# Asbruview 2.0 User Guide

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1. Introduction

1.1 What is AsbruView ?

AsbruView is a graphical user interface for viewing, creating and modifying Asbru plans. It is based on different 'views' which visualize different aspects of the plans. This document describes the second edition of AsbruView, which was created in 2004/2005 and allows the import of Asbru plans and their modification.

1.2 Principal Components
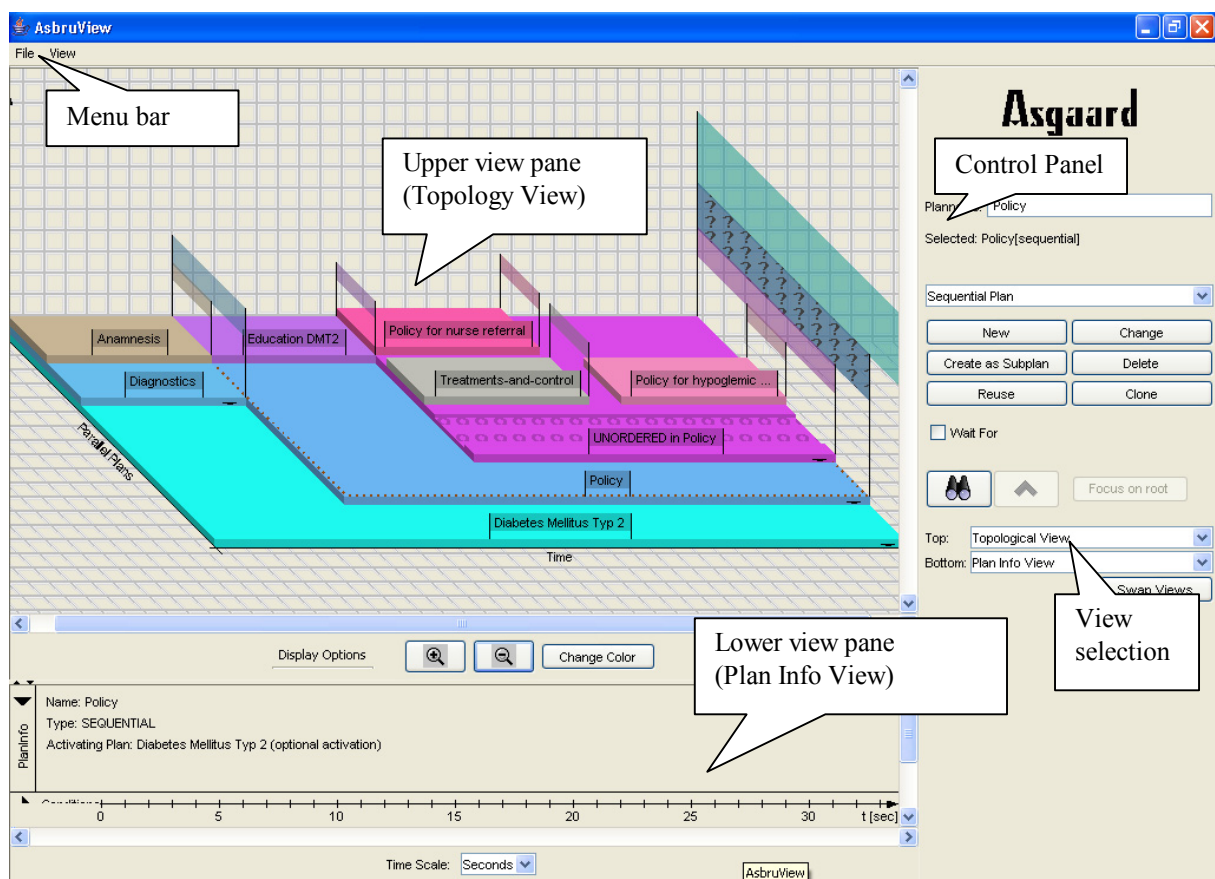
- Menu Bar: Global commands such as 'New', 'Quit', etc.
- Control Panel: Controls to create and modify plans, to focus on plans and to select the views shown on the right side of the control panel.
- Upper view pane : The upper view on the plans. The screenshot shows the 'Topology View'.
- Lower view pane: Lower view. Can be hidden.

