

(caravelo (

Recruitment Assignments



The aim of this document is to provide relevant assignments, requiring moderate effort, to allow us to garner insight into a candidate's skill in particular IT areas.

It is the intention to spot and measure, or have a feeling with some confidence, a candidate's demonstration of the following aspects of knowledge:

- Critical and analytical thinking
- Abstract thinking
- Creativity
- Conceptual consistency
- Vision
- Communication ability
- Technical expertise
- Accuracy
- Perseverance

D002 - Market surveys API (Design)

Assignment

Design a beautiful REST API for our new Marketing Research System. Your design must comply with the key business requirements outlined below.

Deliverables

1. Executable system providing your proposed REST API (easy to run in Unix-based Workstations, e.g. OSX).
2. Test suite with visual feedback (could be text output) that demonstrates to us the proposed REST API capabilities.

Business Requirements¹

When Market Survey Results are seen as a commercial commodity the sourcing of Market Survey information is generally conducted in two phases:

1. **Providing information on available Market Surveys.** (This process can be seen to be similar to providing a catalogue of available products.) It is typically, but not always, initiated by a request for information on available Market Surveys. The request will provide information on the subject in which the requestor has an interest allowing the provider to find the most relevant Market Surveys. The provider will respond with information about the relevant Market Surveys available.
2. **Providing Market Survey results.** (This process can be seen to be similar to the actual ordering and delivery of a traditional product.) Typically, but not always, this process will be initiated by a request identifying the Market Surveys to be provided. When treating Market Survey Results as a commercial commodity, the request process is assumed to be fulfilled as part of the traditional Buy-Ship-Pay process and is thus not further elaborated in this document. The provider will respond by providing the results from the requested Market Surveys as ordered. The actual data to be provided may be in a variety of formats (documents, spreadsheets, data files, etc.). The delivery of this data is not further elaborated in this document.

Note → Providing Market Survey results falls outside the scope of this assignment, we reproduce it below only for contextual purposes.

¹ Taken from UN/CEFACT Business Requirements Specification - Sourcing of Market Survey Information, 2007

Provide Information on Available Data on Market Surveys

The Provide information on available Market Surveys process allows the Information Requester to send a request message (Request for information on available Market Surveys) to the Information Provider asking for information on Market Surveys available from the Information Provider. The request will provide information on the subject in which the Information Requester has an interest allowing the Information Provider to find the most relevant Market Surveys.

The process further allows the Information Provider to respond with information about the relevant Market Surveys he may provide and the conditions under which they are available.

Business process	Provide Information on Available Data on Market Surveys
Actors	Information Requester Information Provider
Description	<p>The Information Requester initiates the process by defining his need for Market Survey information.</p> <p>Based on his needs he will establish a Request for Information on Available Market Surveys Message and send this to the Information Provider.</p> <p>The Information Provider receives the Request for Information on Available Data on Market Surveys Message and evaluates the request against Market Surveys available.</p> <p>The Information Provider provides his response in the form of an Information on Available Data on Market Surveys Message.</p>
Post-conditions	The Information Requestor has received a valid Information on Available Data on Market Surveys Message.
Exceptions	Based on prior agreements the Information Provider may send an Information on available Market Surveys message to Information Requester(s) without having received a request message.
Remarks	Identical request messages may be sent to several providers, in which case several instances of the process will run simultaneously

Example Request Message

```
{
  "requester": {
    "id": "CVO",
    "name": "Caravelo"
  },
  "provider": {
    "id": "TGI",
    "name": "Kantar"
  },
  "survey": {
    "subject": 81111600,
    "target": {
      "gender": "M",
      "age": [30, 60],
      "income": {
        "currency": "EUR",
        "range": [20000, 40000]
      }
    }
  },
  "country": "ES"
},
"subscription": {
  "frequency": "weekly",
  "channel": [
    "postal", "mail", "api", "ftp"
  ]
}
}
```

This request for information is purely indicative, it is not a requirement, you can modify as you see fit.

However, the example assumes that your identity is already registered in the system and you already have all the required data for the delivery (e.g., endpoint http).