

Chapter 1

User guide

This document describes installation and usage of the electronic exercise book *Styx*.

1.1 System requirements

The exercise book is written in Java, therefore you must have the JRE (Java Runtime Environment) of version at least 1.6 installed. To find out whether or not your configuration fulfills this requirement, type `java -version` on the command line. You should see a message similar to the following:

```
java version "1.6.0_02"  
Java(TM) SE Runtime Environment (build 1.6.0_02-b05)  
Java HotSpot(TM) Client VM (build 1.6.0_02-b05, mixed mode, sharing)
```

1.2 Installation

1.2.1 Installation on MS Windows

1. Windows version can be found in the file *styx-windows.zip*. Decompress its contents into an arbitrary folder on your system (for example *C:\Program Files*), this folder will be referred to as *INSTALL_DIR* in the following text.

- This step shouldn't be necessary on NT family of Windows (Windows NT, 2000, XP, 2003, Vista). Set the environment variable *STYX_HOME* to *INSTALL_DIR\Styx*. Detailed instructions: right click on *My Computer* on the desktop, choose *Properties* (if you don't have the icon *My Computer*, double-click on *System* in the *Control center*). Switch to tab *Advanced* and there choose *Environment variables*. In the following dialog push the button *New* and fill in the appropriate data (see figure 1.1).

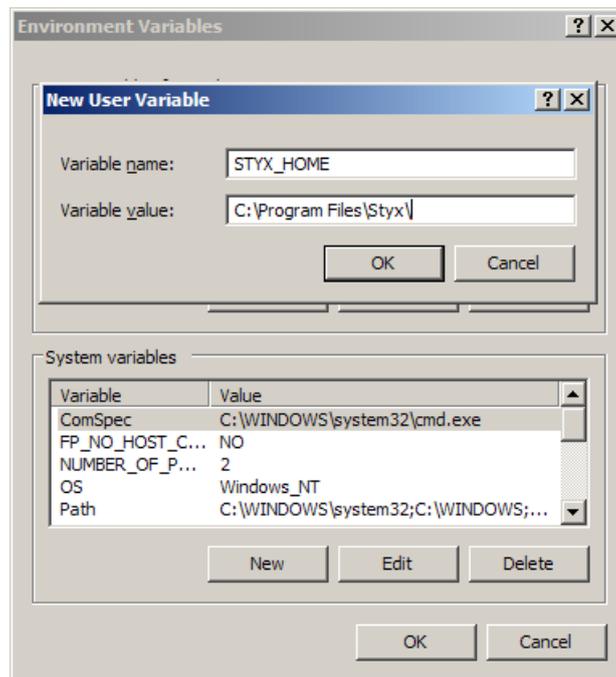


Figure 1.1: Setting the environment variable *STYX_HOME*

- If you wish to, you can create a shortcut for *Styx* pointing to *INSTALL_DIR\Styx\styx.bat* (and similarly for *Charon* pointing to *INSTALL_DIR\Styx\charon.bat*). To force Czech or English user environment, run *INSTALL_DIR\Styx\styx-cs.bat* or *INSTALL_DIR\Styx\styx-en.bat* (and similarly for *Charon*).
Tip: after making sure that the exercise book is correctly installed and functional, set the shortcut to be run in a minimized window. This way you'll avoid visible appearance of the command line window that Windows opens during the startup of the application.

1.2.2 Installation on GNU/Linux

1. GNU/Linux version can be found in the file *styx-linux.tar.bz2*. Decompress its contents into an arbitrary folder on your system (for example */opt*), this folder will be referred to as *INSTALL_DIR* in the following text.
2. Create a symbolic link to the file *INSTALL_DIR/styx/styx* (and *INSTALL_DIR/styx/styx*) in a directory which is included in your *PATH* system variable (for example */usr/local/bin*).

