

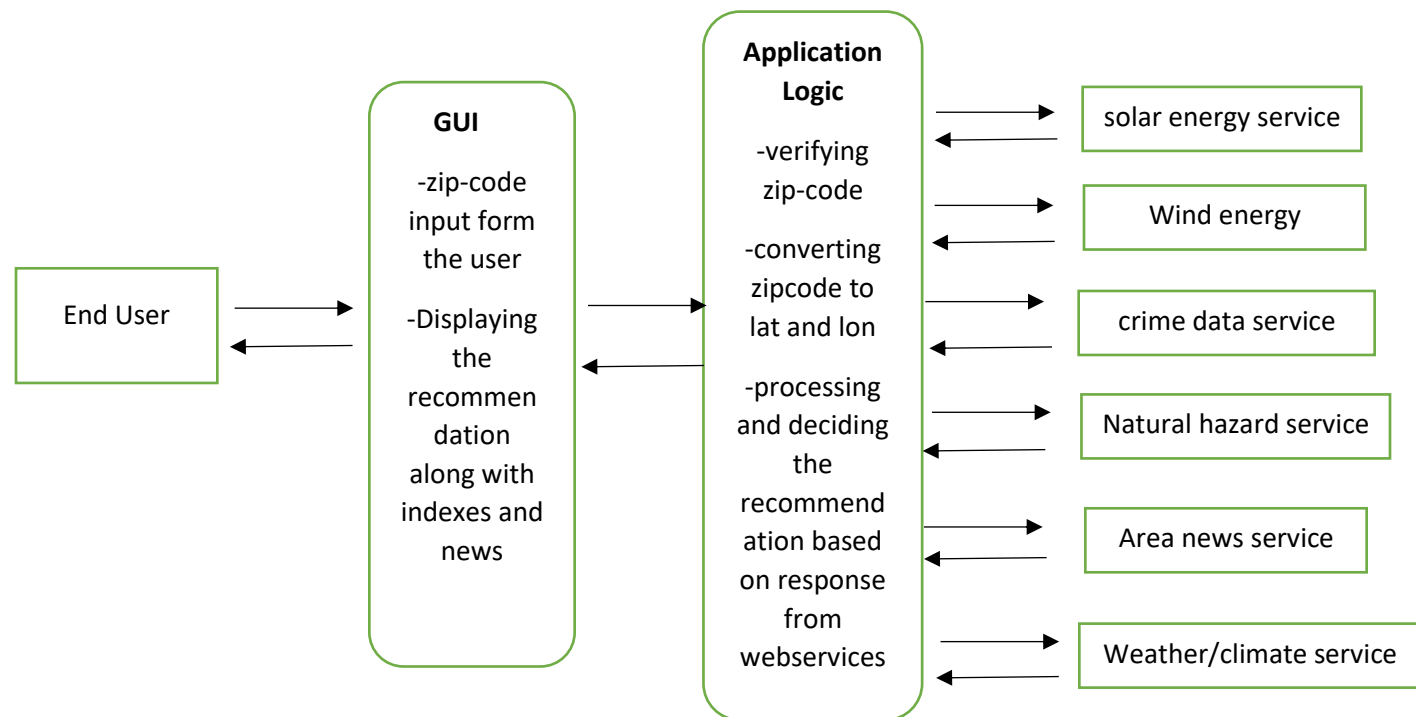
1.1) Application Name: Recommendation system for setting up renewable energy farms in an area.

Application description:

This application will recommend the user about how good an area is for setting up solar farms or wind farms or both based on certain parameters which will be received from web services developed.

The application will use **solar energy service** and **wind energy service** to calculate the solar and wind index. But setting up business like wind/solar farm is not only dependent on these two parameters. Other factors such as the crime rate of that area, how much the area is prone to natural hazards is also important before setting up solar or wind farms. This will use the **crime data service** and natural **hazard service** to form the recommendation. Along with this, to know the current tone and condition of that area, the latest news from that area and the weather or climate conditions will also be displayed to the user using **area news service** and **weather/climate service**, so that along with the application's recommendation the user can see the latest news and climatic or weather conditions which will assist the user to form the final decisions about setting up renewable energy farms.

1.2) Architecture:



Application Logic:

→The user can enter the zip code for which they want to get the recommendation for setting up solar/wind farm.

→The application logic will verify and convert the zip code to latitude and longitude for certain web services which takes input as latitude and longitude and sends the request to web services.

→Upon getting the response from the web services based on sunshine and wind index, it will decide if the area is good for solar farms or wind farms on both. Along with this the application's recommendation will also be based on the response received from natural hazard web service and crime data record.

→In addition to it, the user will get the latest news and weather/climate information from the area news service and weather/climate service to assist in making the decisions.

1.3)Following are the web services that will be used for the application:

Web Service	Description of the functionality requirement of web services
Solar energy service	will give the annual sunshine index based on latitude and longitude which will be used by the application to form recommendation.
Wind energy service	will give the annual wind index based on latitude and longitude which will be used by the application to form recommendation.
Crime data service	will give the crime data based on latitude and longitude which will assist the user in making final decision.
Natural hazard service	will give natural hazard index for disasters such as earthquake, based on latitude and longitude which will be used by the application to form recommendation.
Area news service	will give the latest news based on the current and nearby area which will assist the user in making final decision.
Weather/Climate service	will give the weather information or climate information of the area which will assist the user in making final decision.