Review Article

Exhibiting of geospatial attribute data using popup template Java-script application programming interface

Ballu Harish[1]*, R. S. Dwiwedi[2]

[1]CSIT-IST-JNTUH, Hyderabad, Telangana, India
[2]NRSC-ISRO, Hyderabad, Telangana, India

*Correspondence:
Dr. Ballu Harish,
E-mail: harishballu111@gmail.com

ABSTRACT

Arc-GIS server is used in creating web, desktop, mobile applications. Arc-GIS for server provides end user applications and services for spatial data management, visualization and spatial analysis. The proposed work deals with exhibiting of geo-spatial attribute data using the facility of Java script application programme interfaces (API's) from Arc-GIS server. Popup-layout API reference is utilized in the work and furthermore two of its properties are utilized relying upon the need of the work. All the programming interfaces have their advantages for encouraging clients work to connect with the geo-spatial information. Keen web maps make an extraordinary method of envisioning complex data. They assist with beating up apparently disconnected data, uncover concealed examples, mine enormous datasets. Information can be composed on the work area, sent to the cloud, and shared utilizing Arc-GIS server on the web.

Keywords: Arc-GIS server, Java script, Attribute data, Popup template, Application programme interface

INTRODUCTION

Arc-GIS (geographic information system) server is a complete and integrated GIS server. It empowers client to disseminate guides, models, and instruments to others inside the association and past such that fits a way into their work processes.

Geographic information and tools are fundamental in all parts of crisis the board: response, preparedness, recovery, and mitigation. information quality is a significant worry, since chipped in data is state and conveys none of the affirmations that prompts trust in authoritatively made information. During crisis time is the pith, and the dangers related with chipped in data are regularly exceeded by the advantages of its utilization is thoughtfully affecting overseeing information, organizing work processes.[1]

Web-GIS is utilized to gather, make, and convey geographic data wilfully by people in locales, for example, Wikimedia and open-road map for enabling people to make worldwide fix work of geographic data.[2]

The geospatial-web, across association, and communicating with similarly invested people in successful networks. A portion of the empowering advancements for the geospatial-web are geo-programs, for example, google earth, NASA world wind. These three-dimensional stages change the utilization and creation of media items. They not just unite individuals of comparative interests, perusing conduct, yet additionally uncover the geographic dissemination of web administrations, assets.[3]

In all parts of crisis oversight, geospatial information and apparatuses can possibly help spare lives, limit harm, and decrease the expenses of managing crises. The

achievement of any innovation is as much about the human frameworks in which it is installed as about the innovation itself.[4]

It is conceivable to progressively gather application from various GIS web administrations for use in an assortment of customer applications. ESRI offers a worker-based stage from which geographic data is distributed and spread inside associations, across authoritative limits, and to people in general. Arc-GIS server is ESRI's essential worker GIS item. It is a finished and incorporated worker-based GIS that accompanies out of-the-crate, end client applications and administrations for spatial information perception, spatial examination and the executives.[5]

Arc-GIS online is the cloud version of Arc-GIS enterprise. Arc-GIS Online is a cloud-based mapping and analysis solution. It is used to make maps, analyse data, and to share and collaborate Bhatia et al, ARC- GIS server, the web application item from ESRI, can be upgraded by building custom web administrations. To get past Arc-GIS worker benefits, a scope of customer applications and engineer structures and APIs like Arc-GIS desktop, rich Internet applications, for example, the Arc-GIS API for Microsoft Silverlight/WPF, and web applications for example, the web application development framework (ADF) for Java/Microsoft.NET and server object extensions are given by ESRI.[6]

Arc-GIS worker additionally give a wide scope of API's based on guidelines which permits customers to play out the customization of geo-spatial information relying upon their requirement.[7]

It is a wide and fused programming for building operational GIS. Arc-GIS contains four programming parts, segments for capacity and overseeing geographic information in documents and databases; a geographic data structure for displaying part of this present reality; a lot of out-of-the-crate applications for making, controlling, altering, dissecting, planning and to spread geographic data; and an assortment of web benefits that give substance and abilities to arranged programming customers. Portions of the Arc-GIS programming framework can be sent on mobiles, and personal computers. From the end client perspective Arc-GIS has wide running functionalities bundled up into a conventional arrangement of menu driven GIS applications that actualize key geographic work processes.[8]

BENEFITS OF ARC-GIS SERVER

Publish quick, keen web maps customized to the crowd, significantly reinforcing business and asset choices with continuous geo-knowledge.