1.3 Charon

The *Charon* application lets the user browse through all of the available sentences and create exercises out of them. The selection of the sentences is really wide (more than 11,000 sentences), because of that it might take a while when the program starts (depending on how fast your computer is). For the same reason you need to have at least 160 MB of free memory.

The following illustration shows the application window with seven highlighted areas.

1. List of all sentences in a set. You can select a sentence or sentences which you want to add into an exercise. The selected sentence is shown in areas 3 and 4.
2. Button which adds sentences into the exercise.
3. The selected sentence is shown here. If you point your mouse over a word, you will see morphological information (lemma, part of speech, gender, number, case, ...) in a tooltip.
4. Syntactic tree of the selected sentence is shown here.
5. List of sentences added into the exercise so far. Any of these sentences can be selected and again shown in areas 3 and 4.
6. Button which removes the selected sentence from the exercise.

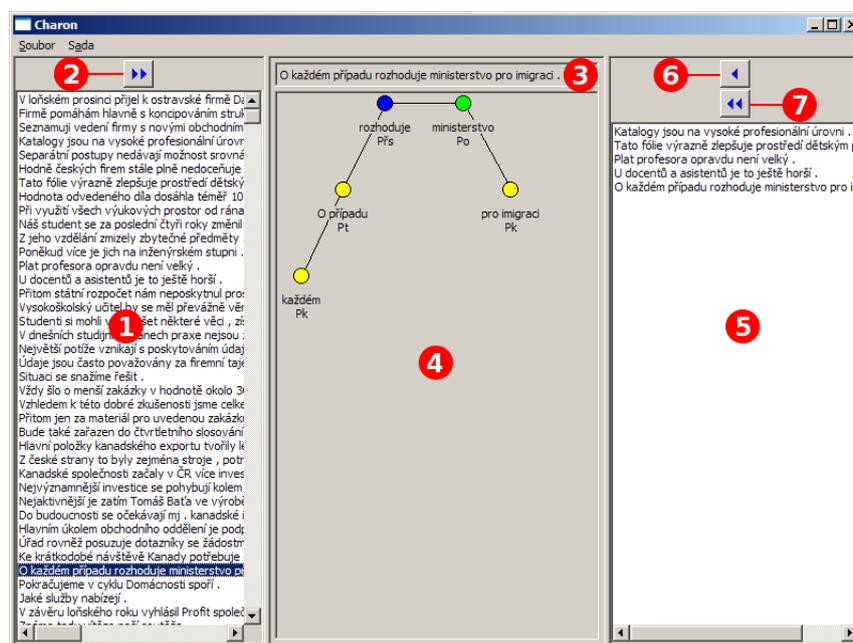


Figure 1.2: Charon window

7. Button which removes all sentences from the exercise.

All available sentences are divided into ten sets, otherwise it would be very difficult to work with the program. To switch to a different set, use menu *Set*.

Note: switching sets might again take some time.

Use menu *File* to save your exercise or to load previously created exercise and modify it.

1.4 Styx

The *Styx* application is the electronic exercise book itself. After the application is started, more or less empty window appears. To get started you have to open a formerly created exercise through menu item *File | Open*.

After selecting a sentence you want to parse you'll see a situation similar to the following picture.

