## Social Media Data Representation:

Overview: To enable the web application to parse the social media public reviews into the application database global schema, an interpretation of the representation of the public review data is required. In this example of http request response from Google place API search (https://developers.google.com/places/documentation/details#PlaceDetailsResponses)

Data Representation: Data entry is required to indicate how the response data are to be represented in the database. From this Google place search example, Table-1 (Database – Public posting data relationship) shows how the data element equivalent in the database. Response data will not be stored for any attribute which does not have an equivalent representation.

## Place Details Responses From <a href="https://developers.google.com/places/documentation/details#PlaceDetailsResponses">https://developers.google.com/places/documentation/details#PlaceDetailsResponses</a>

"Place Details responses are returned in the format indicated by the output flag within the request's URL path."[1]

There are 3 top level, root nodes: html\_attributions, result, and status. We are interested in the "result" node. The "result" node is a parent node to other nodes, and can be represented by the graph on the left hand side.

```
long_name, short_name, types
                                                                                          Address_components
   "html attributions" : [],
   "result" : {
      "address_components" : [
                                                                                                                       Event_id, start_time, summary, url
                                                                                          events
         { "long name" : "48",
            "short name" : "48",
            "types" : [ "street number" ]
                                                                                          Formatted_address
         },
                                                                                          Formatted_phone_number
            "long_name" : "Pirrama Road",
            "short name" : "Pirrama Road",
            "types": [ "route" ]
                                                                                          geometry
                                                                                                                        location
                                                                                                                                           Lat, Ing
            "long name" : "Pyrmont",
            "short name" : "Pyrmont",
                                                                                          icon
            "types": [ "locality", "political" ]
                                                                                          id
            "long name" : "NSW",
            "short name" : "NSW",
            "types" : [ "administrative_area_level_1", "political" ]
                                                                                          International_phone_number
                                                                        Result
         },
                                                                                          name
            "long name" : "AU",
            "short name" : "AU",
            "types": [ "country", "political" ]
                                                                                          Place_id
            "long name" : "2009",
                                                                                          scope
            "short name" : "2009",
            "types" : [ "postal_code"
                                                                                          Alt_ids
                                                                                                                          Place_id, scope
      ],
      "events" : [
                                                                                          rating
          "event id" : "91J jK1GfhX",
          "start time" : 1293865200,
                                                                                          reference
          "summary" : "A visit from author John Doe, who will read from his latest
                       A limited number of signed copies will be available.",
                                                                                                                          aspects
                                                                                                                                             Rating, type
          "url" : "http://www.example.com/john_doe_visit.html"
                                                                                          reviews
                                                                                                                          Author_name
      "formatted address": "48 Pirrama Road, Pyrmont NSW, Australia",
                                                                                          types
                                                                                                                          Author_url
      "formatted phone number": " (02) 9374 4000",
                                                                                          url
      "geometry" : {
                                                                                                                          language
         "location" : {
           "lat" : -33.8669710,
                                                                                          vicinity
           "lng" : 151.1958750
                                                                                                                          rating
                                                                                          website
      "icon" : "http://maps.gstatic.com/mapfiles/place_api/icons/generic_business-71.k
                                                                                                                          text
      "id": "4f89212bf76dde31f092cfc14d7506555d85b5c7",
                                                                                                                          time
      "international phone number": " +61 2 9374 4000",
      "name" : "Google Sydney",
      "place id" : "ChIJN1t tDeuEmsRUsoyG83frY4",
      "scope" : "GOOGLE",
      "alt_ids" : [
            "place id" : "D9iJyWEHuEmuEmsRm9hTkapTCrk",
            "scope" : "APP"
      ],
      "rating" : 4.70,
      "reference" : "CnRsAAAA98C4wD-VFvzGq-
KHVEFhlHuy1TD1W6UYZw7KjuvfVsKMRZkbCVBVDxXFOOCM108n9PuJMJxeAxix3WB6B16c1p2bY1ZQyOrcu1d9247xQhUmPqYjN37JMo5QBsWipTsnoIZA9yAzA-
OpnxFM6yAcDhIQbU0z05f3xD3m9NQnhEDjvBoUw-BdcocVpXzKFcnMXUpf-nkyF1w",
      "reviews" : [
        {
            "aspects" : [
                  "rating" : 3,
                  "type" : "quality"
            "author name" : "Simon Bengtsson",
            "author url": "https://plus.google.com/104675092887960962573",
            "language" : "en",
```

```
"rating" : 5,
         "text": "Just went inside to have a look at Google. Amazing.",
        "time" : 1338440552869
     },
        "aspects" : [
             "rating" : 3,
             "type" : "quality"
         "author_name" : "Felix Rauch Valenti",
         "author_url" : "https://plus.google.com/103291556674373289857",
        "language" : "en",
        "rating" : 5,
        "text" : "Best place to work :-)",
         "time" : 1338411244325
       "aspects" : [
          {
             "rating" : 3,
             "type" : "quality"
         ],
         "author_name" : "Chris",
        "language" : "en",
        "rating" : 5,
         "text" : "Great place to work, always lots of free food!",
        "time": 1330467089039
  ],
   "types" : [ "establishment" ],
   "url" : "http://maps.google.com/maps/place?cid=10281119596374313554",
   "vicinity" : "48 Pirrama Road, Pyrmont",
   "website" : "http://www.google.com.au/"
"status" : "OK"
```

To integrate to the application database attributes, each relevant attribute element is mapped from the hierarchy of the nodes from the graph. To denote the hierarchy of the relationship, parent node precedes the child node. Each parent-child pair is separated by a dot("."). See example below.

