Data Analysis on Deviation in Power Generation

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Introduction

Data Analysis is a mechanism that includes cleansing, transforming and modeling data. With the so much data all around, in the discrete manner, with the several techniques involved it reaches to the conclusion and finds out the solutions for many problems.

- Data Ingestion
- Data Collection
- Data Cleaning
- Exploratory Data Analysis
- Modeling and Algorithms

Requirements

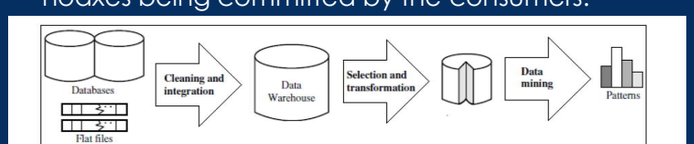
- **Hardware Requirements** - x86 - 64 processor
  8 GB RAM
- **Software Requirements** - Java , Hadoop, Python, Linux

Project Learning

- Different technologies like – Java, Python, Web Scraping.
- Practical implementation of tools like – Hadoop, Pig, map-reduce on Linux environment and Data Processing.
- Team Work
- Dividing and Managing the work

Literature Survey

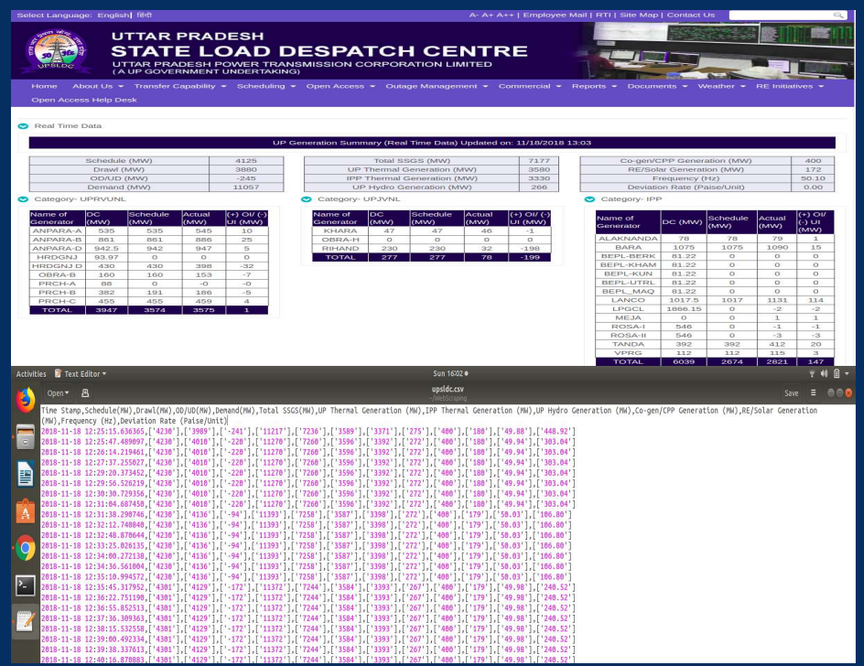
- In the shown figure, one of the usual ways toidecrease non-technical losses rates is to perform local inspections to check if there are any thefts or hoaxes being committed by the consumers.



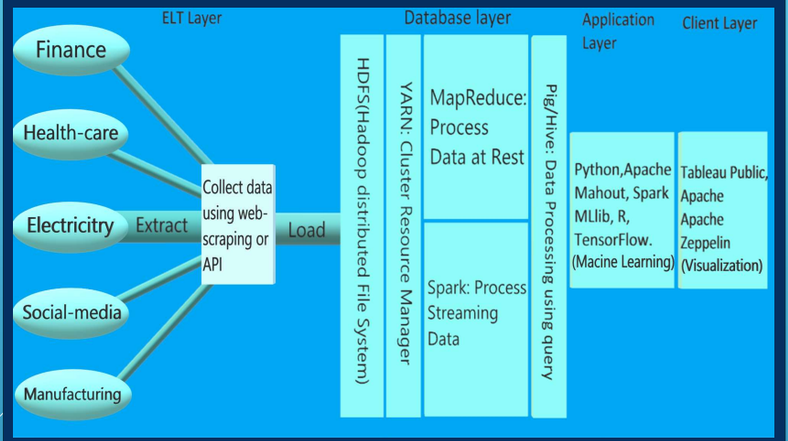
Data Set

The dataset used for the project ios collected from a website which is www.upsldc.org/real-time-data using web scraping.

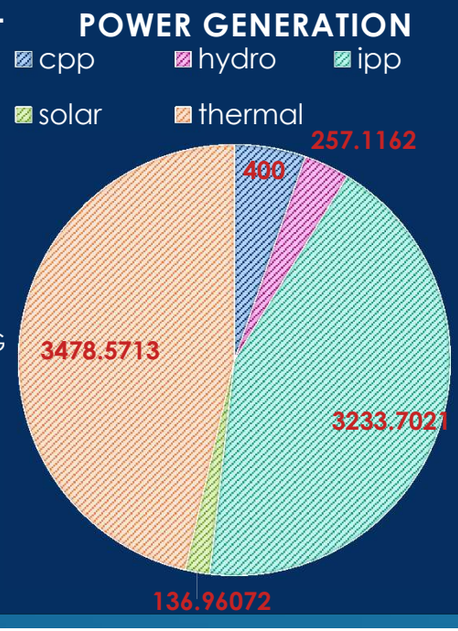
- This data is dynamic in nature and provides a new dataset after every 30 seconds.
- This data actually represents various factors regarding to the electric power in Uttar Pradesh state.
- The data represents current power generation, current demand, scheduled power generation, Thermal Generation, Hydro generation, IPP generation, frequency etc.
- This data was under continuous scraping and saved into a file – upsldc.txt on HDFS for cleaning and processing.



Procedure



Project Outcome-



References

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2. www.wider.unu.edu/sites/default/files/wp2016-28.pdf