

# CEGUI Unified Editor User Manual

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This document has been laid out for a computer screen viewing and thus may be unsuitable for printing. LyX sources are available in *doc/user-manual-src* in the source tarball if you wish to relayout.

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# Chapter 1

## Prerequisites

### 1.1 Hardware and software requirements

Operating system:

- GNU/LINUX system with X11
- WINDOWS XP and newer
- APPLE MACOS X 10.6+
- \*BSD system with X11<sup>1</sup>

Hardware:

- At least Intel Pentium 4 or AMD Athlon XP
- 512 MB of RAM
- Graphics card capable of accelerated OpenGL with FBO support
- Display area of at least 800\*600 px available to the application<sup>2</sup>

Dependencies:

- PYTHON 2.7
- QT 4.7 or 4.8
- PYSIDE – python bindings for QT
- CEGUI 1.0<sup>3</sup>
- PYCEGUI 1.0

### 1.2 Knowledge prerequisites

To use the Unified Editor, you have to have some basic knowledge of how GUI systems work in general. It would be best if you were familiar with how CEGUI works but Qt or GTK knowledge can be transferred without problems.

For editing assets in *code mode* you should understand the format in question, the editor makes no effort to make code editing easier with highlighting or any code references (it's a planned feature though).

There is no need to understand programming in general to use CEED efficiently, the application is targeted at artists. You may still need help from a fellow programmer about setting up the project file.

### 1.3 Installation

The application is currently distributed as a source tarball that works on all supported platforms (if you install the dependencies). Furthermore, binary standalone builds are made for Windows and Apple MacOS X. This only applies to official releases, mercurial code is not being built regularly.

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<sup>1</sup>CEED has been reported to work on BSD but this platform is not officially supported.

<sup>2</sup>Vertical screen estate of at least 800 px is recommended.

<sup>3</sup>CEED supports CEGUI 0.7 data as well but uses 1.0 internally.

### 1.3.1 Source tarball

First, make sure you have all dependencies installed. Refer to guides of the dependencies on how to install them.

Download the tarball and extract it. You should end up with a folder called *CEED- $\{version\}$* . Go into this folder in CLI<sup>4</sup> and call *python setup.py install* as administrator<sup>5</sup>. This should trigger the installation. After the installation finishes, run *ceed-gui* to start the application.

### 1.3.2 Standalone executable (Win32)

You do not have to install anything in this case (all dependencies are bundled), just unzipping the archive and running *ceed-gui.exe* will make the application start. If this is not the case, please report it as a bug.

If you have made custom changes to CEGUI that you use with your application, this distribution method might not work well for you! Upstream CEGUI is used for the build.

### 1.3.3 .app bundle (MacOS X)

CEED behaves like a proper MacOS X native application. Double clicking will start the GUI, dragging it to *Applications* will install it. If you use multiple versions they might share settings!

If you have made custom changes to CEGUI that you use with your application, this distribution method might not work well for you! Upstream CEGUI is used for the build.

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<sup>4</sup>Use terminal emulator of choice on UNIXes, cmd.exe on Windows.

<sup>5</sup>Use su/sudo on UNIXes, "Run as administrator" on Windows.

# Chapter 2

## Working with the application

### 2.1 The basics

#### 2.1.1 Main interface

This interface hosts all the tabbed editors and provides functionality that is shared by all the editors. It surrounds the application.

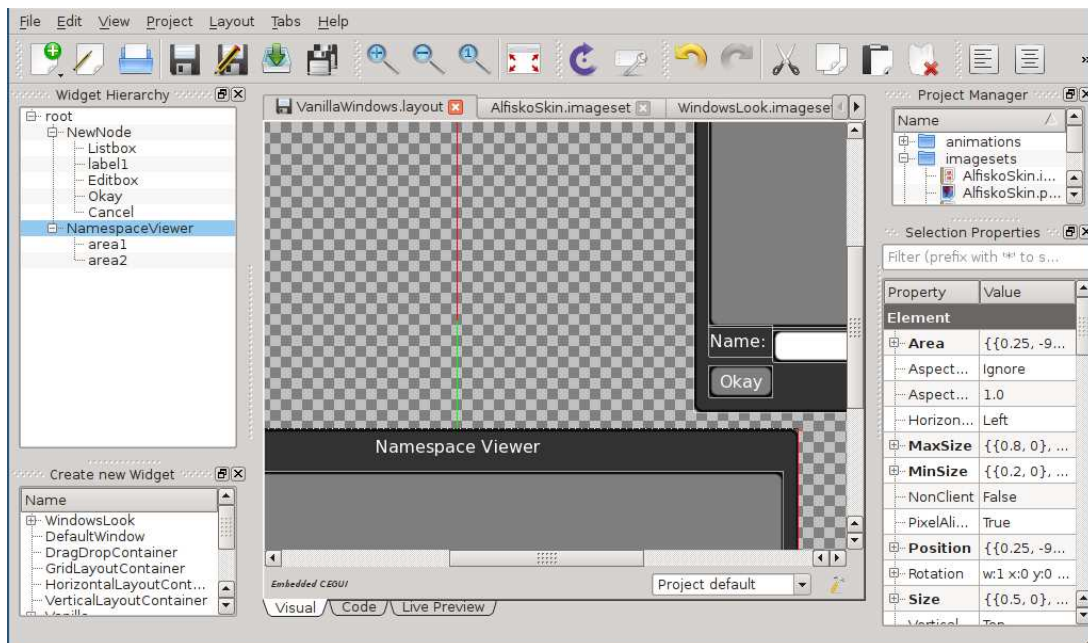


Figure 2.1: overview of the interface

#### 2.1.2 Multi tab editing

The centre of the application consists of tabs, each tab represents one opened file. CEED will strive not to have two tabs for one file opened, if you try to open one file twice it will just activate the existing tab for the file. Any of the tabs can be closed on request. If there are unsaved changes the user will be asked what to do about them.

Reordering tabs is also possible using mouse drag-moving. The interface including dock widgets, toolbars, etc... may change when switching tabs. Switching tabs does not count as an undo action, it is instead just a context change action.

