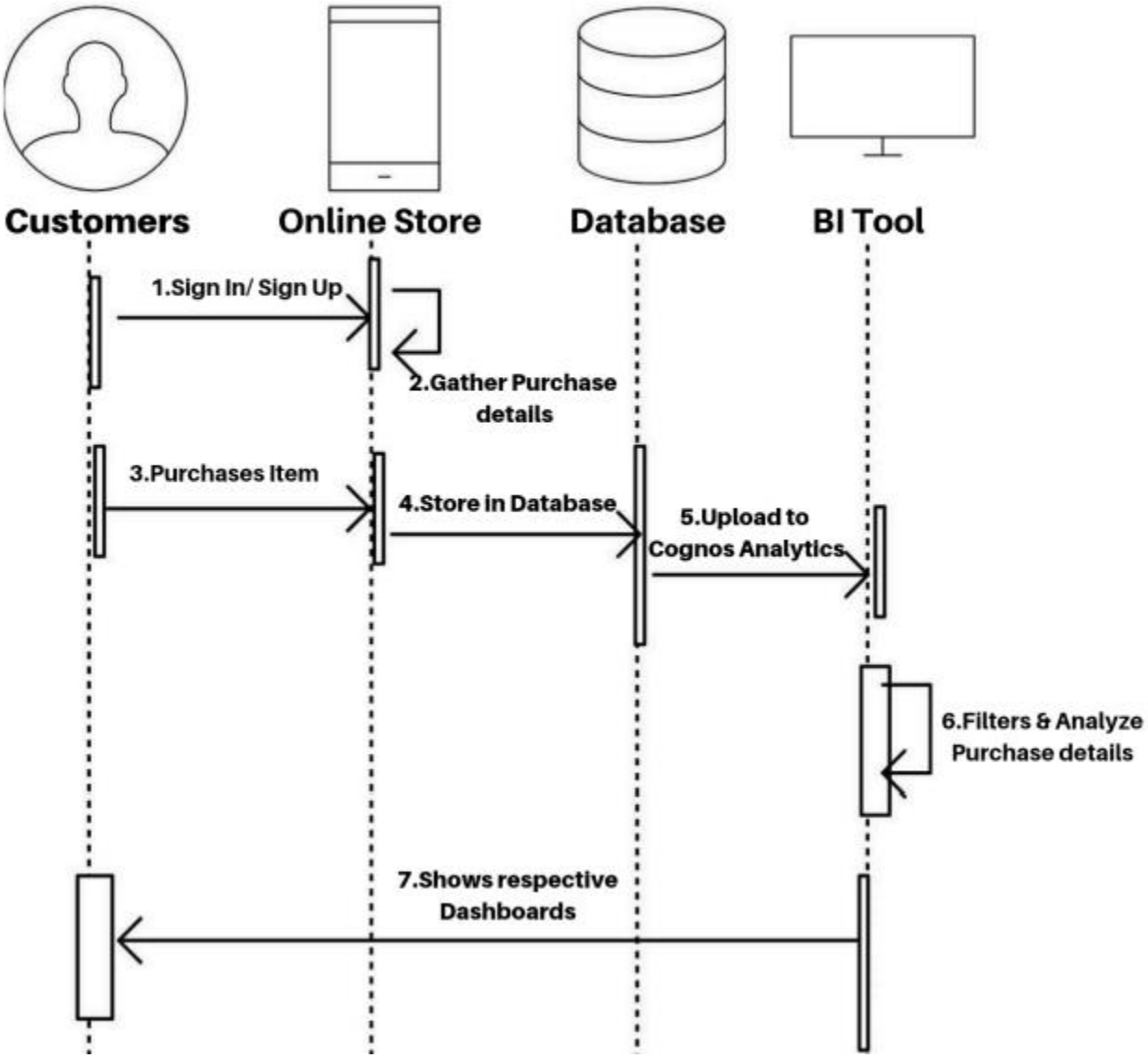
User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Mobile user)	Registration	USN-1	As a user, I can register for the Cognos Analytics or any BI Tool by entering my email, password, and confirming my password.	I can access my account / dashboard	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered	I can receive confirmation email & click confirm	High	Sprint-1
		USN-3	As a user, I can register through Gmail	I can receive confirmation Gmail and Subscribe	Medium	Sprint-1
	Login	USN-4	As a user, I can log into the dashboard by entering email & password	I can login into the BI Tool	High	Sprint-1
	Dashboard		Upload data , View already uploaded Dataset	I can upload dataset and view dashboards available	High	Sprint-1
Customer (Web user)	Registration	USN-1	As a user, I can register for the Cognos Analytics or any BI Tool by entering my email, password, and confirming my password.	I can access my account / dashboard	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered	I can receive confirmation email & click confirm	High	Sprint-1
	Login	USN-3	As a user, I can log into the dashboard by entering email & password	I can login into the BI Tool	High	Sprint-1
	Dashboard		Upload data , View already uploaded Dataset and make charts/graphs/tables	I can upload dataset and view dashboards available	High	Sprint-1
Administrator			As a Administrator, i can manages query and solves issue occur	I can solves query and manages dataset	High	Sprint-1

5.2 Solution & Technical Architecture



Technical Architecture

Solution Architecture



6. PROJECT PLANNING & SCHAEDULING

6.1 Sprint Planning and Estimation

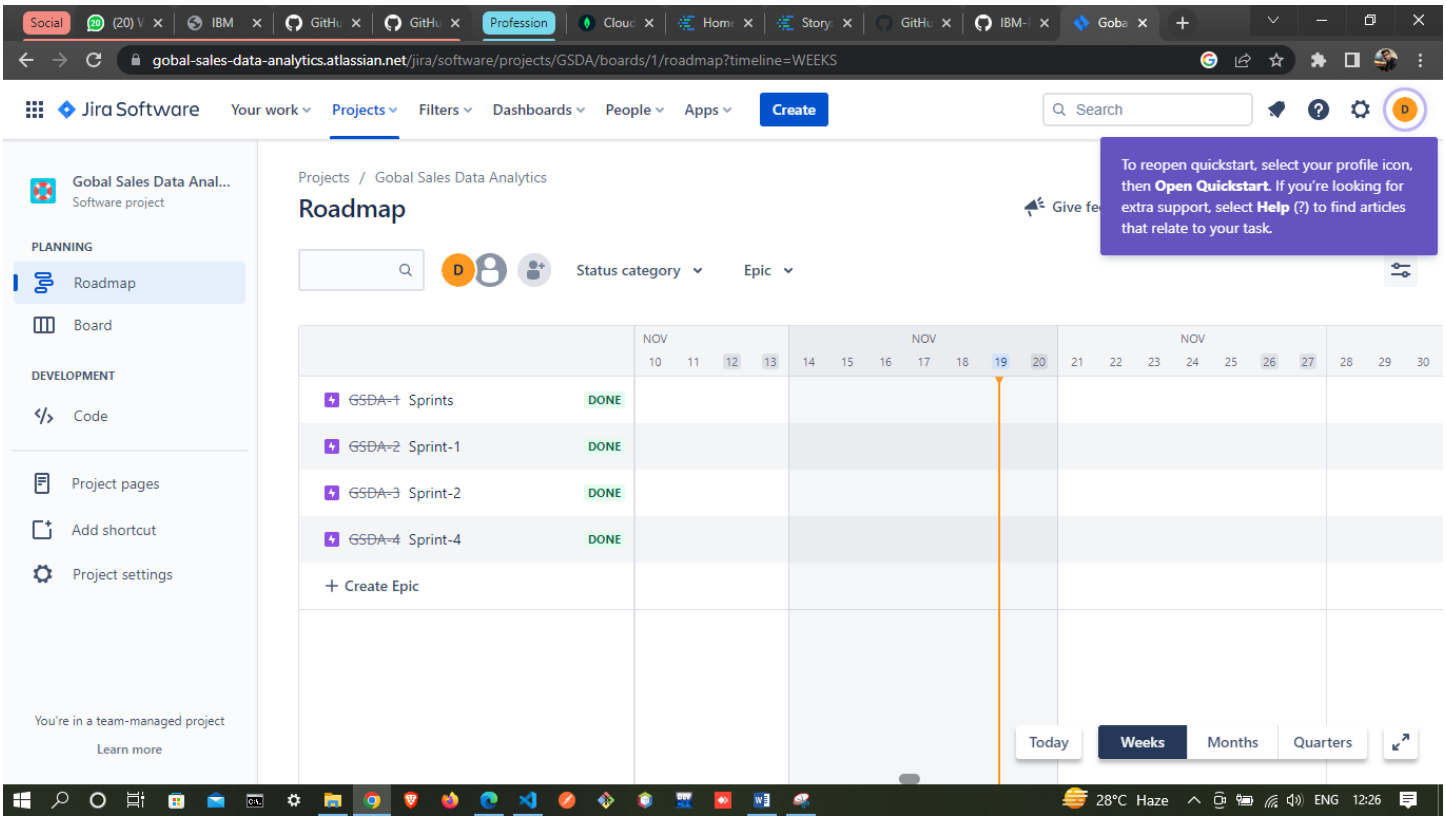
Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	1	Customers can register by entering the basic personal details through website	2	High	Rosanakthar S
	Login	2	As an authenticated user using their login credentials user can view the entire website and various options	2	High	Manudev R
	Working with the Dataset	3	Initially Data Preprocessing like filtering, formatting and data cleansing have to be done.	2	High	Kameshwaran M
		4	Load the dataset in the cloud platform and analyse the data points by Visualization techniques.	10	High	Karthikeyan K

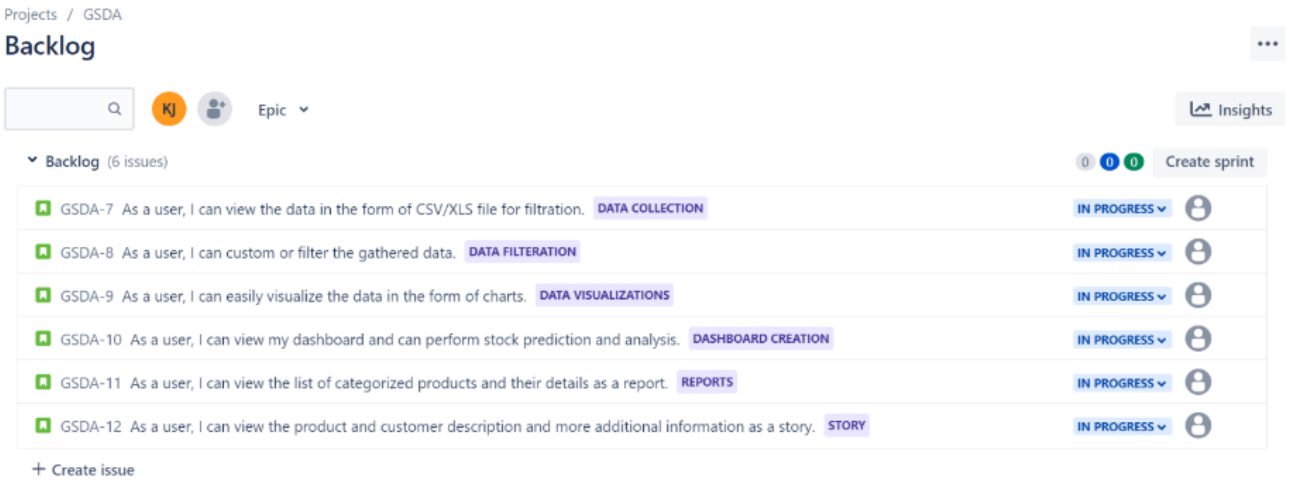
Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority
Sprint-2	Creating the dashboard	10	To create a web oriented dash board with various optionsincluding sales, profit and report generation .	20	High
Sprint-3	Data Visualization Chart	11	Using the Sales production in Global superstore dataset, create various graphs and charts to highlight the insights and variationin the sales.	4	Medium
		12	Using the heat map sales, profit and quantity can be clearlyviewed.	4	Medium
		13	Using bar graph we can analyze sales by sub category andsales byregion	4	Medium
		14	Using pie-chart we can analyze the country wise sales usingmap points	4	Medium
		15	Using Scatter plot to represent the Sales against Seasonal salesProduction using a Text representation.	4	Medium
Sprint-4	Customized visualization can be done	16	Export the created Dashboard	20	

6.2 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 2022	29 Oct 2022	20	29 Oct 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	14 Nov 2022	19 Nov 2022	20	19 Nov 2022

