**Python Projects**

1. **Construction information and data capture**

The application was built for a prime purpose where the designer could input the details of the structure into the application which are the dimension and sizes and the application would calculate details on the raw materials needed for the different phases of the building process.

The application also included other activities where the designer or the user could include details of the planned expenses right from the iron all the way to painting and then upload the actual expenses and the comparisons between the actual and the planned expenses too were generated.

1. **Electricity bill analysis**

The project was aimed at rewriting the complete electrical application of the KSEB (Kerala State Electricity Board) from a legacy application to Python. The intent of the project was to capture details of all their electricity bills and manage payments of the consumers.

The employees would collect the meter readings in their hand held devices and end of day, a JSON file from each of those devices would be moved into a landing area from where the application picks the files and loads the data from those files into a database.

The user has a leisure of repayment in multiple forms and also in smaller amounts so the application reads data from the different payment mediums as well and reconciles the data against the total outstanding billing and the application handles short payment and excess payments along with interest calculations for the short payments. The data for all the short and excess payments are again calculated for the next billing cycle to determine the complete bill to be paid by consumers as on month. The application would further help KSEB to understand and analyze their customer segmentation and also the power consumption patterns in the complete state.

1. **Energy consumption monitoring**

The solution was implemented for the Punjab Power Corporation where the data from the feeders were pushed into a data source system at regular intervals and the monthly data from all the end users are captured and fed into the system.

Post data crunching into the storage system, the application would now help reconcile the data against every feeder which includes city wise, pin code wise and even feeder wise analysis to understand any loss of power units to identify potential threats to life or issues with power theft.

The application helped up the corporation greatly to fight power theft and build reports on the demography wise consumptions for better infrastructure and support from the corporation to the consumers.

1. **Employee timesheet analysis**

The timesheet analysis app was developed to handle the complete end to end timesheet submission to approvals, leave handling, salary calculations and also the pay slips downloading.

The application has logins for each employee in the organization through which the users login and perform all activities relevant to their login. The HRs have role based access where they can perform and see a lot more data and the admin is the complete owner of the application and right from user addition to removal is done by the admin. Further, the data from the application is moved into a report where the managers and the heads can see the complete information about the employees, teams and the complete unit.