**Google Maps Address Standardization Widget**

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# Document Revisions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date | Author(s) | Change log | Affected sections | Document version |
| 05/08/2020 | Noirita Bera | Creation | All | 1.0 |

# Problem statement /use case

A new complex datatype ‘*GoogleMapsAddress*’ is part of BasicTypesDataModel. This custom widget can be used in order to implement Address standardization using Google Address API on a single record creation or modification by manual intervention. This custom widget supports addresses around the globe, supported by Google.

This is a custom widget of a complex group of the following four different components

1. Autocomplete free text box
2. Set of location component fields
3. Standardize button
4. Google Map

# UI Components

A screenshot of a computer

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## Component 1:

This component is called Autocomplete free text box. The purpose of this component is to provide user a free text box where user types in the location address and gets get the best match results. The best match results are region and language biased. A user from New York area, typing in an address starting with ‘100 Broadway’ will get 100 Broadway, New York, NY, USA as the first match result whereas an user from Australia, typing in the same will get 100 Broadway, Bonbeach VIC, Australia as the first match result.

The idea is user will type in location address and select the correct address from the best matched results. On selection, fields under Component 2 will get auto-populated. Also, the Component 4 Google Map will display the selected location. Component 2 and Component 4 changes upon user’s address selection.

A screenshot of a cell phone

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## Component 2:

This component is called Location component. Not all addresses around the globe have street address, city, region etc. location component fields. There are certain countries like Bahamas, Fiji which do not have postal code, some of the countries do not have State/Province, some addresses do not have street number or street address but intersection. In order to support various addresses Address Standardization custom widget has been modeled to capture the extreme level of location components.

|  |  |  |
| --- | --- | --- |
| **Field** | **Purpose** | **Data type** |
| Number | This field indicates the precise street number. | BaseString(Free text) |
| Street | This field indicates a named route (such as "US 101"). | BaseString(Free text) |
| Premise | This field indicates a named location, usually a building or collection of buildings with a common name. | BaseString(Free text) |
| Intersection | This field indicates a major intersection, usually of two major roads. | BaseString(Free text) |
| Neighborhood | This field indicates a named neighborhood. | BaseString(Free text) |
| Sub Locality | This field indicates a first-order civil entity below a locality. | BaseString(Free text) |
| City/Town | This field indicates an incorporated city or town political entity. | BaseString(Free text) |
| County | This field indicates a lower-order civil entity below the country level. Within the United States, these administrative levels are counties. Not all nations exhibit these administrative levels. | BaseString(Free text) |
| State/Province**\*\*** | This field indicates a first-order civil entity below the country level. Within the United States, these administrative levels are states. Not all nations exhibit these administrative levels. In most cases, this will closely match ISO 3166-2 subdivisions and other widely circulated lists; however this is not guaranteed as our geocoding results are based on a variety of signals and location data. | BaseString(Free text or FK reference) |
| Postal Code | This field indicates a postal code as used to address postal mail within the country. Some countries like Fiji, Bahamas do not use postal code. | BaseString(Free text) |
| Country**\*\*** | This field indicates the national political entity. | BaseString(Free text or FK reference) |
| Latitude | This field indicates latitude of the location. | BaseString(Free text) |
| Longitude | This field indicates longitude of the location. | BaseString(Free text) |
| Formatted | This field indicates the human-readable address of this location. | BaseLongString |

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## Component 3:

This component is called Standardize functionality. Customer may have partial address data while initial loading, later a user may enrich a record by adding some address component values manually. On clicking Standardize button, this feature internally concatenates the location component fields value intelligently and display it Autocomplete Free Text field and if the address has matching results from Google, those best match results will be displayed. User can select the accurate address and on selection, this custom widget will again auto populate all the location component fields.

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## Component 4:

This component dynamically populates the location address. Map gets loaded upon each user address selection.

A close up of a map

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# Configuration

1. Include BasicTypesDataModel.xsd in your data model where you want to use the widget
2. Register com.orchestranetworks.ps.googlemaps.widget.AddressStandardizationWidgetFactory inside component library, make sure to enable the google\_api parameter, set the label as 'Google Maps Address Standardization Widget'
   1. Create a group of data type ‘GoogleMapsAddress’, group name can be client specific, it is independent of custom widget name
   2. Select Google Maps Address Standardization Widget in the widget section under Advanced Properties of the Address group you created in step no. 3.a
   3. Provide client specific google\_api key value.
   4. Set the access properties as Read & Write
   5. This group can be displayed inline or as a separate tab.

# How to make Region and Country fields as FK reference

You may need to create Country and Region table in Global reference data set\*\*. In the BasicTypesDataModel.xsd modify Country and Region fields of GoogleMapsAddress complex group, set their corresponding FK Constraint fields under Advance Controls in order to make them FK fields. Publish BasicTypesDataModel and also publish the data models which are using BasicTypesDataModel as one of their included data models.

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Custom Widget Location Component:

Both Region and Country are now FK fields.

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**\*\***Limitations of making Region and/or Country fields as FK reference:

Country code(PK) and Region Code(PK) values must be in the same format of Google address. Google follow ISO 3166-1 alpha-2 standard for Country codes and ISO 3166-2 format for Region code.