#### 2.1.3 Multi mode editing

For some file types (mostly .imageset and .layout) it makes sense to edit in both visual mode as well as code mode (raw XML). Undo and redo are transparent between mode switching as mode switching counts as an undo action. You can switch modes by clicking on the

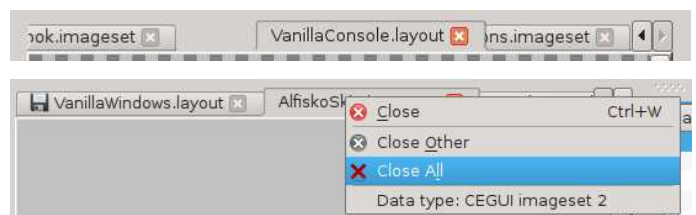


Figure 2.2: tabs offer reordering and a context menu

bottom tab pane. All files are opened in Visual mode by default. Code editing is regarded as a crutch mechanism, a tool to make tedious mass changes or work around problems with Visual mode.

Code editing is currently very simplistic and does not even have syntax highlighting! Please also note undo/redon is very wasteful when it comes to code editing and long editing sessions may end up with a lot of RAM being allocated.

#### 2.1.4 Copy / Paste

Many things you can select in the editor can be copied /- cut and pasted elsewhere. This is a very useful workflow feature and works even across multiple CEED instances. You can for example have 2 different projects and copy parts of layouts between them. Both projects have to have all widget types that or copied of course!

The default shortcuts are the expected ones depending on your platform. *Ctrl* + *C* for copy on Windows and GNU/Linux, *Cmd* + *C* on Mac OS X.

#### 2.1.5 Project manager

Allows user to manage a project (project is a set of related files), browse through files, open any file for editing, add new or existing files to the project and remove files from the project. Most of the project managing takes place in the *Project Manager* dock widget. The dock widgets lists all files currently in the project and allows user to edit/view them by double clicking them. Right clicking brings up a context menu with the ability to add files to the project or remove currently selected files from the project. The main reason for project management is to have CEGUI resource path settings shared for all the files in the project. The project files are designed to be committed to a repository and used on different computers. All paths are stored relative to the project file, even though you may see absolute paths in the editor itself, they get converted to relative paths in the end.

#### 2.1.6 File manager

You are advised to use project manager if at all possible, it will improve workflow, especially in bigger teams.

In addition to the project manager, CEED allows you to browse the filesystem and simply open files for quick editing. Please note that this will only work for some file types (it cannot work for schemes and layouts because CEGUI paths are not set if project is not loaded). This is again contained in a dock widget that hosts the functionality. It has a very simplistic interface, displaying current path, allowing the user to go one level up the hierarchy and simply listing files and folder in the current path.

Double clicking a file opens it for editing.

Furthermore, this dock widget will watch for changes on the filesystem and refresh accordingly.

#### 2.1.7 Resizable rectangle

A construct used reused in many places in CEED. Represents a rectangular object that can be resized and/or resized. It offers features that would otherwise have to be reimplemented in many places. The main inspiration was GIMP's selection rectangle [?]. Can be moved by dragging the middle area. There are eight areas that resize the rectangle if you drag them. These are called resize handles - four edges and four corners. They get highlighted when you hover over them.

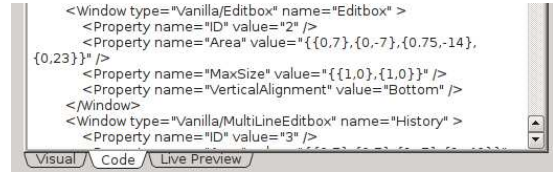


Figure 2.3: switch modes by clicking the bottom mode tabs

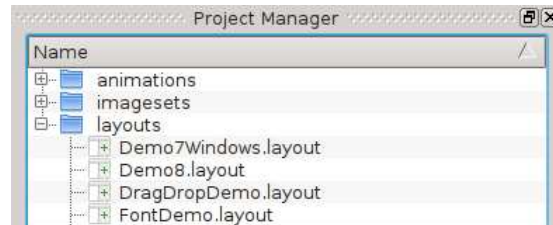


Figure 2.4: project manager dock widget



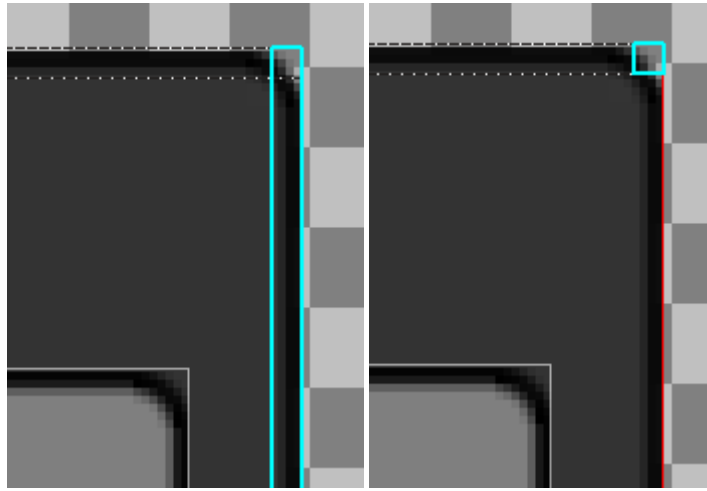


Figure 2.5: resizable handles appear when you hover over edges/corners

### 2.1.8 Zooming

To make editing easier and possibly more precise, user is allowed to zoom in the editors that support it. Both imageset and layout editors support zooming. By default you can zoom by clicking the zoom icons in the toolbar as seen in Figure 2.1 or holding the *Ctrl* key and scrolling with your *mouse wheel*. You can zoom out to 50% to get an overview or zoom in multiples of two. If you are at the zoom level of 100%, one zoom in will change that to 200%, another zoom in will change it to 400%, etc.

The zoom level will in no way affect your data, it will only change the context you are editing in. It therefore is not an undo action.

### 2.1.9 Undo and Redo functionality

Since most tabbed editors allow undo and redo, the main interface allows you to perform these actions via shared means in the top toolbar. Undo/redo are per-file, so whenever you switch tabs the undo stack gets changed to a completely different stack. If you for example do changes to file *A*, then switch to file *B*, do some changes and keep pressing *undo*, only changes to file *B* gets undone. You have to switch to *A* again and undo there. Selections are not undoable as they do not count as undo actions. There is one very important aspect that breaks the “context switching is not an undo action” rule. Switching editing mode is an undoable action because the changes of XML code do not make sense in visual mode.

