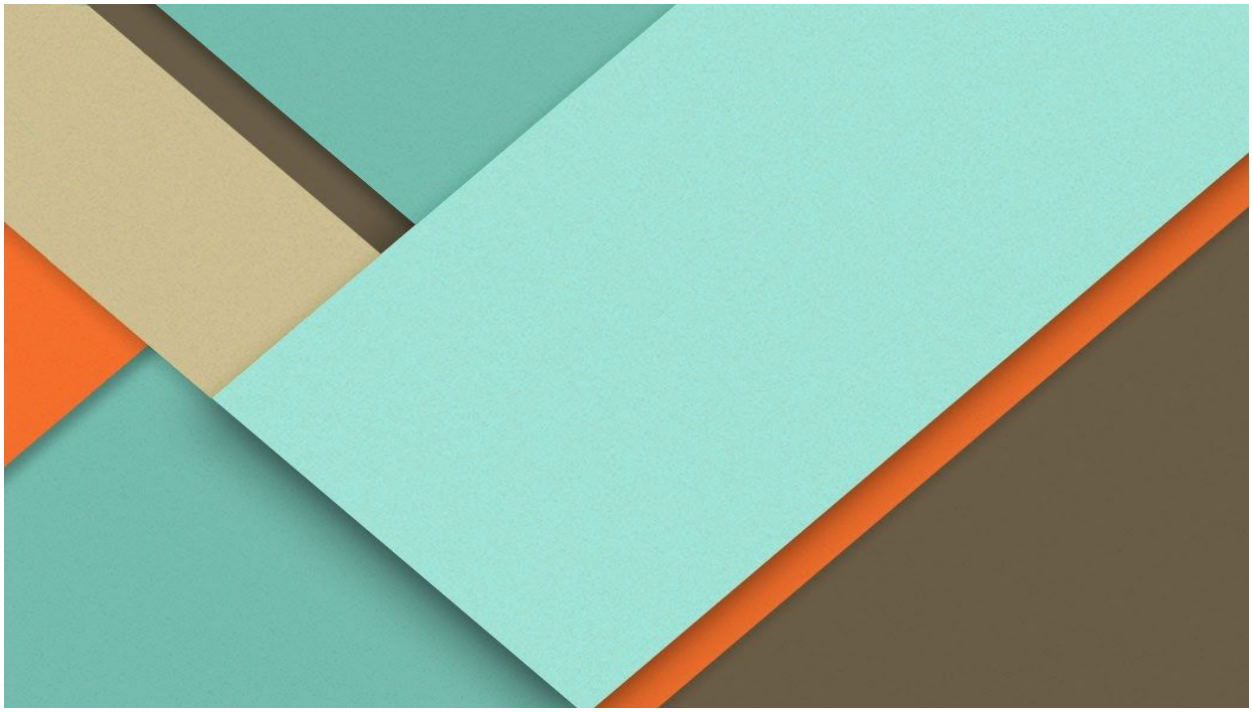

# Development of Efficient Electricity Distribution Model

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## Team AM

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## Overview

There are villages and rural areas in modern India which are still to get electricity connection. And there are those places where there is a connection but low voltage and frequent cut-offs are still a major problem. Electricity companies face a lot of issues regarding the efficient power supply to all their customers as well as the customers have issues regarding their needs of power. Wastage of power during transmission is another big issue.

## Goals

1. Our aim is to develop and implement algorithms to improve the above-mentioned situation.
2. Improve the consumption of electricity from users' point of view and implement better,renewable resources for generation of electricity at household level

## Milestones

### 1. Phase I

- Making algorithms for graph selection and preparation. This will include making clusters of houses based on average electricity consumption by each house.
- Average consumption will be calculated on the basis of historic data, survey and sampling. This data will include appliances in each household and their power consumption along with the time of consumption.
- This will be done by prioritising comercial, industrial and household consumptions. Electricity will be sent only to the clusters of houses with maximum earning potential. The load-shedding will be done on a rotatory basis to meet demands of each and every sector.

### 2. Phase II

- Working on the city structure and layout and finding the best possible layout of houses as well as power stations.
- Working on a two way transmission algorithm where consumers can produce electricity themselves (by means such as solar panels,etc) and then

distributing them to the neighbouring surroundings where power supply is not optimal. We want to design a futuristic and eco-friendly system where consumers with surplus electricity can supply to the power hungry neighbourhoods and thus limit the wastage of our resources.

- Planning efficient distribution of electricity which will in turn depend on power usage at a particular interval of time in a given area.
- Also looking upon the methods and lengths of wires used as well as the conditions of surroundings.

### 3. Phase |||

- Writing codes using algorithms like **traversing graphs**, **shortest distances between two points in a graph**, **Knapsack Algorithms**, **efficient sortings**, **suitable greedy approach**, other **dynamic programming** applications.
- Cumulating our research matter into a paper. We will be integrating codes and explanations in the **research paper** to present the final work.

## Timeline and Work Distribution

### 1. Phase I - 2 Weeks

2 students will be collecting details about algorithms while other 3 will collect the survey data of electricity distribution.

### 2. Phase II - 2 Weeks

3 students will work on the designing of layout and structure of distribution while other 2 will be working on looking for methods and factors affecting distribution.

### 3. Phase III - 3 Weeks

The research paper will be written by all 5, each will be assigned a certain topic and its related fields.

Total duration: About 7 weeks.