

# DDI - Roundabout component

## What is the Roundabout?

The **Roundabout** questionnaire component enables a non linear navigation in questionnaires. For example, suppose we designed a questionnaire where we asks for the list of household members. Instead of looping sequentially through the individual subquestionnaires, the Roundabout allow to display the entry points to each individual questionnaires. We thus allow to start with any subquestionnaire and to go from one to the other during the response.

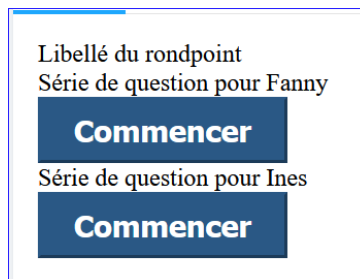


Figure 1: The Roundabout component in the Lunatic JS library

This document presents our design for this complex component using existing DDI elements.

## DDI elements

The main idea is to design the Roundabout as a **Loop** that contains a *Sequence* which itself contains a *StatementItem* and three *ComputationItems*, one for each Roundabout parameter:

```
Loop
  Sequence
    StatementItem
    ComputationItem[unnecessary]
    ComputationItem[partial]
    ComputationItem[complete]
```

## The Loop

This is a classic DDI Loop element but with a flavour: a specific *UserAttributePair* tagging the loop for further processing.

```
<d:Loop>
  <r:Agency>fr.insee</r:Agency>
  <r:ID>lbnp643q</r:ID>
  <r:Version>1</r:Version>
  <r:UserAttributePair>
    <r:AttributeKey>loopType</r:AttributeKey>
    <r:AttributeValue>roundabout</r:AttributeValue>
  </r:UserAttributePair>
  <d:ConstructName>
    <r:String xml:lang="fr-FR">B Rondpoint</r:String>
  </d:ConstructName>
  <d:ControlConstructReference>
    <r:Agency>fr.insee</r:Agency>
    <r:ID>lbnpayrw</r:ID>
    <r:Version>1</r:Version>
    <r:TypeOfObject>Sequence</r:TypeOfObject>
  </d:ControlConstructReference>
</d:Loop>
```

## The Sequence

The *Sequence* is a wrapper around the *StatementItem* and the *ComputationItems*.

```
<d:Sequence>
  <r:Agency>fr.insee</r:Agency>
  <r:ID>lbnpayrw</r:ID>
  <r:Version>1</r:Version>
  <d:ConstructName>
    <r:String xml:lang="fr-FR">RONDPOINT</r:String>
  </d:ConstructName>
  <d:ControlConstructReference>[StatementItem]</d:ControlConstructReference>
  <d:ControlConstructReference>[ComputationItem]</d:ControlConstructReference>
  <d:ControlConstructReference>[ComputationItem]</d:ControlConstructReference>
  <d:ControlConstructReference>[ComputationItem]</d:ControlConstructReference>
</d:Sequence>
```

## The StatementItem

The *StatementItem* holds the display information of the Roundabout component itself - its title. Once again, we use an in-house *UserAttributePair* for marking this for processing.

```
<d:StatementItem>
  <r:Agency>fr.insee</r:Agency>
  <r:ID>LABEL_ET_BOUTON</r:ID>
  <r:Version>1</r:Version>
  <r>UserAttributePair>
    <r:AttributeKey>display</r:AttributeKey>
    <r:AttributeValue>roundabout-title</r:AttributeValue>
  </r>UserAttributePair>
  <r:Label>
    <r:Content>Le libellé au-dessus du bouton</r:Content>
  </r:Label>
</d:StatementItem>
```

## The ComputationItems

Each subquestionnaire are associated with a completion parameters:

- is the subquestionnaire unnecessary? (ie we filter it)
- is the subquestionnaire partially filled?
- is the subquestionnaire complete?

In order to describe these completion parameters we use three `<d:ComputationItem>` that hold the corresponding code (here we use VTL). For example here, for the unnecessary Lunatic parameter:

```
<d:ComputationItem>
  <r:Agency>fr.insee</r:Agency>
  <r:ID>lahvkp0z-CI-0</r:ID>
  <r:Version>1</r:Version>
  <d:ConstructName>
    <r:String xml:lang="fr-FR">roundabout-unnecessary</r:String>
  </d:ConstructName>
  <r>Description>
    <r:Content xml:lang="fr-FR">Rond-point - Les itérations à masquer.</r:Content>
  </r>Description>
  <d:TypeOfComputationItem controlledVocabularyID="INSEE-LUNATIC">roundabout-unnecessary</d:TypeOfComputationItem>
  <r:CommandCode>
```

```
<r:Command>
  <r:ProgramLanguage>vtl</r:ProgramLanguage>
  <r:CommandContent>AGE ;&lt; 13</r:CommandContent>
</r:Command>
</r:CommandCode>
</d:ComputationItem>
```

The *TypeOfComputationItem* value is from a controlled vocabulary with three items:

- roundabout-unnecessary
- roundabout-complete
- roundabout-partial