Undo and Redo can be very powerful and allows free experimentation without fear of losing data. Apart from possible bugs in the applications, all things that affect data are undo actions and are undoable. Use that fact to your advantage!

Even with undo/redo, you are advised to use version control or other mechanisms. Undo/redo actions are lost when you close the application!

### 2.1.10 Compatibility layers

CEED has a facility called compatibility layers which allows it to work with data from many versions of CEGUI. In a nutshell these layers allow you to transform raw data from version to version. Each layer has source and target data types that describe the transformation. Layers can be chained, if there is a path to go from data type *A* to *B* and *B* to *C*, it is possible to transform *A* to *C*.

Each time you are editing a file, you can right click the tab to bring out a context menu and see the exact data type you are editing, see Figure 2.2. It is not currently possible to change the data type of a file that’s been opened, CEED will attempt to detect the data type when you are opening the file and ask you if it cannot decide for sure. Make sure you set the correct CEGUI target version as described in Figure 2.7. The CEGUI version will affect what data type newly created files in CEED will have.

You can also use all compatibility layers using the shipped CLI tool called *ceed-migrate*. Call *ceed-migrate -help* for more info.

## 2.2 Creating a project

### 2.2.1 Creating a project file

You will need to create a project for any serious editing with CEED. There are some quick hints about how to do this in the *Quickstart Guide* but we will dig into more details here.

The first step is to choose *File » New » Project*. The dialog in Figure 2.6 will appear. The most important choice you have to make is where to store the project file. It is recommended to store it in a directory made exclusively for the project. Doing so ensures that it is relocatable. You can optionally instruct CEED to auto create resource directories similar to the CEGUI sample datafiles directory structure.

### 2.2.2 Project settings

Project settings window will pop up after the project file is created. You can always return to the project settings window to change settings later. It is recommended to get the basics right when creating the project as that will prevent many headaches<sup>1</sup>. Most of the options are documented in the interface as can be seen on the following screenshots.

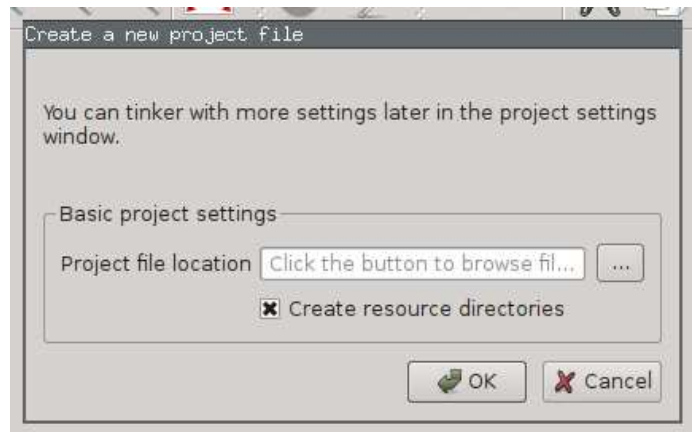


Figure 2.6: first step of creating a project

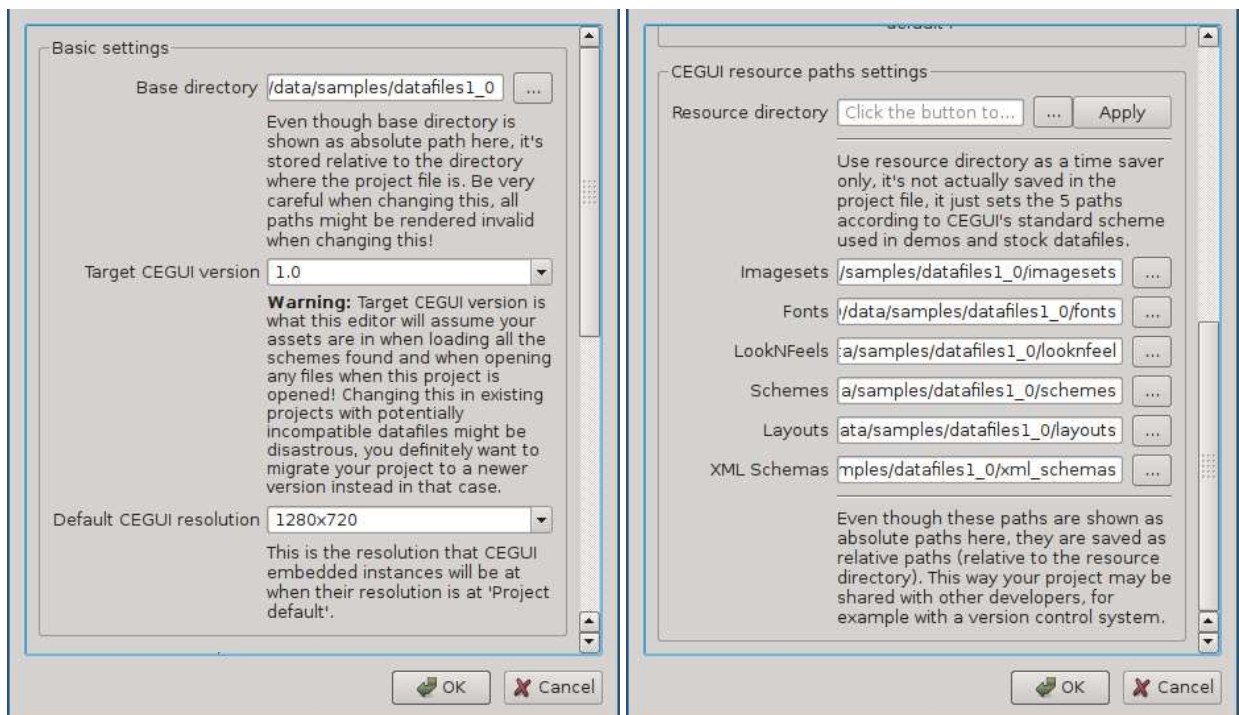


Figure 2.7: project settings window

All paths stores in the project file are relative to the parent directory of the project file. This allows you to move the project directory around and share it with your co-developers. First thing you need to choose is the base directory. This will by default be the same as the folder your project file is in. You can however set it to the base of your CEGUI resources and the rest of CEGUI resource paths will be relative to it. This allows to switch paths around quickly. If you are unsure, just leave it as it is.