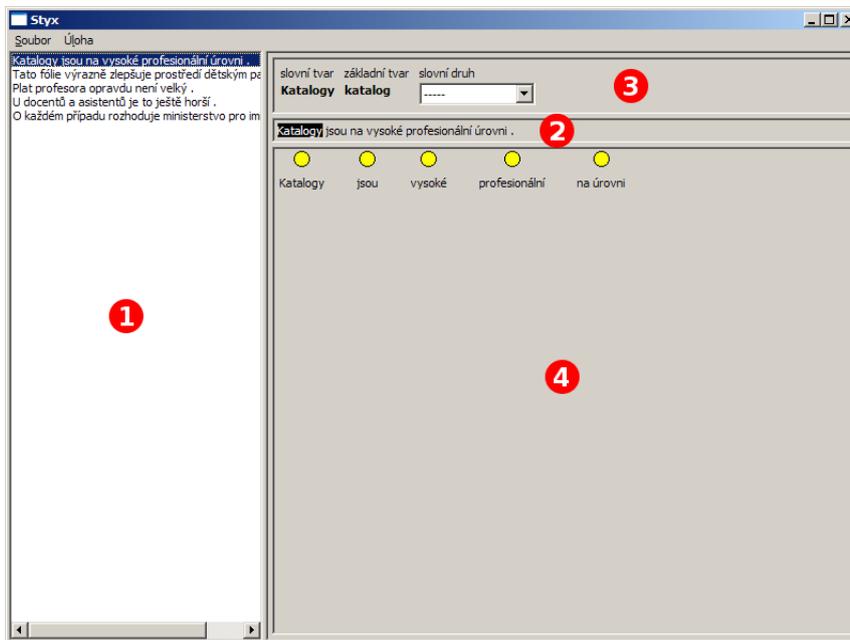


Figure 1.3: *Styx* application window

1. The exercise – list of the sentences. Select a sentence you wish to parse.
2. The selected sentence.
3. Area for the morphology practicing.
4. Area for the syntax practicing.

1.4.1 Morphology practicing

First you have to select a word whose morphology you want to determine – click on it in the area 2 (see figure 1.3). Now you can choose its part of speech using a combo box in the area 3. Then additional combo boxes for determining the morphological categories relevant to the selected part of speech appear.

Alternatively you can choose values of morphological categories from pop-up menus invoked by right clicking on the desired word (see figure 1.4).



Figure 1.4: Pop-up menu for choosing of morphological category values

1.4.2 Syntactical parsing of a sentence

Building of a syntactical tree uses the intuitive *drag and drop* method. Catch a node by a circle, drag it over the node that is supposed to become its parent and drop it there.

Syntactic functions are assigned to the nodes using a pop-up menu of the node itself (see figure 1.5). After selecting of both subject and predicate they will be automatically connected into a basic syntax pair.

1.4.3 Checking the exercise

When you are finished with the exercise you can check your results through menu item *Task | Check*. First you will be provided with overall statistics of correctly and incorrectly filled parts of the exercise (see figure 1.6). After acknowledging (the statistics can be shown any time later) you can see the correct and incorrect answers in detail (see figure 1.7).