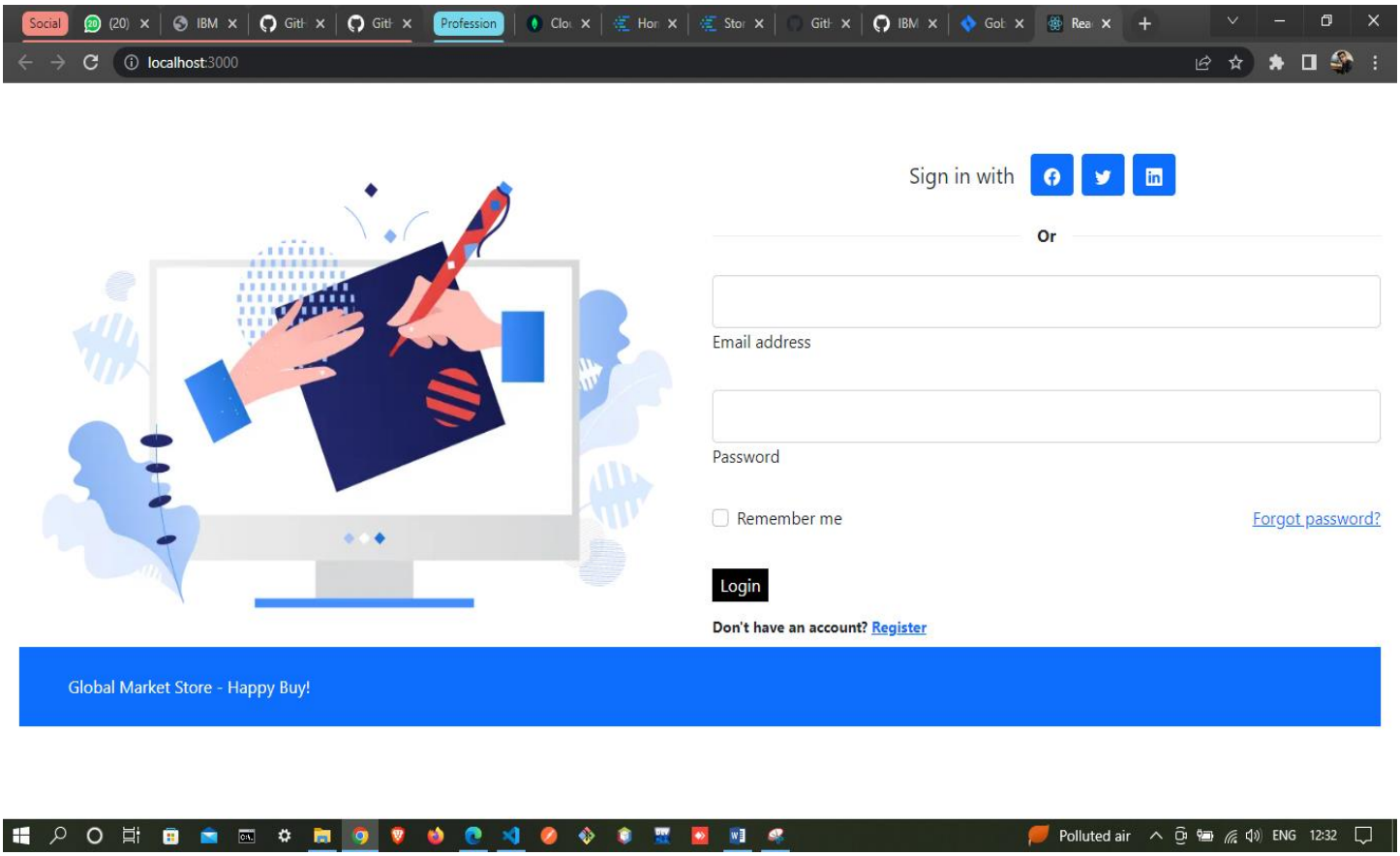
6.3 Reports from JIRA





7. CODING & SOLUTIONING

7.1 Feature – 1 [Login Page]



Login Page Code:

Frontend:

login.js

```
import React from 'react';
import './login.css'
import {Link} from 'react-router-dom'
import {MDBContainer, MDBCol, MDBRow, MDBBtn, MDBIcon, MDBInput,
MDBCheckbox } from 'mdb-react-ui-kit';

function Login() {
```

```
  const LoggingIn=()=>{
      var email=document.getElementById('email').value;
      var Password=document.getElementById('pass').value;

      fetch("http://localhost:5050/login",{
        method:'POST',
        body:JSON.stringify({
           email:email,
           Password:Password
        }),
        headers:{
           'Content-Type':'application/json'
        }
      })
      .then((data)=>{
        return data.json()
      })
      .then(result=>{
        if(result.success)
        {
          alert(result.success)
        }
        else
        {
          alert(result.error)
        }
      })
    }

  return (
    <MDBContainer fluid className="p-3 my-5 h-custom">

     <MDBRow>

      <MDBCol col='10' md='6'>
        <img src="https://mdbcdn.b-cdn.net/img/Photos/new-templates/bootstrap-login-
form/draw2.webp" className="img-fluid" alt="Sample image" />
      </MDBCol>

      <MDBCol col='4' md='6'>

        <div className="d-flex flex-row align-items-center justify-content-center">
```

```
          <p className="lead fw-normal mb-0 me-3">Sign in with</p>

          <MDBBtn floating size='md' tag='a' className='me-2'>
          <svg xmlns="http://www.w3.org/2000/svg" width="16" height="16" fill="currentColor"
className="bi bi-facebook" viewBox="0 0 16 16">
     <path d="M16 8.049c0-4.446-3.582-8.05-8-8.05C3.58 0-.002 3.603-.002 8.05c0 4.017
2.926 7.347 6.75 7.951v-5.625h-2.03V8.05H6.75V6.275c0-2.017 1.195-3.131 3.022-3.131.876
0 1.791.157 1.791.157v1.98h-1.009c-.993 0-1.303.621-1.303 1.258v1.51h2.218l-.354
2.326H9.25V16c3.824-.604 6.75-3.934 6.75-7.951z"/>
   </svg>
          </MDBBtn>

          <MDBBtn floating size='md' tag='a'  className='me-2'>
          <svg xmlns="http://www.w3.org/2000/svg" width="16" height="16" fill="currentColor"
class="bi bi-twitter" viewBox="0 0 16 16">
  <path d="M5.026 15c6.038 0 9.341-5.003 9.341-9.334 0-.14 0-.282-.006-.422A6.685 6.685 0
0 0 16 3.542a6.658 6.658 0 0 1-1.889.518 3.301 3.301 0 0 0 1.447-1.817 6.533 6.533 0 0 1-
2.087.793A3.286 3.286 0 0 0 7.875 6.03a9.325 9.325 0 0 1-6.767-3.429 3.289 3.289 0 0 0
1.018 4.382A3.323 3.323 0 0 1 .64 6.575v.045a3.288 3.288 0 0 0 2.632 3.218 3.203 3.203 0 0
1-.865.115 3.23 3.23 0 0 1-.614-.057 3.283 3.283 0 0 0 3.067 2.277A6.588 6.588 0 0 1 .78
13.58a6.32 6.32 0 0 1-.78-.045A9.344 9.344 0 0 0 5.026 15z"/>
</svg>
          </MDBBtn>

          <MDBBtn floating size='md' tag='a'  className='me-2'>
          <svg xmlns="http://www.w3.org/2000/svg" width="16" height="16" fill="currentColor"
class="bi bi-linkedin" viewBox="0 0 16 16">
  <path d="M0 1.146C0 .513.526 0 1.175 0h13.65C15.474 0 16 .513 16 1.146v13.708c0 .633-
.526 1.146-1.175 1.146H1.175C.526 16 0 15.487 0 14.854V1.146zm4.943
12.248V6.169H2.542v7.225h2.401zm-1.2-8.212c.837 0 1.358-.554 1.358-1.248-.015-.709-.52-
1.248-1.342-1.248-.822 0-1.359.54-1.359 1.248 0 .694.521 1.248 1.327 1.248h.016zm4.908
8.212V9.359c0-.216.016-.432.08-.586.173-.431.568-.878 1.232-.878.869 0 1.216.662 1.216
1.634v3.865h2.401V9.25c0-2.22-1.184-3.252-2.764-3.252-1.274 0-1.845.7-2.165 1.193v.025h-
.016a5.54 5.54 0 0 1 .016-.025V6.169h-2.4c.03.678 0 7.225 0 7.225h2.4z"/>
</svg>
          </MDBBtn>

        </div>

        <div className="divider d-flex align-items-center my-4">
          <p className="text-center fw-bold mx-3 mb-0">Or</p>
        </div>
```

```
        <MDBInput wrapperClass='mb-4' label='Email address' id='email' type='email'
size="lg"/>
        <MDBInput wrapperClass='mb-4' label='Password' id='pass' type='password' size="lg"/>

        <div className="d-flex justify-content-between mb-4">
          <MDBCheckbox name='flexCheck' value='' id='flexCheckDefault' label='Remember
me' />
          <a href="!#">Forgot password?</a>
        </div>

        <div className='text-center text-md-start mt-4 pt-2'>
          <button style={{backgroundColor:"black",color:"white"}}
onClick={LoggingIn}>Login</button>
          <p className="small fw-bold mt-2 pt-1 mb-2">Don't have an account? <Link
to={'/register'}>Register</Link></p>
        </div>

      </MDBCol>

    </MDBRow>

    <div className="d-flex flex-column flex-md-row text-center text-md-start justify-content-
between py-4 px-4 px-xl-5 bg-primary">

      <div className="text-white mb-3 mb-md-0">
       Global Market Store - Happy Buy!
      </div>

      <div>

        <MDBBtn tag='a' color='none' className='mx-3' style={{ color: 'white' }}>
          <MDBIcon fab icon='facebook-f' size="md"/>
        </MDBBtn>

        <MDBBtn tag='a' color='none' className='mx-3' style={{ color: 'white'  }}>
          <MDBIcon fab icon='twitter' size="md"/>
        </MDBBtn>

        <MDBBtn tag='a' color='none' className='mx-3' style={{ color: 'white'  }}>
          <MDBIcon fab icon='google' size="md"/>
        </MDBBtn>

        <MDBBtn tag='a' color='none' className='mx-3' style={{ color: 'white'  }}>
```

```
          <MDBIcon fab icon='linkedin-in' size="md"/>
        </MDBBtn>

      </div>

    </div>

  </MDBContainer>
 );
}

export default Login;
```

login.css

```
.divider:after,
.divider:before {
 content: "";
 flex: 1;
 height: 1px;
 background: #eee;
}
.h-custom {
 height: calc(100% - 73px);
}
@media (max-width: 450px) {
 .h-custom {
 height: 100%;
 }
}
```

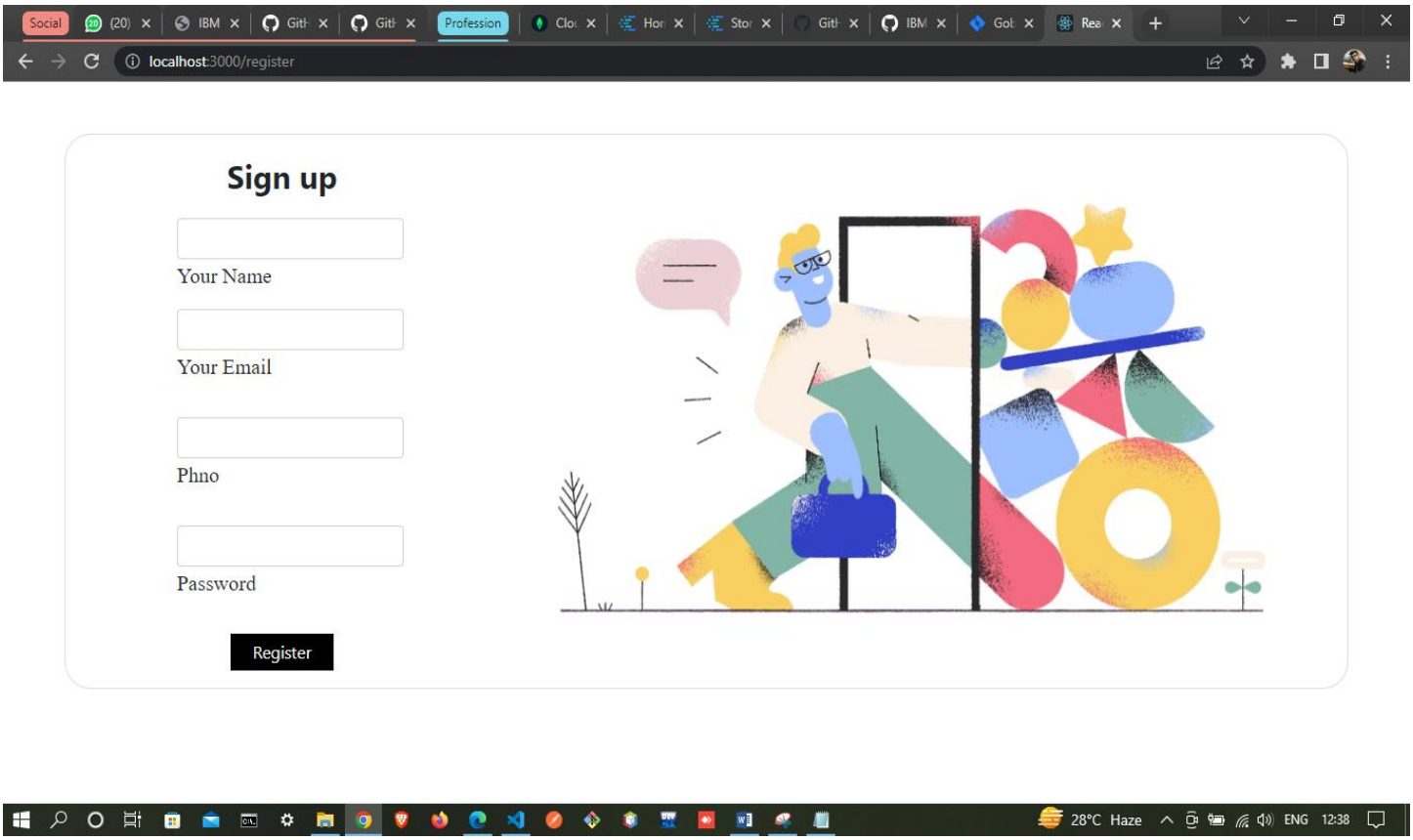
Backend:

logging.js

```
const express=require('express')
const mongoose=require('mongoose')
const Router=express.Router()
const Userschema=mongoose.model("Userschema")
```

```
Router.post('/login',(req,res)=>{
   var {email,Password}=req.body;
   if(!Password || !email)
   {
      res.json({
         error:"Please fill all the Fields Properly to Log-In!!"
      })
      res.status(421)
   }
   else if(Password.length<8)
   {
      res.json({
         error:"Password Length Must Be Greater than or Equal to 8"
      })
      res.status(421)
   }
   else
   {
      Userschema.findOne({email:email})
      .then((result)=>{
            if(result.Password === Password )
            {
               res.json({
                  success:"Login Successfull!!"
               })
            }
            else
            {
               res.json({
                  error:"Incorrect Password!!"
               })
            }

      })
      .catch((err)=>{
         res.json({
            error:"Incorrect Email or Signup first!!"
         })
      })
   }
})
module.exports=Router
```