1.3 Organization

The second chapter describes the 'Control Panel', the global control mechanism, and the menu bar. In the following chapters, each view is described in detail. If appropriate, the connection to the Asbru plan describtion language is explained.
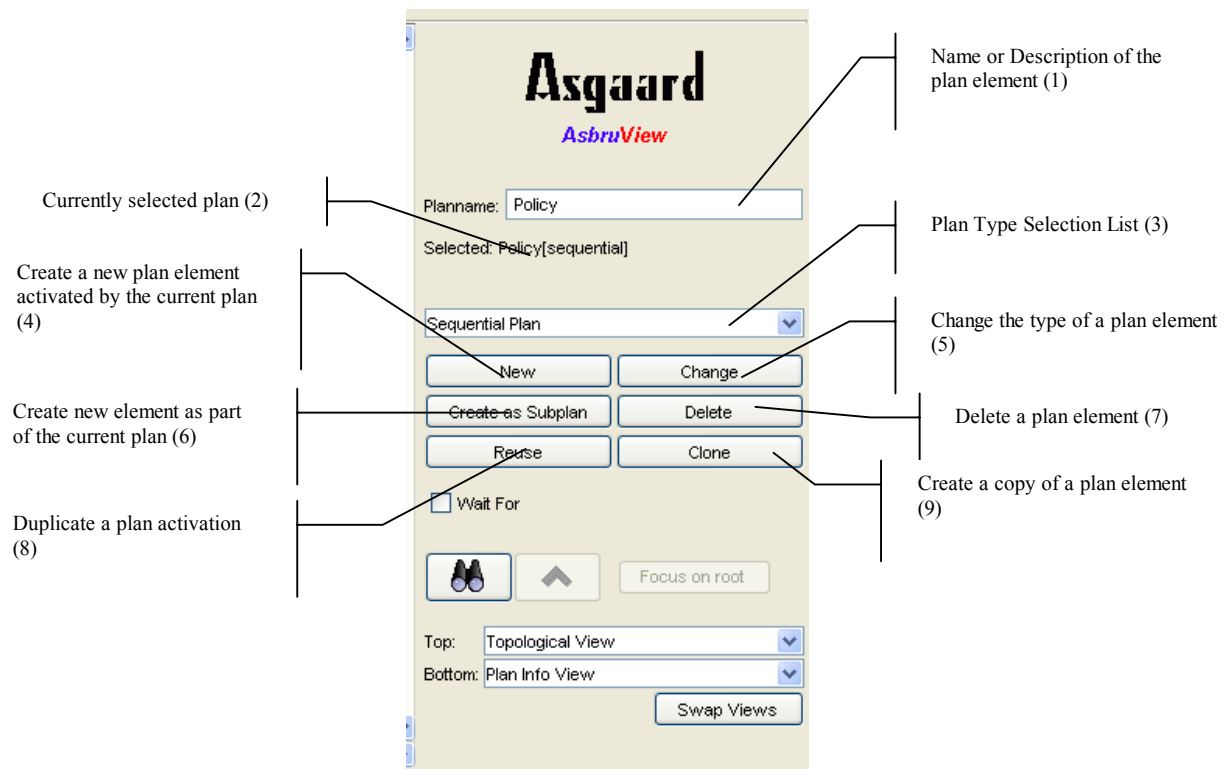
2. Menu Bar and Control Panel
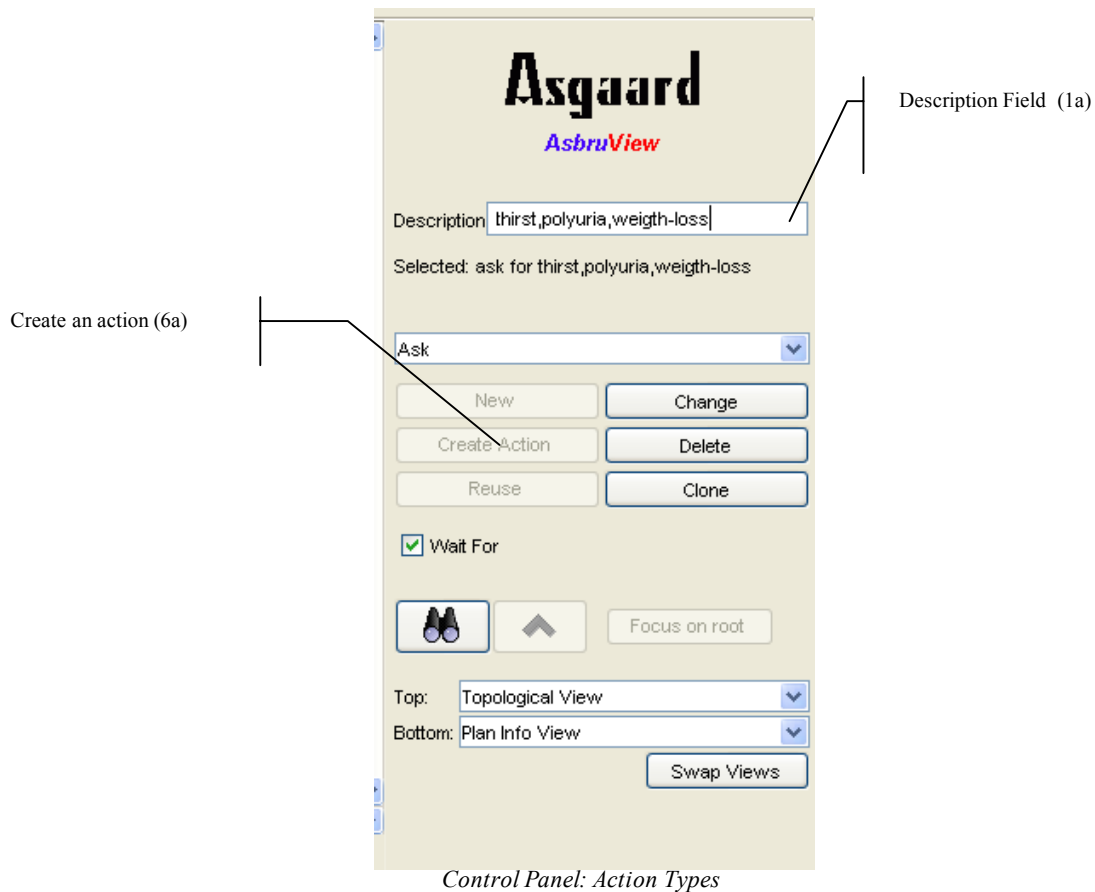
2.1 Menu bar