1. The exercise – list of the sentences. Select a sentence you wish to check.

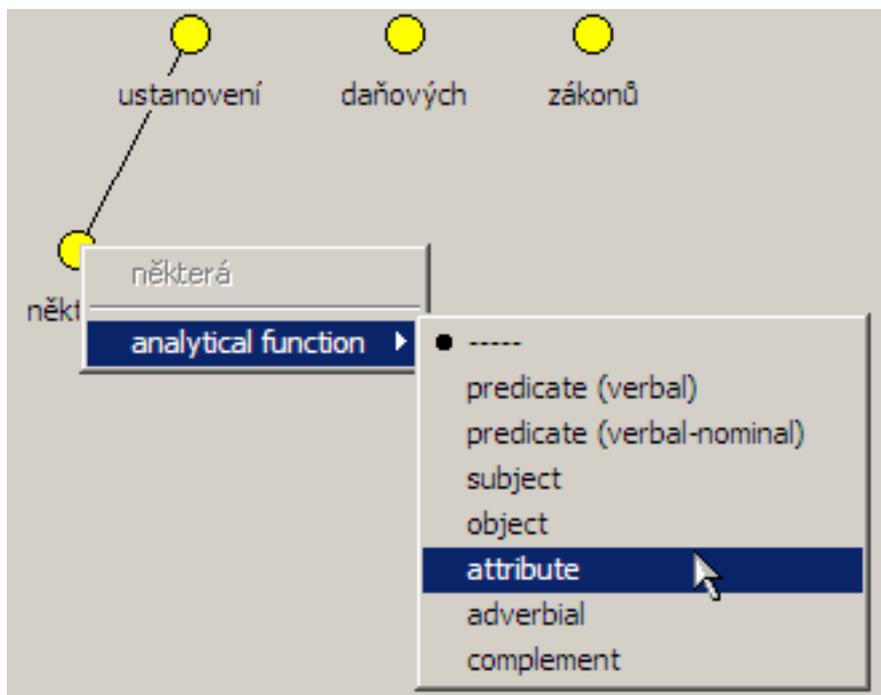


Figure 1.5: Pop-up menu for selecting a syntactic function

2. The selected sentence. By clicking on a word you can see information about its morphology in the area 3.
3. A table summing up morphology of the selected word. If you determined particular morphological category correctly, your answer is shown in blue, otherwise in red.
4. A correct syntactical tree of the sentence.
5. Your syntactical tree of the sentence. Correct dependencies and syntactic functions are blue, the incorrect are red.

1.5 Configuration

Several properties of the user interface can be modified. Currently you can't do this directly from the applications Styx or Charon, you have to manually create and edit the configuration file *styx.properties*. In order to do so, do the following. If you have the *HOME* environment

