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| Title | Database for Classifications and Conversions (D12.2c) |
| Work Package | WP12 |
| Authors | GESIS |
| Dissemination Level | PU (Public) |

Summary/abstract

An illustrated user guide to the CharmCats database for classifications and conversions.



CharmCats Prototype

Preliminary Version

27th August 2009, Cologne

Version: 0.5

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Homepage: www.gesis.org

Illustrated User manual

The Workflow

Work with CharmCats starts with the login. On the basis of the login data, not only the access authorisation is checked, but also a list of unpublished projects is assembled.

Next the user has to decide if he wants to continue the work on a hitherto unpublished project or if he wants to start a new project.

To continue, the user selects *Open Project* from the Menu *Project*. In a later version of CharmCats a more direct access will be made available through the list of unpublished projects, which is shown on the upper part of the left sidebar.

A new project is started by first choosing *New* in the Menu *File* and then *Project*. In the following wizard the user has to enter some basic project relevant information.

On the first page, a temporary project name is to be entered and the type of project has to be chosen. On the next page, a predefined concept can be selected from a list (sorted by name and definition), authors and references chosen or new entries added. At the third and last page the type of measurement (Classification/Scale) has to be selected.

In the present prototype version the workflow doesn't differ between Scales or Classification.

The workflow in the GUI is sequentially, starting with the Conceptual Step and ending with the Data Re-coding Step. So there has to be a Conceptual Step first, created by the author as part of the actual project or imported from another project and either used unchanged as a common basis or adapted to the need of the project in work.

Components like Dimensions, Categories, Indicators and Variables are added through the use of context menu. Dimensions and Categories may be added at the Conceptual Step Layer, Indicators are to be added at the Operational Step and Variables are added at the third and last step called Data Re-coding.

At the Conceptual Step a Universe must be defined. This is done through the use of the context menu by Right mouse clicking: *Create universe*. In the resulting three-step dialogue, a complex structure is created, which holds information regarding geographical units, time units and population groups.

There is only one *Layer* (fixed structure of dimensions represented as diagrams) at the Conceptual Step (CS), but there may be more than one *Layer* on the following steps of Operational (OS) or Data Re-coding (DRS). Each of those Layers represents a subset of the universes defined on the Conceptual Layer. These subsets are added to the particular Layers again through the use of context menu. Analogous to the Conceptual Step the universe is defined, however the selection is restricted to these universe elements which were chosen on the preceding layer. In version 0.5, a Data Re-coding layer inherits the subset from his "parent" Operational Layer and does not allow a change.

Operational Layers are created by the use of context menu at the Operational Step. Data Re-coding Layers are created by the use of context menu at the Operational Layer, the Data Re-coding is based on; This means that the diagram structure is copied from the (OS) to the (DRS). To make the workflow more intuitive, it is planned to move the context menu call to create Operational Layers from the Operational Step to the Conceptual Layer.

By creating the new Layer, the Components of the preceding Layer are copied to the new Layer.

Additional properties of Components are added und looked after by the use of context menu or through the tables located at the lower tabbed pane. The list of properties includes common ones like Definitions, Comments but also special one like Type, Specifications and Values, where the latter two are also Components of their own right.

The graph structure is built in two different ways:

- (1) Specifications connect Nodes in the graph structure. Each source node has specifications that are *applied* on other nodes and thus “connect” a Dimension with another Dimension or a Category. This is done by context menu on the “parent” Dimension.
- (2) On the other hand Indicators and Variables are *assigned* to a Dimension, also by context menu on the Dimension (Indicators or Variables do not directly connect to each other via node edges within the graph).

The Result of the work can be saved by selecting *Save* from the Menu *Project*. It can be exported as a graphic file in jpeg-Format by the use of context menu on the selected Layer (*Export Layer as...* followed by *Image*) which opens a Save-Dialogue. To print the graph use again the context menu (*Print Layer*) on the selected Layer. The Print-Dialogue opens.

All entered textual information can be reviewed at the Report-Tab, the last one from the upper tabbed pane. To print press the *Print*-Button, the *Save*-Button creates a file in html-Format. As with the graph(s) Print- and Save-Dialogue are used.

To review all information on a selected Component, look at the Object-Output, which is located between the lower tabbed Pane and the Status-Bar. In version 0.5 printing and saving the outputs of single objects are disabled.

User-Login

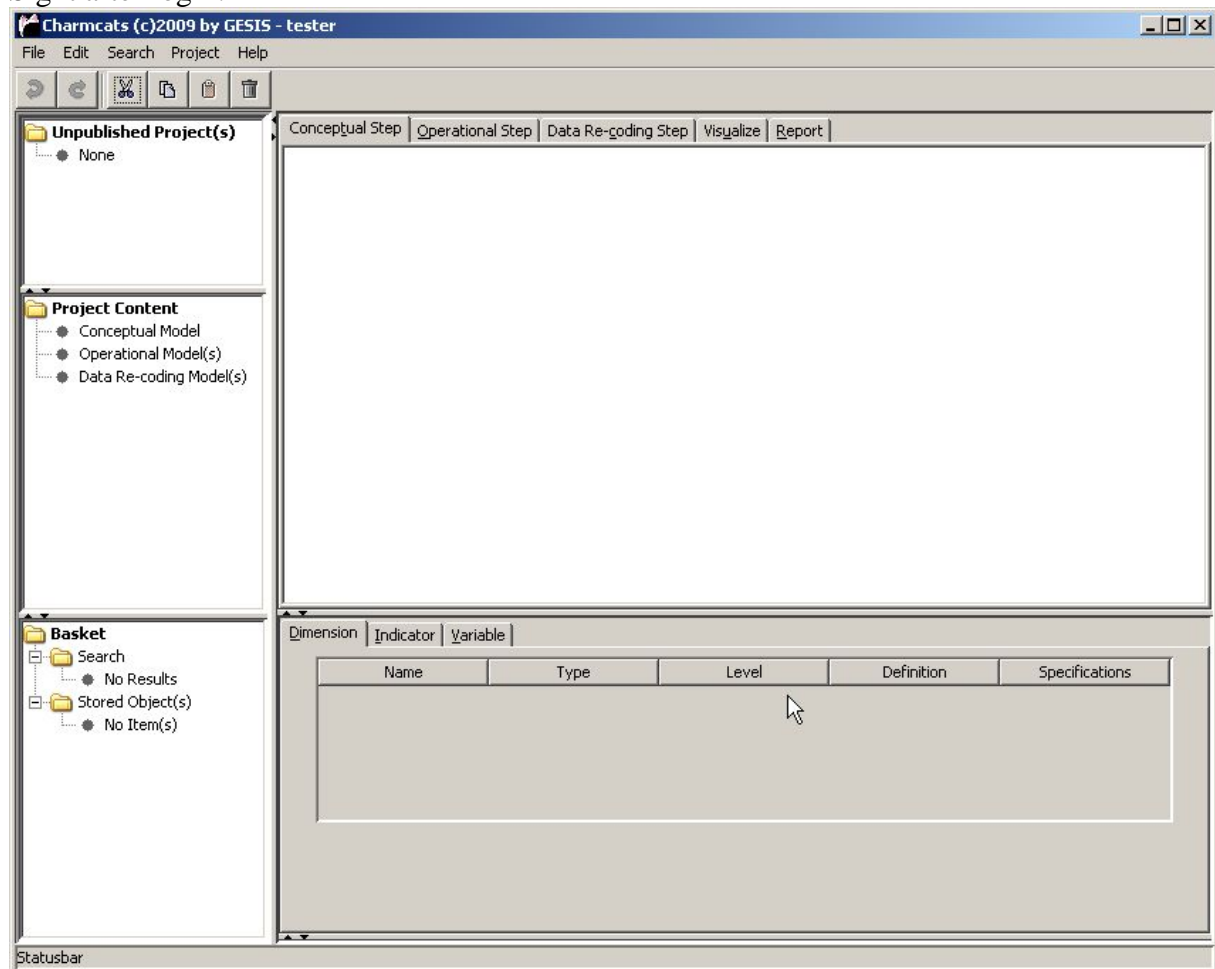
Sight after launch:



A small dialog box titled "Login" with a close button (X) in the top right corner. On the left is a blue question mark icon. To its right are two input fields: "Username:" followed by a yellow rectangular field with a cursor, and "Password:" followed by a white rectangular field. At the bottom are three buttons: "Login", "Cancel", and "Help".

The Application-Window

Sight after login:



The main application window titled "Charmcats (c)2009 by GESIS - tester". It features a menu bar (File, Edit, Search, Project, Help) and a toolbar with icons for navigation and file operations. The interface is divided into several panes:

- Left Pane:** Contains three sections:
 - Unpublished Project(s):** Shows a single item "None".
 - Project Content:** Shows a tree structure with "Conceptual Model", "Operational Model(s)", and "Data Re-coding Model(s)".
 - Basket:** Shows a tree structure with "Search" (containing "No Results") and "Stored Object(s)" (containing "No Item(s)").
- Top Tab Bar:** Includes tabs for "Conceptual Step", "Operational Step", "Data Re-coding Step", "Visualize", and "Report".
- Main Canvas:** A large empty rectangular area for visualization.
- Bottom Section:** Contains a sub-tab bar with "Dimension", "Indicator", and "Variable". Below this is a table with the following structure:

| Name | Type | Level | Definition | Specifications |
|------|------|-------|------------|----------------|
| | | | | |
- Statusbar:** Located at the very bottom of the window.

Components of the GUI

The Title-Bar:



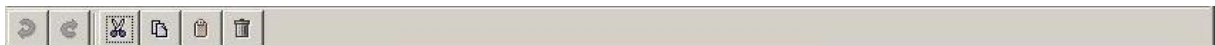
From left to right: Control-icon, application name, copyright and user-name.

The Menu-Bar:



From left to right: File-menu, edit-menu, search-menu, project-menu and help-menu.

The Tool-Bar:



From left to right: Undo, redo, cut, copy, paste, remove.

The Status-Bar:



As of version 0.5, this component is yet to be fully implemented.

The Side-Bar:

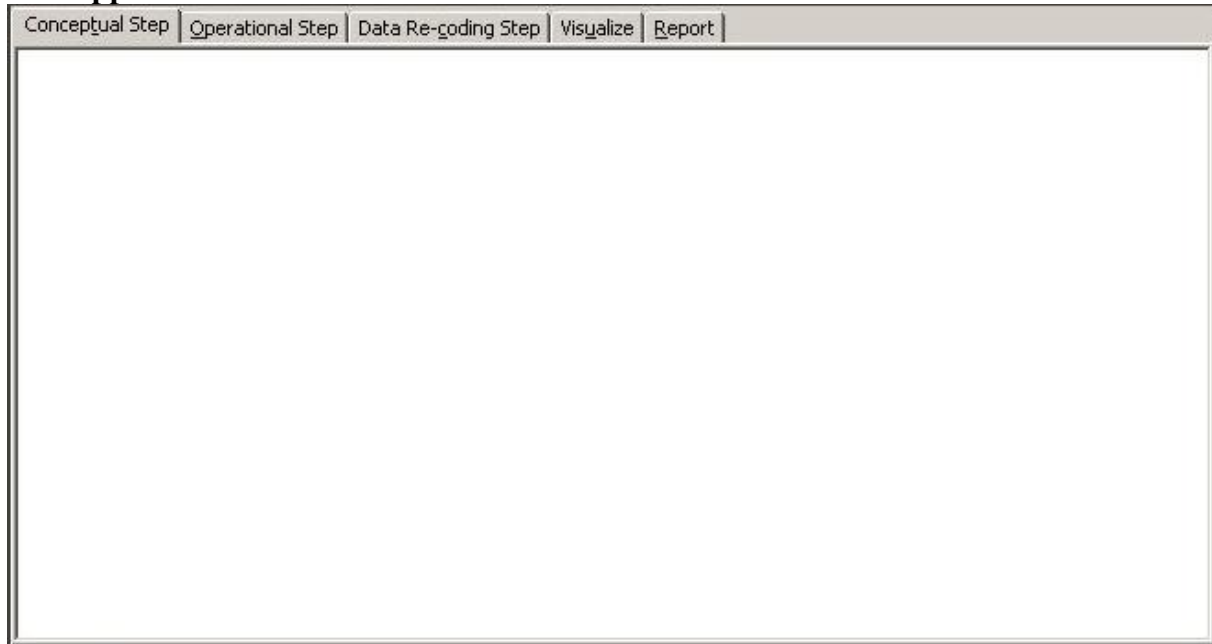


Description:

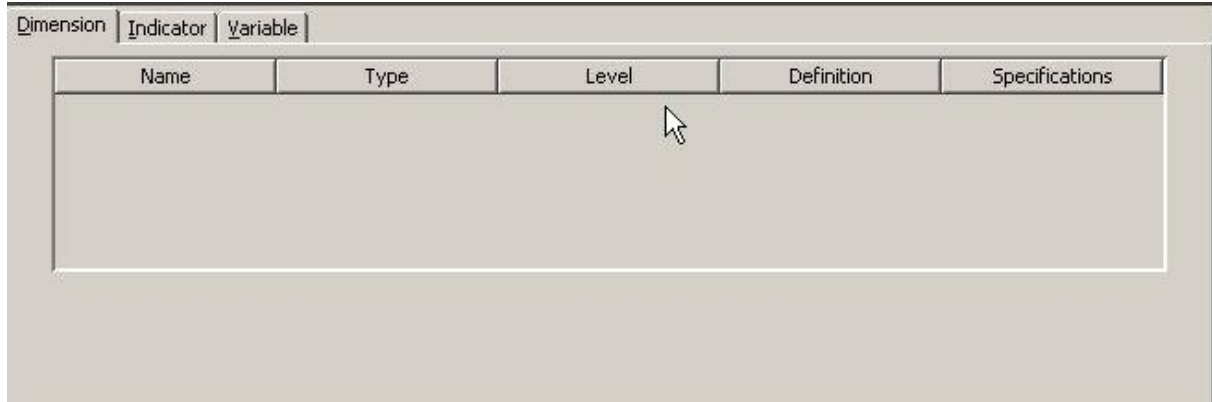
List of unpublished projects. The depth of this first tree is always 1, as there is only the root “**Unpublished Project(s)**” and either the list of projects or “None”.

List of declared or imported components used in the active project, like dimensions, categories, indicators or variables. The depth of this second tree is at most 3. There is the root “**Project Content**”, the nodes in the next level (“Conceptual...”, “Operational...” and “Data Re-coding...” are used to organize the components corresponding to the layer they were introduced on. “Operational...” and “Data Re-coding...” are further divided according to subsets of universes. Last there are the components themselves.

The content of the basket. (as of version 0.5, this component is yet to be implemented)

The Upper Tabbed-Pane:

From left to right: “Conceptual...”, “Operational...”, “Data Re-coding...”, Visualize (as of version 0.5, this component is not yet fully implemented) and Report. The first three panes are used to edit the graphs, “Operational...”, “Data Re-coding...” feature additional inner frames, according to subsets of universes. Report is used for the output.

The Lower Tabbed-Pane:

From left to right: Dimension, Indicator, Variable. Each Pane holds a table, which gives a compact presentation of the object properties (within each table created objects will be displayed in rows that can be sorted). Some information can be edited.

The Object-Output:

The Object-Output is located between the Lower Tabbed-Pane and the Status-Bar. At launch time it is hidden. The output of a *selected* component, like the one in the Report, is shown in this panel (Dim1).

