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), there are 3 main attributes: html_attributes, result, and status (A,B in Fig 1, C in Fig 3). The result attribute consists of categories of data, which may also have subcategories, to be harvested.(See Fig 1, 2 & 3 for detail)

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.

Table-1: Database - Public posting data relationship.

	Social media data element		
Database attributes	equivalent representation		
Posting Commentor ID			
Posting Commentor Name	result.reviews.author_name		
Commentor TimeZone			
Posting TimeZone			
Commentor Language	result.reviews.language		
Total Posting Reviews			
Overall Rating	result.rating		
Rating By Commentor	result.reviews.rating		
Review Comment	result.reviews.text		
Review posted at:	result.reviews.time		
Commentor Location			

```
"html_attributions" : []
                                                    There are 3 attributes for
"result" : (
                                                    this response:
   "address components" :
                                                       A. html_attributes
          "long_name" : "48",
         "short_name" : "48",
                                                       B. result
          "types" : [ "street_number" ]
                                                       C. Status
      },
          "long_name" : "Pirrama Road",
                                                 There are 15 categories under the
         "short_name" : "Pirrama Road",
                                                 result attribute. There may be
          "types" : [ "route" ]
                                                 arrays of subcategories under each
      },
                                                 category:
          "long_name" : "Pyrmont",
         "short_name" : "Pyrmont",
                                                 1. address_components
         "types" : [ "locality", "political" [long_name, short_name, type]
      },
          "long_name" : "NSW",
         "short name" : "NSW",
          "types" : [ "administrative_area_level_1", "political" ]
      },
          "long_name" : "AU",
         "short_name" : "AU",
          "types" : [ "country", "political" ]
      },
          "long name" : "2009",
         "short_name" : "2009",
         "types" : [ "postal_code" ]
      }
```

```
"events" : [
                                                       2. events[ [ event_id, start_time,
       "event id" : "9lJ jK1GfhX",
                                                       summary, url]]
       "start time" : 1293865200,
       "summary" : "A visit from author John Doe, who will read from his latest book.
                     A limited number of signed copies will be available.",
       "url" : "http://www.example.com/john doe visit.html"
     }
   ],
   "formatted address": "48 Pirrama Road, Pyrmont NSW, Australia",
   "formatted phone number" : "(02) 9374 4000",
                                                     3. formatted address
   "geometry" : {
      "location" : {
                                                     4. formatted_phone_number
         "lat" : -33.8669710,
Fig 2: Google Place Detailed Search Response Sample – Part 3. geometry [location[lat, lng]]
   "icon": "http://maps.gstatic.com/mapfiles/place api/icons/generic business-71.png",
                                                         6. icon
   "id" : "4f89212bf76dde31f092cfc14d7506555d85b5c7",
   "international phone number": "+61 2 9374 4000",
                                                         7. id
   "name" : "Google Sydney",
                                                         8. international_phone_number
   "place id" : "ChIJN1t tDeuEmsRUsoyG83frY4",
                                                         9. name
   "scope" : "GOOGLE",
   "alt ids" : [
                                                         10. place_id
                                                         11. scope
          "place_id" : "D9iJyWEHuEmuEmsRm9hTkapTCrk",
                                                         12. alt_ids [ place_id, scope]
         "scope" : "APP"
      }
                                                         13. rating
```

```
"reviews" : [
     4
        "aspects" : [
              "rating" : 3,
              "type" : "quality"
           3
        "author name" : "Simon Bengtsson",
        "suthor_url" : "https://plus.google.com/104675092887980962573",
        "language" : "en",
        "rating" : 5,
        "text" : "Just went inside to have a look at Google. Amazing.",
        "time" : 1335440552569
                                                   15. reviews [ aspects [ rating, type],
     1.
                                                   author_name, author_url, language,
       "aspects" : [
                                                   rating, text, time]
          4
             "rating" : 3,
             "type" : "quality"
          3
         1.
        "author_name" : "Felix Rauch Valenti",
        "suthor_url" : "https://plus.google.com/103291556874373259557",
        "language" : "en",
        "rating" : 5,
        "text" : "Best place to work :-)",
        "time" : 1335411244325
     3.
       "aspects" : [
          4
             "rating" : 3,
             "type" : "quality"
          .
         1.
        "author_name" : "Chris",
        "language" : "en",
        "rating" : 5,
        "text" : "Great place to work, always lots of free food!",
        "time" : 1330467089039
     3
  1.
  "types" : [ "establishment" ],
  "url" : "http://maps.google.com/maps/place?cid=10251119595374313554",
  "vicinity" : "45 Pirrama Road, Pyrmont",
   "website" : "http://www.google.com.su/"
"atatua" : "CK"
```