PROJECT CONCEPT DOCUMENT

PROJECT NUMBER	**4**
PROJECT TITLE	**Quantifying carbon footprint for logistic hubs**
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Description

Problem statement: Quantifying carbon footprint using geospatial data

As a result of growing public awareness about global warming and an increasing need to combat it,there has been an increase in interest regarding the carbon footprint assessment and it is also necessary. Carbon footprint is a measure of the amount of greenhouse gases produced which can be in different sectors such as Agriculture, Industrial, Transportation etc. Our goal is to help the users handling a logistics hub to quantitatively understand the carbon footprint in the transportation sector due to truck movements from one hub to another. Using this quantified data, we then suggest the best routes for the transport so that the carbon emission is minimized.

Profile of Users

Many organizations and governments are looking for strategies to reduce emissions from greenhouse gases which are responsible for global warming. The quantitative assessment of the emissions in the form of carbon footprint will be helpful to all such organisations and governments for example the State Pollution Control board.

The two main users of our system are:

1) **Managers of different companies** who are trying to reduce their company's net carbon footprint in accordance to their carbon credits.For example, they can use the app to find the routes with less CFP between two nodes (includes viewing it in a map).
2) **Executive Engineer in the Pollution Board** and related authorities in order to get an overview of the net carbon footprint of their city and major hotspots in the city.

It will be a simple app. Users mostly will be equipped with basic knowledge on the subject and related software, hence can comfortably use our service.

Instructions to help them make good use of services will be provided in the app. For example, instructions about input data format will be provided.

Usage Model and Diagrams

Login (includes Register, Logout) and Upload data are common use cases for both the users.
A **Manager** has use cases like Log - History, CFP calculation, finding the shortest path (with map) and the path with least CFP between 2 nodes (with map) and giving input from map (choosing nodes) and pre-emptive calculation.
An **Executive Officer** has use cases like finding the hotspots in the city (using map) and upload data.