SIGN UP PAGE:



Signup page code

Frontend:

register.js

```
import React from 'react';
import {
  MDBContainer,
  MDBRow,
  MDBCol,
  MDBCard,
  MDBCardBody,
```

```
  MDBCardImage,
  MDBInput,
  MDBIcon
}
from 'mdb-react-ui-kit';

function Register(props) {
  const register=()=>{
     var UserName=document.getElementById('name').value;
     var Password=document.getElementById('pass').value;
     var email=document.getElementById('email').value;
     var Phno=document.getElementById('phno').value;
     fetch('http://localhost:5050/register',{
            method:'POST',
            body:JSON.stringify({
               UserName:UserName,
               Password:Password,
               email:email,
               Phno:Phno
            }),
            headers:{
               'Content-Type':'application/json'
            }
         })
         .then(data=>{
            return data.json()
         })
         .then(result=>{
          if(result.error)
          alert(result.error)
          else
          {
          alert("Registration Successfull")
          props.nav('/')
          }
         })
   }
  return (
    <MDBContainer fluid>
     <MDBCard className='text-black m-5' style={{borderRadius: '25px'}}>
       <MDBCardBody>
         <MDBRow>
          <MDBCol md='10' lg='4' className='order-2 order-lg-1 d-flex flex-column align-
```

```
items-center'>

          <p style={{fontSize:"30px"}} classNAme="text-center h1 fw-bold mb-5 mx-1 mx-
md-4 mt-4"><b>Sign up</b></p>

          <div style={{fontSize:"20px",fontFamily:"bold"}} className="d-flex flex-row align-
items-center mb-2 ">
          <MDBIcon fas icon="user me-3" size='lg'/>
            <MDBInput label='Your Name' id='name' type='text' className='w-100'/>
          </div>

          <div style={{fontSize:"20px",fontFamily:"bold"}} className="d-flex flex-row align-
items-center mb-4">
            <MDBIcon fas icon="envelope me-3" size='lg'/>
            <MDBInput label='Your Email' id='email' type='email'/>
          </div>
          <div style={{fontSize:"20px",fontFamily:"bold"}} className="d-flex flex-row align-
items-center mb-4">
            <MDBIcon fas icon="envelope me-3" size='lg'/>
            <MDBInput label='Phno' id='phno' type='email'/>
          </div>

          <div style={{fontSize:"20px",fontFamily:"bold"}} className="d-flex flex-row align-
items-center mb-4">
            <MDBIcon fas icon="lock me-3" size='lg'/>
            <MDBInput label='Password' id='pass' type='password'/>
          </div>

          <button
style={{backgroundColor:"black",color:"white",padding:"3px",width:"100px"}}
onClick={register}>Register</button>

        </MDBCol>

        <MDBCol md='10' lg='8' className='order-1 order-lg-2 d-flex align-items-center'>
          <MDBCardImage src='https://mdbcdn.b-cdn.net/img/Photos/new-templates/bootstrap-
registration/draw1.webp' fluid/>
        </MDBCol>

      </MDBRow>
    </MDBCardBody>
  </MDBCard>
```

```
    </MDBContainer>
  );
}

export default Register;
```

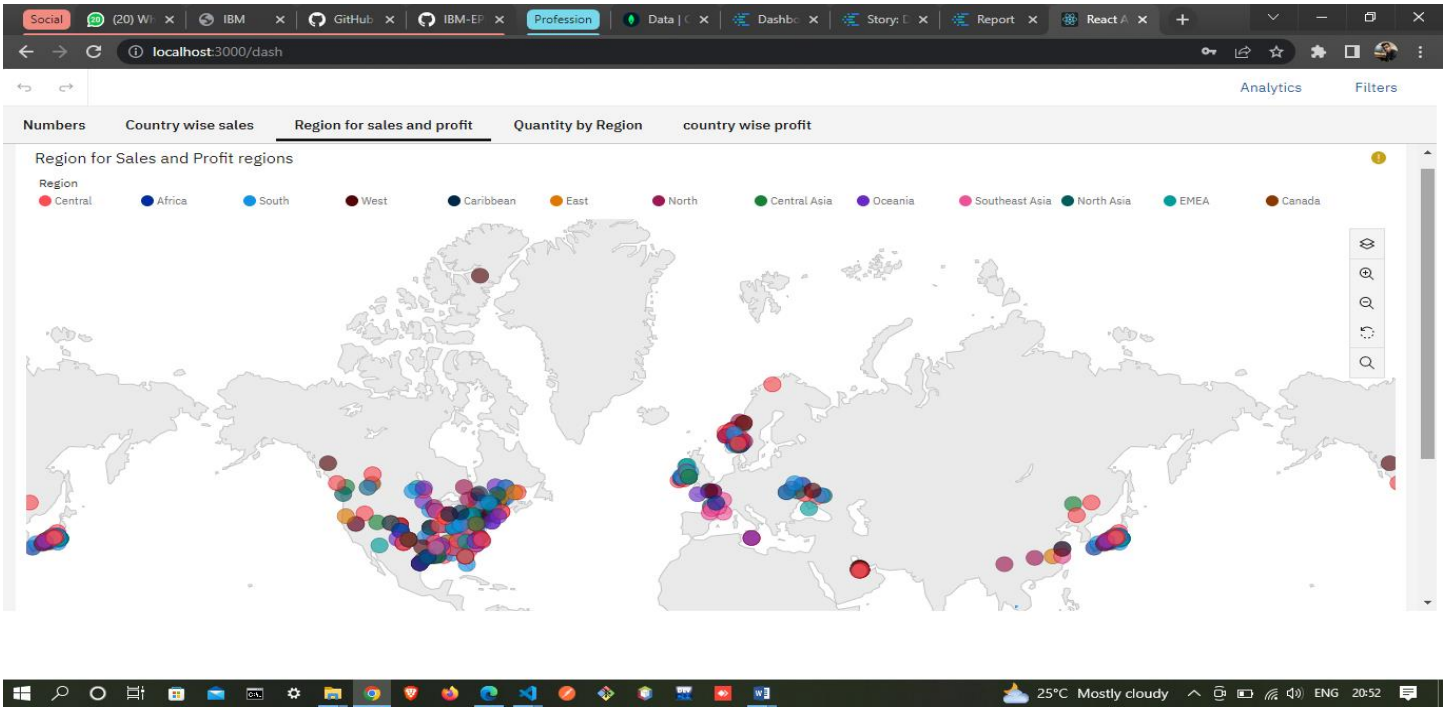
Backend:

userRegister.js

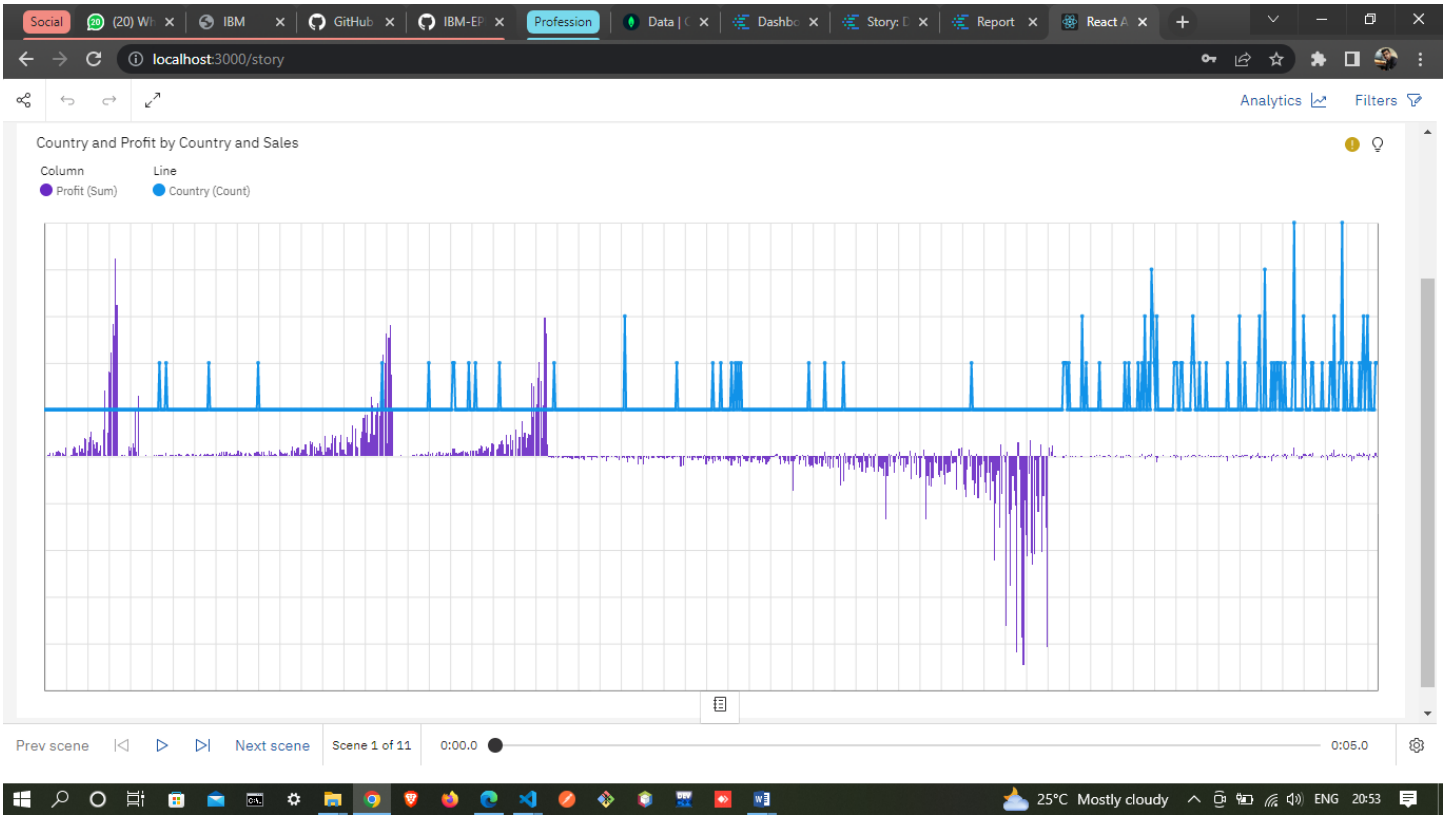
```
const express=require('express')
const mongoose=require('mongoose')
const Router=express.Router()
const Userschema=mongoose.model("Userschema")

module.exports = (req,res)=>{
    var UserName=req.body.UserName;
    var Password=req.body.Password;
    var email=req.body.email;
    var Phno=req.body.Phno;
    //console.log(UserName)
    if(!UserName || ! Password || !email || !Phno)
    {
        res.json({
            error:"Please fill all the Fields Properly to Register!!"
        })
        res.status(421)
    }
    else if(Password.length<8)
    {
    res.json({
        error:"Password Length Must Be Greater than or Equal to 8"
    })
    res.status(421)
    }
    else
    {
        var register = new Userschema({
            UserName,Password,email,Phno
```

```
            })
        register.save()
        .then((data)=>{
            if(data)
            {
                res.json({
                  Success:"Registration Scuccessfull!!"
                })
                res.status(200)
            }
            else
            {
                res.json({
                   error:"No data Found or Missing!!"
                 })
                 res.status(404)
            }
        })
        .catch(err=>{
            console.log(err)
        })
    }
}
```