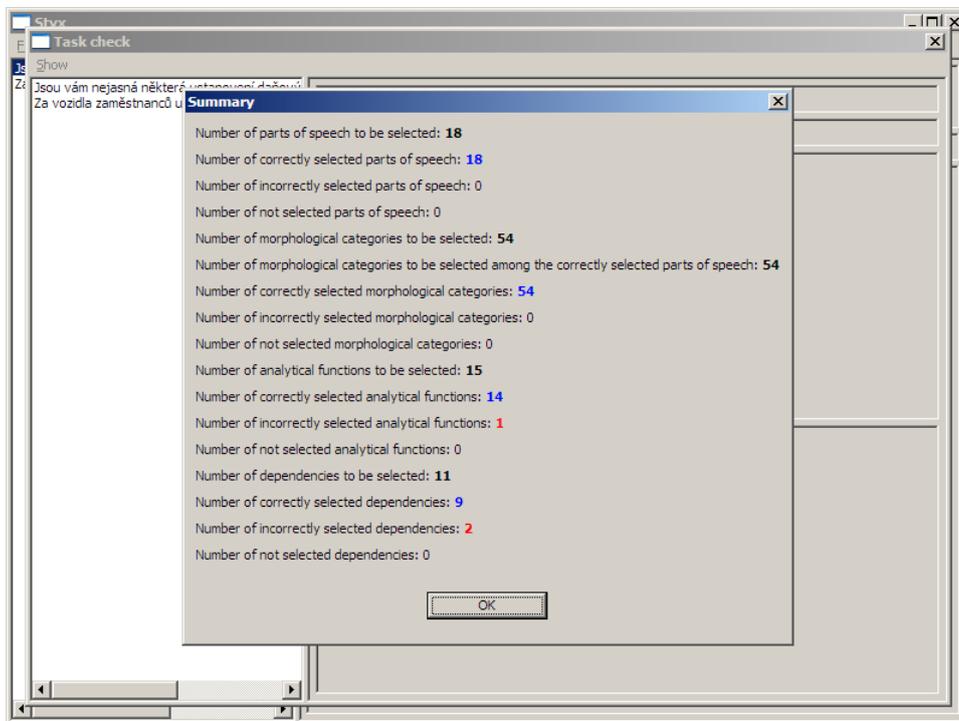


Figure 1.6: Checking the exercise – summary

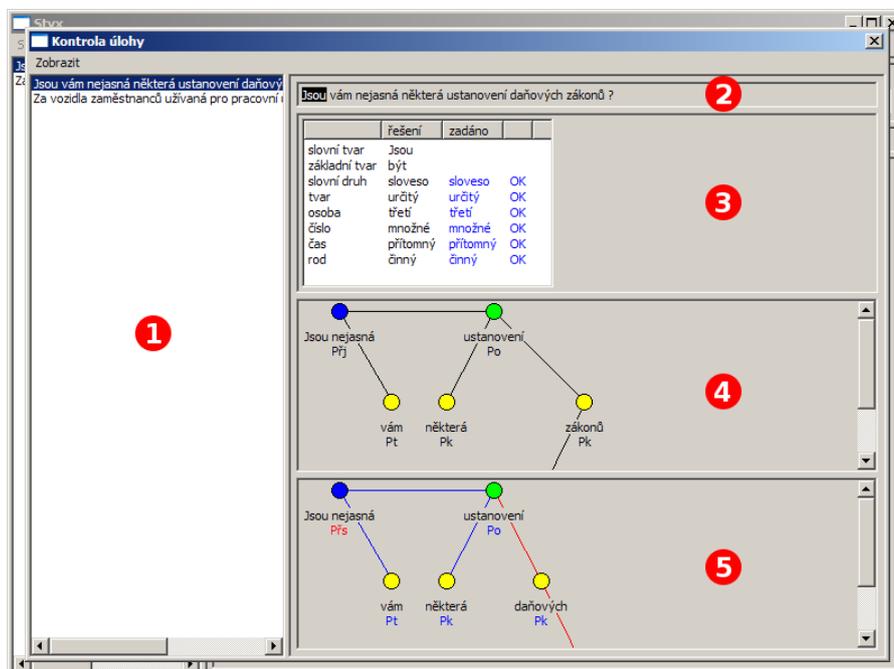


Figure 1.7: Checking the exercise

variable set (always on GNU/Linux, sometimes on Windows), create in the directory that the variable contains a subdirectory *.styx* and inside that the file *styx.properties*. If you don't have it set but you have the *APPDATA* environment variable set (usually on Windows), create in the directory that the variable contains a subdirectory *styx* and inside that the file *styx.properties*. The following text describes allowed content of this file.

1.5.1 Default configuration

The default configuration contains the following settings (i. e. if the configuration file were to have this content, it would be the same as if the file didn't exist at all). Particular values are explained in the following sections.

```
# Language used for the interface
STYX.lang = cs

# Colors for nodes
STYX.node.background = yellow
STYX.node_predicate.background = blue
STYX.node_subject.background = green
STYX.node.foreground = black

# Colors for edges
STYX.edge = black
styx.edge_correct = blue
styx.edge_incorrect = red

# Colors for labels
styx.label_correct = blue
styx.label_incorrect = red
styx.label_selected.foreground = white
styx.label_selected.background = black
```

1.5.2 Language settings

The key *STYX.lang* sets the language used for the user interface (common for both Styx and Charon). Allowed values are *cs* for Czech and *en*

for English.

1.5.3 Color settings

Colors of some user interface elements can be changed, you can choose from these color values: *black, blue, cyan, gray, green, magenta, red, white, yellow, dark_blue, dark_cyan, dark_gray, dark_green, dark_magenta, dark_red, dark_yellow*.

Colors of the following elements of the user interface can be changed:

- Nodes representing sentence constituents. Colors of background and foreground can be changed with the options *STYX.node.background, STYX.node_predicate.background, STYX.node_subject.background* and *STYX.node.foreground*.
- Edges between nodes representing node dependencies. Color can be changed with the options *STYX.edge, styx.edge_correct* and *styx.edge_incorrect*.
- Labels allowing to choose a word while practising morphology. Colors of background and foreground can be changed with the options *styx.label_selected.foreground* and *styx.label_selected.background*.
- Labels showing correct and incorrect answers when checking the exercise. Color of foreground can be changed with the options *styx.label_correct* and *styx.label_incorrect*.