DEPARTMENT DATA ANALYSIS

Submitted in the partial fulfillment for the award of

the degree of

BACHELOR OF ENGINEERING

IN

Big Data and Analytics

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DISCOVER . **LEARN** . EMPOWER

INTRODUCTION

The Departmental Data Analysis project will roll out managerial software to digitize the management of departmental data such as employee/faculty/student information, Attendance Management, etc which, otherwise, would need to be done in conventional on-paper methods.

This analysis aims to gain insights into the department's operations and identify areas for improvement. This can involve identifying data trends, patterns, and correlations to inform strategic initiative decisions.

The main operation is to analyze attendance. Modernizing the traditional attendance system is important because paper-based systems can be time-consuming and error-prone.

PROBLEM FORMULATION

Many organizations have large amounts of departmental data that could be used to inform decision-making and drive business growth. However, analysing and interpreting this data can be complex and time-consuming task, especially when dealing with multiple departments within an organization. The lack of an efficient data analysis process can lead to mislead opportunities, ineffective decision-making, and ultimately, a decrease in productivity and revenue. Therefore, the problem statement is how to develop an efficient and effective departmental data analysis process that enables organizations to leverage their data to make informed decisions, improve performance, and achieve their analysis goals. This process should consider the various data sources, the complexity of the data, and the different departmental needs while also ensuring data accuracy, consistency, and privacy.

METHODOLOGY USED

- Define the objective
- Identify the data sources
- Collect the data
- Analyze the data
- Interpret the results
- Communicate the findings
- Take action

FUTURE SCOPE

Modernizing the traditional attendance system can address these issues and provide the following range of benefits:

- <u>Increased Accuracy</u>: Modern attendance systems use digital technology to eliminate human error risk and ensure accurate record-keeping.
- <u>Greater Efficiency</u>: These systems are more efficient than manual systems, as they can process attendance data more quickly and with less effort.
- <u>Cost Savings</u>: It can reduce the need for manual data entry and eliminate the cost of paper-based systems, resulting in cost savings for the organization.

These benefits can contribute to a more productive and successful organization.
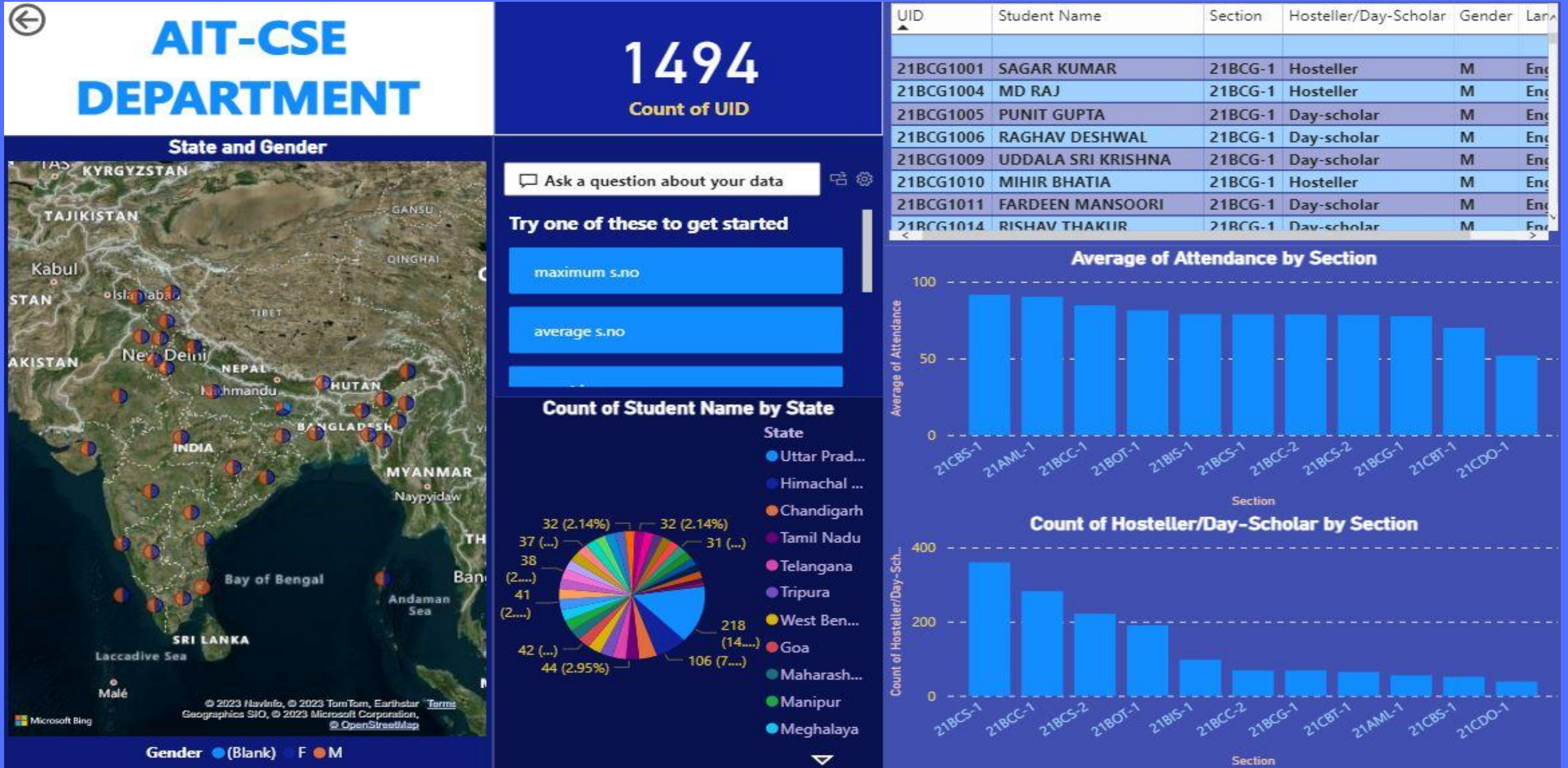
TOOL USED