The next thing you need to choose is the target CEGUI version. CEED supports CEGUI 1.0 and 0.7. This has very drastic consequences, especially on any resource files you create from scratch, so make sure you set it correctly.

Following is the section with paths to CEGUI resource directories. If you use CEGUI's directory structure (the one used in samples), you can simply fill or browse for the first editbox and press apply. Otherwise you will have to

<sup>1</sup>CEED uses the project to choose versions of new files for example.

fill the resource paths manually. Even though the paths are shown as absolute, they are stored *relative* to the project's base directory, which again is stored relative to parent directory of the .project file. This is what makes the whole project directory relocatable.

## 2.3 Imageset editing

An imageset is practically a texture atlas, a technique used to put many smaller images on one texture to drastically speed up rendering. Each imageset has a name, underlying texture file path, autoscaled settings, native resolution and a set of images. “Image” means a rectangle selection of the underlying texture. Each of these images has a position (x, y), width, height and an offset (x, y).<sup>2</sup>

Opening existing imagesets for editing does not require you to have a project opened. The underlying texture file is sought after in the same directory the .imageset file resides in. If a project file is opened the appropriate resource directory is used to search for the files instead.

### 2.3.1 Overview

A dock widget containing basic imageset properties and a list of image definitions shows up upon opening an imageset file. The centre part of the editor shows the underlying texture and rectangles describing geometry of image definitions. Image definitions can be selected (including multiple selection). Selection works in both the image definition list and the editor’s centre part (rubber band selection). Both selections are synchronised. Names of image definitions will be shown as labels when the definitions are selected. This can be disabled in settings, see Section 2.6 for more details.

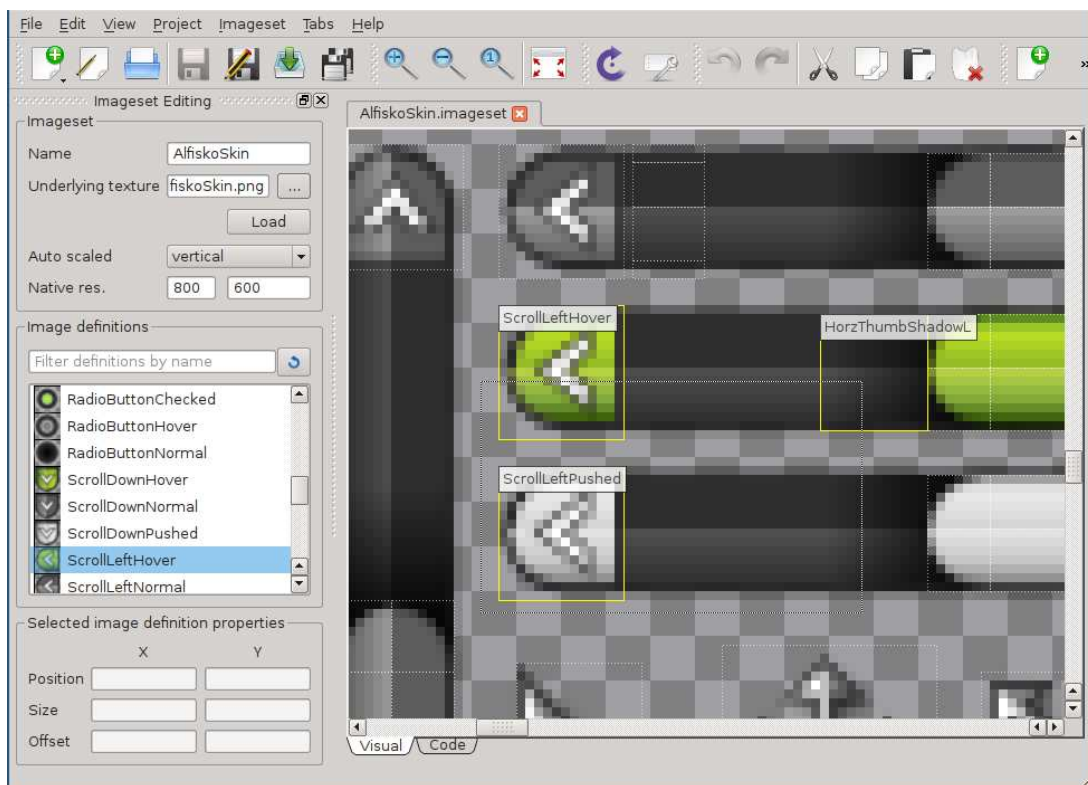


Figure 2.8: rubber band selecting in the imageset editor

### 2.3.2 Imageset properties

As can be seen in Figure 2.8, imageset itself has several properties that affect all image definitions defined in it.

The name of the imageset means different things depending on which version of CEGUI you are targeting. It is simply a prefix of each of the defined image definitions’ names in CEGUI 1.0 with “ImagesetName/ImageName” being the full name of a single image definition, in 0.7 image definitions are strictly tied to imagesets and are referenced using “set: ImagesetName image: ImageName”.

Underlying texture is the texture that will be used to draw the imagery as of image definitions inside the imageset.

The auto scaled settings affects how the imageset’s image definition sizes will be affected on various resolutions. In a nutshell, with disabled auto scaling the image definitions will always have exactly the size they are defined with, with any other auto scaled settings, the size will be affected by the resolution CEGUI is currently rendered in (see CEGUI documentation for explanations of each setting). Please note that only “false” and “true” settings are implemented in CEGUI 0.7, the rest are new in CEGUI 1.0.

Native resolution is the resolution this imageset was created for in simplified terms. If the target resolution is different, the image definitions may be scaled, depending on the *auto scaled* settings.

### 2.3.3 Moving and resizing image definitions

You can move selected image definitions by dragging or using keyboard (*WSAD* scheme moves them one pixel in each direction, pressing *Ctrl* moves them 10 pixels in each of the directions). You can also resize the image definitions by pressing *Shift* and one of the *WSAD* keys, this moves just the bottom right *vertex* of the image definition rectangle. Rectangles are “resizable rectangles”, see Section 2.1.7 for more details. This will only delete the rectangle definitions of the images in the imageset, it will not alter the underlying texture in any way.

