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# Assignment 3 – Part 1

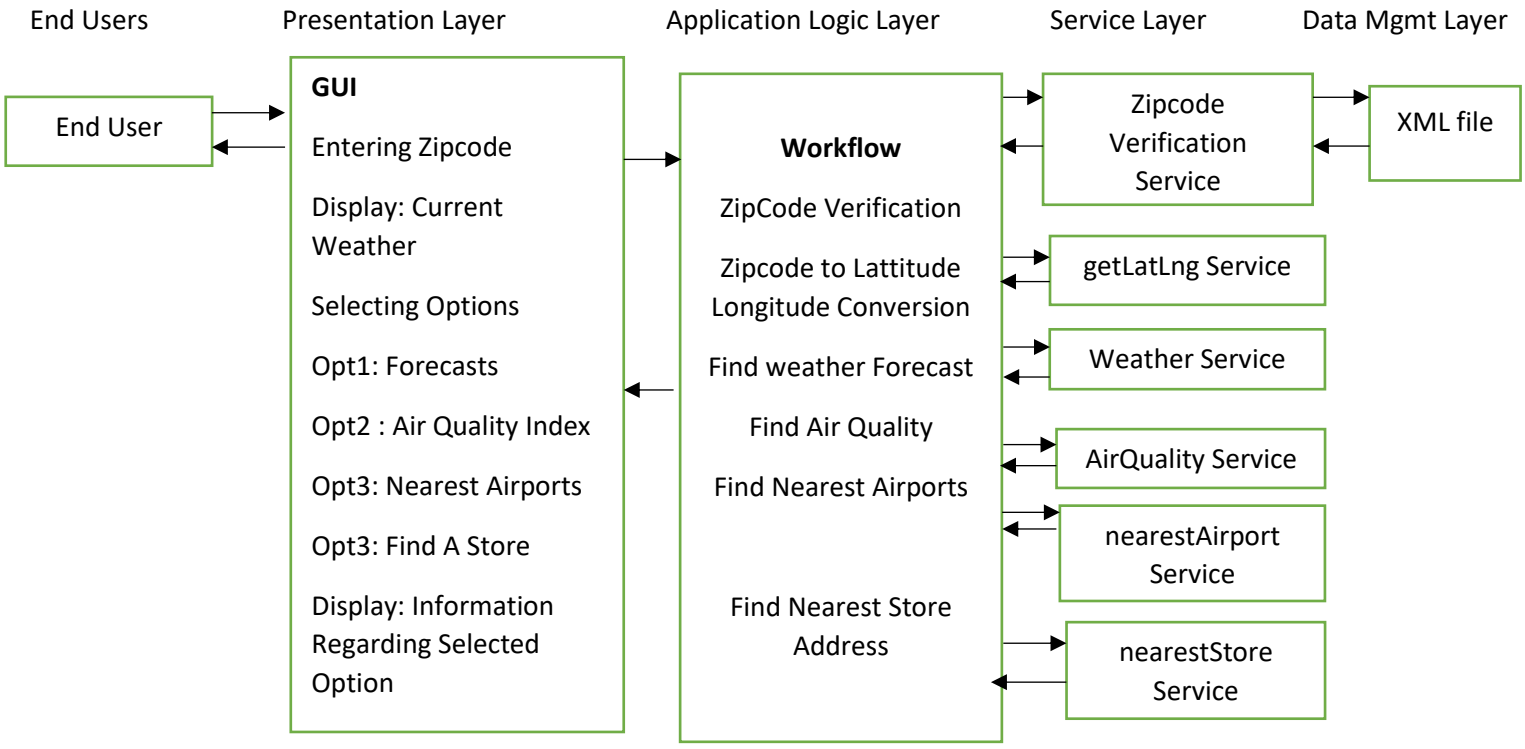
# Requirement Document

1.1 Description of the service-oriented computing system that you plan to develop.

I plan to develop a "location based information provider" application that aims to give useful information about any valid zip code or city name within the United States. Information provided by this system will include 5-day weather forecasts, Air quality index, Nearby airports and Addresses Of the nearest Businesses. The user has to input the zip code or city name that he/she wants to lookup. Once the zip code/ city name is entered the system will display a widget with the current weather conditions of that place. User will be provided with options to navigate and look up the forecast for the next 5 days. There will be multiple options displayed to the user. Each option will provide some information particular to the zip code. The first option is the Air Quality Index Lookup. Clicking on this option will display the air quality index and pollution level for that zip code. The second option is the Nearest Airport Finder. Clicking on this option will display the closest airports to the selected zip code. The third option is the nearest store finder. User can input a store name or a related keyword and the system will display up to 5 results within a 20 mile distance. Information regarding the location and addresses of these stores will be displayed to the user.

1.2 A diagram showing the overall system design, its layers, components, and the connections among the services.

**Location Based Information Provider System**



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1.3 Create a service directory (a table) listing the services that you plan to develop.

| The project is Deployed at : http://localhost:51214/Service1.svc?singleWsdl | | | | |
|---|---|---|---|---|
| The project is developed by: Srividhya Swaminathan | | | | |
| Provider Name | Service name with Input and Output | Try It Link | Service Description | Planned Resources need to Implement the service |
| Srividhya Swaminathan | **weatherService**<br>**Input:** String zipcode<br>**Output:** 2d list of strings consisting of 5 day weather forecast information | TryIt | Service returns the 5-day weather forecast for a given zipcode. The out put is 2d list of strings consisting of 6 rows and 5 columns. Row-1 shows format-”Date", "minTemperature", "maxTemperature", "Day conditions", "Night conditions". Rows 2-6 , hold corresponding values for each of the 5 days | Use apis provided by accuWeather.com. Two of their Apis are required. First, Postal Code Search (results narrowed by countryCode) Api is to get Location Key. Second, 5 Days of Daily Forecasts api to get the forcasts |
| Srividhya Swaminathan | **AirQuality**<br>**Input:** Decimal Lattitude , Decimal Longitude<br>**Output:** String of format “{Air quality Index},{Pollution Level}” | TryIt | This service returns the airquality index and Pollution Level status for a given lattitude and longitude. Return string has airaquality index followed by a comma and the pollution level status. | Use api is provided by http://aqicn.org/api/.<br>Use their gelocalized feed (lat/lng based) to get airquality index. Use Information provide in http://aqicn.org/faq/ to compute pollution level. |
| Srividhya Swaminathan | **getLatLng**<br>Input: String Zipcode | TryIt | This service returns the lattitude and | Use apis provided by https://www.zipcodeapi.com |

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|---|---|---|---|---|
| | **Output :** String of format "{latitude},{longitude}" | | longitude of any US zip code. | |
| Srividhya Swaminathan | **nearestAirport:** Decimal Lattitude , Decimal Longitude **Input:** **Output:** 2d list of strings consisting nearest airport names their addresses and distance | TryIt | This service returns 2d list of strings consisting of information regarding the nearest relevant airports. Each row consist of info about one airport. Information like Airport name, address and distance will be included | Use apis provided by https://sandbox.amadeus.com/travel-innovation-sandbox/apis. Use Nearest Relevant Airport to get the necessary information |
| Srividhya Swaminathan | **nearestStore:** **Input:** string zipcode, string store name **Output:** string nearest_store_address | TryIt | This service takes a zipcode and store name and returns the address of the nearest store within a distance of 20 miles. | Use apis provided by yelp.com to get the necessary information. Use Businesses Search api to get the nearest businesses information. |

2.1 – Services 16 and 23 from the list of required services are done.