POWER BI

WHY?

1. **Anywhere, Any-device Accessibility**

2. **Excel integration**

3. **Allows Analysis and Sharing of Big Data**

4. **Artificial Intelligence (AI)**

DATASET USED

S.NO	UID	Student Name	Gender	Section	Attendance	State	Language	Hosteller/Day-Scholar
72	21BCS4043	MOHAMMAD HANEEF PAZHWAK	M	21BCS-1	65.3628985507232	Gujarat	English	Day-scholar
74	21BCS3689	ABBISATTY TARUN SRI	M	21BCS-1	66.3559420289842	Himachal Pradesh	English	Day-scholar
76	21BCS11630	AJIT SINGH	M	21BCS-1	67.3489855072452	Karnataka	English	Day-scholar
78	21BCS11125	ASHISH KUMAR	M	21BCS-1	68.3420289855062	Madhya Pradesh	English	Day-scholar
80	21BCS4045	SAJAL KUMAR	M	21BCS-1	69.3350724637672	Manipur	English	Day-scholar
82	21BCS4048	TUSHANT BHARDWAJ	M	21BCS-1	70.3281159420282	Mizoram	English	Day-scholar
84	21BCS6844	RAMANDEEP	M	21BCS-1	71.3211594202892	Odisha	English	Day-scholar
86	21BCS11575	SANKET SHARMA	M	21BCS-1	72.3142028985502	Rajasthan	English	Day-scholar
88	21BCS4037	AKSHAT BHAKUNI	M	21BCS-1	73.3072463768112	Tamil Nadu	English	Day-scholar
90	21BCS10256	AKASH SIKARWAR	M	21BCS-1	74.3002898550722	Tripura	English	Day-scholar
92	21BCS4017	HANSIKA SHARMA	M	21BCS-1	75.2933333333332	Uttar Pradesh	English	Day-scholar
94	21BCS9820	MOHAMMAD ISHAN ANWAR	M	21BCS-1	76.2863768115942	Andaman and Nicobar Islands	English	Day-scholar
95	21BCS11465	Shishir Kumar	M	21BCS-1	46.35489456	Chandigarh	English	Day-scholar
97	21BCS11301	SOURABH KUMAR	M	21BCS-1	33.45435465	Jammu & Kashmir	English	Day-scholar
98	21BCS4039	SAHIL	M	21BCS-1	29.54673456	Ladakh	English	Day-scholar
100	21BCS4067	ARIJIT DEY	M	21BCS-1	51.54015244	Puducherry	English	Day-scholar
101	21BCS4065	ARJUN SAROHA	M	21BCS-1	62.53686138	Andhra Pradesh	English	Day-scholar
104	21BCS4285	AAYUSH GUPTA	M	21BCS-1	95.5269882	Bihar	English	Day-scholar
106	21BCS4219	NITIN SHARMA	M	21BCS-1	66.986996	Goa	English	Day-scholar
107	21BCS4009	ANUP KUMAR BHADRA	M	21BCS-1	68.20548897	Gujarat	English	Day-scholar
109	21BCS4011	AMIYA KUMAR NAYAK	M	21BCS-1	70.64247491	Himachal Pradesh	English	Day-scholar
112	21BCS4315	SRI PERAMBUDURI MARAN SURI	M	21BCS-1	74.29795382	Kerala	English	Day-scholar
113	21BCS4068	ROHIT JOSHI	M	21BCS-1	75.51644679	Madhya Pradesh	English	Day-scholar
115	21BCS4774	DUSHALI GARG	M	21BCS-1	77.95343273	Manipur	English	Day-scholar
116	21BCS5103	HARSH VIJAY	M	21BCS-1	79.1719257	Meghalaya	English	Day-scholar
118	21BCS5490	DARSHIL VIJAYVARGIYA	M	21BCS-1	81.60891164	Nagaland	English	Day-scholar
119	21BCS4577	Himanshu Arora	M	21BCS-1	82.82740461	Odisha	English	Day-scholar