Conceptual Step
Operational Step
Data Re-coding Step
Visualize
Report

Dimension
Indicator
Variable

| Name | Type | Level | Definition | Specifications |
|------|--------|-----------|-----------------------------|----------------|
| Dim1 | Source | Aggregate | This is a single-line De... | |
| Dim2 | | | | |
| Dim2 | | | | |

Label: Dim1 (ID: 78)

Type: Source

Level: Aggregate

Definition:

This is a single-line Definition Line #2 Line #3

Comment:

C1

C2

C3

Print

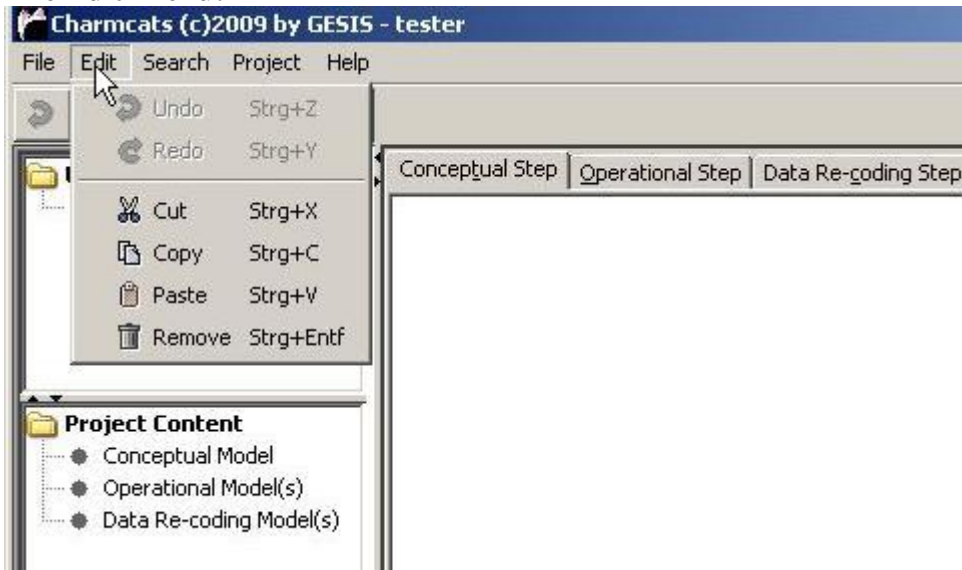
Components of the Menu-Bar

The File-Menu:

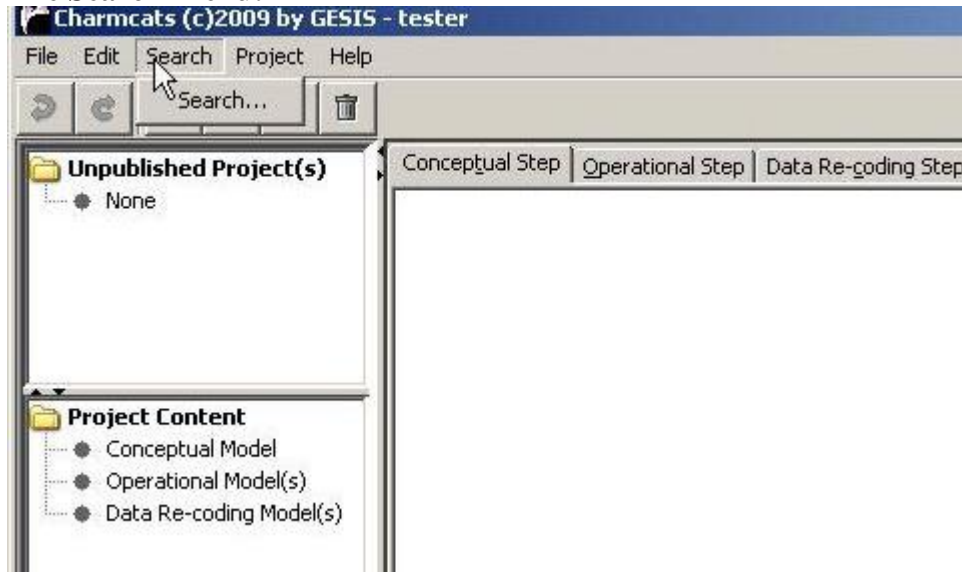


Top down: *New*, *Print* and *Exit*. As of version 0.5, the following components are yet to be implemented: *Open Basket*, *Close Basket*, *Close All*, *Clear Basket*, *Save*, *Save As...* and *Save All*.

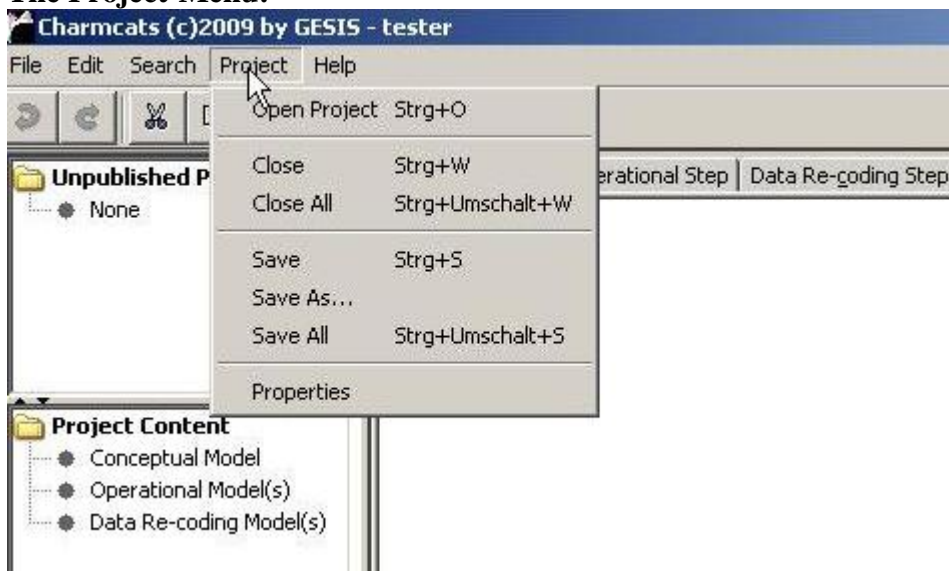
The Edit-Menu:



Top down: *Undo*, *Redo*, *Cut*, *Copy*, *Paste* and *Remove*.

The Search-Menu:

Top down: *Search...* (as of version 0.5, this component is yet to be implemented).

The Project-Menu:

Top down: *Open Project* and *Save*. As of version 0.5, the following components are yet to be implemented: *Close*, *Close All*, *Save As...*, *Save All*, *Properties*.

The Help-Menu:



Top down: *Help* (as of version 0.5, this component is yet to be implemented) and *About CharmCats*.

Components of the Tool-Bar

The Undo-Button:



The Redo-Button:



The Cut-Button:



The Copy-Button:



The Paste-Button:



The Remove-Button:



A Guided Tour through the workflow of CharmCats

In the following example a user called “tester” will show us how to handle CharmCats. He will create a harmonization project from the get-go and all three steps will show up.

This is only a fictional example, in which two Dimensions will be defined: Dim1 and Dim2. Dim2 will accept two inputs from Dim1, so we need the same Dimension twice. Dim1 possesses two Specifications, named Spe1-1 and Spe1-2, Dim2 four of them Spe2-1 , Spe2-2, Spe2-3, Spe2-4.

Four Categories will be defined: Cat1, Cat2, Cat3, Cat4. The Categories are connected with Dim2 (Dim2 via Spe2-1 with Cat1, Dim2 via Spe2-2 with Cat2 etc.).

Three Indicators will be assigned: Ind1, Ind2 and Ind2*.

Three Variables will be assigned: Var1, Var2 and Var2*.

User “tester” starts his work using CharmCats with a doubleclick on CCatsApp.jar. This launches the java-based CharmCats-Application. First, the Login-Dialogue is displayed:



The user “tester” enters his account data:



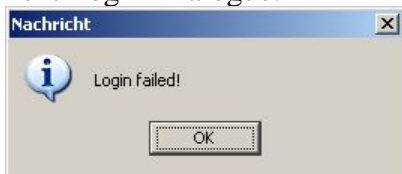
And finish the login process with a press on the „Login“-Button:



If username and password are registered in the database, the applications main window is opened and the user can start working. Otherwise an error message is shown:



After pressing the “OK”-Button, the Login-Dialogue is again ready to take the login data. The Login accepts three misses, after the last an additional error message is shown instead of the next Login-Dialogue:

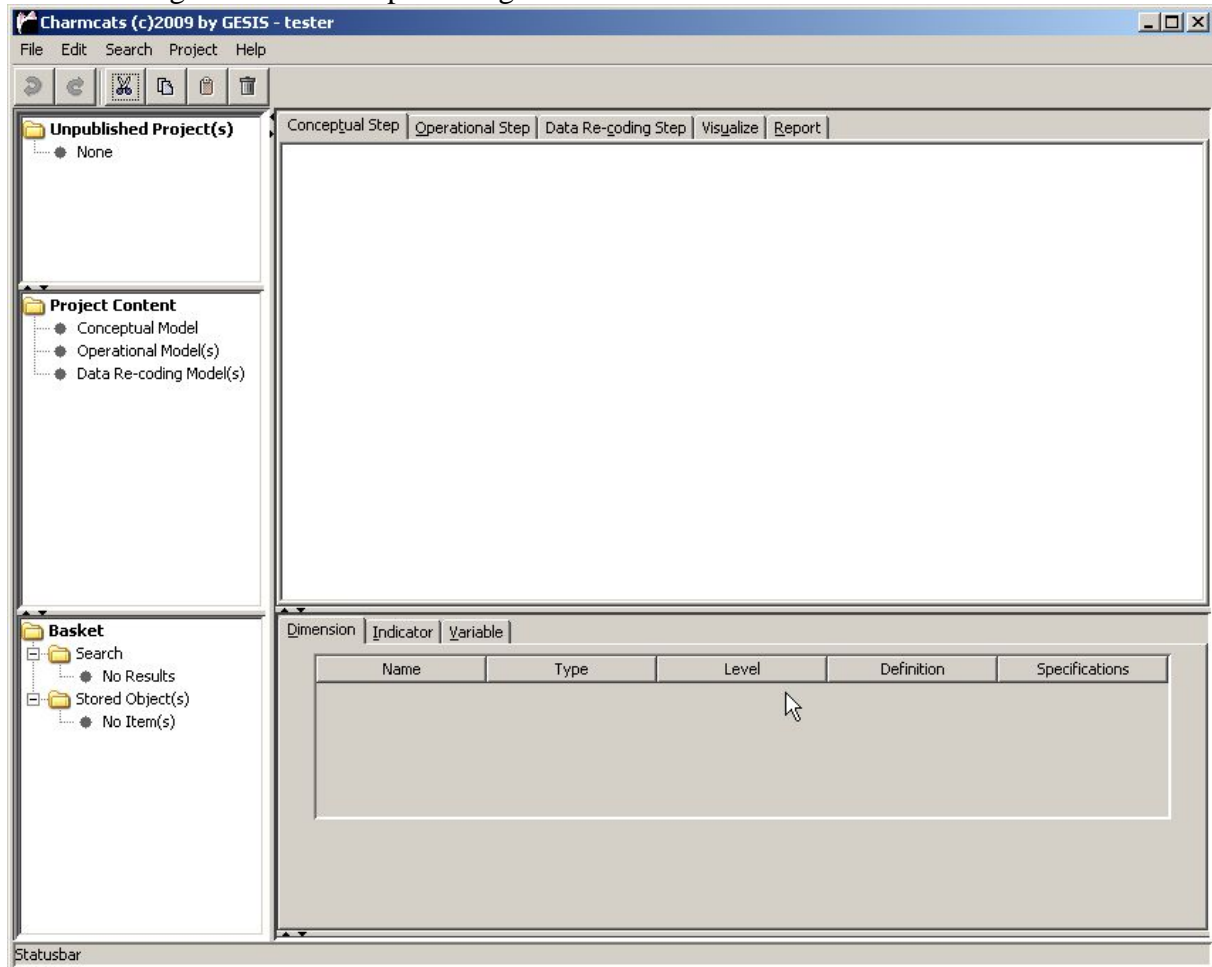


Pressing the “OK”-Button quits the Application.

Note:

- As one can observe, input elements with focus are painted in yellow. This is a standard in the application, thought to help the user.
- In version 0.5 the “Help”-Button is not implemented.

This is the sight after the completed login:



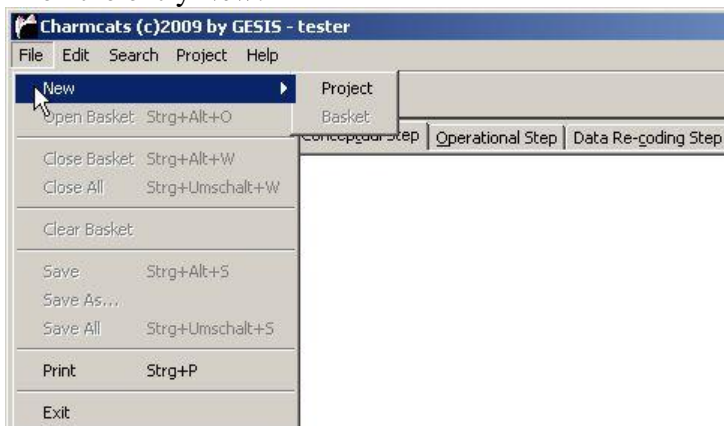
Note:

- In the Title-Bar the name of the logged user is shown on the right.
- As a new user there are no Unpublished Projects or Basket Contents. In case the user would have already saved a project or stored content in the basket in previous sessions, these items would have been shown after launch.
- Project Content is always empty after launch.

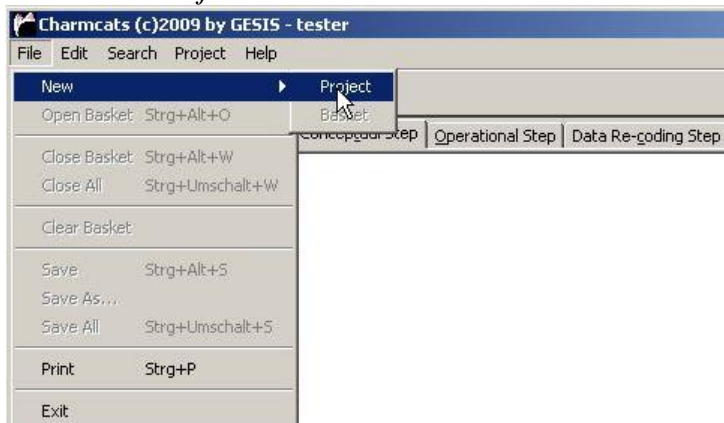
He starts his work with CharmCats with a new project. To do this he choose the Menu *File*.



Then the entry *New*.



And at last *Project*.



This invokes the New Project-Wizard:

The screenshot shows the 'Add new Project' wizard window. The title bar reads 'Add new Project'. On the left, a sidebar titled 'Arbeitsschritte' (Steps) lists three steps: 1. Project Name/Type, 2. Concept, and 3. Type of Measurement. The main area is titled 'Project Name/Type'. It contains a text box for 'Internal/Working Project Name:' with the word 'Test' entered. Below this is a section for 'Type of Project:' with three radio buttons: 'Harmonization' (selected), 'Documentation', and 'Conceptual Basis'. At the bottom, there are four buttons: '< Zurück', 'Weiter >', 'Fertig', and 'Abbrechen'. A mouse cursor is pointing at the 'Weiter >' button.

