**Diagnostic Scenario relationships for application architecture**

A *Diagnostic Scenario* is comprised of the following *elements*:

(A) Question <> (B) Statement > (F) Attributes

(C) Sub Question <> (B) Statement > (F) Attributes

(D) Question Variant <> (B) Statement > (F) Attributes

(A,C,D) Questions <> (E) Statement Variant > (F) Attributes

Elements defined:

1. Question – This is a simple question that can stand independently without supporting questions.
2. Statement – This is a simple statement that is independent. Statements are formed from questions and are only related to the question from which it is formed.

1. Sub Question – This is a simple question that is predicated on the response to a prior question. It carries if/then logic from the parent or *principal* question.
2. Question Variant – This is a simple question that can stand independently without supporting questions. However, the question needs to be linked to a principle question for results interpretation because it asks the same question in a different way. This is necessary for testing and results interpretation. For instance, the case where you want to validate subject comprehension through response consistency.
3. Statement Variant - This is a simple statement that is independent. Statements are formed from questions and are only related to the question from which it is formed. However, there are cases where single Likert statements alone may provide too ambiguous of a response, and several similar statements may be required because of related ambiguity in the question. For instance, the case when one is trying to find the point or range on a scale that is non-binary. Another case would be audience dependant statements, for instance a statement asked in the first or second person to an internal (employee) user, but formed in the third person for and analyst (external) user. In these cases the reasoning could be driven by the formation of multiple discrete questions, however, maintaining additional questions in these circumstances are superfluous--in the instance of interview dialog a single question can be served whose related statement may require several variants in order to accommodate an automated diagnostic environment.
4. Attributes – These are simple criteria required for appropriate use of the question or statement in a variety of situational applications.

Test Design

Test Scaling

Test Scoring

* Scoring will be translated from the scale to a n-point color scale of red-yellow-green
* Need the ability to assign Red/Yellow/Green thresholds to each statement response
* Need the ability to correlate the answers to questions in a series to assign a macro

Test Results Interpretation

Test Reporting

Ongoing Data Operations Required:

Question Grooming Rules:

* The ideal question addresses a single point or issue, not multiple points or issues
* Nested questions should be converted to independent and unrelated whenever possible.

Statement Grooming Rules:

* Questions asking about a series of loosely related but independent aspects should be represented with statement variants to ensure questions are compact for dialog.

**Requirements:**

Serialization or Indexing

There is a need to track the “instance” of a discrete diagnostic scenario and its respective elements. For instance, today 100 questions are uploaded with 5 attribute settings, tomorrow 200 new are uploaded and 100 existing are uploaded with 10 new attributes added and 20 grammar changes to the questions themselves. There is a need to be able to uniquely identify and correlate diagnostic scenarios that exist in multiple databases.

For test scoring it may be necessary to link or correlate answers from different diagnostic scenarios. There needs to be a consistent point of reference in order to do this.

Uniquely identifying specific diagnostic scenarios and their respective elements is required for QA.

Diagnostic Scenarios

* + - * ***n*** is an integer with value from 1 to 10
      * ***m*** is an integer with very large upper value bound
      * For one Question(***A****)* there are ***n*** Variants(***D****)* of the question
      * For each ***A*** there are ***n*** related Sub Questions(***C****)*
      * For each ***A,C, and D*** there are ***n*** Statements(***B***)
      * For each ***B*** there are ***n*** Variants(***E***)
      * For each ***A,B,C,D and E*** there are ***m*** Attributes(***F***) applicable