S.NO	UID	Student Name	Gender	Section	Attendance	State	Language	Hosteller/Day-Scholar
1197	21BCS5412	MS.MITUSHI ARORA	F	21BCC-1	68.20548897	Uttar Pradesh	English	Hosteller
1198	21BCS5273	KANISHKA	F	21BCC-1	69.42398194	Uttar Pradesh	English	Hosteller
1224	21BCS6381	GRACY SEJWAL	F	21BCC-1	80.3703226234744	Uttar Pradesh	English	Hosteller
1238	21BCS4903	VASHITA RAHEJA	F	21BCC-1	100	Uttar Pradesh	English	Hosteller
1239	21BCS4498	MS. RIMJHIM	F	21BCC-1	87.6331365316599	Uttar Pradesh	English	Hosteller
1248	21BCS6468	SANCHI AGARWAL	F	21BCC-1	88.7759913815544	Uttar Pradesh	English	Hosteller
1249	21BCS10831	DIVYANSHI BHATIA	F	21BCC-1	88.9029752537649	Uttar Pradesh	English	Hosteller
1253	21BCS6692	Navneet	F	21BCC-1	89.4109107426069	Uttar Pradesh	English	Hosteller
1257	21BCS6285	SHIVANI	F	21BCC-1	89.9188462314488	Uttar Pradesh	English	Hosteller
1258	21BCS6308	TISHA	F	21BCC-1	90.0458301036593	Uttar Pradesh	English	Hosteller
1284	21BCS6154	SAVINAYA BHALLA	F	21BCC-2	93.3474107811322	Uttar Pradesh	English	Hosteller
1294	21BCS6672	ANSHMITA KELODIA	F	21BCC-2	72.3142028985502	Uttar Pradesh	English	Hosteller
1302	21BCS8619	Vanshika Vashishth	F	21BCC-2	76.2863768115942	Uttar Pradesh	English	Hosteller
1309	21BCS10423	Subhadeep Dutta	F	21BCC-2	62.53686138	Uttar Pradesh	English	Hosteller
1347	21BCS4554	Kalpana Kumari Singh	F	21AML-1	90.1230913611705	Chandigarh	English	Hosteller
1348	21BCS8573	SOUMYA SEKHAR MAHANTI	F	21AML-1	90.6030078059356	Chandigarh	English	Hosteller
1354	21BCS8927	ANNU AGGARWAL	F	21AML-1	93.4825064745262	Himachal Pradesh	English	Hosteller
1362	21BCS11369	Kanishika Bhatia	F	21AML-1	88.9029752537649	Himachal Pradesh	English	Hosteller
1368	21BCS4638	ASMI MANHAS	F	21AML-1	89.6648784870278	Himachal Pradesh	English	Hosteller
1377	21BCS5948	Riya kumari	F	21AML-1	90.8077333369223	Himachal Pradesh	English	Hosteller
1387	21BCS5718	Eitika Yadav	F	21AML-1	92.0775720590272	Himachal Pradesh	English	Hosteller
1399	21CBT1094	B DEVI	F	21CBT-1	93.6013785255531	Himachal Pradesh	English	Hosteller
1434	21CBT1073	MS KIRTI KHANDELWAL	F	21CBT-1	75.51644679	Tamil Nadu	English	Hosteller
1443	21CBT1098	SANYA	F	21CBT-1	63.8379919720508	Andaman and Nicobar Islands	English	Hosteller
1470	21CDO1037	PARKHI RANA	F	21CDO-1	53.8876022638586	Chhattisgarh	English	Hosteller
1476	21CDO1034	DEEPANSHI TOMAR	F	21CDO-1	51.676404550927	New Delhi	English	Hosteller
1488	21CDO1059	SEJAL SEEPAL	F	21CDO-1	47.2540091250639	West Bengal	English	Hosteller

CONCLUSION

The departmental Data Analysis System is designed to support informed decision-making by providing valuable insights from various data sources. By following a defined data analysis process and implementing a data governance framework, this system can ensure the security and integrity of the data while providing accurate and timely information to support business goals.

We proposed a departmental data analysis system that may or may not have one or more of the following features:

- Attendance Management System

- Analysis of the departmental data

- Power BI Dashboard.

REFERENCES

• GATETE Marcel, HARUBWIRA Flaubert, "A Development of an Online Student Attendance Management Information System: Case Study "University of Tourism, Technology, and Business Studies"," International Journal of Scientific Research in Computer Science and Engineering, Vol.10, Issue.1, pp.32-48, 2022.

• K.J.H.D. Asiri, K.S. Rishan, U.A. Hewage., U.K.T. Prasadika, K.A. Dilini T. Kulawansa " Attendance Management System"," 8th International Conference on Advances in Computing, Electronics, and Communication – ACEC"

• Ekhlas Ghaleb Abdulkadhim 2021 J. Phys.: Conf. Ser. 1804 012011

• Abdoulrahmaine Mohammad, Mohammad Elmi Hassan, Muslim Musa -2020, "IUT DHAKA 123456789/92"

• Mrs. Dhanashree Amit Gupta " Student Attendance Software"," IJSER VOLUME 2, ISSUE 11, NOVEMBER 2011"

• S. Y. Inamdar1, Vishal V. Suryawanshi2 "Student Attendance System based on Data Analytics", "IARJSET VOL. 4, Special Issue 4, January 2017"