- File
    - New: Restart with a new Asbru plan.
    - Import Asbru: Load an existing asbru document.
    - Export Asbru XML: Save the current work as an asbru document
    - *Load,Save: Load/Save the AsbruView workspace using an internal format (not recommended: use import/export instead)*
    - *Export old Asbru: Export as Asbru 6.3 (deprecated: will no longer be supported in future revisions)*
- View: Select the background for the topology view.

2.2 Control Panel

2.2.1 Plan elements

Currently selected plan (2)

Create a new plan element activated by the current plan (4)

Create new element as part of the current plan (6)

Duplicate a plan activation (8)

Name or Description of the plan element (1)

Plan Type Selection List (3)

Change the type of a plan element (5)

Delete a plan element (7)

Create a copy of a plan element (9)

Control Panel: Plan Elements

Control Panel: Action Types

There are several different types of plan elements (see Type Selection List (3)), which can be divided into three categories:

- Qualified plans: These are indepented plans, which can be activated by one or more plans. They have a unique name (edited in the name field (1)), a set of conditions, preferences, effects and intentions. They can be distinguished by the activation strategy used in activating other plans (subplans). They either use a strictly sequential order (sequentiall), a sequentiall activation without fixed order (any order), paralell execution of the plans (paralell) or arbitrary execution (unordered).
    - o To change the name of a qualified plan, use the name field (1).
    - o After selecting on of these strategies, click on 'new plan' (4) to create a qualified plan, activated by the currently selected plan.
    - o To copy a plan activation and use the plan again at a different time, select the plan, click 'reuse' (8) and drag and drop the plan element to the desired location (in the topology view, see Chapter 3).

```
Asbru Representation:
<plan name=<PLANNAME>>
  <plan-body>
    <subplans type=<ACTIVATIONSTRATEGY> >
  …
```

- Subplans: These are lists of plans to be executed (similar as in qualified plans), which are part of another plan and not indepent plans themselves. An appropriate term for them is 'nested subplans'. Additionally to the strategies above, a subplan activation can also be 'cyclical', i.e. a plan is activated repeatedly until some criteria are met.
    - o To create a nested subplan as part of the currently selected plan, press 'Create as subplan' (6) after selecting the activation strategy (3).

```
Asbru Representation (in context of a particular  subplans tag)
 <subplans type=<ACTIVATIONSTRATEGY> >
   …
       or
<cyclical-plan>
  <cyclical-plan-body>
…
```