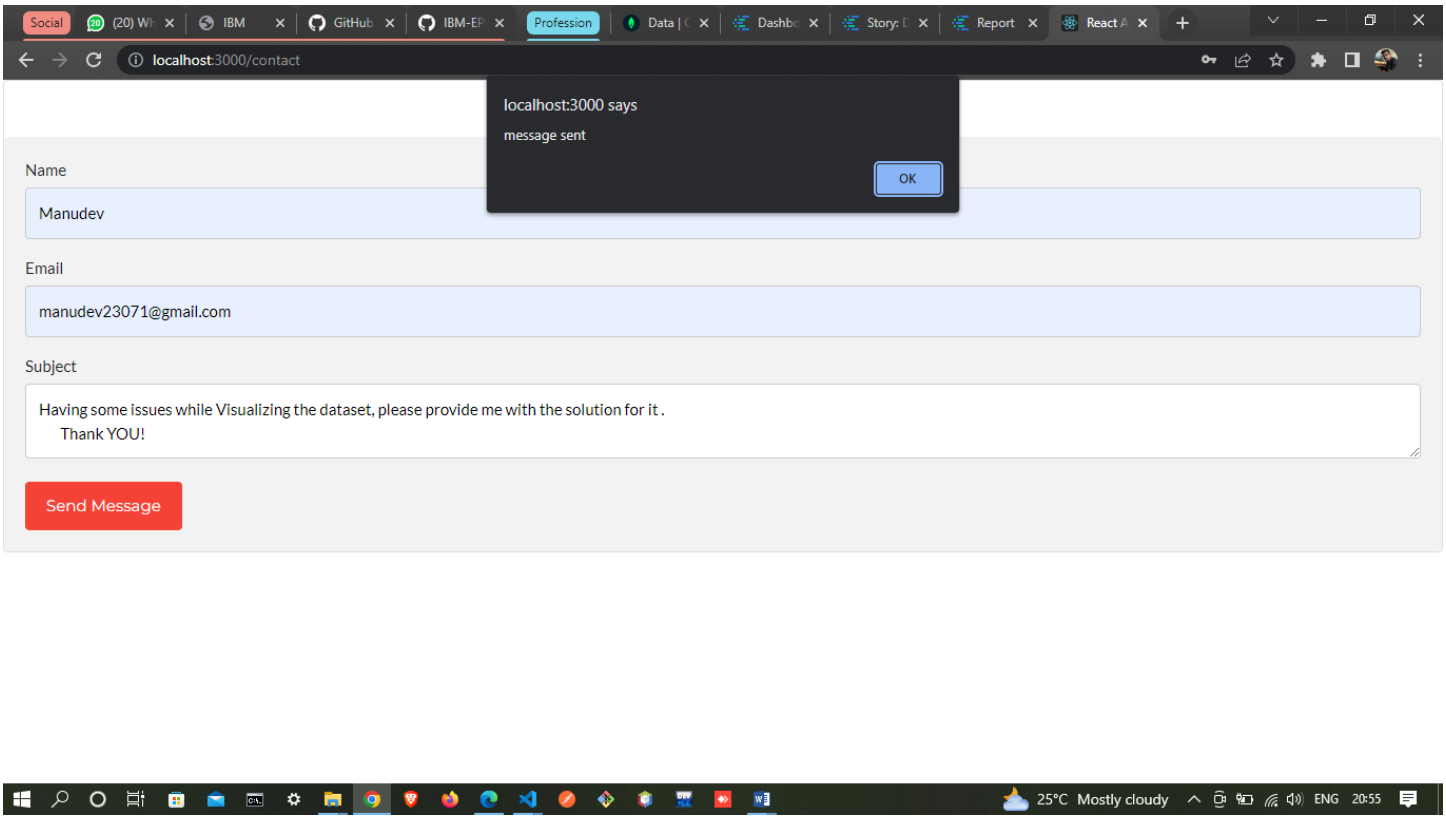
7.2 Feature- 2 [Dashboard]



Story



Contact Us:



8. TESTING

8.1 Test Cases

Test Scenarios

- Verify user able to see login page
- Verify user able to login to application or not?
- Verify user able to navigate to create your account page?
- Verify user able to recovery password
- Verify login page elements

Access visualizations

- User able to see dashboard
- User able to see report
- User able to see stories

8.2 User Acceptance Testing

Defect Analysis:

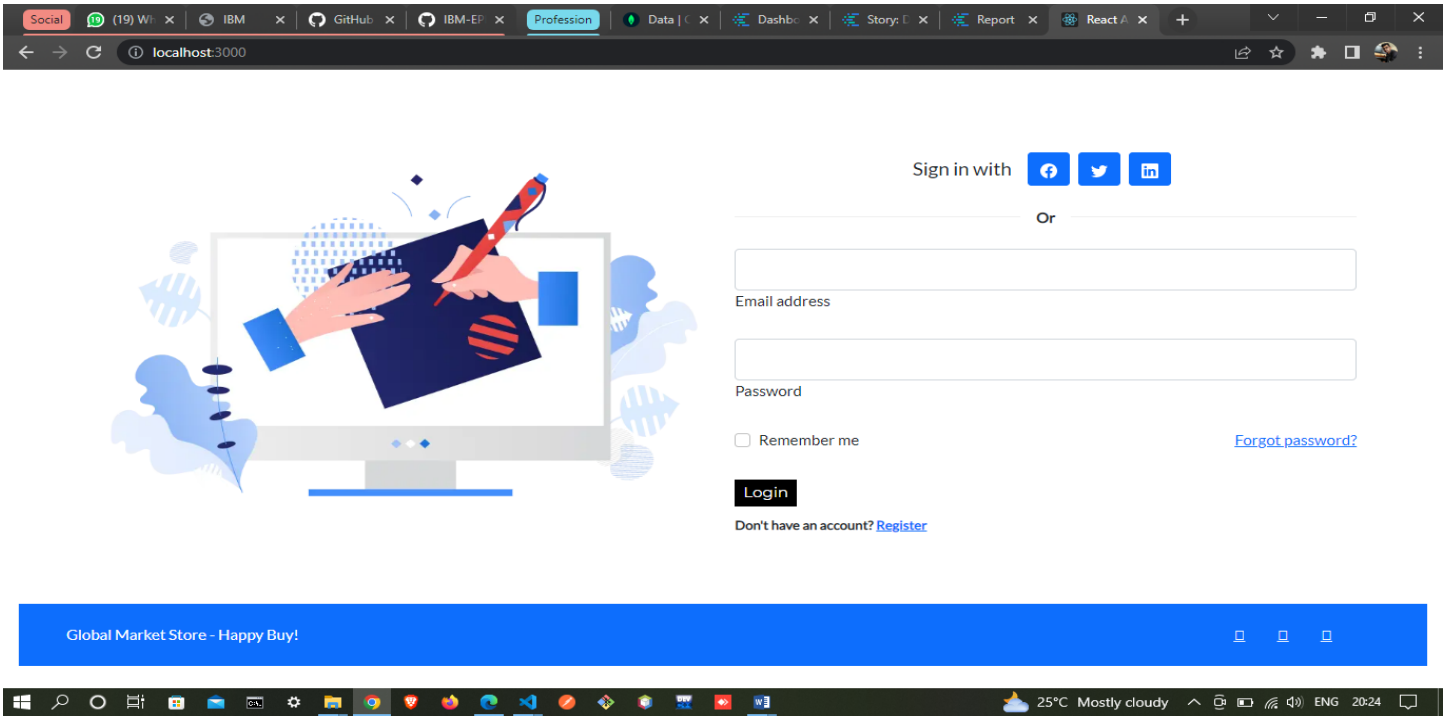
Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	5	2	1	1	9
Duplicate	0	0	0	0	0
External	2	3	0	1	6
Fixed	4	1	2	2	9
Not Reproduced	0	0	0	0	0
Skipped	0	0	0	0	0
Won't Fix	0	0	0	0	0
Totals	11	6	3	4	24

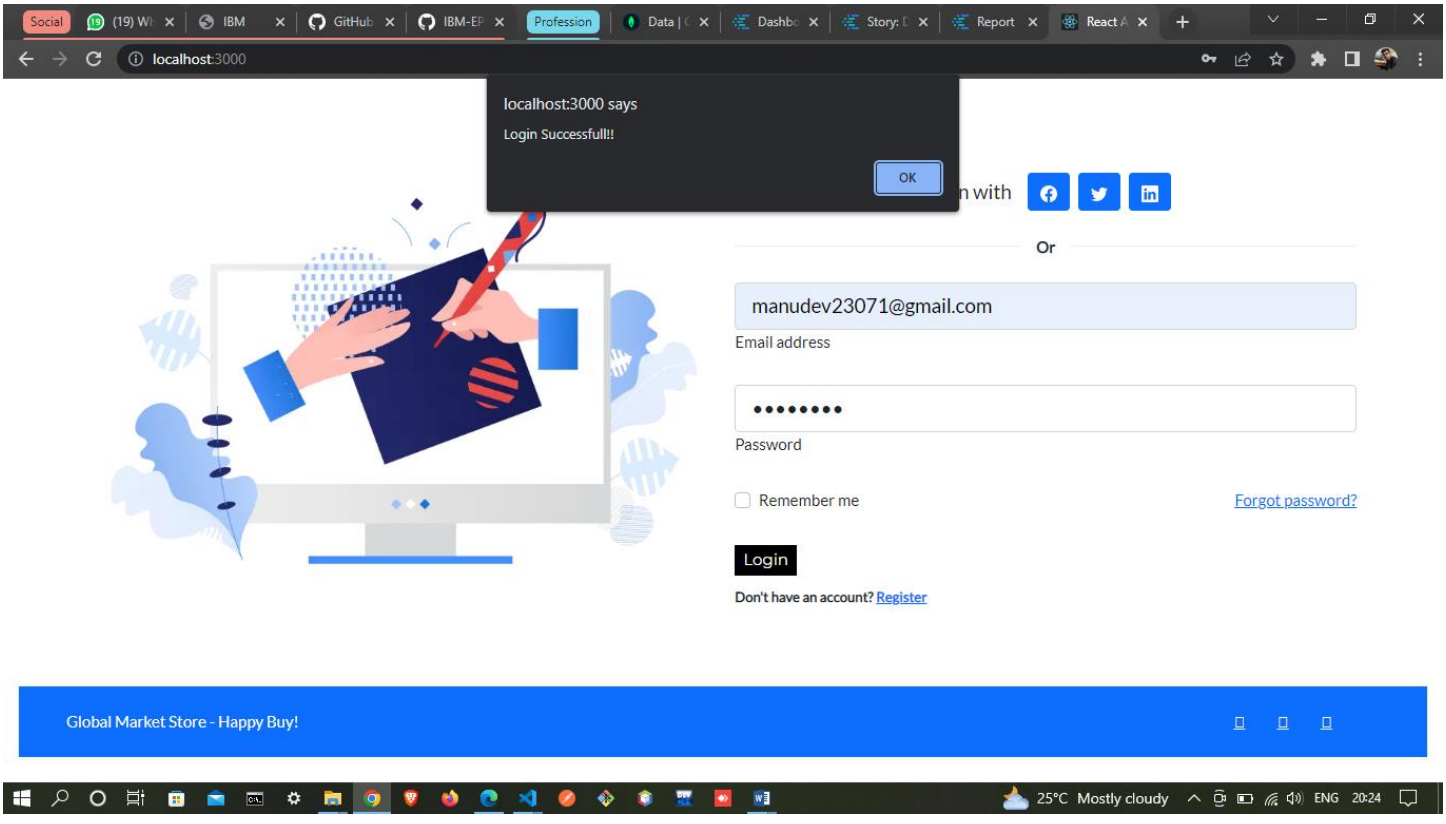
Test Case Analysis:

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	0	0	0	0
Client Application	6	0	0	6
Security	0	0	0	0
Outsource Shipping	0	0	0	0
Exception Reporting	7	0	0	7
Final ReportOutput	0	0	0	0
Version Control	0	0	0	0