### 2.3.4 Deleting image definitions

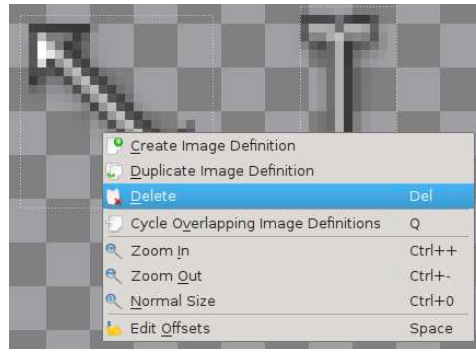


Figure 2.9: selected images context menu

You can delete a selection of image definitions by selecting, right clicking and choosing *Delete* in the context menu or pressing the *Delete* key. This will only delete the image definitions, it will not alter the underlying texture in any way.

### 2.3.5 The property box

To allow precise adjustments, user can alter all the values of selected image definition manually using the property box. Just select exactly one image definition and the property box will get filled with its values. Altering them will immediately preview the changes in the visual editing pane. All editing has undo/redo support, see Section 2.1.9 for more details. Editing image definition properties in the property box should always be preferred to editing raw XML in code mode, it is safer and has better and faster undo/redo.

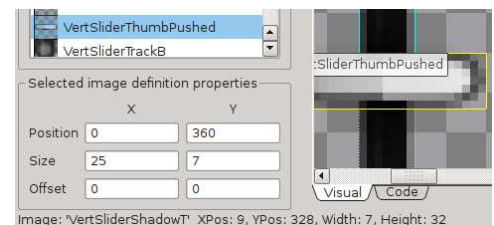


Figure 2.10: image property box

### 2.3.6 Editing image definition offsets

Offsets describe where the *0, 0* position is in the image definition. By default it is at the top left corner of the rectangle of the image definition. You may want to adjust it, especially if you are working with crosshairs, cursors or window edge imagery. Enable editing of offsets using the context menu (see Figure 2.9) and red offset crosshairs will appear, move them around to alter the offsets. You can alternatively use the property box to edit offsets manually using the keyboard, see Section 2.3.5.

### 2.3.7 Selecting overlapping image definitions

When image definitions overlap in a way that would prevent you from selecting the image definition you need. You can select any image definition in the overlapping area and use the *Cycle Overlapping Images* feature. It will cycle all overlapping image definitions, just stop when the desired one is selected. The order in which the overlapping image definitions are cycled is not well defined, just cycle until the right one is selected. You can see the option in the context menu in Figure 2.9.

### 2.3.8 The code mode

Raw editing of the XML is supported in imageset editing, click the “Code” tab in the bottom to switch to it. Please note that the raw format will always be the native CEGUI 1.0 format even if you selected CEGUI 0.7 as the target version. The conversion will only happen when you save to a file.



## 2.4 Layout editing

The word layout has two meanings in the CEGUI world so I will first disambiguate it. The first meaning is a hierarchy of widgets, the layout describes the way widgets are laid out as an *n-tree*. The other meaning is a widget able to lay out its child widgets during runtime, this is more precisely called *Layout Container*. I will use the word “layout” with the former meaning in the rest of this section unless stated otherwise.

Each layout starts with a root widget and can only have exactly one root widget. If you need more top widgets, just put them into a *DefaultWindow* and use the *DefaultWindow* as the root widget. When CEGUI loads the layout it returns this root widget. Widgets always have a name, this name only needs to be unique in the parent in CEGUI 1.0, it has to be globally unique in CEGUI 0.7.

When I say widget “Parent/Child/SubChild” I mean a widget that is a child of the “Child” widget and the “Child” widget is a child of the “Parent” widget. I will call this notation the *name path*.

### 2.4.1 Overview

Upon opening a layout, dock widgets containing widget hierarchy, available widgets to create and selection properties show up. The centre part of the editor shows the layout as rendered using CEGUI. Widgets can be selected and unselected by clicking on them, rubber band selection is not available in the layout editor. Coloured lines are shown to outline how the widgets are sized and positioned. Properties of selected widget(s) are shown and are available for editing in the bottom right part of the screen.

There are no global properties of the GUI layout, the only objects holding information are the widgets.

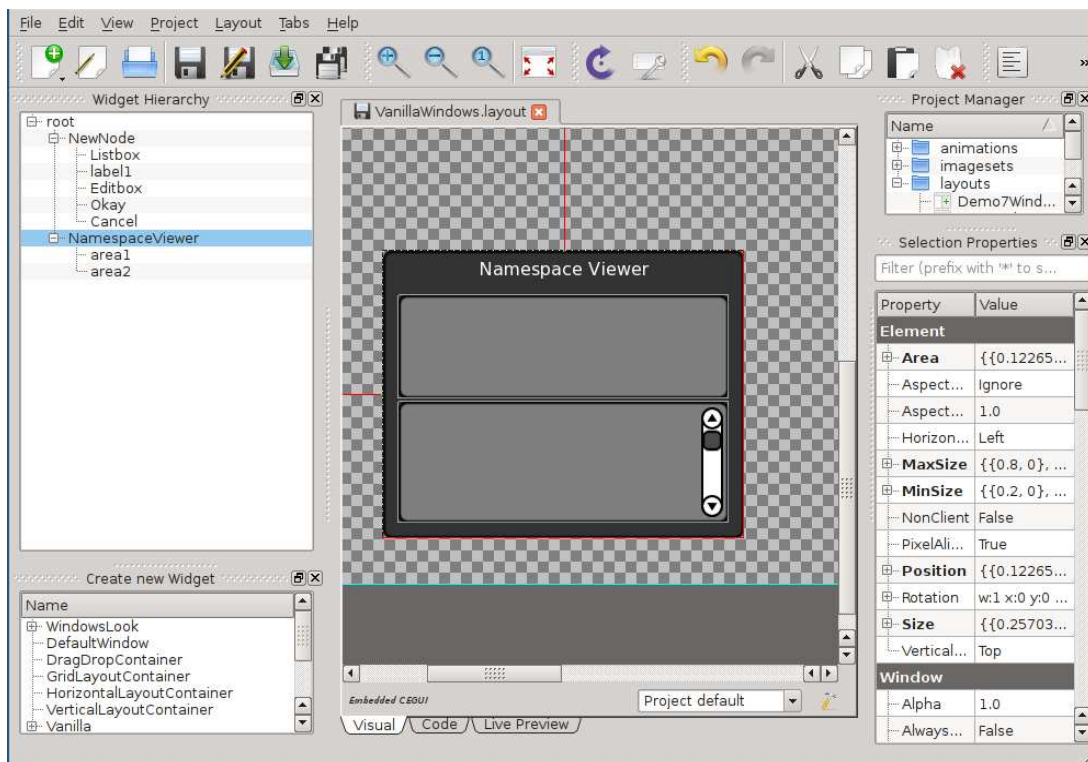


Figure 2.11: selecting a window when layout editing

### 2.4.2 Moving and sizing widgets

Selected widgets can be moved around by dragging. Resizable rectangle is used for implementation of the *widget manipulators*, see Section 2.1.7 for more details.