Centrally deals with the geo-information, giving better information security and trustworthiness for a large portion of the significant data resources.

Simplify access to enormous volumes of symbolism assets, broadly diminishing capacity expenses and information handling overhead.

WORK FLOW OF THE PAPER

Accessing the webpage for displaying the base map

Using the HTML base map is displayed with the property: base map. The base map property is having different qualities like: topo, streets, satellite, hybrid, dark-Gray, Gray, national-geographic and so on. In light of the reliance any worth can be picked base-map property. At that point in the wake of utilizing the map see property the base map can be shown. Map-view is additionally having different properties like animation, background, map, container, center, zoom, navigation and so on which can be gotten to on the reliance.

Base map is accessible under "Esri/Map" for displaying the map, view is required it is accessible under "esri/views/MapView". The output of the map view is appeared in result segment with (Figure 1). The latitude and longitude esteems are given to center property. Here for this situation Hyderabad's latitude and longitude esteems are given. So, Hyderabad area will get engaged in the output.

DISPLAYING THE SERVICES IN MAP VIEW ENVIRONMENT

Various services are gladly available like map service, feature service, image service, geo-processing and geo-coding services.

Map services are the one analogous to MXD document of Arc-Map. It consists of many feature services in sole map service.

Feature service will focus on one of the particular features like point, line, polygon.

Map image layer and feature layer

They are available under the API's-"esri/layers/MapImage Layer" and "esri/layers/Feature Layer " API reference.

Map image layer allows to analyse data from sub layers defined in a map service, export images instead of features.

Map service images are robustly generated on the server based on a claim, which includes a bounding box, level of detail, spatial reference and other options.

The output of map image layer is shown in result section with (Figure 2). It contains the information about total layers of sample census data.

A feature layer is a single layer that can be created from a map service or feature service.

URL: It is a common property of both map image layer and feature layer. The value for URL property can be identified from Esri/layers sections. All the URL's are mentioned at "https://sampleserver6.arcgisonline.com/arcgis/rest/" in the services section. Same URL can be specified to feature layer or map-image layer.

The output of feature layer is shown in result section with (Figure 3). It contains the information concerning about layer only.[3] If the same task is done with map image layer it gives the output of all the layers.

POPUP TEMPLATE

It is realistic under "esri/PopupTemplate" API. A popup template characterizes and arranges the substance of a popup for a graphic or explicit layer. A popup template permits the client to get to information from include characteristics and information came back from arcade terms when an element in the view is chosen.

It gives insights regarding showed highlight by tapping on it. Its conduct changes with zoom level of yield map and tapping on it. A popup template permits the client to get to an incentive from include qualities of specific element in output. It contains various properties like actions/content/title etc relying upon the necessity any value cane be opted that match the criteria.

Popup template is having various properties like actions, content, title and so on. Based on dependency 2 properties content and title have been used in current work.

Content: It can be accessed in five different ways namely content, string, function, promise, auto cast. In the existing work it has been used in string format.

The content property can be accessed in different ways i.e. attribute fields can be assigned one or multiple at a time.

Ex content: "CLASS:{CLASS}
 POP2000: {pop2000}
 ObjectID:{OBJECTID}"

In the output (Figure 4) user will be able to see the information reg only the attribute data mentioned in content section. If the user wants complete attribute data to be displayed "*" is used.

Ex content: "{*}".

In figure 5 total information of attribute data is displayed on the output screen, the only difference between figure 4 and 5 is in figure 4 only few properties like class, pop 2000 and object ID is getting displayed where as in figure 5 total attribute data is getting displayed because of "*".

String: A pop-up's content can be a easy text or string value indicating field values or Arcade expressions. Expressions must be defined in the expression-info's property.

Title: Title can be accessed in three different ways namely string, function, promise. In the current paper Title has been used in string format.