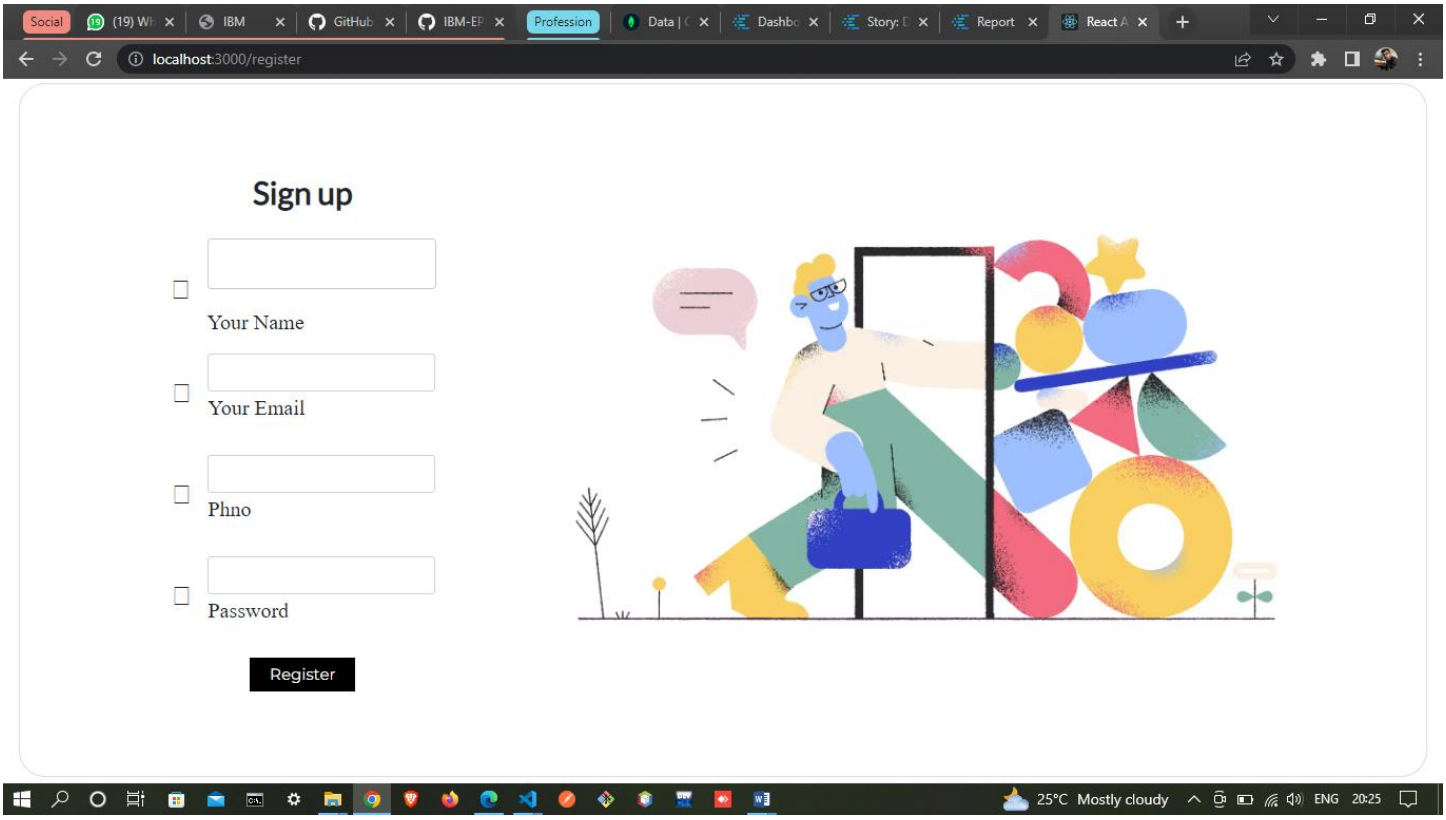
9. RESULTS

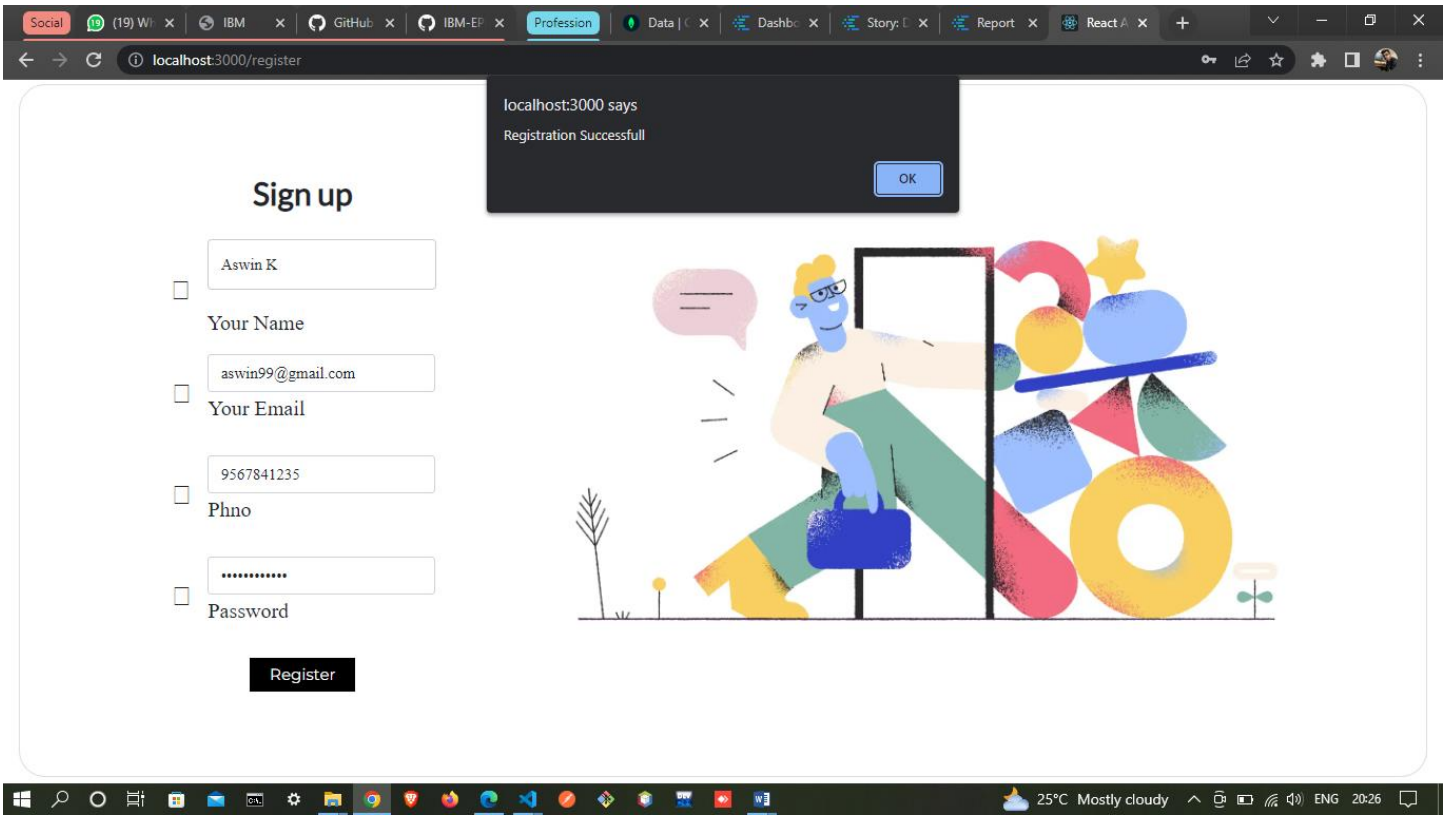
Screenshots of web application:
Login page