#### Unified dimensions

Both position and size have two components in CEGUI - scale and offset. Scale represents the dimension relative to the parent, offset is absolute pixels. Both can be positive or negative, both are stored as floating point numbers.

There are several tools in CEED to deal with unified dimensions without having to edit them manually in the property editor (see Section 2.4.4). By default CEED affects the offset component, meaning you are moving everything in pixels. It is recommended to learn relative positioning and sizing, it is a very powerful tool to make resolution independent layouts. Press the *A key* to switch which dimension component you are affecting with your moving and resizing.

Use *Normalise Position* and *Normalise Size* to “clean up” the dimensions in your layout. Default shortcuts are the *D* key and *S* key respectively.

Whenever you select a widget, its position and size are shown by the means of coloured lines. Red part of the dimension represents the scale component and green part represents the offset component.

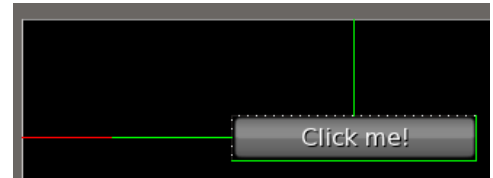


Figure 2.12: unified dimensions of a button

## Snap to grid

It is really hard to keep your widgets aligned and it is quite easy to spot for your users that they do not align properly. CEED has a tool to help you align your widgets to a grid. You can enable it by pressing the *Spacebar* key or by clicking the *Snap to grid* icon. If it is activated, a grid will be shown whenever you drag move any widgets and your movements will snap to it. All snap to grid happens only between parent and its child widgets, so the grid will be only shown in the dragged widget’s parent.

You can change snap grid settings in CEED’s application settings, see Section 2.6.

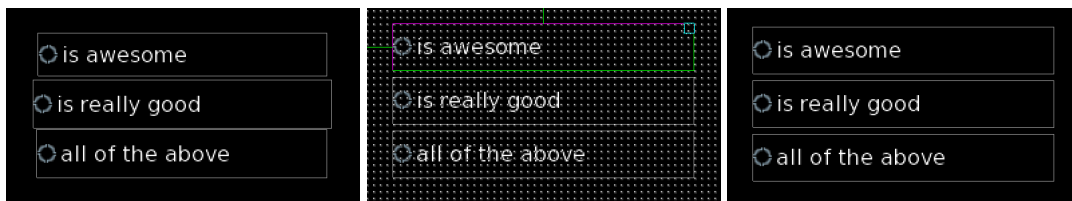


Figure 2.13: snapping to grid, zoom at 200%

## Alignment

Position of a widget in CEGUI is relative to a certain pivot. By default this pivot is the top left corner of the widget’s parent widget client area. You can change this by selecting a different alignment. Choosing *Centre* for both horizontal and vertical alignments.



Figure 2.14: alignment of widgets

## Minimum and maximum size

Another tool to help you create resolution independent layouts. Consider you are using relative sizes and your top with is 50% of the screen width. You can place a limit that the widget should be 50% of the screen width but not exceed 1000px by setting the *MaxSize* property to (0, 1000).

The maximum and minimum sizes are unified dimensions but there is one big difference: The first component is relative to the screen dimension, not to the widget’s parent!

## Aspect ratio

This feature was added in CEGUI 1.0 and it is not available in earlier versions. The compatibility layer will simply strip it and the behavior will be as if the *AspectMode* was set to *Ignore*.

Is a tool to make sure your UI is not stretched in any way in a case where your display’s aspect ratio differs from that of your user. Choose the desired *AspectMode* first using the property editing (see Section 2.4.4). There are three modes you can select: *Ignore*, *Shrink* or *Expand*. *Ignore* ignores your chosen aspect ratio and does not affect the sizes in any way. *Shrink* makes sure to comply to the aspect ratio by shrinking one of the dimensions until the ratio is satisfied. *Expand* behaves similarly but expands one of the dimensions until the ratio is satisfied.

The dimension guides will reflect this by either drawing the size guide too long or too short for *shrink* and *expand* respectively.



Figure 2.15: aspect ratio demonstration

### 2.4.3 Deleting widgets

Selected widgets can be deleted by right clicking them in the widget hierarchy dock widget to bring the context menu and choosing *Delete* or by simply selecting them and pressing the *Delete* key. Please note that deleting a widget also deletes all its descendants - children, children of children, ...

### 2.4.4 Property editing

A well implemented CEGUI widget should expose most of its properties using the *PropertySet* in CEGUI. All properties exposed as such will be editable within the editor in the *Selection Properties* dock widget.

Simply select a widget, scroll through its properties in the dock widget, choose one and double click it to alter it. Such action will be recorded as an *undo* action and will be undoable, see Section 2.1.9 for more details. You can use the property filter to quickly find the property you are looking for by name, see Figure 2.16.

Some of the properties will show an expandable icon on the left, these are usually complex properties made up from multiple pieces. Clicking this icon will expand the property and allow you to edit its components.

It is possible to edit properties of multiple widgets but properties will display <multiple values> if there is no single value in all of them for that property.

### 2.4.5 Reparenting widgets

Reparenting means changing parent of a widget or an entire hierarchy of widget. This can be done in the widget hierarchy dock widget, pick a widget there, drag it and drop it into a widget that should be its new parent.

### 2.4.6 Live preview

You can preview your widget layout including limited interaction by clicking the *Live preview* tab in the bottom. It is possible to then interact with your GUI as if it were in your application. Nothing you do in *Live preview* will affect the edited layout.