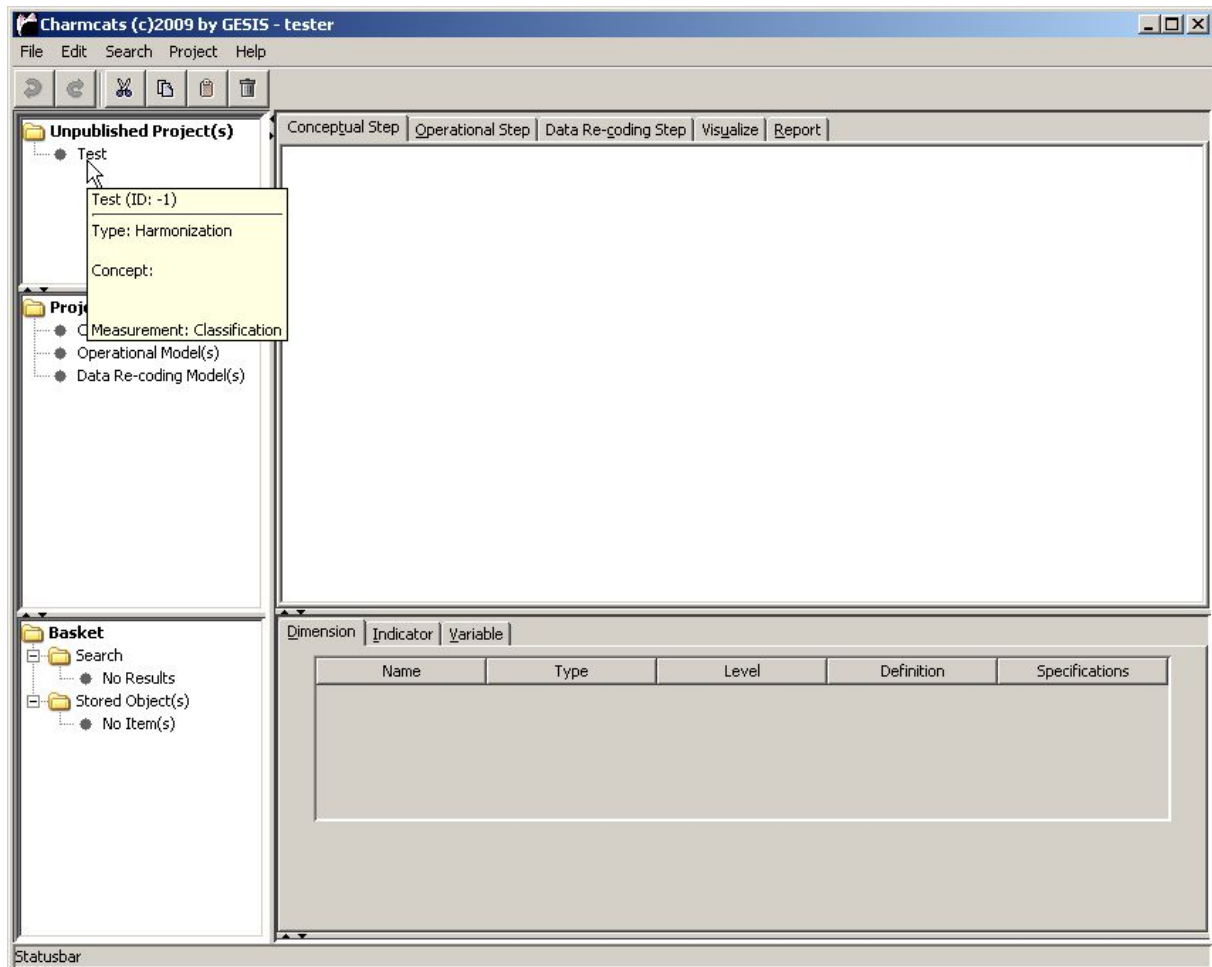
Next some information belonging to Concept, if available yet:

The screenshot shows the 'Add new Project' wizard window at Step 2: Concept. The sidebar on the left highlights '2. Concept'. The main area is titled 'Concept'. It contains a 'Concept / Definition:' section with a 'Concept:' text box and a 'Definition:' text box. Below this is an 'Author(s):' section with a dropdown menu showing 'A. Agache', a 'Delete' button, and 'Add' and 'New' buttons. At the bottom of this section is an 'Add' button. Below the author section is a 'Reference(s):' section with a dropdown menu showing 'Brockhaus', a 'Delete' button, and 'Add', 'New', and 'Delete' buttons. At the bottom of the window, there are four buttons: '< Zurück', 'Weiter >', 'Fertig', and 'Abbrechen'. A mouse cursor is pointing at the 'Weiter >' button.

And at last, he has to choose the type of Measurement:

The screenshot shows the 'Add new Project' wizard window at Step 3: Type of Measurement. The sidebar on the left highlights '3. Type of Measurement'. The main area is titled 'Type of Measurement'. It contains a 'Type of Measurement:' section with three radio buttons: 'Classification' (selected), 'Index', and 'Scale'. At the bottom of the window, there are four buttons: '< Zurück', 'Weiter >', 'Fertig', and 'Abbrechen'. A mouse cursor is pointing at the 'Fertig' button.

He ends with this:



Explanatory Note:

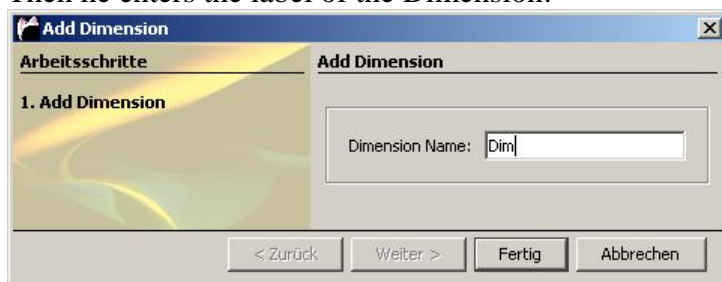
- In this Screenshot a Tooltip is shown. Tooltips are used in CharmCats as a quick way to present metadata information of the objects the mouse pointer is hovering over.

Next he has to enter all the parts of his harmonization project.

He starts with the Conceptual Step, to add a Dimension, he first opens the context menu from the Conceptual Layer and selects *Add Dimension*:



Then he enters the label of the Dimension:



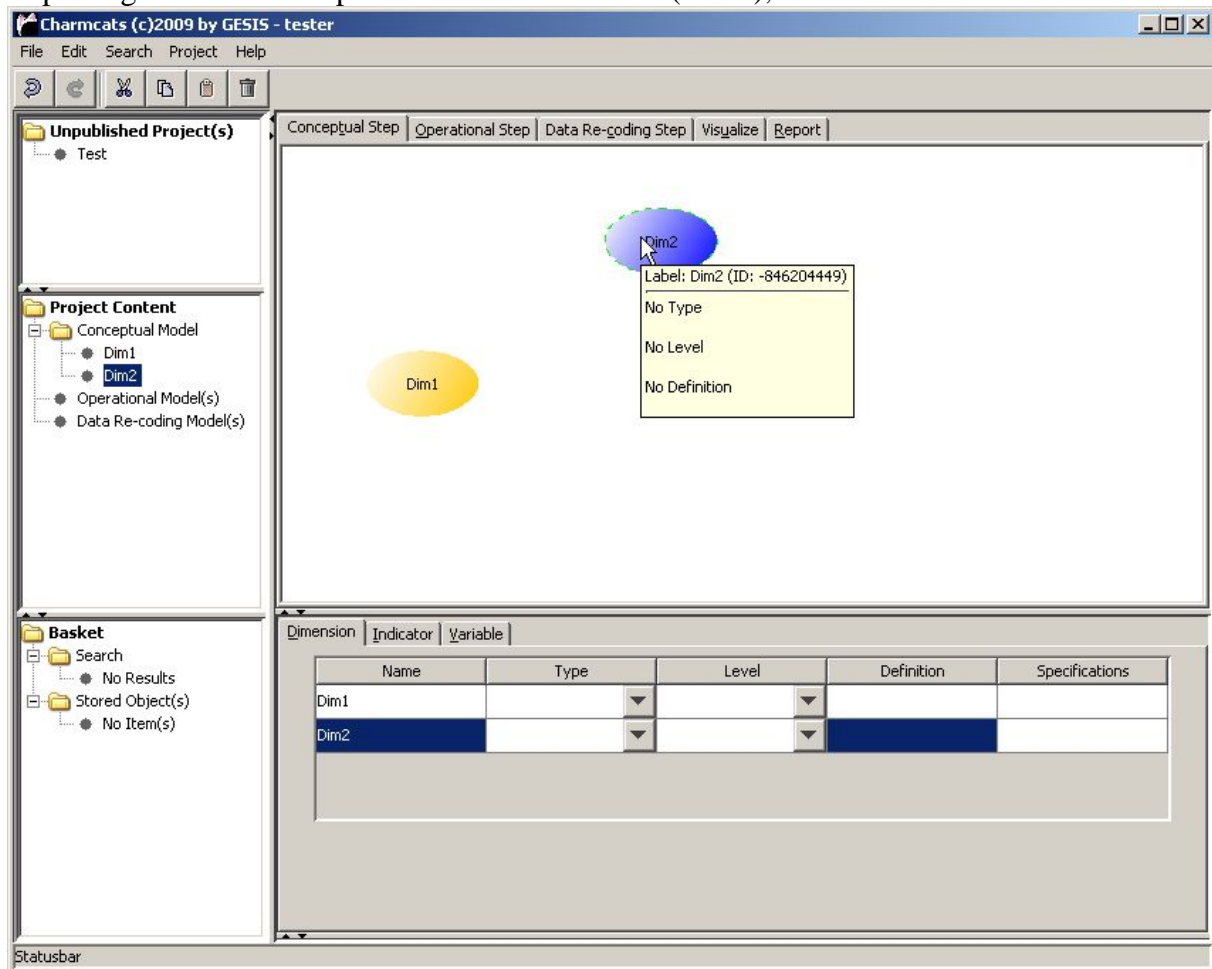
Note:

- In version 0.5 at this step you can only set the label of the Dimension. However, it will be checked if the label is unique in this project.

Special Note:

- Most interaction with the project will happen through the use of Context Menus. You can expect to use Context Menus on Jgraph-Objects, Tree-Leafs, Canvases or Tabbed Panes.

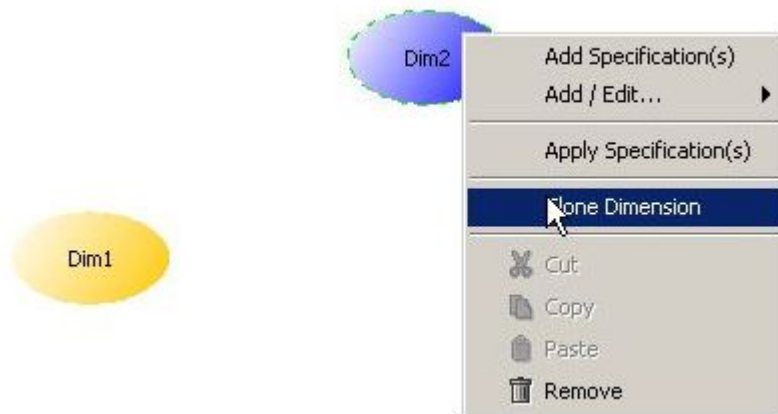
Repeating the two last steps for another Dimension (Dim2), he ends with:



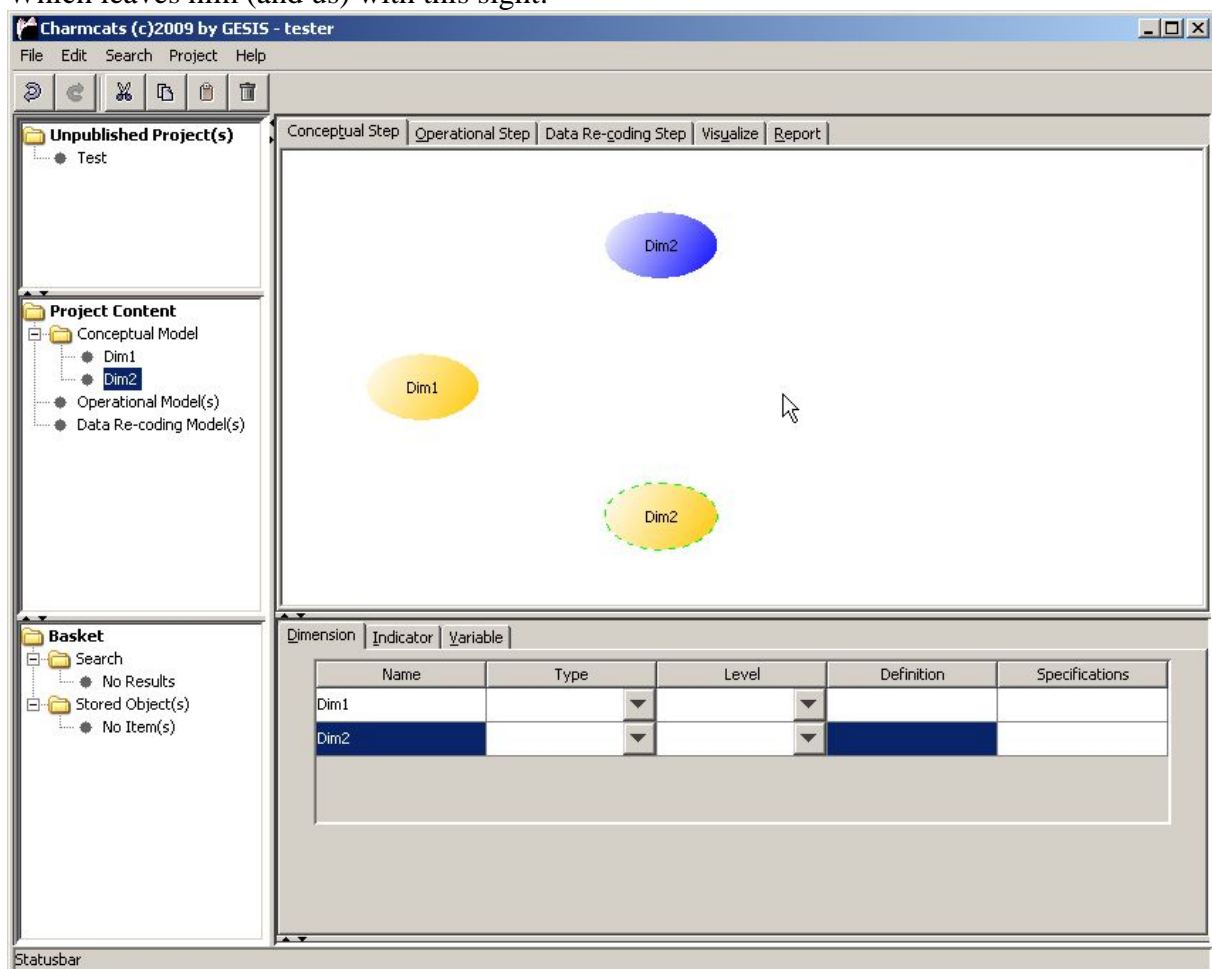
Note:

- Components like Dimensions, Categories, Indicators and Variables are shown on the Canvas as graphical objects, but also as leaves in the Project Content-Tree to the left and as rows in a Table below the Canvas.
- Graphical Objects are painted in yellow if unselected.
- Selected Objects are painted or marked in dark blue.
- Selection of a leaf of the Project Content-Tree or of a graphical object on the Canvas (within the Graph) leads to the display of selection in Graph, Project Tree and Table.