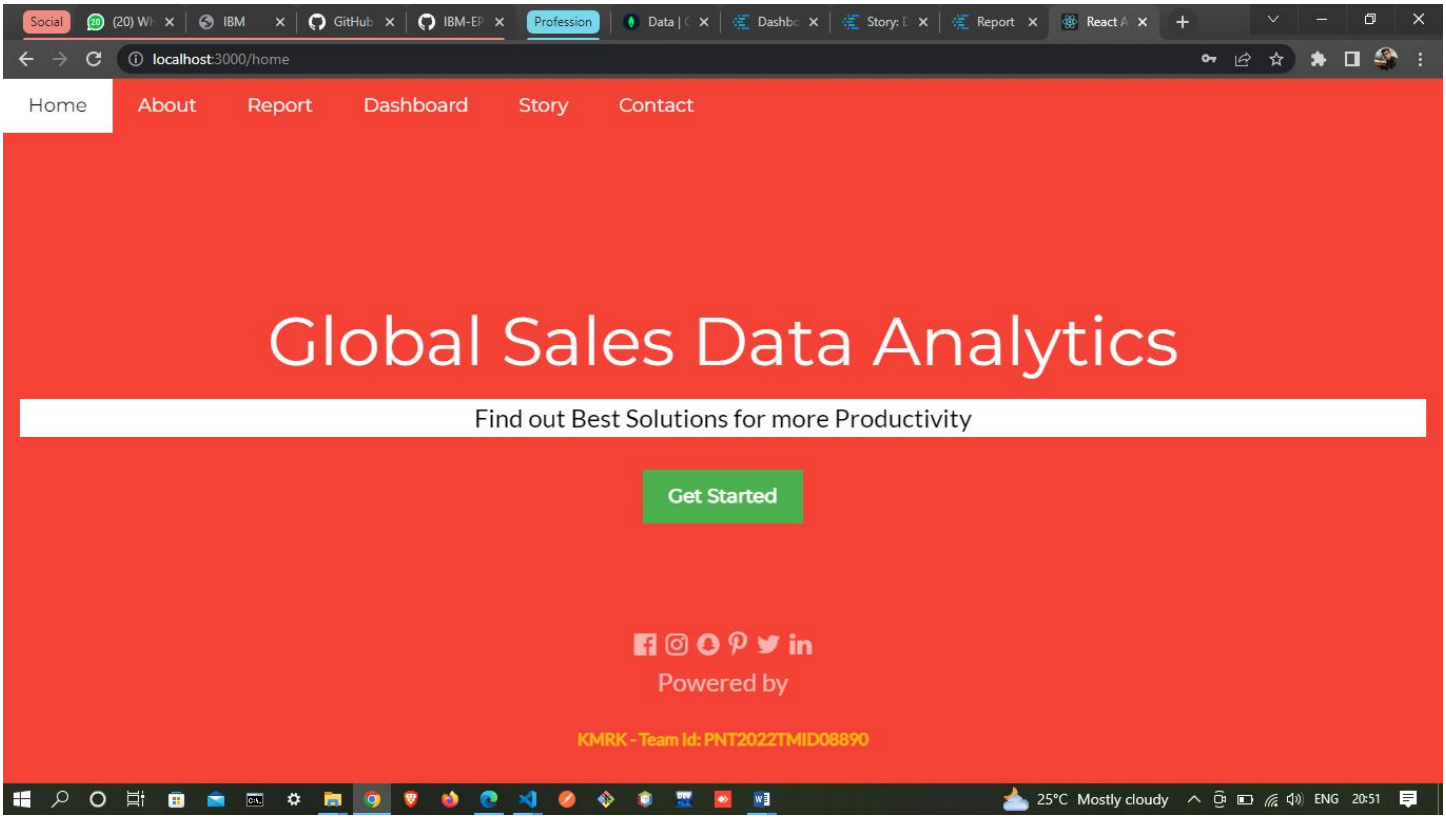


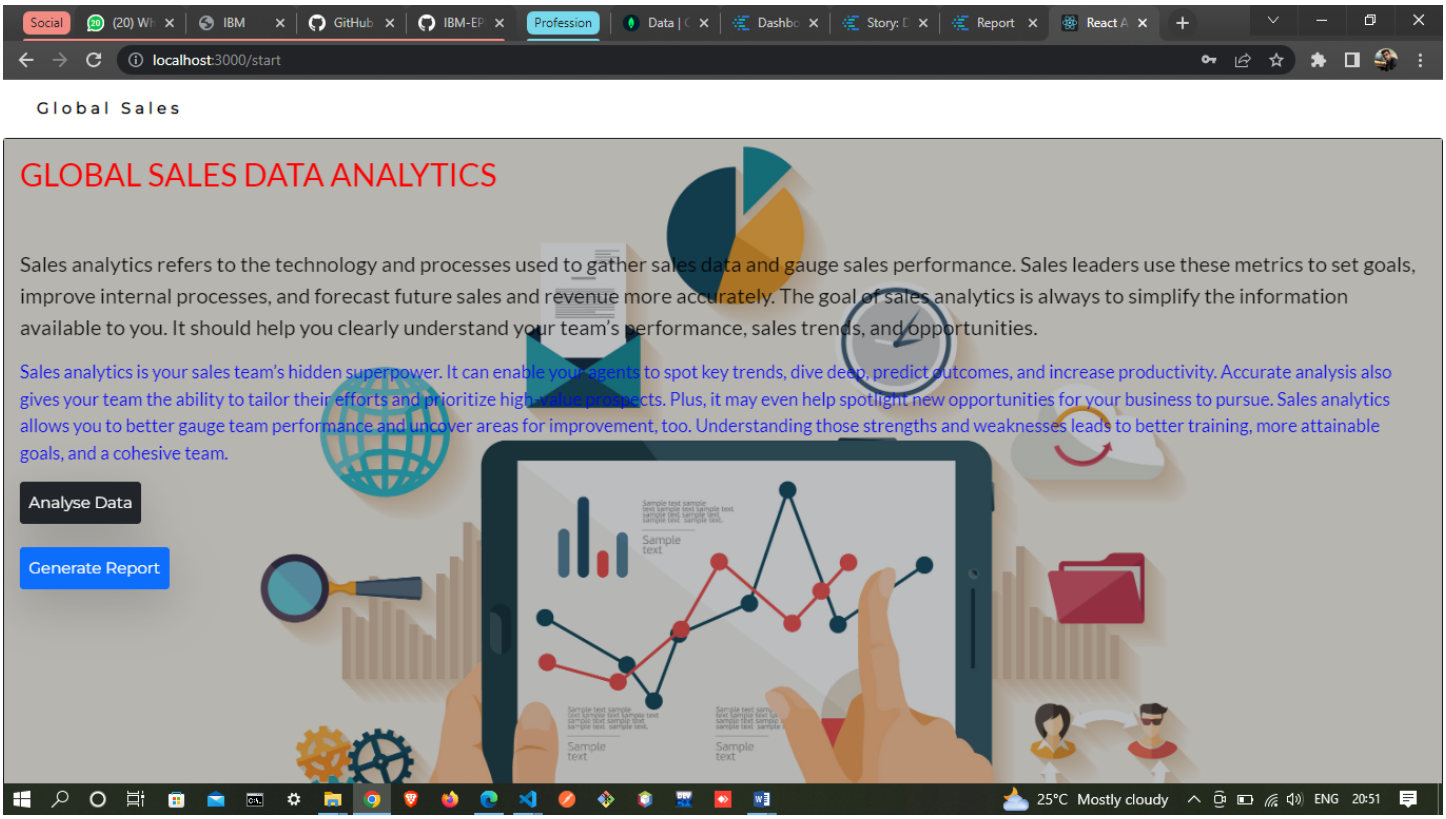
Signup Page


localhost:3000/register
Sign up
Your Name
Your Email
Phno
Password
Register

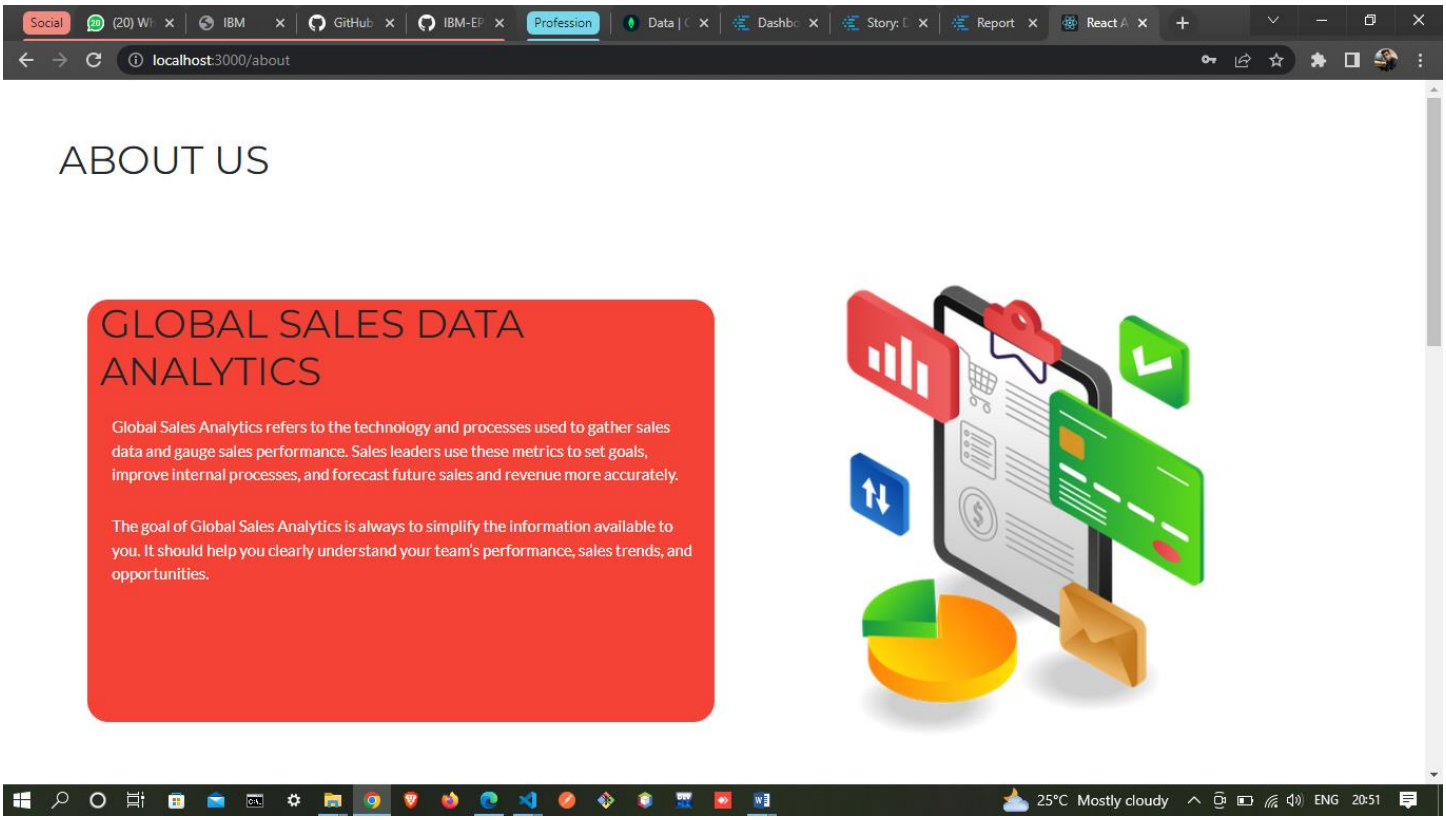

localhost:3000/register
localhost:3000 says
Registration Successfull
OK
Sign up
Aswin K
Your Name
aswin99@gmail.com
Your Email
9567841235
Phno
Password
Register

Home Page


localhost:3000/home
Home
About
Report
Dashboard
Story
Contact
Global Sales Data Analytics
Find out Best Solutions for more Productivity
Get Started
Powered by
KMRK - Team Id: PNT2022TMID08890

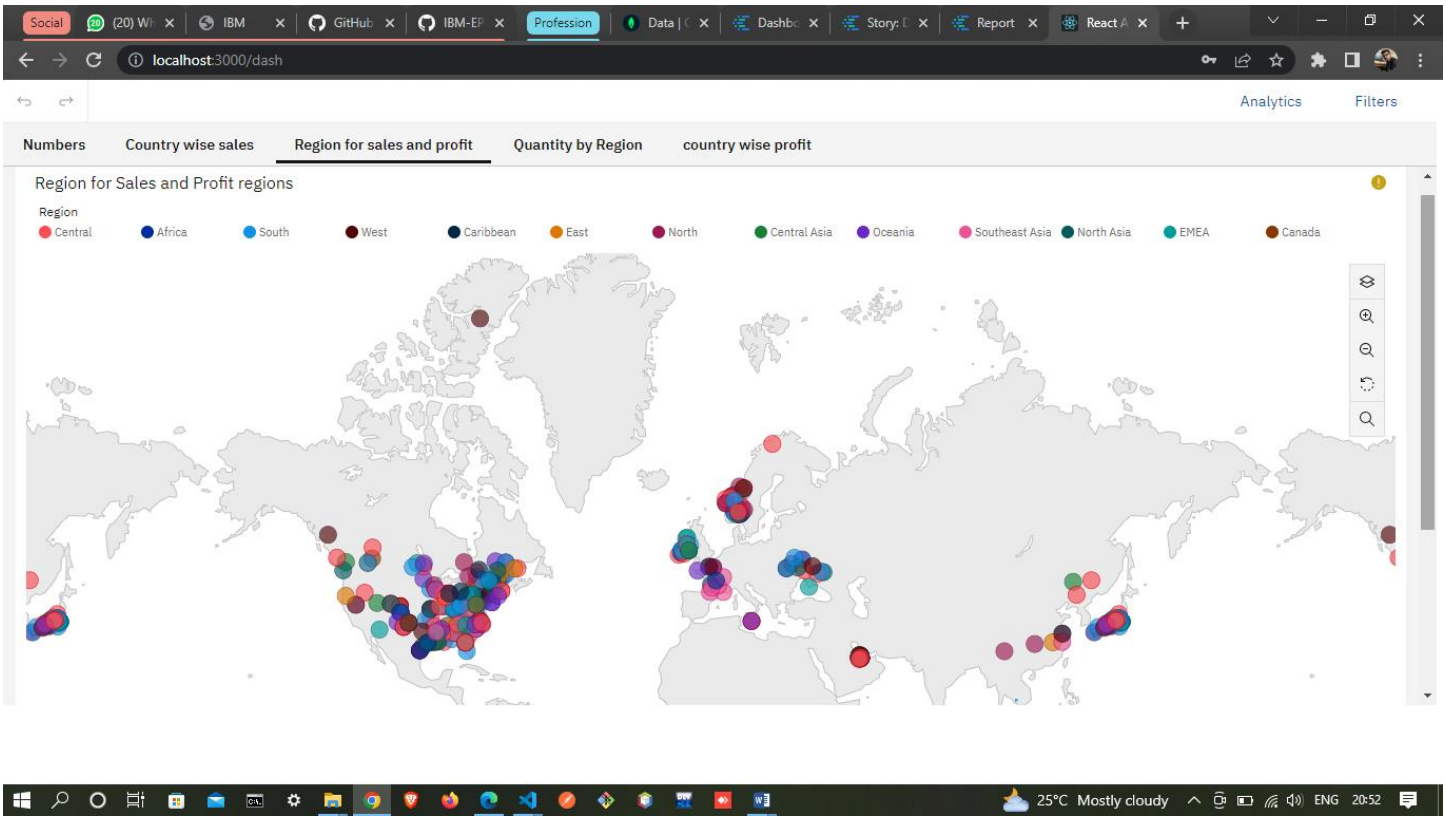

localhost:3000/start
Global Sales
GLOBAL SALES DATA ANALYTICS
Sales analytics refers to the technology and processes used to gather sales data and gauge sales performance. Sales leaders use these metrics to set goals, improve internal processes, and forecast future sales and revenue more accurately. The goal of sales analytics is always to simplify the information available to you. It should help you clearly understand your team's performance, sales trends, and opportunities.
Sales analytics is your sales team's hidden superpower. It can enable your agents to spot key trends, dive deep, predict outcomes, and increase productivity. Accurate analysis also gives your team the ability to tailor their efforts and prioritize high-value prospects. Plus, it may even help spotlight new opportunities for your business to pursue. Sales analytics allows you to better gauge team performance and uncover areas for improvement, too. Understanding those strengths and weaknesses leads to better training, more attainable goals, and a cohesive team.
Analyse Data
Generate Report

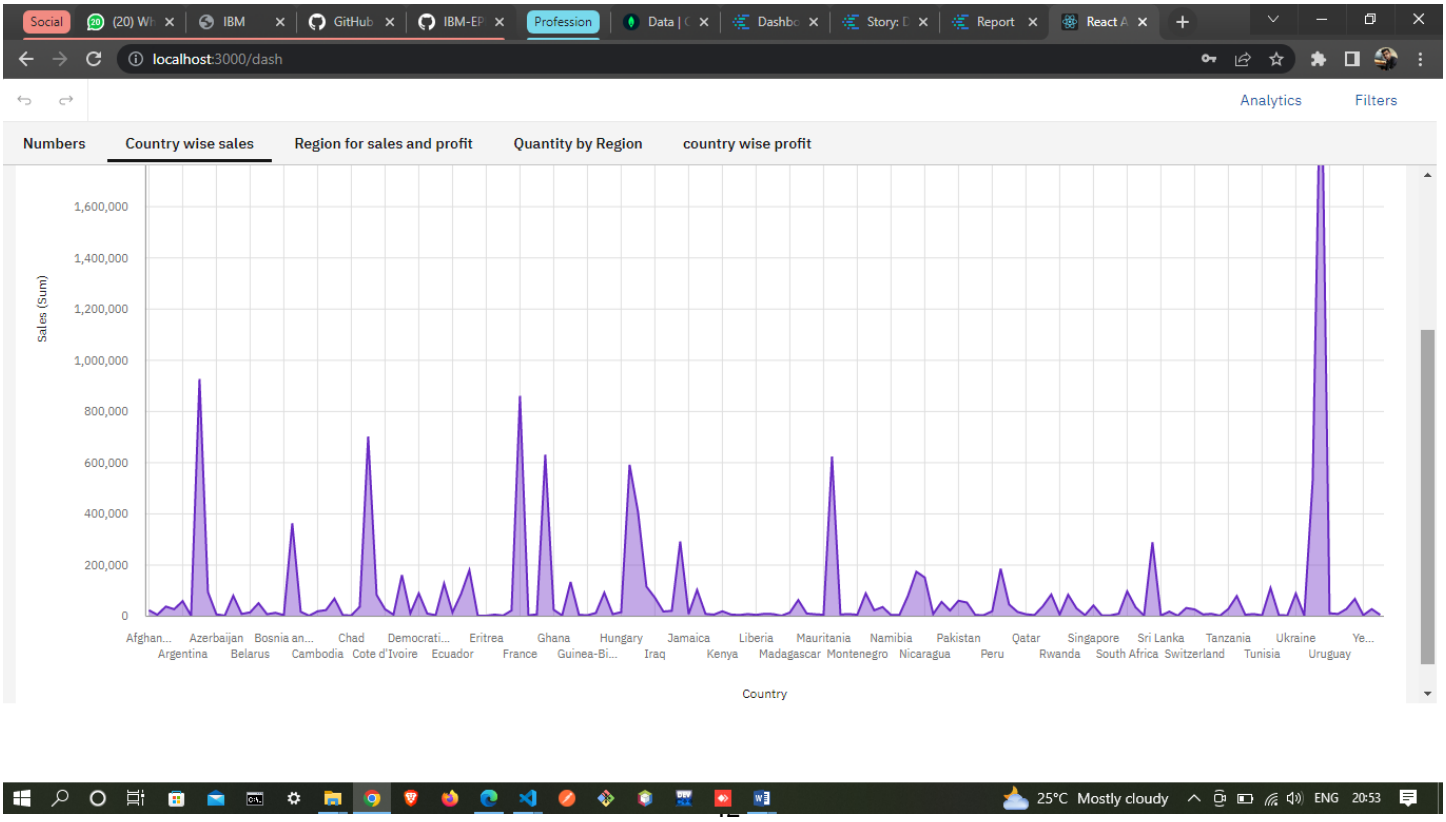
About us


localhost:3000/about
ABOUT US
GLOBAL SALES DATA ANALYTICS
Global Sales Analytics refers to the technology and processes used to gather sales data and gauge sales performance. Sales leaders use these metrics to set goals, improve internal processes, and forecast future sales and revenue more accurately.
The goal of Global Sales Analytics is always to simplify the information available to you. It should help you clearly understand your team's performance, sales trends, and opportunities.
25°C Mostly cloudy
ENG
20:51