### 2.4.7 Custom widgets

The editor loads all schemes in the project so standard widgets get registered if you have them in your scheme. The scheme will be able to load a custom widget set module. The custom widget set module is able to add widget factories so you can even add custom made widgets and have the editor edit them.

### 2.4.8 The code mode

Raw XML editing is supported in layout editing, click the *Code* tab in the bottom to switch to it. Please note that the raw format will always be the native CEGUI 1.0 format even if you selected CEGUI 0.7 as the target version. The conversion will only happen when you save to a file.

Please note that there are several errors that you can make in the layout XML that will go silently ignored! This is an issue which CEED cannot

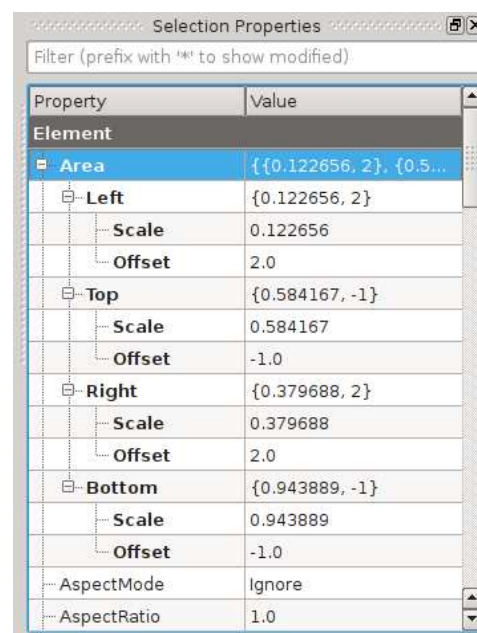


Figure 2.16: recursively expanded Area property

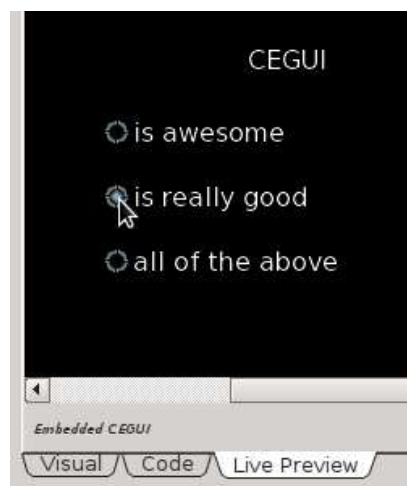


Figure 2.17: previewing a layout



solve, it is CEGUI that ignores this input. Examples include various property values, for example the *ColourRect*, invalid values will result in black.

XML editing should only be used as the last resort!

## 2.5 Command line

While most of this manual talks about the main executable - `ceed-gui` - two more are offered in all releases. As with most command line tools, inbuilt help is offered and it would make no sense to repeat it here. Instead, a brief overview of some capabilities of the tools will be presented.

### 2.5.1 `ceed-gui`

The main use of this executable is to bring up the CEED GUI interface. Most people will probably call it with no command line arguments at all. Some of the supported arguments might be very useful though, you can for example call `ceed-gui` so that it immediately loads a certain project and opens specific files.

Call `ceed-gui --help` for more info.

### 2.5.2 `ceed-migrate`

Allows you to use compatibility layers as described in Section 2.1.10 without having to start the main GUI app. This can be very useful when you want to migrate all your assets to a new CEGUI version. You can also incorporate it to your workflow if you have to support multiple CEGUI versions for some reason.

Call `ceed-migrate --help` for more info.

### 2.5.3 `ceed-mic`

Makes it possible to build an rectangle packed imageset out of given data. Source data is a *MetaImageset*. In a nutshell you can specify separate image files or even imagesets and `ceed-mic` will make just one imageset with one underlying texture out of them. It will make effort to have the resulting texture as small as possible.

See `data/samples/AllStockImagery.meta-imageset` for an example.

Call `ceed-mic --help` for more info.

## 2.6 Settings

Go to *Edit » Settings* to open the settings window. Note that these settings are only persistent on the user's machine, they are not stored in a project file! If you make changes that you want your colleagues to share, you will have to tell them how to replicate these changes on their machines.

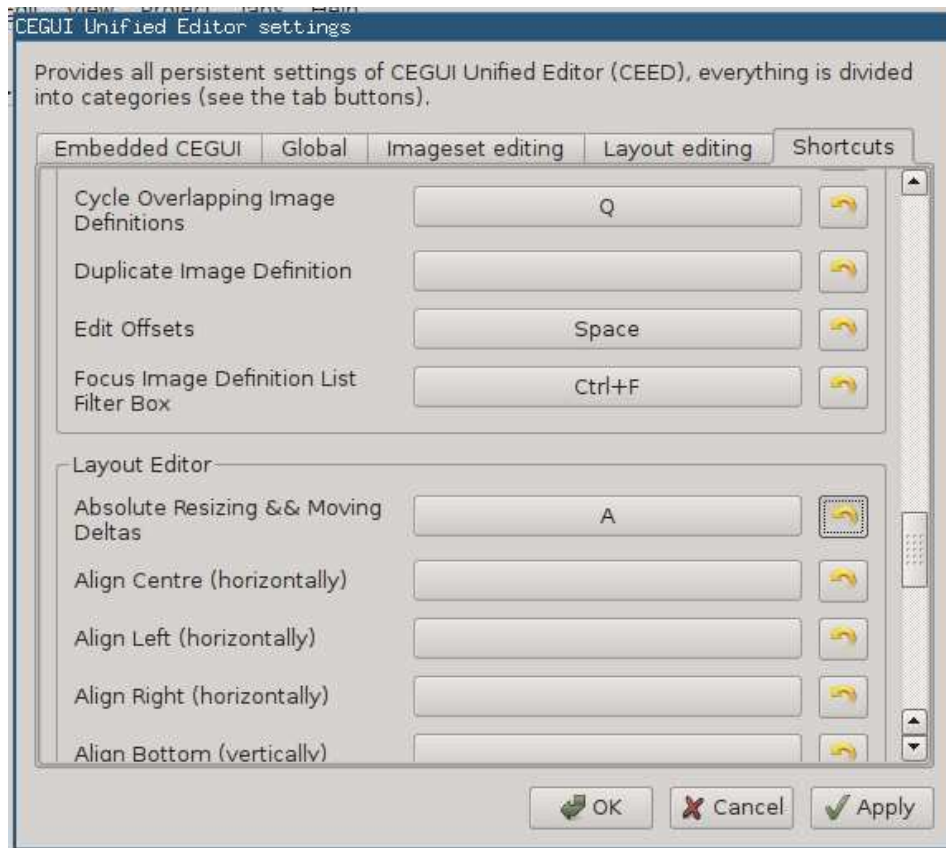


Figure 2.18: settings window

### 2.6.1 Applying changes

Most of the settings will apply immediately after pressing the Apply button. Some will require you to close and open the edited file again and some will even require you to restart the application. If you experience glitches related to a settings change a restart will very likely cure them. We would still appreciate it if you reported them as a bug though, for further detail see Section 3.3.1.