Ex title: "Information in {AREANAME}". In the output (Figure 4) user can able to see the title in the prescribed format i.e. information in Bangor. Whereas AREANAME is the attribute data associated with user selection on Image layer.

DISCUSSION

The below (Figure 1) represents a sample base map displayed using Arc-GIS server API environment. Here in the code the view set was "streets". Rather different qualities can likewise be utilized like satellite, hybrid, etc for changing the subject.
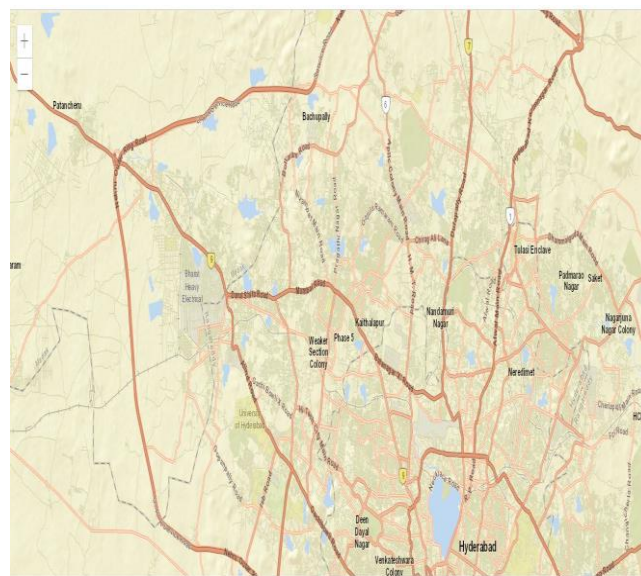

Figure 1: Base map of latitude longitude provided by user.

The below (Figure 2) represents complete layers of vector data, All the layers are accessed at a time using the map image layer. The Map Image layer is assumed to be parent of feature layer. In the above output it contains three distinct layers like point information, line information and furthermore polygon information.
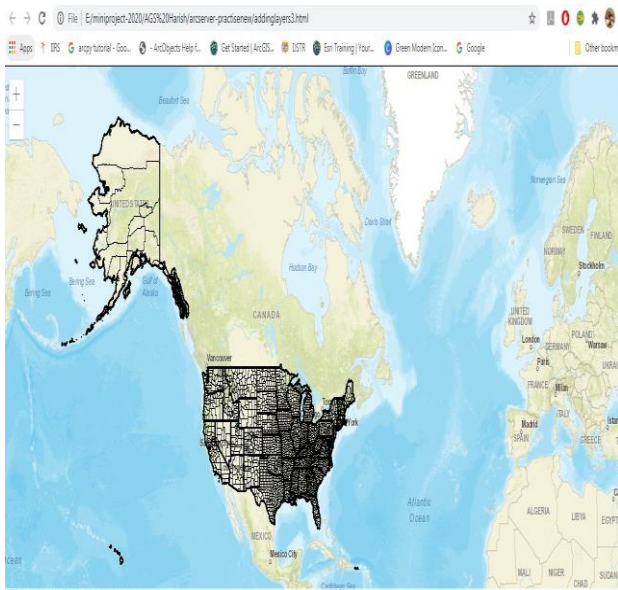
Figure 2: Map image layer containing all the 3 layers of sample census data.

The below (Figure 3) represents the polygon layer of census data. Correspondingly portrayal of different layers like line and point information utilizing Feature layer is possible. Feature layer speaks to single layer at once.
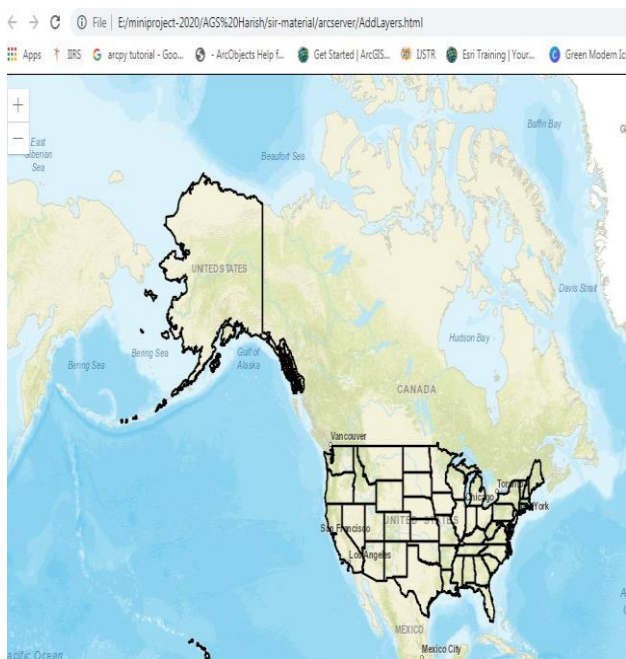