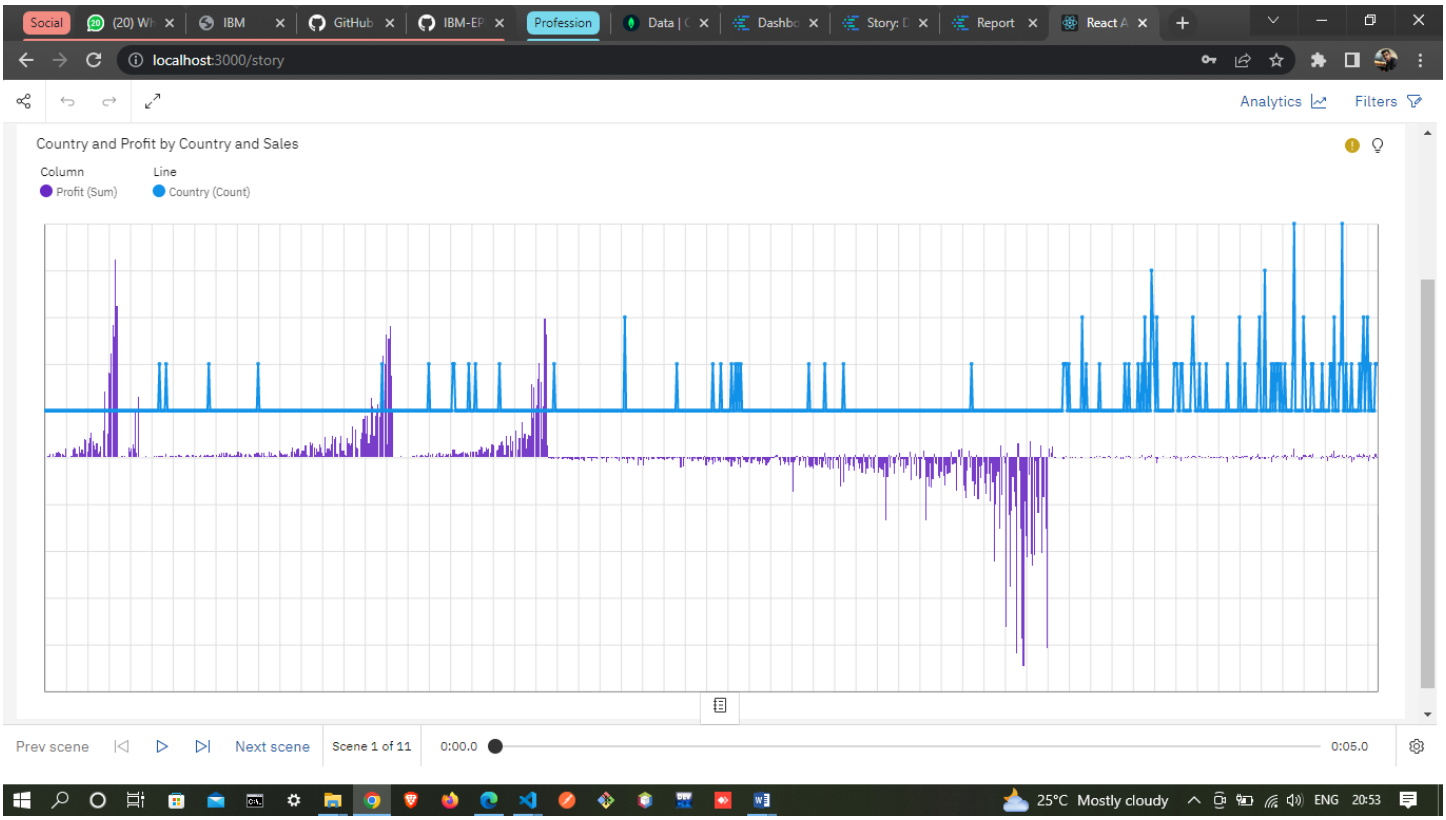

localhost:3000/about
Understand business priorities for today and tomorrow
Implement modern industry best practices for data and analytics
Assess to understand the limits of your current data environment
Build a roadmap to a more data-driven future
BENEFITS OF SALES ANALYTICS
Sales analytics is your sales team's hidden superpower. It can enable your agents to spot key trends, dive deep, predict outcomes, and increase productivity. Accurate analysis also gives your team the ability to tailor their efforts and prioritize high-value prospects. Plus, it may even help spotlight new opportunities for your business to pursue.
Sales analytics allows you to better gauge team performance and uncover areas for improvement, too. Understanding those strengths and weaknesses leads to better training, more attainable goals, and a cohesive team.
9 SALES METRICS TO WATCH
1. Sales growth
2. Sales target
25°C Mostly cloudy
ENG
20:51

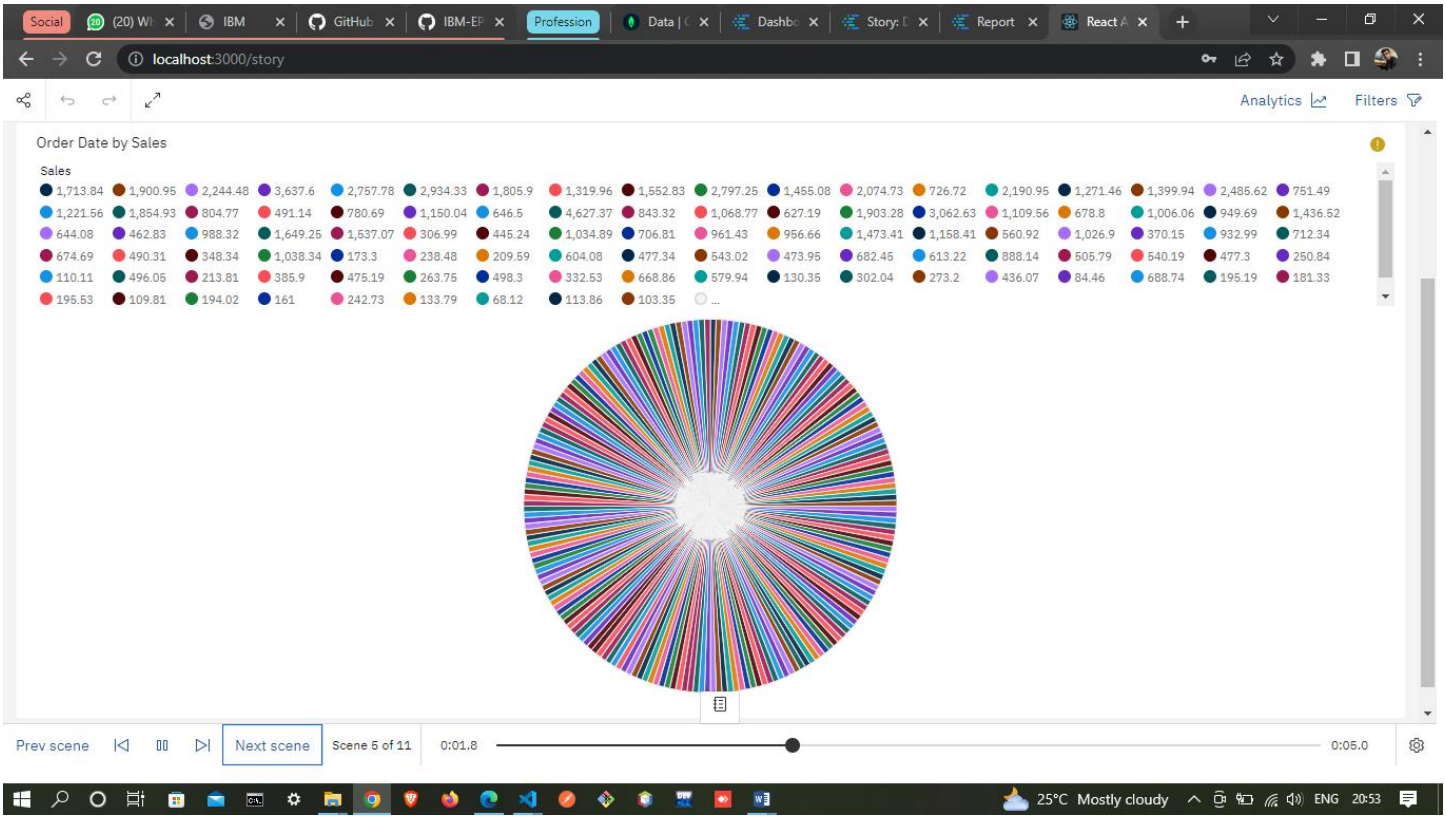
Dashboard

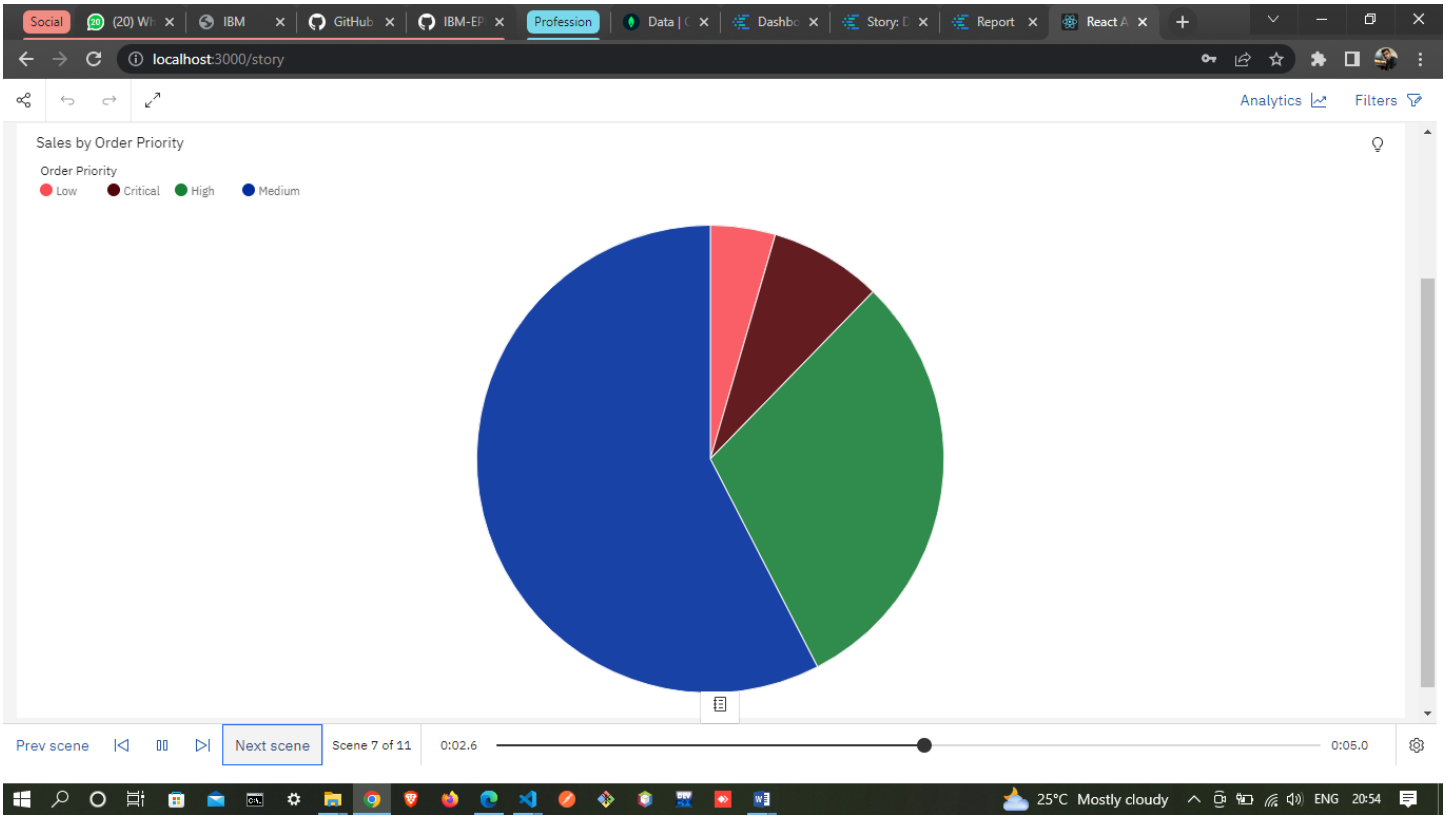

localhost:3000/dash
Analytics
Filters
Numbers
Country wise sales
Region for sales and profit
Quantity by Region
country wise profit
Region for Sales and Profit regions
Region
Central
Africa
South
West
Caribbean
East
North
Central Asia
Oceania
Southeast Asia
North Asia
EMEA
Canada
25°C Mostly cloudy
ENG
20:52


localhost:3000/dash
Analytics
Filters
Numbers
Country wise sales
Region for sales and profit
Quantity by Region
country wise profit
Sales (Sum)
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Afghan...
Argentina
Azerbaijan
Belarus
Bosnia an...
Cambodia
Chad
Cote d'Ivoire
Democrati...
Ecuador
Eritrea
France
Ghana
Guinea-Bi...
Hungary
Iraq
Jamaica
Kenya
Liberia
Madagascar
Mauritania
Montenegro
Namibia
Nicaragua
Pakistan
Peru
Qatar
Rwanda
Singapore
South Africa
Sri Lanka
Switzerland
Tanzania
Tunisia
Ukraine
Uruguay
Ye...
Country
25°C Mostly cloudy
ENG
20:53