### 2.6.2 Back to default

Feel free to change settings and experiment with them. Whenever you regret making some setting, click the *Reset icon* as seen on Figure 2.18 to reset it to its default value. Please note that same rules about applicability of the settings apply when you reset them to default. In some cases you will even have to restart the application.

### 2.6.3 Shortcuts

Most of the actions in CEED are using the *Action API* and can be triggered using shortcuts. The default shortcuts are set depending on your platform. Go to *Edit » Settings* and choosing *Shortcuts* in the tab header. Clicking the button in the middle will allow you to press your desired combination to change to it. Only combination keypresses are supported, preferably with modifier keys. Discrete sequences or key chords cannot be used for shortcuts.

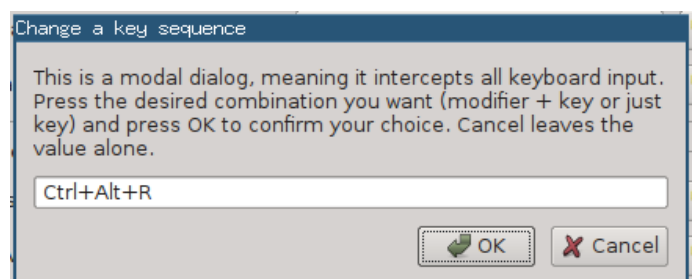


Figure 2.19: changing key sequence for an action

# Chapter 3

## Further help

### 3.1 Common issues

#### Cannot find PyCEGUI

Assuming you are using a release source tarball, make sure you have installed PyCEGUI system-wide. Check the PyCEGUI.{so,dll} with `ldd -r` or `depends.exe` to check whether it can find all required libraries.

You can also use the `runwrapper.sh` script if you use a UNIX system but that is not officially supported.

#### Cannot find XYZ

Install dependency XYZ, all dependency upstreams offer binary installers with the exception of PyCEGUI. Check with `ldd -r` or `depends.exe` to see whether the libraries can find their dependencies.

#### Only widget outlines move when I pan the layout editing viewport

Confirm that zooming also only moves the outlines.

Make sure your GPU supports FBO and that it supports it properly. The solution is to get better OpenGL drivers.

This may also be a newly introduced bug that may be worth reporting. Use common sense.

#### OpenGL invalid enum exception

Make sure your GPU supports FBO. Other than that it is usually a driver bug. I have witnessed this in VirtualBox VM. The solution is to get better OpenGL drivers.

This may also be a newly introduced bug that may be worth reporting. Use common sense.

#### Cannot start 'hg'

This is just a warning and you need not be concerned with it. Mercurial is used to get the *tip* revision hash for error reporting purposes. It will simply “unknown” in cases where it is not possible to get the hash.

#### I only see a black viewport with outlines instead of my widgets!

Make sure the widgets are set as visible! Many people create layouts with widgets hidden and then show them selectively after they are loaded. CEED will not display hidden widgets, it will only display their outlines.

#### Imageset editing is unresponsive

There are two configurable modes of drawing the imageset editing viewport. The default one uses OpenGL and redraws the entire viewport when any redraw is needed. It has a predictable speed and does not stall often. It is suitable for all but the biggest imagesets.

In cases where you edit really big imagesets and/or have a slow GPU you can use the alternative mode. It uses software QPainter and only redraws portions that need it. This makes it a bit predictable with occasional stalls but it will be faster if you edit in a small area.

The settings option is *Settings » Imageset editing » Use partial drawing updates*.

See Section 2.6 to learn how to alter settings.

Changing sizing modes while resizing/moving widgets

## 3.2 Getting support

Community support is provided on the following channels. No official commercial support is offered.

- forum: <http://cegui.org.uk/phpBB2>
- IRC: #cegui on [irc.freenode.net](http://irc.freenode.net)<sup>1</sup>
- wiki: <http://cegui.org.uk/wiki>

## 3.3 Help CEED

### 3.3.1 Report bugs

Software gets complex really quickly, nobody is pretending that CEED does not have any bugs. If you find some we would really appreciate you reporting them using the CEGUI bug tracker<sup>2</sup>. Please make sure the bug has not been reported already by searching the bug tracker before submitting the ticket. Feature requests are also welcome.

Please note that there are no assurances on whether and when particular tickets get resolved, we do our “best effort” to fix tickets but cannot possibly give you a reliable time frame.

### 3.3.2 Help with documentation

Documenting is a very hard task, any help is welcome in that area. The usual starting point is editing the CEGUI wiki<sup>3</sup>. If you feel up to it you can also send patches to the manuals, they are written in *LyX* so it should not be a problem to correct typos or even add new content.

### 3.3.3 Help with development

CEED is a community project, *GPLv3+* licensed. That means that anyone can contribute! See the *Developer manual* for more info.

### 3.3.4 Donate money

If you would like to help us spend more time developing the software you use and hopefully like, consider making a donation. Every amount counts, no matter how small.

Donating to the main developer of CEED is possible at  
[http://sourceforge.net/donate/?user\\_id=559904](http://sourceforge.net/donate/?user_id=559904)

You can also donate to the CEGUI library itself using  
[http://sourceforge.net/project/project\\_donations.php?group\\_id=93749](http://sourceforge.net/project/project_donations.php?group_id=93749)

Both types of donations require a PayPal account.

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<sup>1</sup>See <http://freenode.net> for information about the FreeNode network.

<sup>2</sup>We have a Mantis tracker at <http://cegui.org.uk/mantis>.

<sup>3</sup>Wiki of the project is at <http://cegui.org.uk/wiki>.