

ICS261: SSAD & Project

Team number	19
Project Title	Surrogate City Finder Tool
Document	SSAD Project Concept Document
Created By	We sat down as a team and wrote this document taking everyone's opinion into account. The team includes the following members:- 1. Arushi Vashist 2. Akanksha Srivastava 3. Ayush Tripathi 4. Dhruva Das 5. Siddharth Bhatore
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Description

Energy plus weather data files (.epw) contain exhaustive weather data for a city which is utilised in simulations of the weather of a city for planning constructions and building models. Currently these files exist only for some cities of the world and (67 in India, to be precise). To facilitate the application of this model for the cities for whom weather data files have not yet been developed, we will make the Surrogate City Finder Tool which finds weather data files of those cities around the world whose weather is the closest match to the city in question. The matching is done on the basis of parameters which induce similar weather conditions like Altitude , Latitude and

temperature profiles throughout the year. We will be using Ruby on Rails web framework to develop a deployable web application.

Profile of Users

Weather Data files are used by various construction companies and utility providers, researchers and predictors for designing their various products to suit the weather of a city. So we want to finally make the tool a public web application so it can be used by anyone who requires these files for their purpose. A login system will be implemented and users (which would include individuals or organisation) could login to use this tool.

Usage Model and Diagrams (if any)

The user interface of the tool will be an interactive world map marking the cities for which weather data exists. The tool would include a query form on one side that will take the city for which data is required as user input. The user will be allowed to specify a range of variation of parameters(latitude/altitude) that the user allows the tool to find a match.

Surrogate City finder tool

<div data-bbox="332 934 1112 1407"></div> <p>World Map showing all the cities having weather data will be marked. The markings of the latitude and longitude will show up depending on the input of the user. All those cities which are present in the latitude and longitude range will show up in the image.</p>	<div data-bbox="1182 934 1485 982">Search bar <input type="text"/></div> <div data-bbox="1182 997 1421 1155">Latitude of city: ____ Longitude of city: ____ Altitude of city: ____ Temperature Max Temp: ____ Min Temp: ____</div> <div data-bbox="1182 1396 1485 1480">Variation allowed in latitude: ____ Variation allowed in longitude: ____ Variation allowed in altitude: ____ Variation allowed in MaxTemp: ____</div>
<p>The final result of the search will show up here(e.g 1. X city 2. Y city...) in the form of a numbered list.</p>	

The result would be displayed on the map as well as written on the bottom of the screen.

Surrogate city Finder

Energy Simulation Software

↳ Weatherdata

↳ .epw

(Energy plus
Weather data)

currently 67 cities