Figure 3: Feature layer containing layer 3 of sample census data.

The below (Figure 4) uncovers that when one the element is chosen its details will be shown in a little window this is attained utilizing popup template reference. As the issue with Query task is additional time utilization for knowing the details of highlight feature, it can be diminished with popup layout.
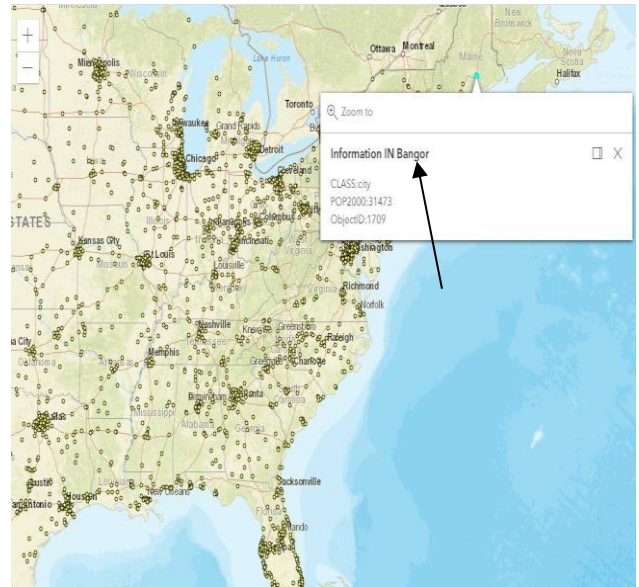

Figure 4: Popup template for displaying the feature information.

The below (Figure 5) gives complete attribute details of user selection because of "*" value assigned to content property.
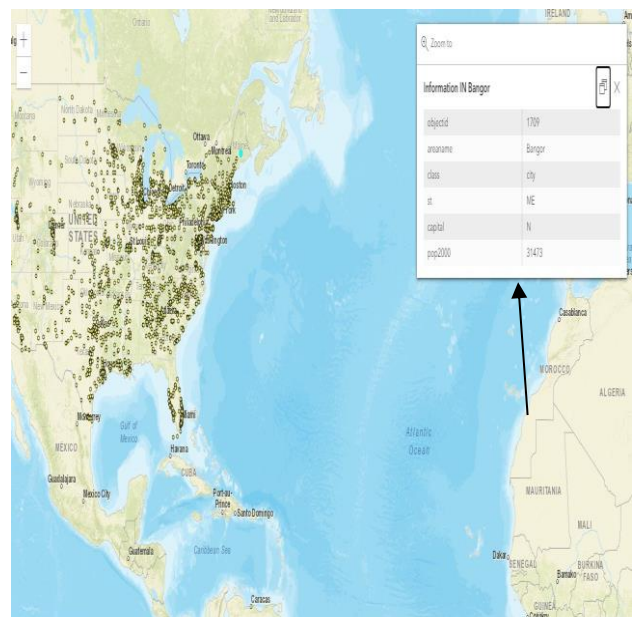

Figure 5: Popup template for displaying the complete feature information.

CONCLUSION

Popup-template is utilised for exhibiting the details of selected features based on the zoom level provided by the user. Popup-layout is utilized for getting the details of any vector information utilizing a solitary snap on the chose highlight. The properties of popup template i.e. content or Title have been used on the dependency of the user.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Harish B, Dwiwedi RS. Exhibiting of geospatial attribute data using popup template Java-script application programming interface**.** Int J Sci Rep 2020;6(12):532-6.