- Actions: These elements correspond to single-steps in Absru, which are no plan-activations but indicate some kind of action. Possible actions are ask (ask for the value of a parameter), variable-assignment (assign a value to a variale), set-context (set the current execution context) and list-manipulation (indicate that some kind of list processing takes place). Additionally, if-then-else executions are available, which execute one or another list of plans depending on a certain condition.
  - To change the description of a plan action, use the description field (1a).
  - To create an action in the currently selected plan, use the type selection list(3) to select a single-step element and then click on Create Action (6a).

```
Asbru Representation (in context of a particual  subplans tag)
 <ask >
   <parameter-ref name=DESCRIPTION/>
   …
      or
<variable-assignment>
   <comment creator="asbruview 2.0" text=DESCRIPTION/>
   …
      or
<set-context>
   <comment creator="asbruview 2.0" text=DESCRIPTION/>
</set-context>
   …
      or
<comment abstract-tag="list-manupulations">
   <comment creator="asbruview 2.0" text=DESCRIPTION/>
</comment>
      or finally
<if-then-else>
   …
   <then-branch>
   …
   </then-branch>
   <else-branch>
   …
   </else-branch>
</if-then-else>
```

Additionally, the following commands are avaible to change a plans behavior:

- Change (5): Change the type of the currently selected plan to the type selected in the type selection list (3). This is not possible for plan actions, only for the actication strategy of qualified plans and nested subplans.
- Delete (7): Delete the currently selected plan element. For qualified plans, only the plan activation is deleted – if it is the last plan activation referencing this plan, the corresponding plan itself is deleted too.
- Clone (9): Create an exact copy of the currently selected plan element. For qualified plans, the name is changed to meet the uniqueness constraint on plan names.

2.2.2 Focusing Plans and View selection

Focus and View selection
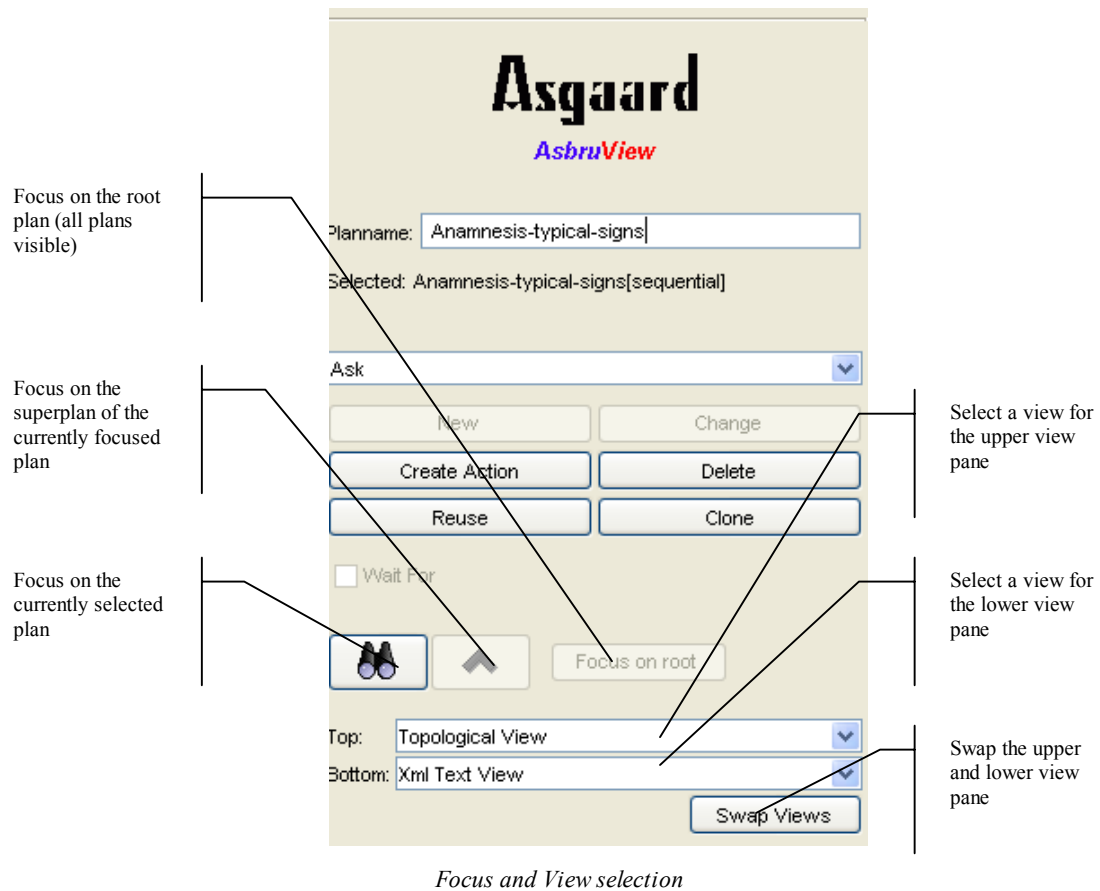
If working with large plans, it is useful to concentrate on a single plan and its subplans, i.e. only show this plan and its subplans in the views. For this purpose, a focus mechanism is provided.