He needs Dim2 two times, so he clones the already existing Dim2. To do this, he first opens the context menu from the Dimension and selects *Clone Dimension*:



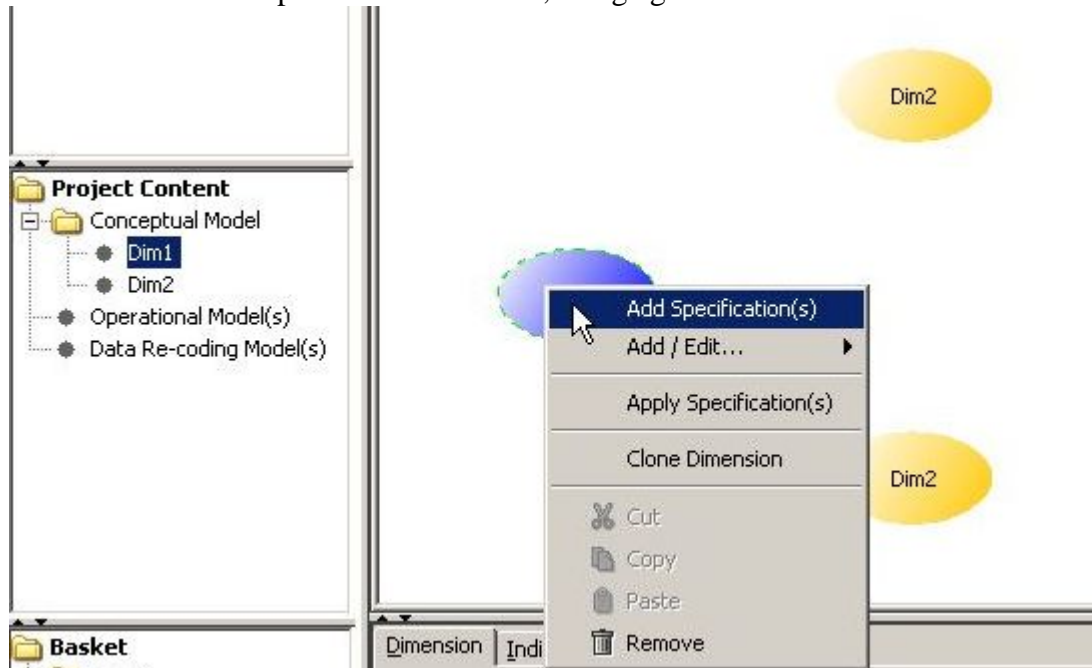
Which leaves him (and us) with this sight:



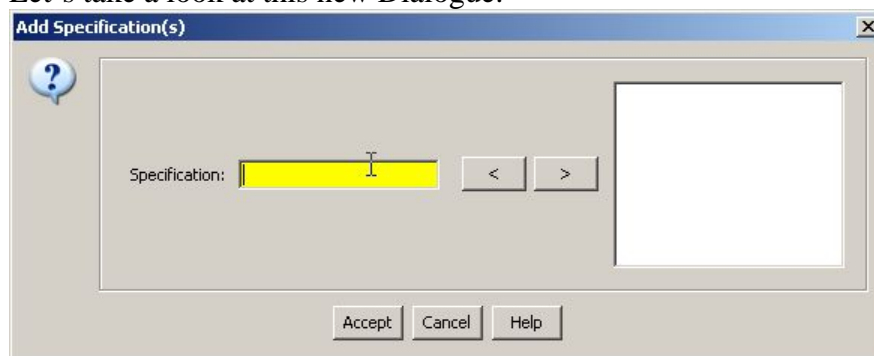
Note:

- A cloned Dimension doesn't have an own corresponding entry in the Project Content-Tree or the Table. It's only a different graphical container representing the same idea.
- You can't clone an already cloned Dimension.
- You can't mark a cloned Dimension; however you can select a cloned Dimension and work with it, albeit there are less available options.

Now he adds some Specification to Dim1, using again the context menu:



Let's take a look at this new Dialogue:

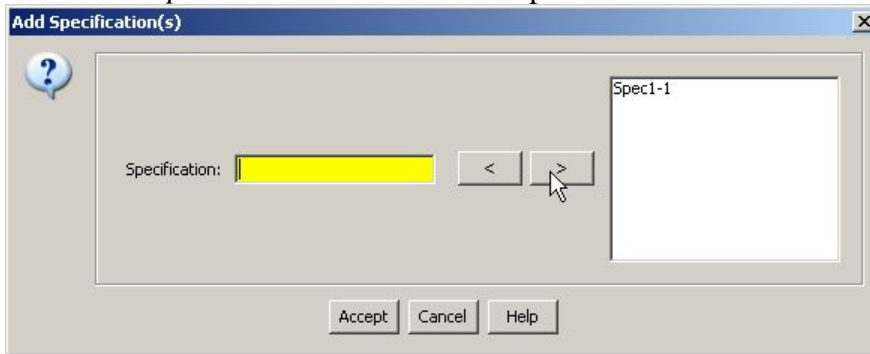


This Dialogue is composed of four different parts:

- An input block
- A pair of “move”-Buttons
- A Listfield
- A bar of “controlling”-Buttons

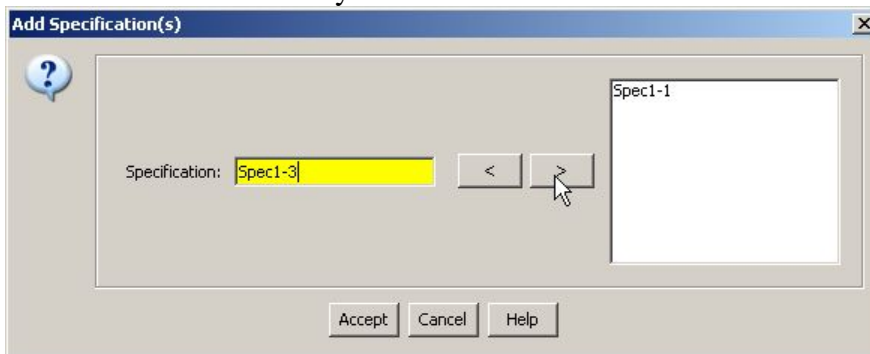
You can create multiple Specifications in one pass.

He entered *Spec1-1* as the first label and pressed the Button '>':

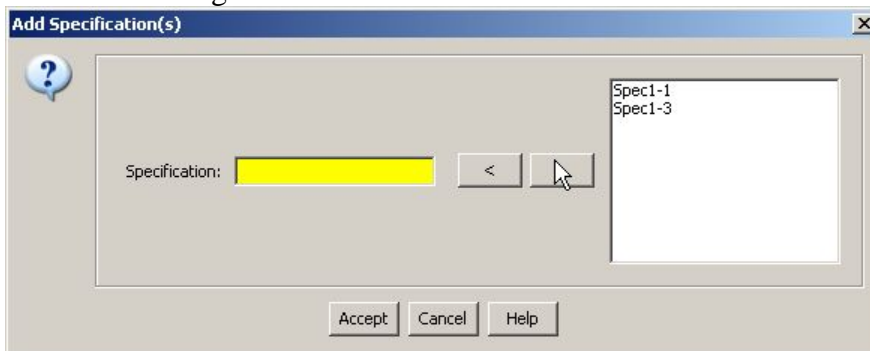


This way, specifications (labels) are created for each node.

The Focus is automatically back to the text field and he enters now *Spec1-3*:



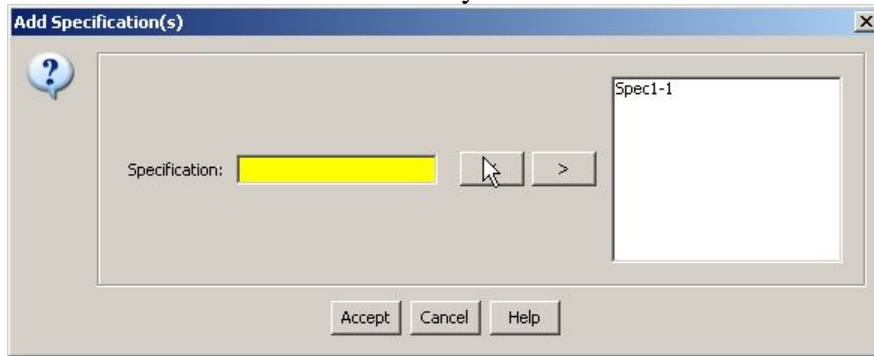
But this is not right:



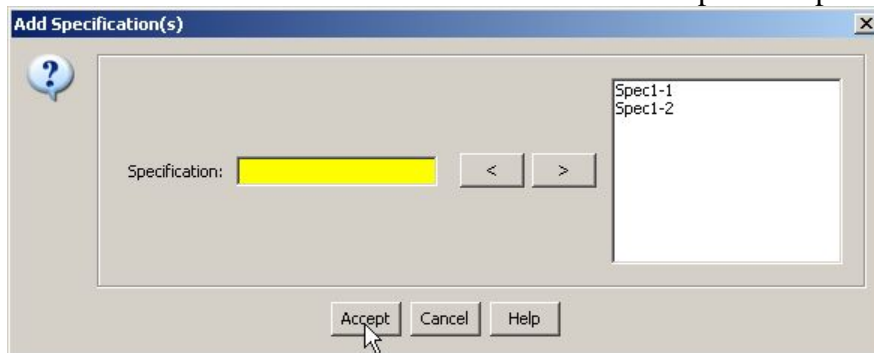
So he removes the wrong label. He selects the wrong list element in the list to the right and presses the "left" Button:



This action shoves the selected entry back – or in this case removes it:

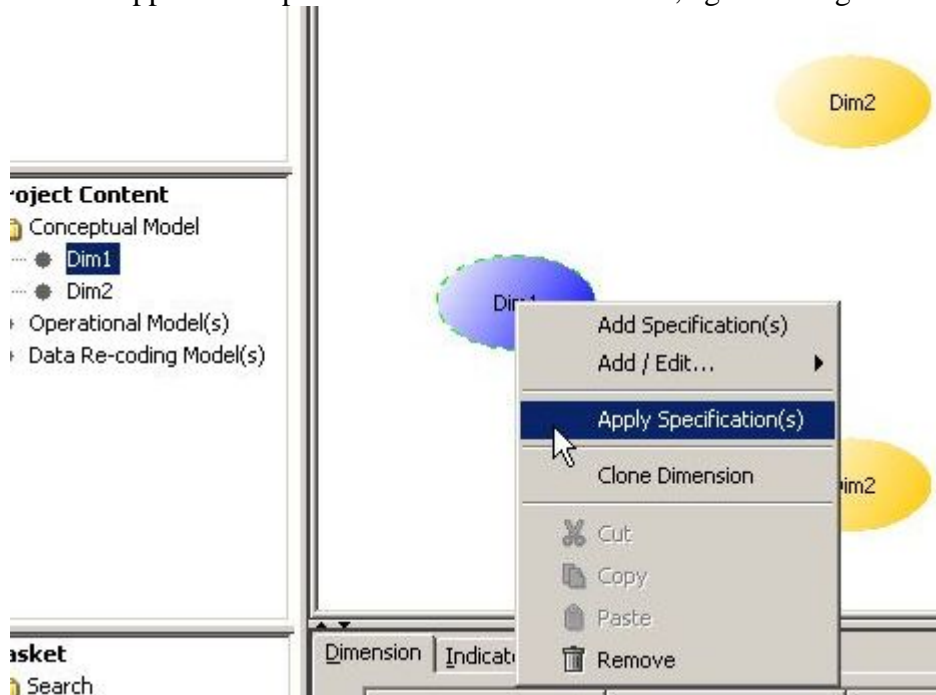


After the correction he adds the correct label and accepts the input:



Now, two Specifications have been assigned to Dim1. He will use them now.

Now he applies the Specifications to the Dimension, again through the context menu:



This opens this dialogue:



It's quite similar to the last dialogue. The input block has been replaced by two combo boxes, in the first you choose the Specification to use, in the second the target.

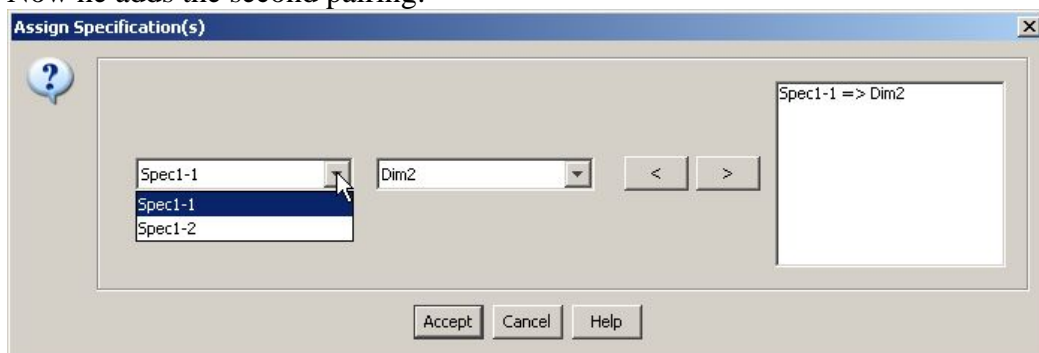
He choose the correct pair of Specification and target object, may it be a Dimension or a Category and selects it with a press on the right Button.