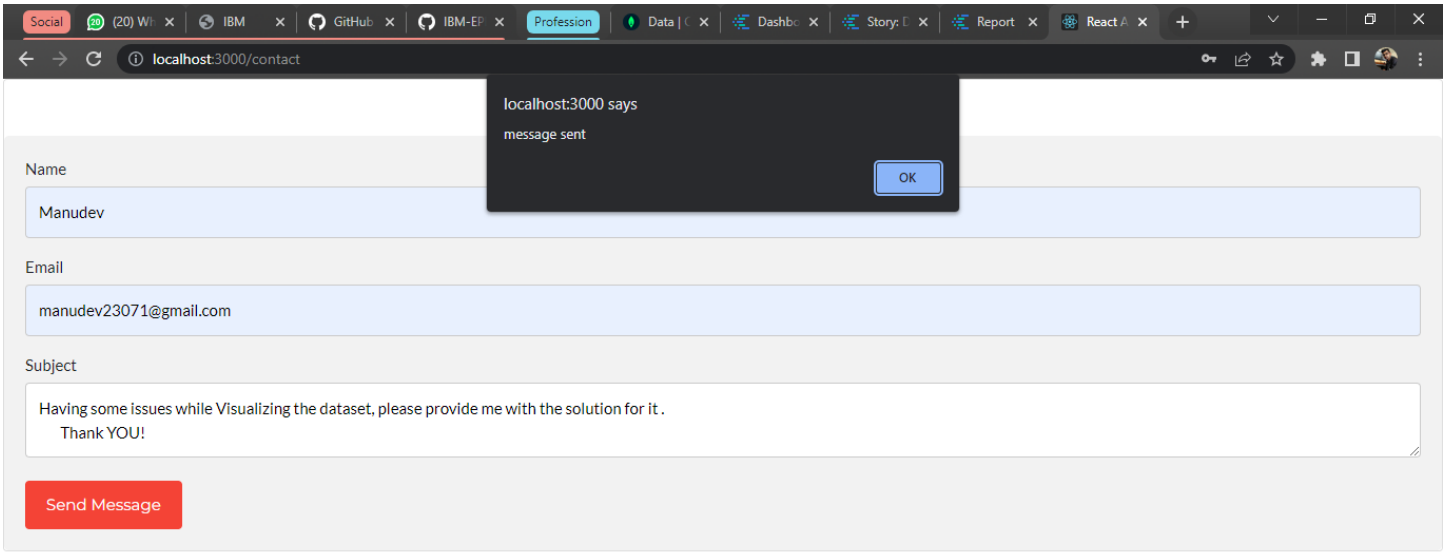
Story


localhost:3000/story
Analytics
Filters
Country and Profit by Country and Sales
Column
Profit (Sum)
Line
Country (Count)
Prev scene
Next scene
Scene 1 of 11
0:00.0
0:05.0
25°C Mostly cloudy
ENG
20:53


localhost:3000/story
Analytics
Filters
Order Date by Sales
Sales
Prev scene
Next scene
Scene 5 of 11
0:01.8
0:05.0
25°C Mostly cloudy
ENG
20:53


localhost:3000/story
Analytics
Filters
Sales by Order Priority
Order Priority
Low
Critical
High
Medium
Prev scene
Next scene
Scene 7 of 11
0:02.6
0:05.0
25°C Mostly cloudy
ENG
20:54

Contact Us


localhost:3000/contact
localhost:3000 says
message sent
OK
Name
Manudev
Email
manudev23071@gmail.com
Subject
Having some issues while Visualizing the dataset, please provide me with the solution for it .
Thank YOU!
Send Message


25°C Mostly cloudy
ENG
20:55

10. ADVANTAGES & DISADVANTAGES

Advantages:

- It is used to identify, optimize, and forecast sales.
- Sales data will help a company to take a future decision in terms of inventory management, marketing activities, schemes or offers to be rolled and changes in manufacturing processes if applicable.
- An efficient sales model that generates higher revenue for the business.
- Better prediction, Profit function performance.
- Helps to review their strategies and performance in order to make improvements.

Disadvantages:

- Sales pattern can be changed
- insufficient data may lead to wrong path.
- data may have been collected for historical reasons may not be suitable to answer the questions that we ask today.
- business users do not see results immediately.

11. CONCLUTION

Analyzing sales helps businesses in understanding their most profitable products and the ones that are not moving, most profitable customers, and potential sales opportunities thereby providing sales which match customer needs and meets their satisfaction. An efficient sales model that generates higher revenue for the business. It helps in the perception of profit about particular product and perception of sales in different locations and times.

12. FUTURE SCOPE

Use the technology to collect and use sales data to derive actionable insights. It is used to identify, optimize, and forecast sales. An efficient sales model that generates higher revenue for the business. An efficient sales model that generates higher revenue for the business.

13. APPENDIX

Source Code:

Homepage

```
import React from 'react'
import { Link } from 'react-router-dom';

function Home() {
  return (
  <div className="w3-top">
  <div className="w3-bar w3-red w3-card w3-left-align w3-large">
    <a className="w3-bar-item w3-button w3-hide-medium w3-hide-large w3-right w3-
padding-large w3-hover-white w3-large w3-red" href="javascript:void(0);"
onclick="myFunction()" title="Toggle Navigation Menu"><i className="fa fa-bars"></i></a>
    <a href="#" className="w3-bar-item w3-button w3-padding-large w3-white">Home</a>
   <Link to={'/about'}><p style={{color:"white"}} className="w3-bar-item w3-button w3-
hide-small w3-padding-large w3-hover-white">About</p></Link>
   <Link to={'/report'}><p style={{color:"white"}} className="w3-bar-item w3-button w3-
hide-small w3-padding-large w3-hover-white">Report</p></Link>
   <Link to={'/dash'}><p style={{color:"white"}} className="w3-bar-item w3-button w3-hide-
small w3-padding-large w3-hover-white">Dashboard</p></Link>
   <Link to={'/story'}><p style={{color:"white"}} className="w3-bar-item w3-button w3-
hide-small w3-padding-large w3-hover-white">Story</p></Link>
   <Link to={'/contact'}><p style={{color:"white"}} className="w3-bar-item w3-button w3-
hide-small w3-padding-large w3-hover-white">Contact</p></Link>
  </div>
  <div class="w3-container w3-red w3-center" style={{padding:"128px 16px"}}>
  <h1 class="w3-margin w3-jumbo">Global Sales Data Analytics</h1>
  <p class="w3-xlarge w3-white">Find out Best Solutions for more Productivity</p>
  <Link to={'/start'}><button style={{fontWeight:"bold"}} class="w3-button w3-green w3-
padding-large w3-large w3-margin-top w3-hover-white">Get Started</button></Link>
  <div class="w3-container w3-padding-64 w3-center w3-opacity">
  <div class="w3-xlarge w3-padding-32">
    <i class="fa fa-facebook-official w3-hover-opacity"></i>  
    <i class="fa fa-instagram w3-hover-opacity"></i>  
    <i class="fa fa-snapchat w3-hover-opacity"></i>  
    <i class="fa fa-pinterest-p w3-hover-opacity"></i>  
    <i class="fa fa-twitter w3-hover-opacity"></i>  
    <i class="fa fa-linkedin w3-hover-opacity"></i>
    <p>Powered by</p><span style={{fontWeight:"bold",color:"yellow",fontSize:"16px"}}>
KMRK - Team Id: PNT2022TMID08890</span>
```

```
 </div>
</div>
</div>

   </div>
  );
}

export default Home
```

Dashboard

```
import React from 'react'

function Dashboard() {
  return (
    <div>
       <iframe
src="https://us3.ca.analytics.ibm.com/bi/?perspective=dashboard&amp;pathRef=.public_folders%2FDash%2FDashboard&amp;closeWindowOnLastView=true&amp;ui_appbar=false&amp;ui_navbar=false&amp;shareMode=embedded&amp;action=view&amp;mode=dashboard&amp;subView=model000001848f39f77d_00000000" width="1360" height="600" frameborder="0" gesture="media" allow="encrypted-media" allowfullscreen=""></iframe>
    </div>
  )
}

export default Dashboard
```

About Page

```
import React from 'react'
import './../css/about.css'

function About() {
  return (
    <div className='about'>
      <h1 className='h11'>ABOUT US</h1>
```

```
    <div className='firstrow row'>
      <div className='left'>
        <h1>GLOBAL SALES DATA ANALYTICS</h1>
        <p className='para'>Global Sales Analytics refers to the technology and processes used to gather sales data and gauge sales performance. Sales leaders use these metrics to set goals, improve internal processes, and forecast future sales and revenue more accurately.</p>
        <p className='para'>The goal of Global Sales Analytics is always to simplify the information available to you. It should help you clearly understand your team’s performance, sales trends, and opportunities.</p>
      </div>
      <div className='right'>
        <img src='https://cdni.iconscout.com/illustration/premium/thumb/sales-analysis-6101078-5030576.png' height='50%' width='100%' />
      </div>
    </div>
    <div className='secondrow row'>
      <div className='right'>
        <img src='https://www.pwc.com/us/en/services/consulting/assets/understand_business.svg' height='50%' width='100%' />
      </div>
      <div className='left'>
        <h1 className='h11'>Benefits of sales analytics</h1>
        <p className='para'>Sales analytics is your sales team’s hidden superpower. It can enable your agents to spot key trends, dive deep, predict outcomes, and increase productivity. Accurate analysis also gives your team the ability to tailor their efforts and prioritize high-value prospects. Plus, it may even help spotlight new opportunities for your business to pursue.</p>
        <p className='para'>Sales analytics allows you to better gauge team performance and uncover areas for improvement, too. Understanding those strengths and weaknesses leads to better training, more attainable goals, and a cohesive team.</p>
      </div>
    </div>
    <div className='thirdrow row'>
      <div className='left'>
        <h1 className='h11'>9 sales metrics to watch</h1>
        <p style={{color:"white"}} className='list'>1. Sales growth<br/>2. Sales target<br/>3. target Sales per rep<br/>
        4. Sales by region<br/>
        5. Sell-through rate<br/>
        6. Sales per product<br/>
        7. Pipeline velocity<br/>
        8. Quote to close<br/>
        9. Average purchase value</p>
```

```
        </div>
        <div className='right'>
          <img src='https://assets.website-
files.com/60e7f71b22c6d0b9cf329ceb/621e193892e8c41051e34fce_StepsforEffectivelyAnalyzi
ngYourSalesData_20971e108bda1d8795a0c640c000e691_2000.png' height='50%'
width='100%' />
        </div>
      </div>
    </div>
  )
}

export default About
```

Connecting with Database

Server.js

```
const express = require('express');
const mongoose = require('mongoose');
const morgan = require('morgan');
const bodyParser = require('body-parser');
const dotenv = require('dotenv');
dotenv.config();


const app = express();

app.use(morgan('combined'));
app.use(bodyParser.json());

app.use((req, res, next) => {
  res.setHeader('Access-Control-Allow-Origin', '*');
  res.setHeader(
    'Access-Control-Allow-Methods',
    'OPTIONS, GET, POST, PUT, PATCH, DELETE'
  );
  res.setHeader('Access-Control-Allow-Headers', 'Content-Type , Authorization');
  next();
});
```

```
require('./Model/register')
mongoose.model("Userschema")

app.use("/register",require('./Auth/userRegister'))
app.use(require('../Backend/Auth/logging'))

mongoose.connect(process.env.URI.toString())
.then(() => {
    console.log('DataBase Connected Successfully!!');
    app.listen(process.env.PORT);
    console.log(`Listining in PORT ${process.env.PORT}`);
})
.catch(err => {
    console.log(err);
})
```

GitHub & Project Demo Link:

Git hub:

https://github.com/IBM-EPBL/IBM-Project-1683-1658409736

Demo Link:

https://github.com/IBM-EPBL/IBM-Project-1683-1658409736/tree/main/Final%20Deliverables/Final%20CODE/CODE