- o Focus on Plan: The currently selected plan becomes the root plan of the visualization.
- o Focus on Parent: The superplan of the currently focused plan, i.e. the plan activating it, is focused.
- o Focus on Root: The actual rootplan, i.e. the topmost plan in the acitvation hierarchy, is focused.

Below there are some controls for selecting views in the panes to the rigth of the Control Panel. See the figure above for an explanation.

Currently, the following views on plans (and their subplans) are avaible:

View	See
Topology View	Chapter 3
Temporal View	Chapter 4
PlanInfo View	Chapter 5
SOPO View	References (Chapter 6)
XML Text View	Below

The XML Text view shows the Asbru XML representation of the currently selected plan element, or the asbru file, if no plan element is selected. This is exactly the text that will be exported using File -> Export Asbru XML.

3. Topology View

The topology view displays the plan activation hierarchy, i.e. which plans are activatet by what plans and with which strategy. It uses a 3-dimensional metaphor: The y-axis denotes the time, so if one plan is executed after another one has finished, it is shown to the left of the other one. Paralell execution is denoted by displaying the plans on the same y but different x-coordinates. Finally, if a plan is activated by another plan, it is stacked on top of it (z-axis).

The figure below shows the layouts used for different activation strategies – this way you can intuitively grasp how a certain plan works.
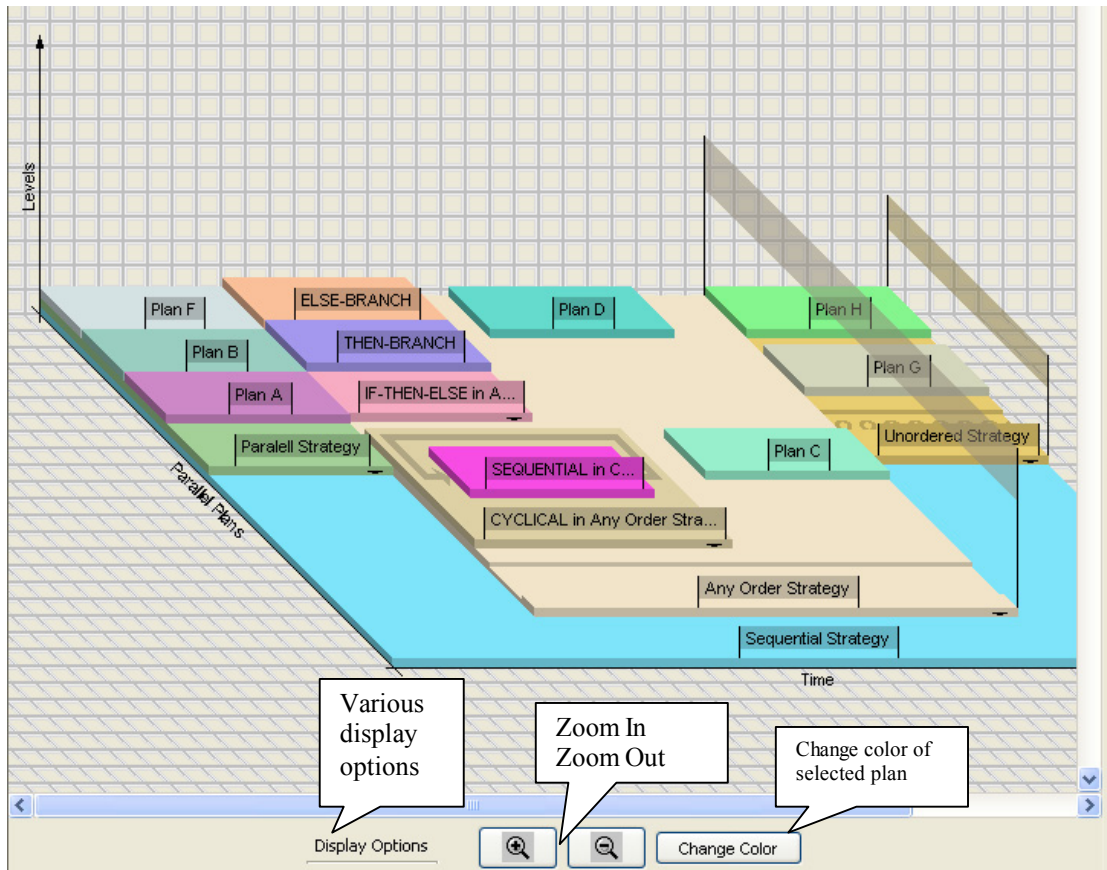
Different kinds of visualizations in the Topology View