The List on the right shows the selected pairing of Specification and target object:



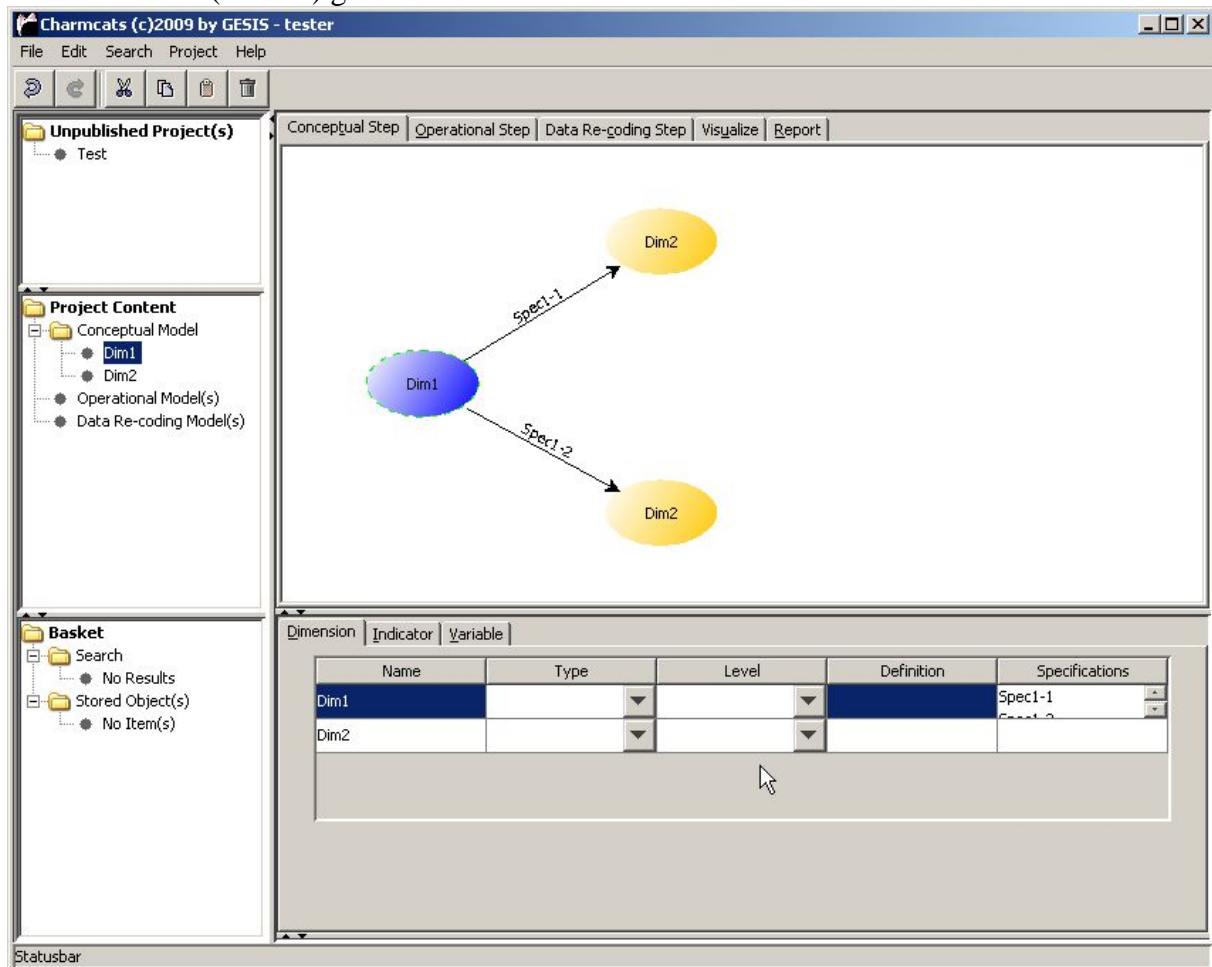
Now he adds the second pairing:



He accepts these two pairings:



This is what he (and we) gets now:



Note:

- In the lower tabbed pane, a table is shown. You can set Type and Level of a Dimension and even enter a short Definition.

He starts adding Categories. This is like adding Dimensions:



Really like adding Dimensions...

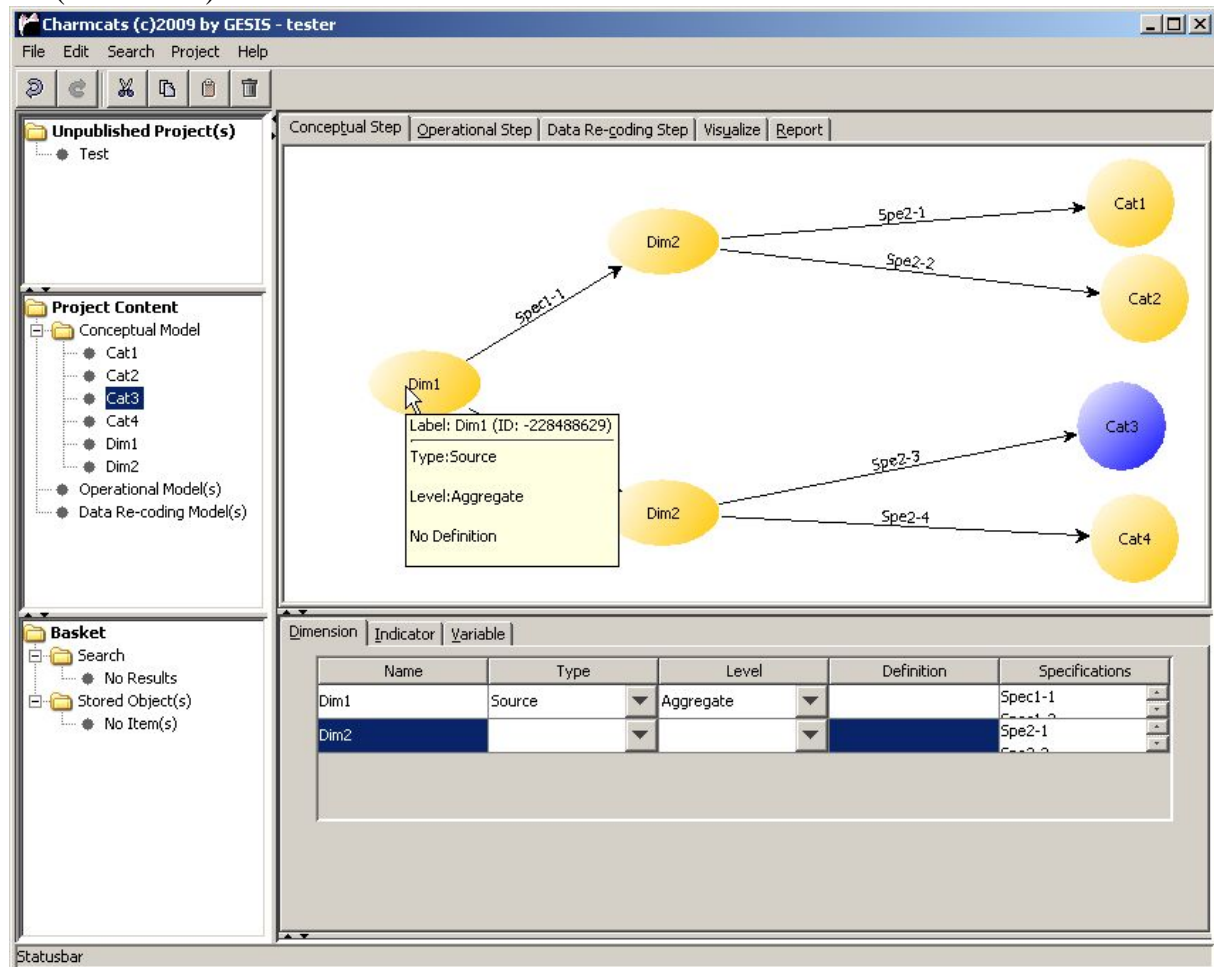


So we step over the next three iterations of adding Categories. And also of adding Specifications to Dim2 and applying them to Dim2 and the cloned Dim2.

Note:

- In version 0.5 at this step you can only set the label of the Category. However, it will be checked if the label is unique in this project.

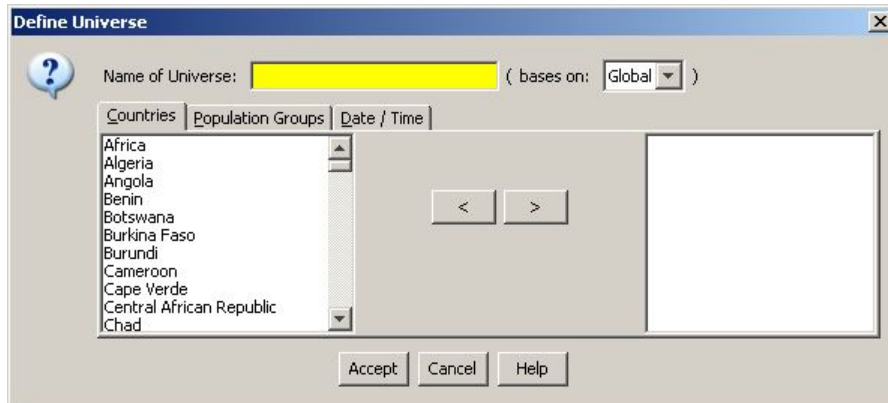
He (and we too) ends with this:



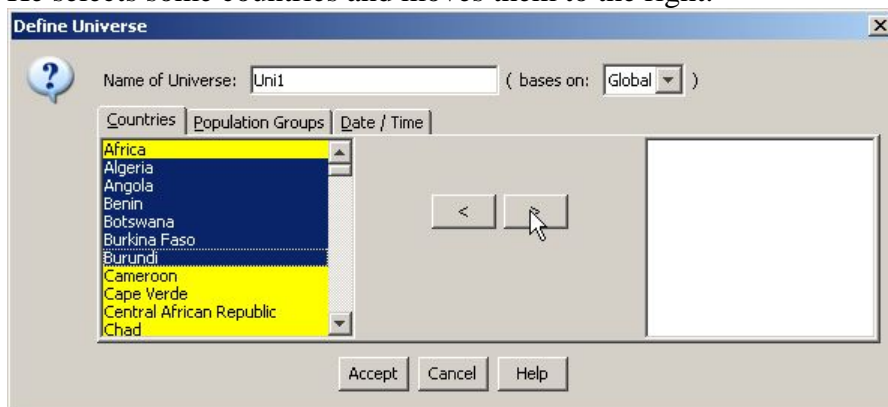
Note:

- In version 0.5 the leafs in the Project Content-Tree are ordered only by name.

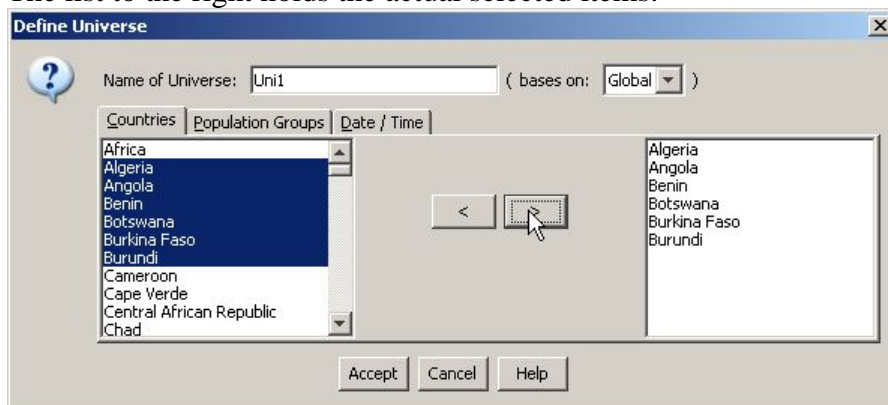
Now he defines the Universes:



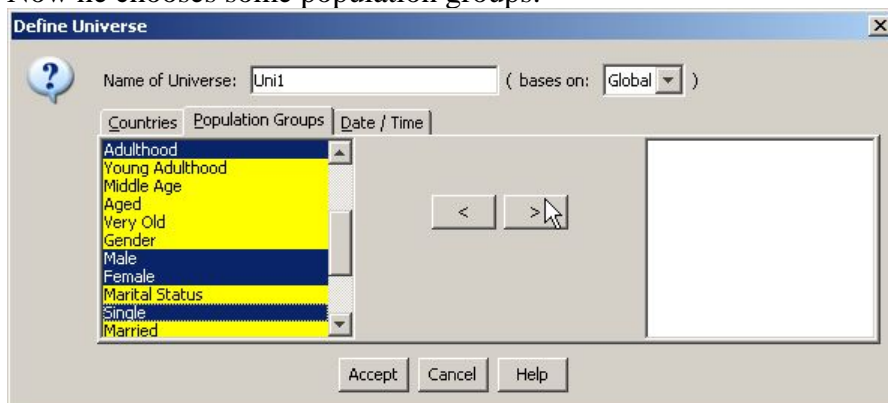
He selects some countries and moves them to the right:



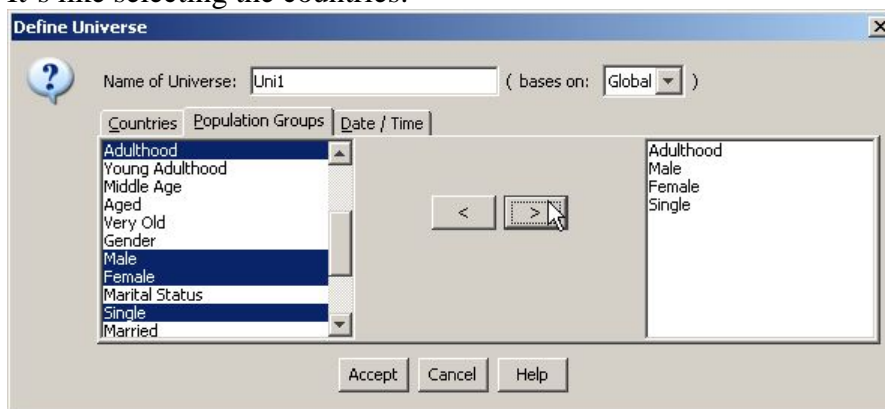
The list to the right holds the actual selected items:



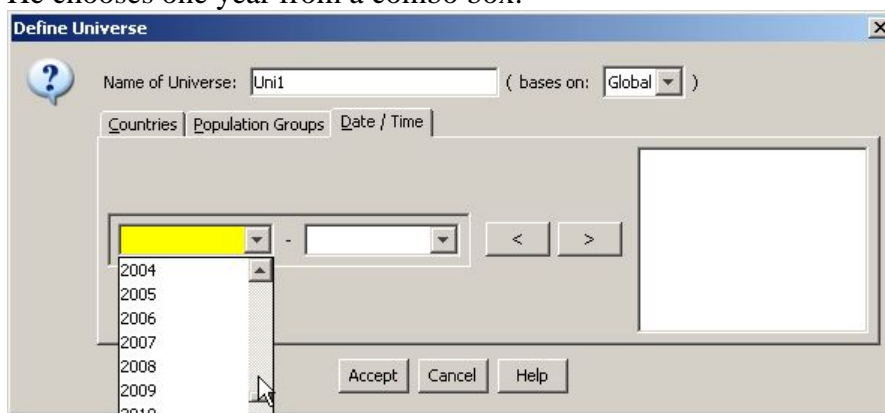
Now he chooses some population groups:



It's like selecting the countries:



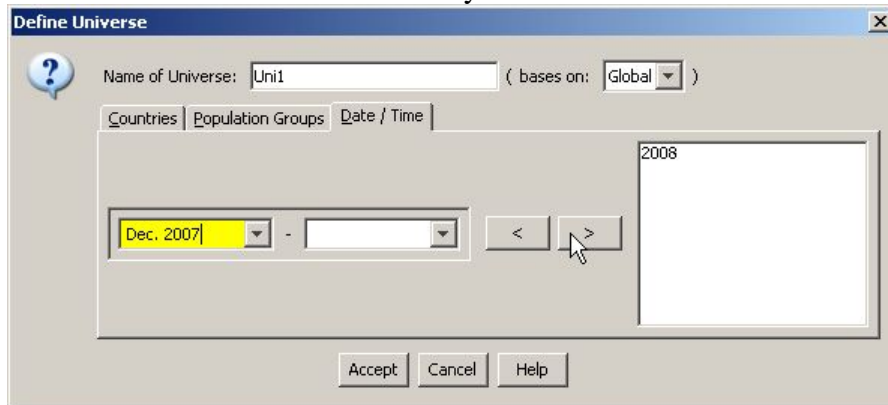
He chooses one year from a combo box:



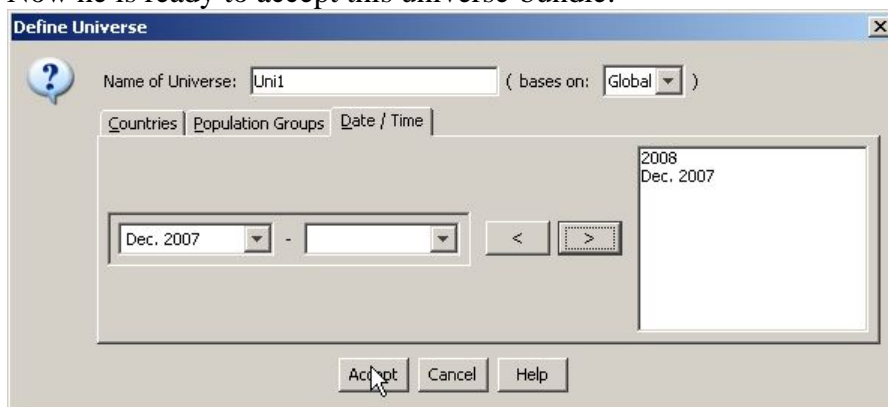
It's also like selecting the countries:



He can enter a customized date entry:



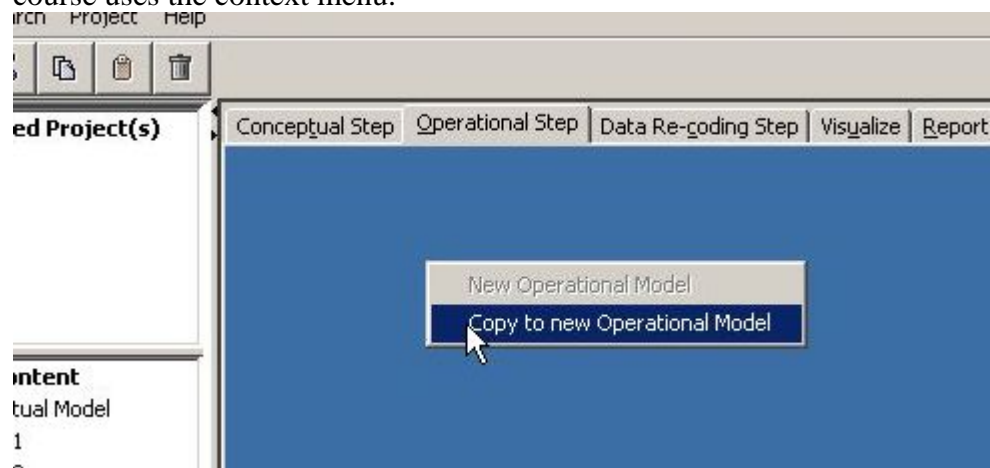
Now he is ready to accept this universe-bundle:



Note:

- The “Move”-Buttons work like in the other dialogues: you select or remove.
- A time range is created by using both combo boxes
- In version 0.5 you can't add new population groups.

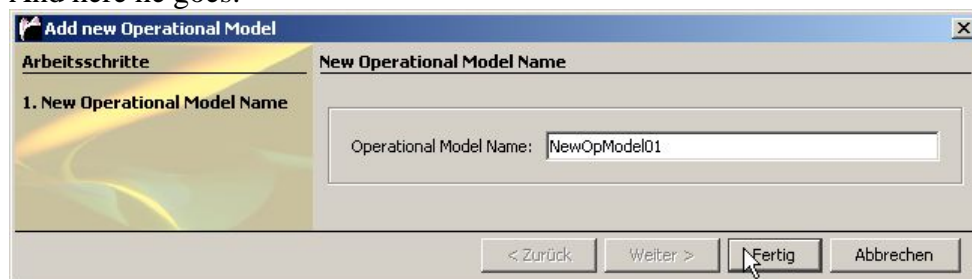
Now he creates an Operational Layer: He changes the Tab Pane to *Operational Step* and of course uses the context menu.



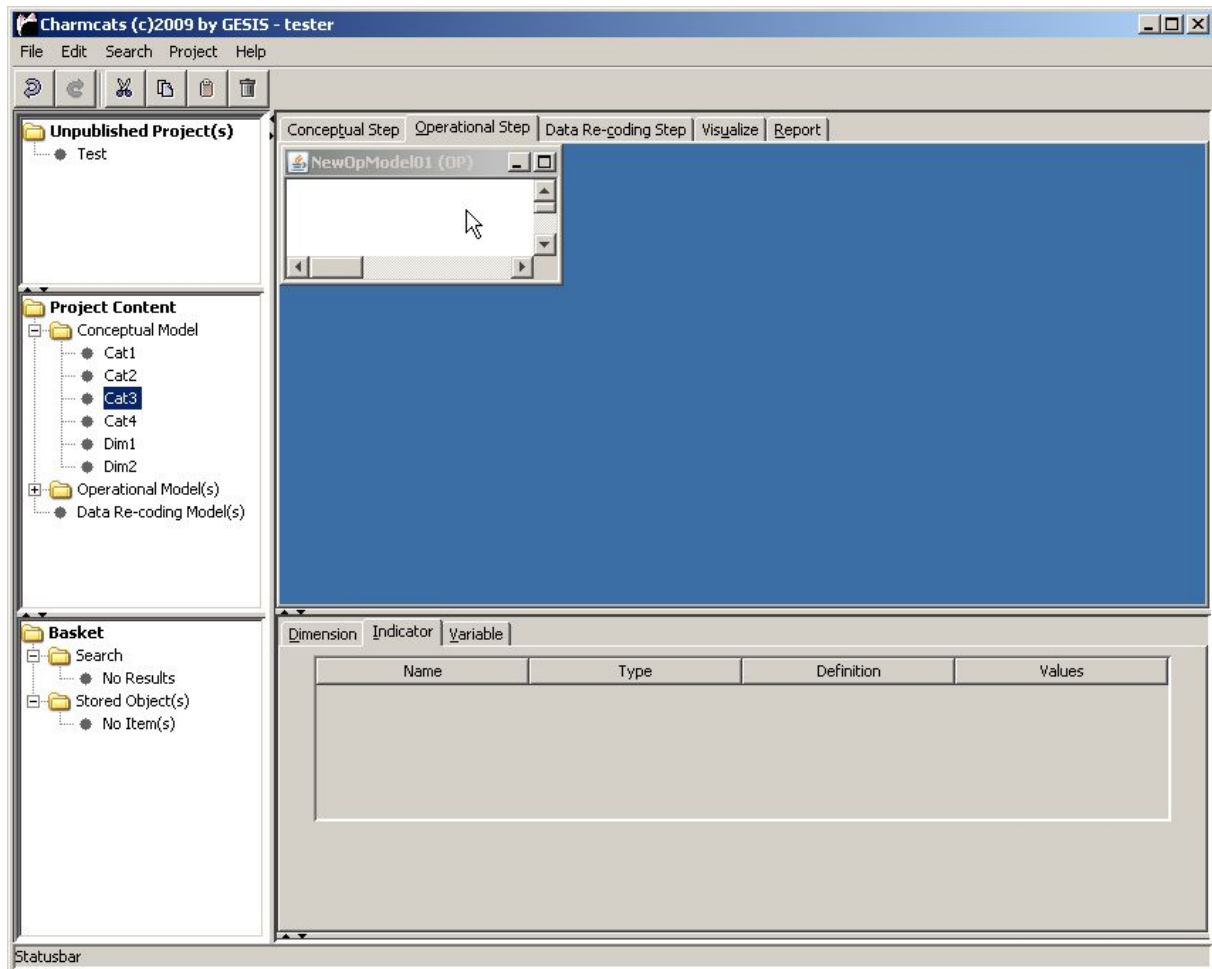
This Dialogue pops up:



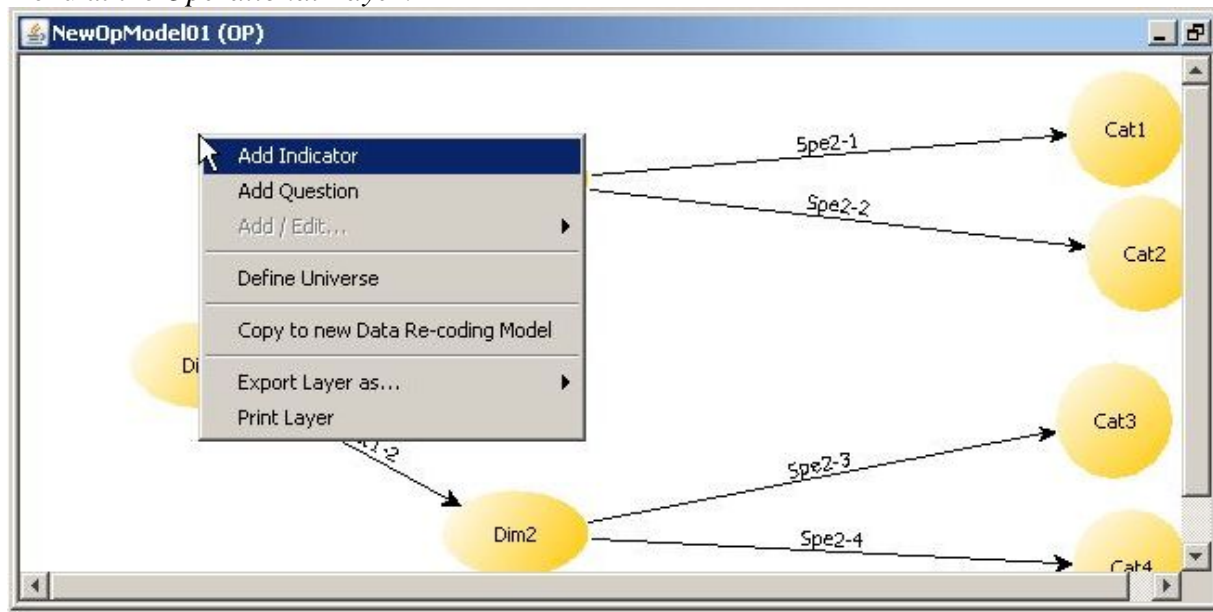
And here he goes:



And ends with:



There is already some content, and he immediately starts adding Indicators, using the context menu at the *Operational Layer*:



This is like adding Dimensions:

The screenshot shows the 'Add Indicator' dialog box. On the left, under 'Arbeitschritte', '1. Add Indicator' is selected. On the right, the 'Add Indicator' section has an 'Indicator Name:' label followed by an empty text input field. At the bottom are buttons: '< Zurück', 'Weiter >', 'Fertig', and 'Abbrechen'.

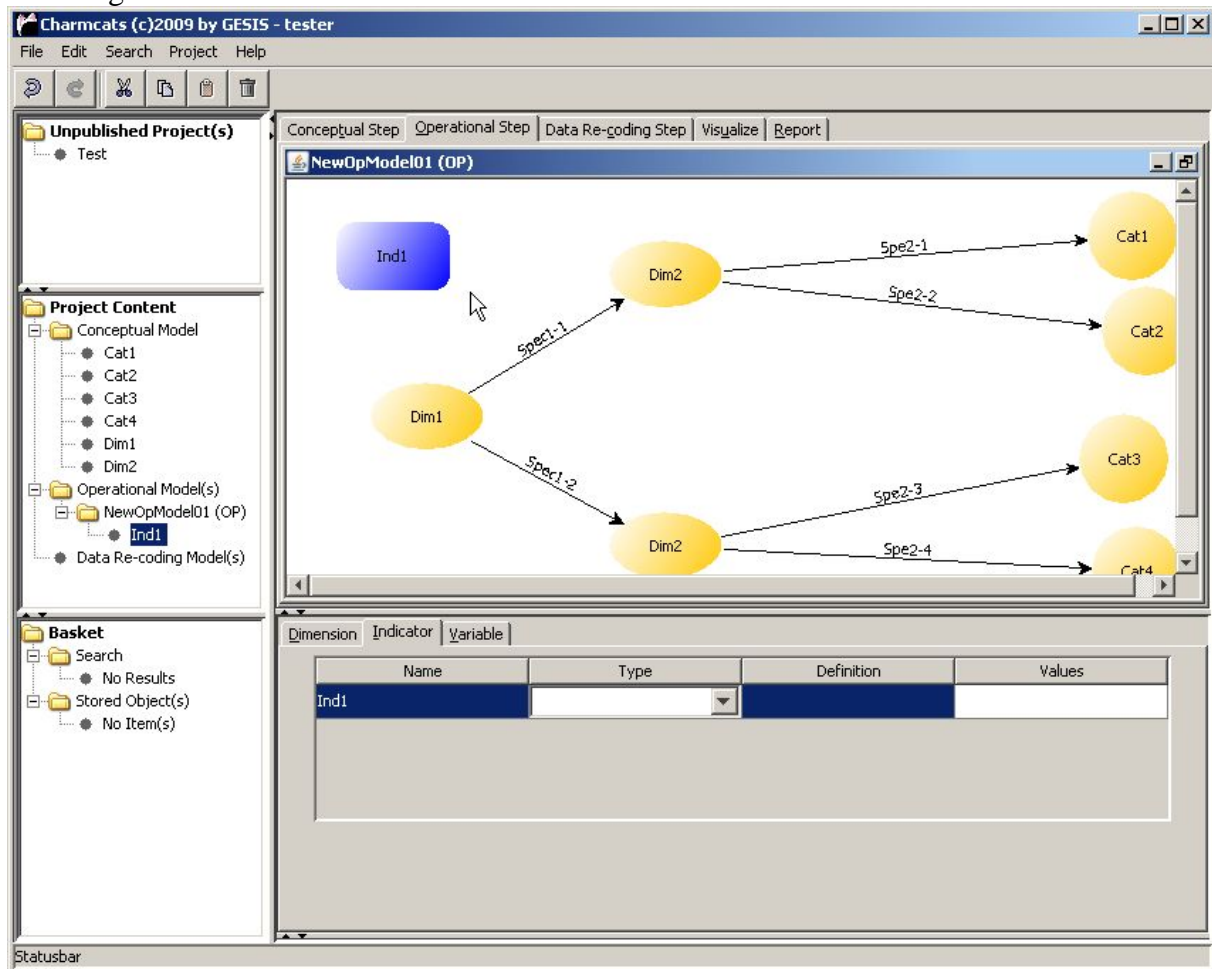
Really like adding Dimensions...

This screenshot shows the same 'Add Indicator' dialog box, but now the 'Indicator Name' field contains the text 'Ind1'. The 'Fertig' button at the bottom is highlighted with a mouse cursor.

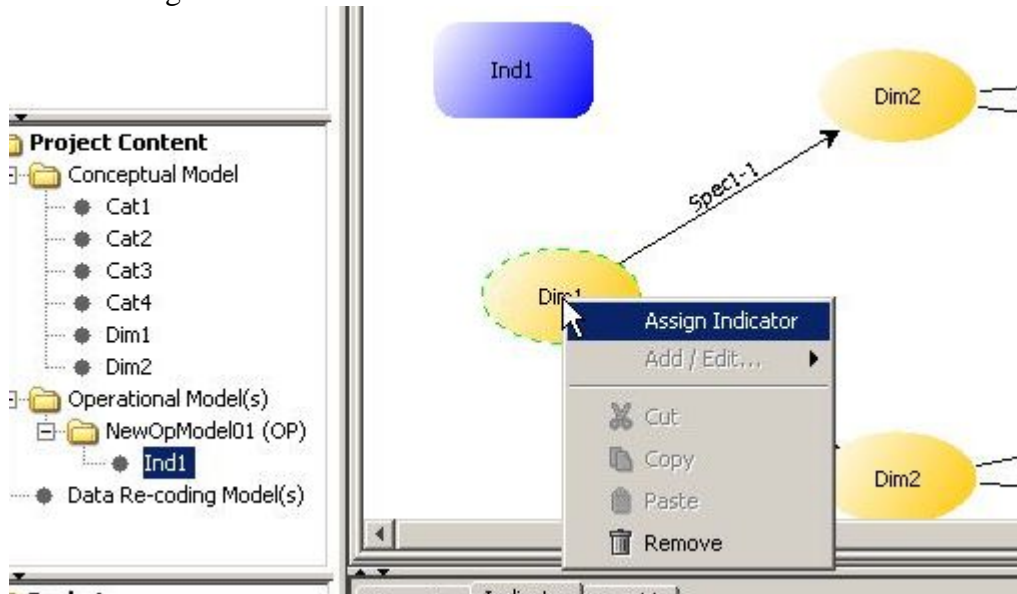
Note:

- In version 0.5 at this step you can only set the label of the Indicator within the graph. However, it will be checked if the label is unique in this project.

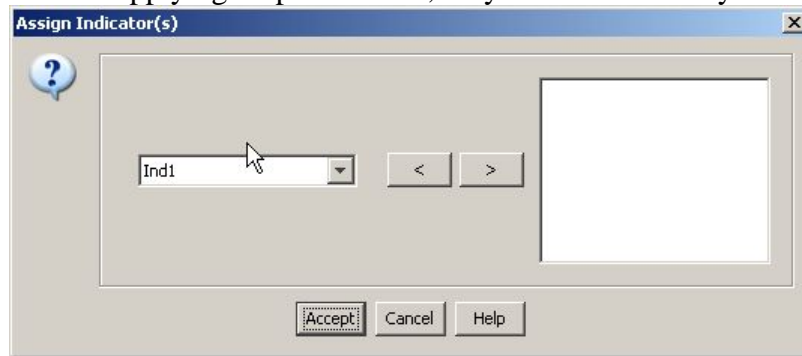
And he gets this:



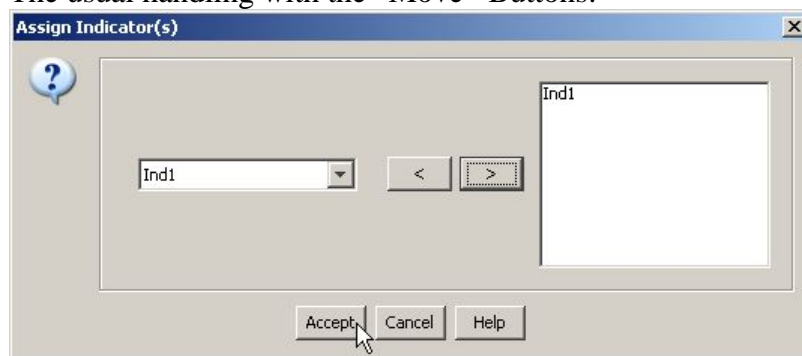
He now assigns this Indicator to a Dimension:



It's like applying a Specification, only shorter: You only need to know a target.



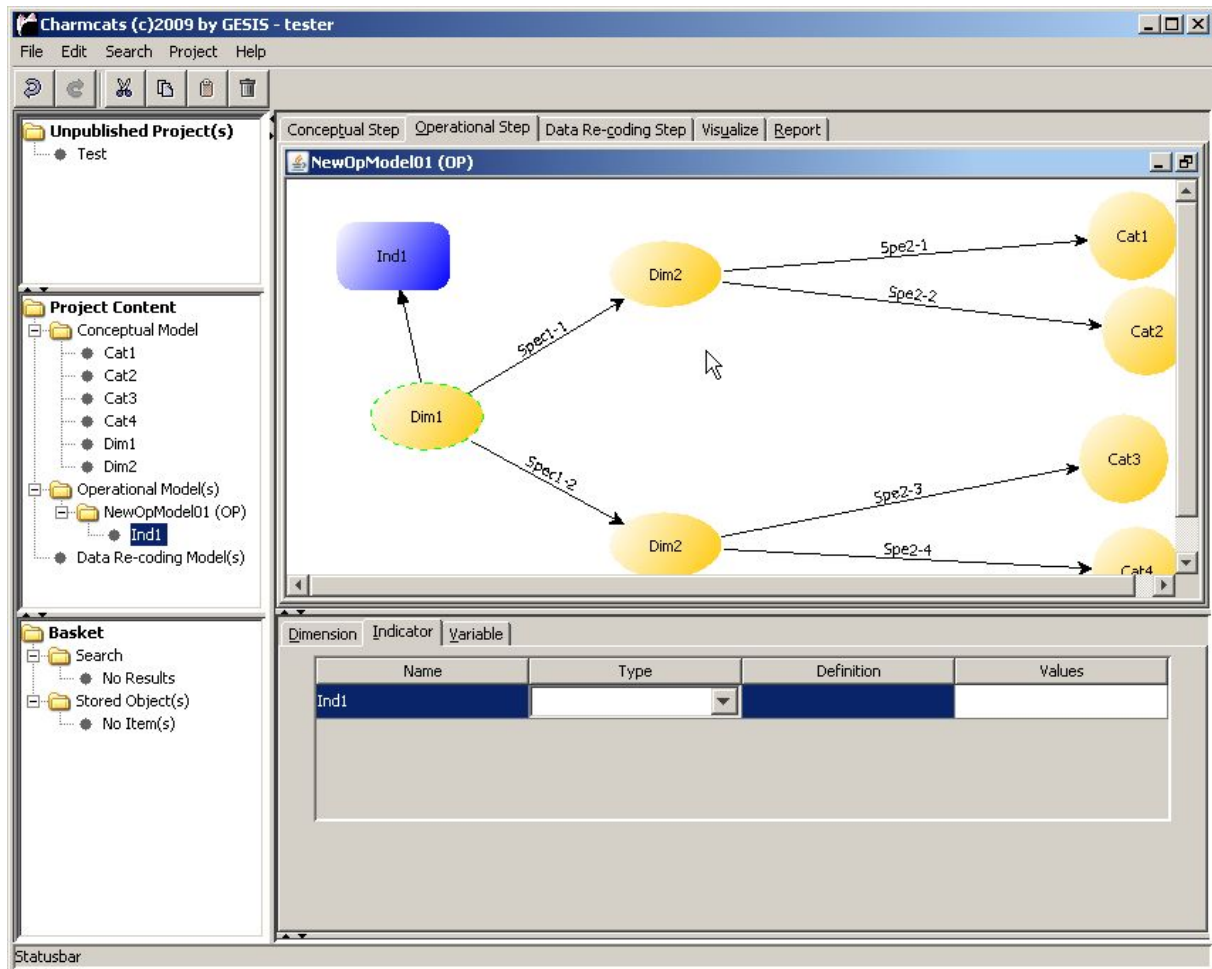
The usual handling with the “Move”-Buttons:



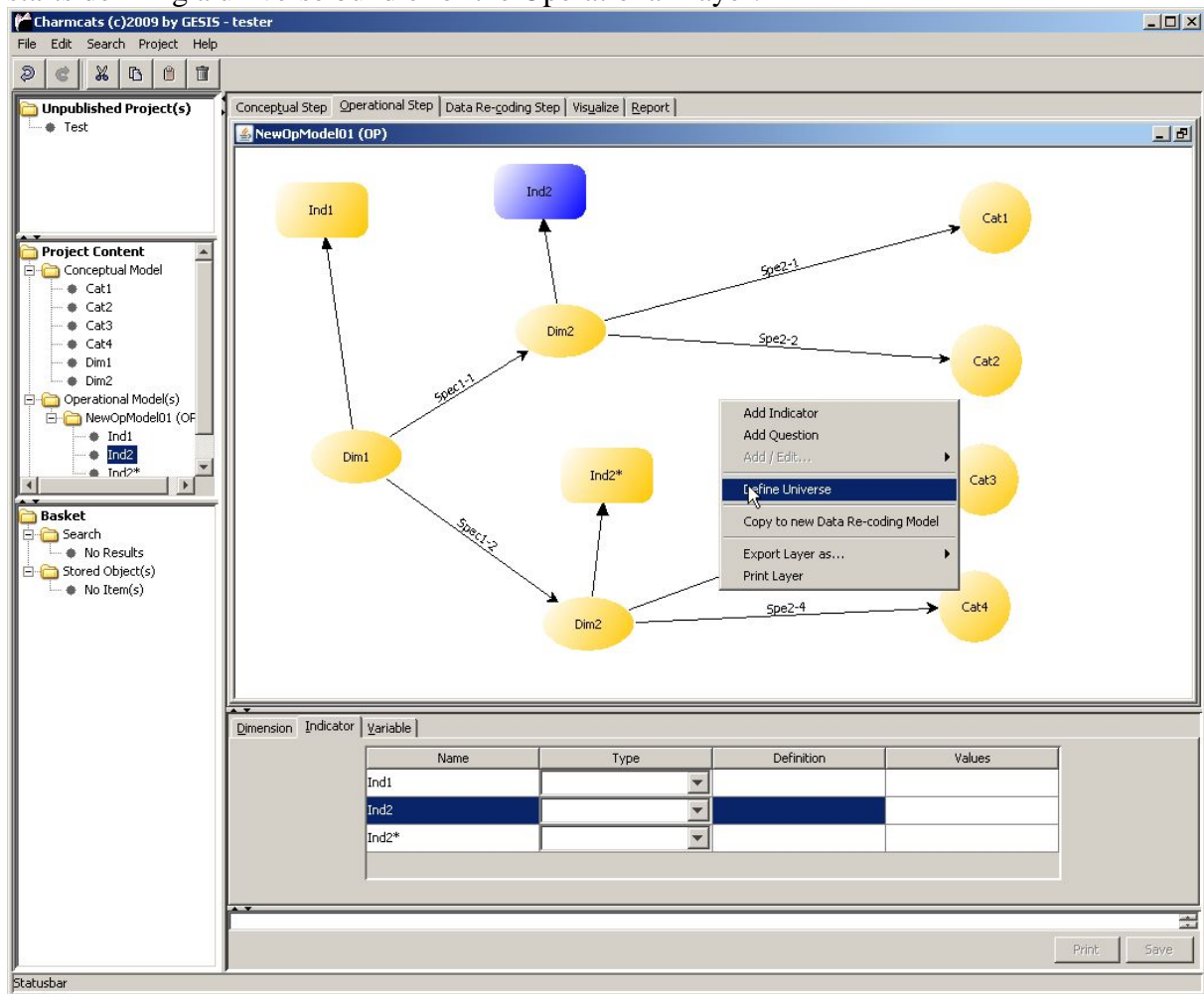
Note:

- You can assign more then one Indicator to a Dimension in one pass.

And he ends with:

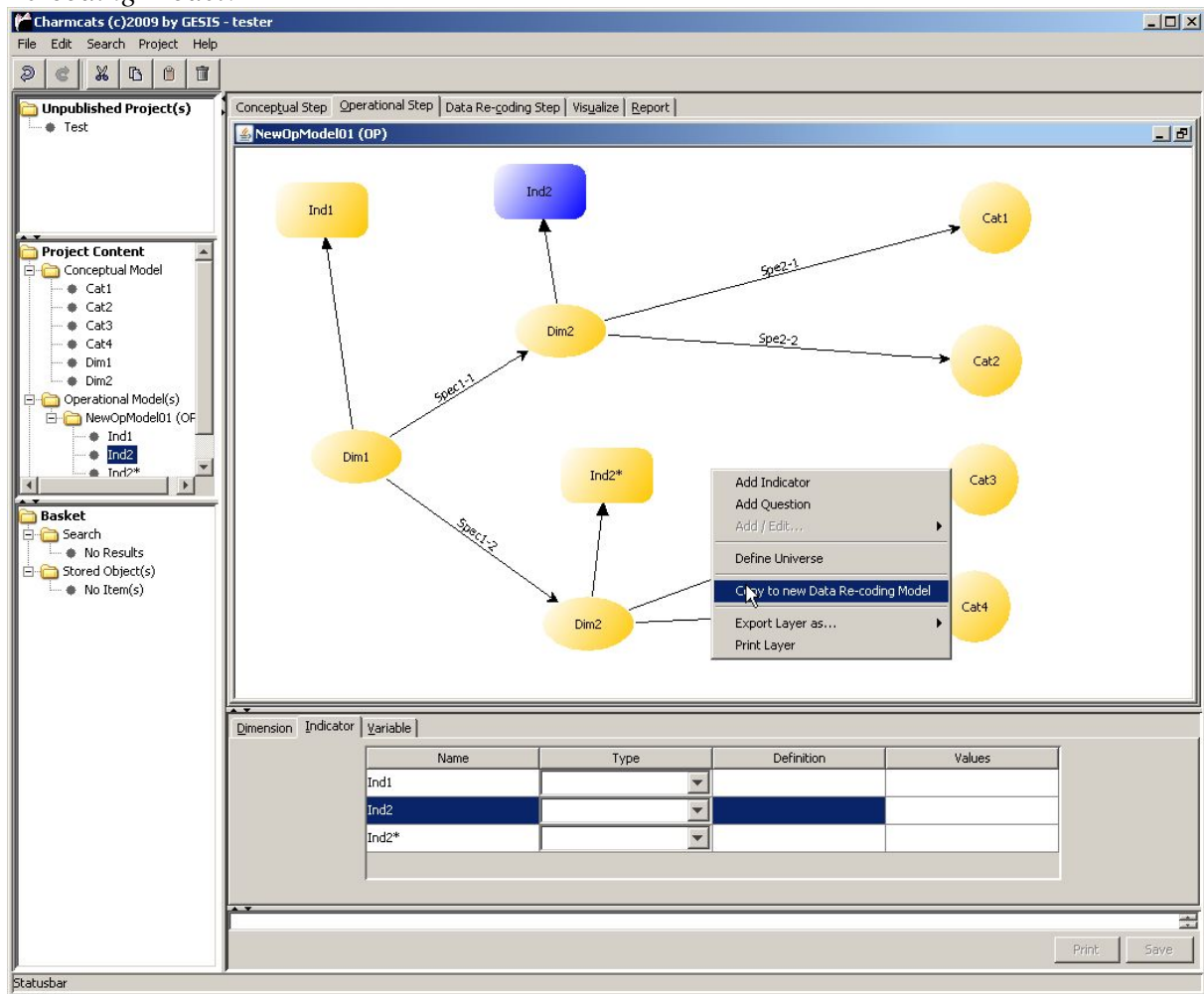


After adding some more Indicators and assigning them to Dimensions, he get this far and starts defining a universe bundle for the Operational Layer:



This is like the first time, so we step over it (well there is one difference, but it's really minor: the selection is limited to the choices he made before. The handling is the same.)