- o To select a plan, left-click on it.
- o To move a plan to another plan (i.e. to change the position or activating superplan) click on the plan, hold the left mouse button, move the plan to the desired location and release the mouse button (Drag'n'Drop).
- o If you work with large plans, you can use yet another mechanism so you don't get lost: Folding. The small, black arrow in the lower,right corner of a plan indicates if the subplans are visible. If it is pointing downwards, they are visible, if pointing upwards, they are hidden. Either **click on the arrow the show/hide the subplans**, or **doubleclick** on the plan (e.g. if the arrow is hidden).
- o You can use the zoom in / zoom out buttons to control the size of the plans in the visualization.
- o Goal Flags: They indicate the end of a plan. If the plan activation is optional, question marks appear on the goal flag. You can turn them on and off using the display options.
- o Conditions: Colored condition symbols indicate that the corresponding condition is present for the execution of the plan. You can turn them on and off using the display options. They are only shown for leaf plans at the moment – you can use folding to visualize the conditions at a certain level.

4. Temporal View

This view shows the plan hierarchy in a tree like list. It visualizes the time constraints for executing plans using Time Annotations. Again, the time axis for time annotations goes from left to right.
Selecting and folding plans works as in the topology view.

Time Annotations consist of two bars (the minimal and maximal duration) and four markers (the earliest and latest, starting and finishing point). In AsbruView, for displaying Time Annotations an absolute offset is calculated, while Time Annotations are specified relative to the previous plan (sequential activation) or superplan (other activations). If you do not edit any time annotations they are autogenerated, i.e. AsbruView calculates a appealing visualization which is not represented in Asbru plans – such Time Annotations appear in dark gray. After editing, a time annotation appears in black color and will not be overwritten by the autogeneration mechanism.
- To edit a time annotation, click on it. The editor will keep track of implicit constraints and show an error message if the edited time annotation is invalid.
- In the time annotation editor, switch 'No timeannotations' to turn time annotations on or off for the particular activation of the selected plan.
- Each of the six values described above can either be defined or undefined. Click on the checkboxes to switch the status.
- You also may want to change the unit of the time annotation in the upper left corner.
- When finished press Ok to accept the changes or cancel to discard them.
- In the temporal view, change the unit in the control panel to set the zoom for the time annotations.

5. PlanInfo View

This view shows informations on a single plan. It consists of several facets, the first being the Info Facet. It displays the plan's name, its type and the context of the currently selected activation (plus a note if the activation is optional).
The next facets are used to edit activity, descriptions and time annotations for a plan's conditions (only available for qualified plans).

```
Asbru
Import: Only if a condition is active
Export:
<CONDITIONTYPE>
  <!—AsbruView: TEXTUALDESCRIPTION -->
  <time-annotation> …
…
```

What follows are fields for *textual descriptions* of preferences, intentions and effects of a qualified plan.

6. References

A description of the SOPO view can be found here:
http://ieg.ifs.tuwien.ac.at/tools/asbruview/timeshapes.pdf

The homepage of the AsbruView project (where you can find new versions of the program) is
http://www.asgaard.tuwien.ac.at/asbruview/index.html