Now he creates a Data Re-coding Layer, using the context menu again and *Copy to new Data Re-coding Model*:



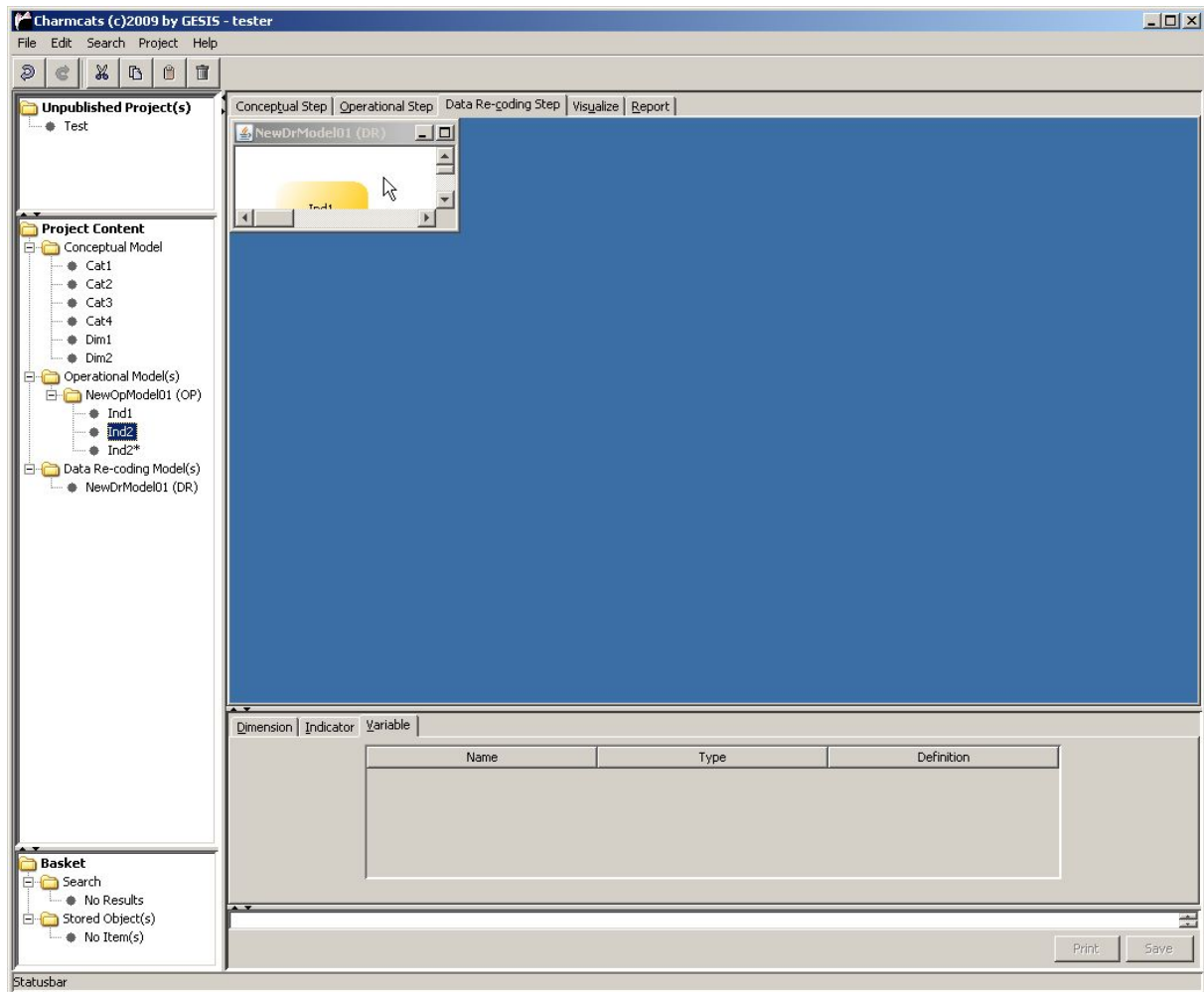
We know the following dialogue already:

The screenshot shows the 'Add new Data Re-coding Model' dialog box. The 'Arbeitssschritte' (Work Steps) section shows '1. New Data Re-coding Model Name'. The 'New Data Re-coding Model Name' section has a text input field with the value 'New Data Re-coding Model'. Below the input field is a label 'Data Re-coding Model Name'. At the bottom are four buttons: '< Zurück', 'Weiter >', 'Fertig', and 'Abbrechen'.

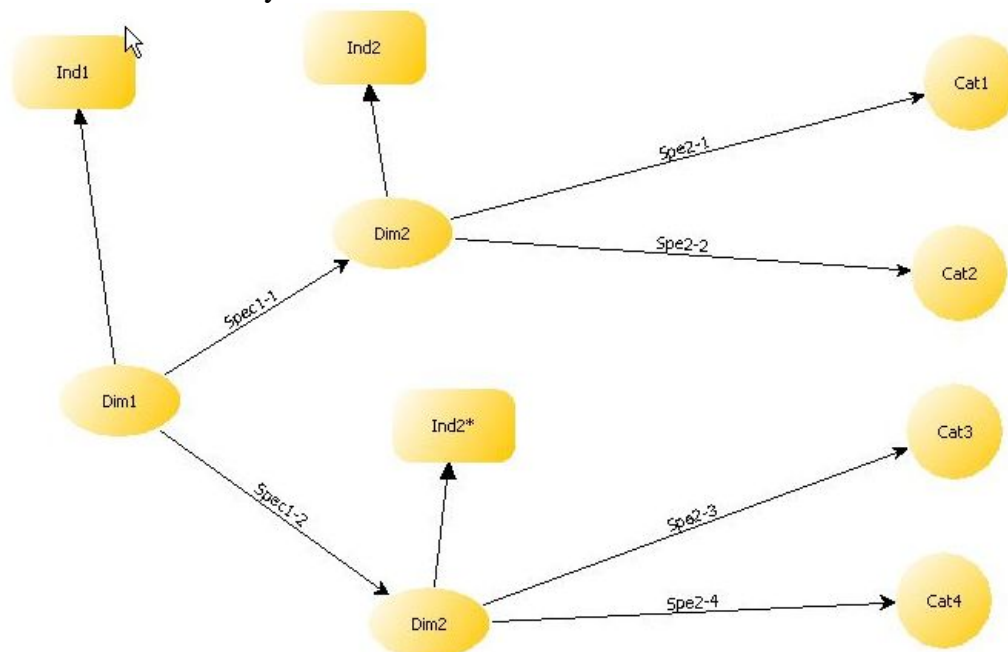
And so it goes:

The screenshot shows the 'Add new Data Re-coding Model' dialog box. The 'Arbeitssschritte' (Work Steps) section shows '1. New Data Re-coding Model Name'. The 'New Data Re-coding Model Name' section has a text input field with the value 'NewDrModel01'. Below the input field is a label 'Data Re-coding Model Name'. At the bottom are four buttons: '< Zurück', 'Weiter >', 'Fertig', and 'Abbrechen'. A mouse cursor is pointing at the 'Fertig' button.

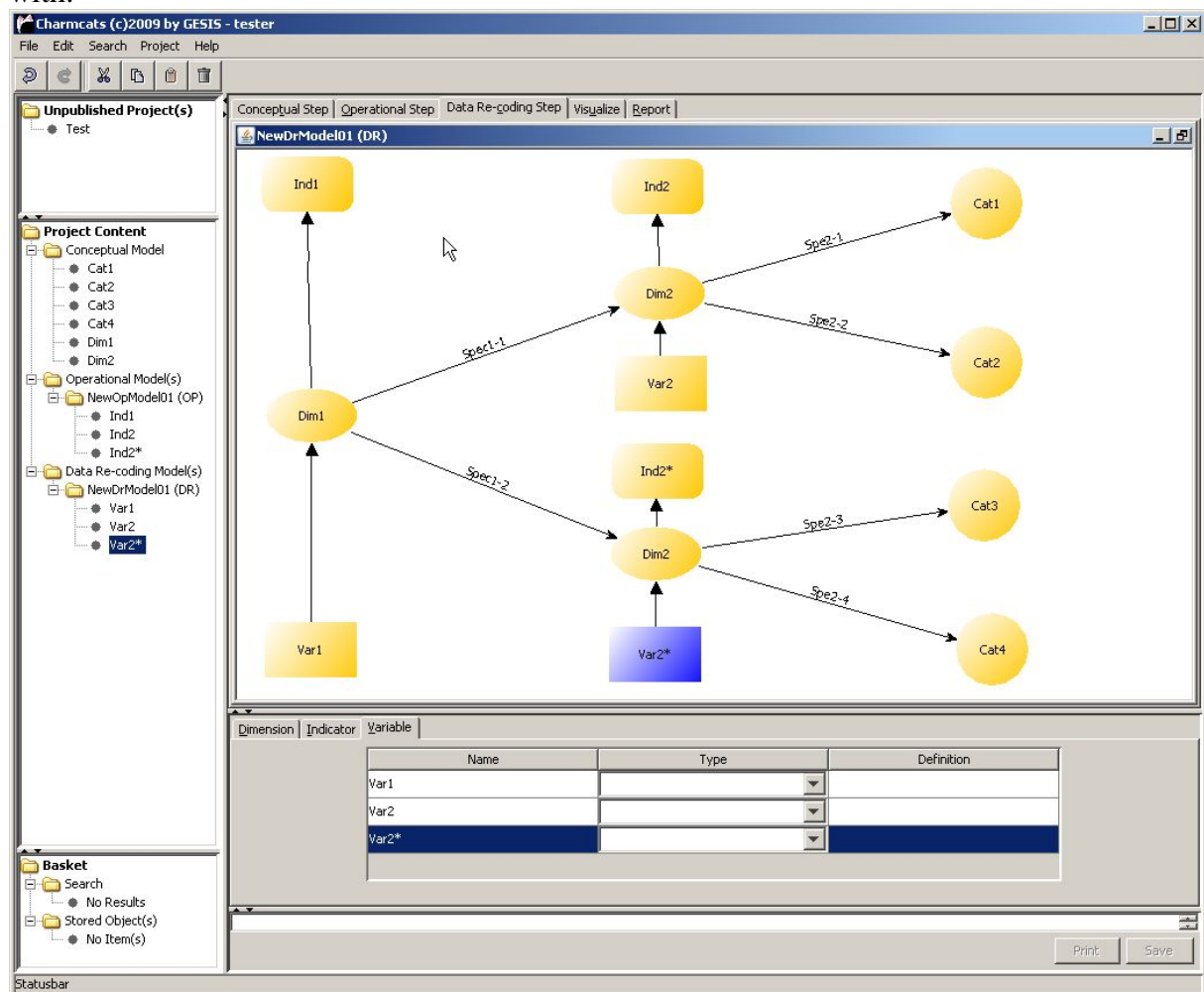
And he ends with this:



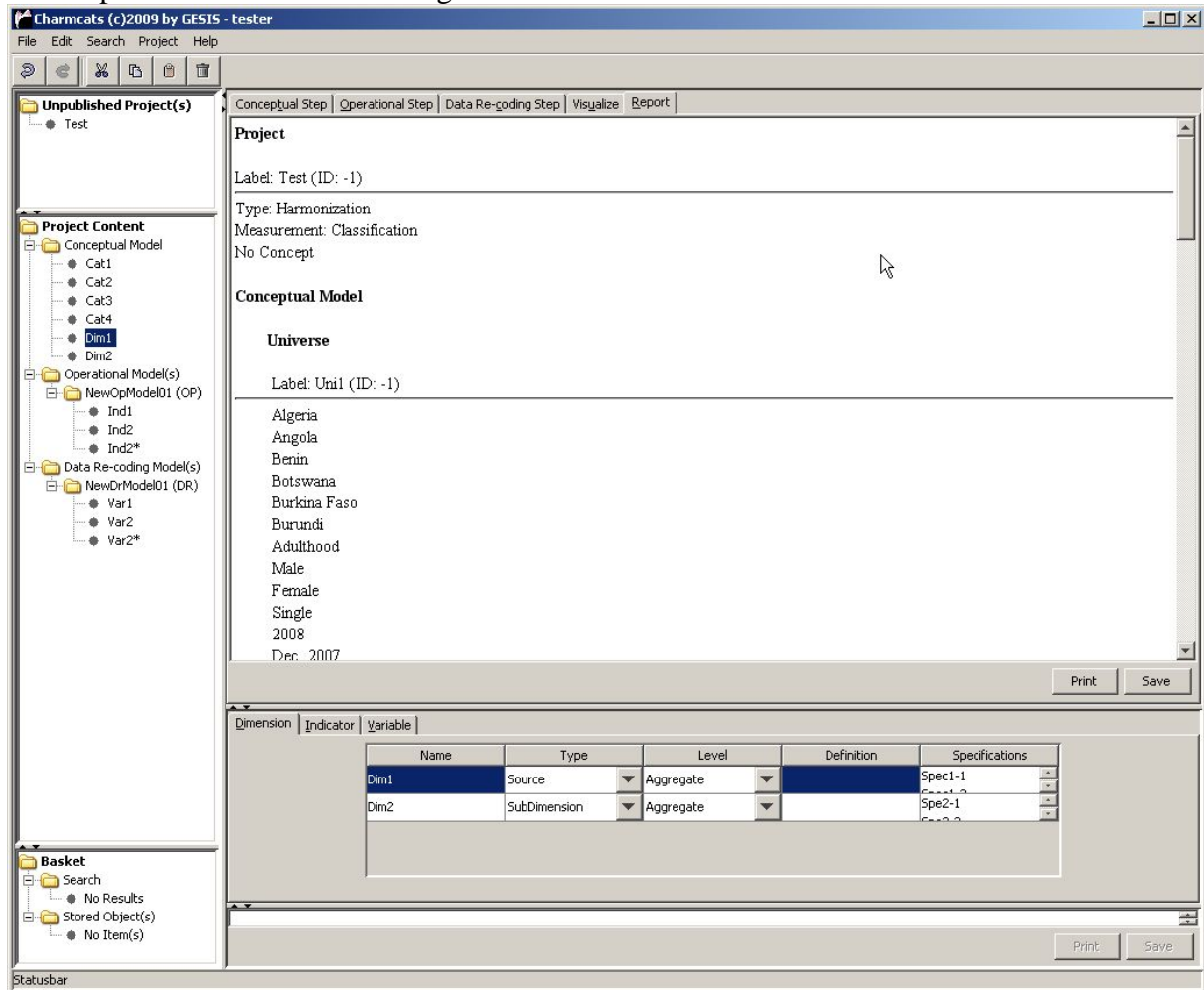
Where there is already some content:



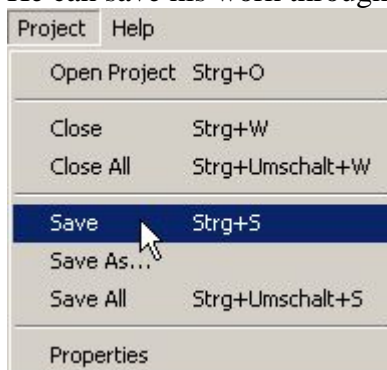
After adding some Variables and assigning them like he has done with Indicators he ends with:



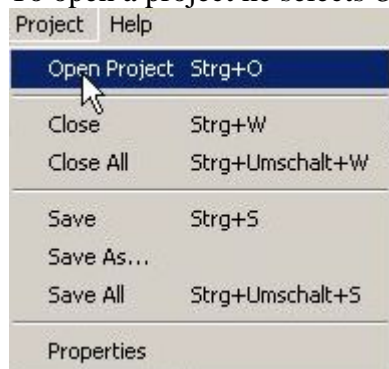
The Report shows us the following information:



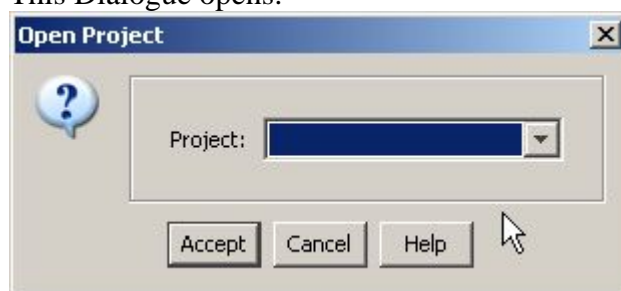
He can save his work through the Menu *Project* selecting *Save*:



To open a project he selects *Open Project* from the *Project*-Menu:



This Dialogue opens:



Using a combo box, he can select one of his projects:

