



GRiNS Quick Start Guide

GRiNS for SMIL
Editor/Player Version 1.0
Windows, Macintosh and UNIX



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GRiNS for SMIL v1.0 Quick Start Guide for Windows, Macintosh and UNIX. August, 1999.

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Important Notices

This is the first version of the *GRiNS for SMIL Quick Start Guide* for Version 1.0. All of the information has been verified, but incremental product updates may impact part of this guide.

This version of the *GRiNS for SMIL Quick Start Guide* has been produced for use as an off-line reference. Images and page layout have been optimized for printing on a 600-dpi (or greater) laser printer. For best reproducibility, the use of a color printer is recommended, although every effort has been made to make illustrations readable on other printers as well. If you wish to use it as an on-line reference via a PDF reader, we recommend that you increase the level of display magnification when viewing images.

The images used in this publication were taken from the *GRiNS for SMIL* 1.0-win32-0 version (for Windows-95|98|NT-4). While the look of other versions of GRiNS are slightly different because of adherence to common conventions on those other environments, the functionality described is similar for all versions of GRiNS. In order to reduce document size, only images from the Windows version have been included in this document.

We welcome your questions on *GRiNS for SMIL* and comments on this documentation. Please submit all questions and comments to our support desk at grins-support@oratrix.com. We maintain a list server dedicated to sharing experiences among *GRiNS for SMIL* users. See the on-line release notes that come with the software distribution for details of this listserver. Finally, if you wish to submit your own SMIL files as examples for other users, please send a request for submission to: grins-examples@oratrix.com.

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GRiNS Version 1.0 Distribution Roadmap

Thank you for downloading the *GRiNS for SMIL* (or, GRiNS/SMIL for short) toolset for playing and (optionally) creating SMIL presentations.

This publication will help you understand how GRiNS/SMIL works, and how it can help you to create high-quality multimedia presentations for the Web easily and effectively.

Distribution Package Contents

The GRiNS/SMIL distribution package consists of the following components:

- *GRiNS for SMIL Quick Start Guide*: an overview of the installation instructions for GRiNS and a quick tour of the basics of the GRiNS Environment. (This is this guide.)
- *Templates*: a set of templates used in the *GRiNS Tutorial Guide* and which you may use to build you own presentations;
- *Examples*: a collection of SMIL demonstrations, some of which are referenced in the *Quick Start Guide*;
- *GRiNS-Icons*: a directory containing Icons used by the GRiNS Editor;
- *Software*: depending on the distribution you downloaded, a GRiNS distribution for Windows-95/98/NT, the Apple Macintosh or UNIX.

Once you have installed GRiNS, you will be given information on how to obtain the *GRiNS/SMIL Tutorial Guide*: a step-by-step description on how you can use both basic and advanced features of GRiNS. (These are not included in the standard distribution because of the size of the tutorial documents themselves. They are available for free download from GRiNS Web site.)

GRiNS Quick Start Guide

The *GRiNS/SMIL Quick Start Guide* will help you learn how to make SMIL presentations easily and quickly. It is divided into four sections:

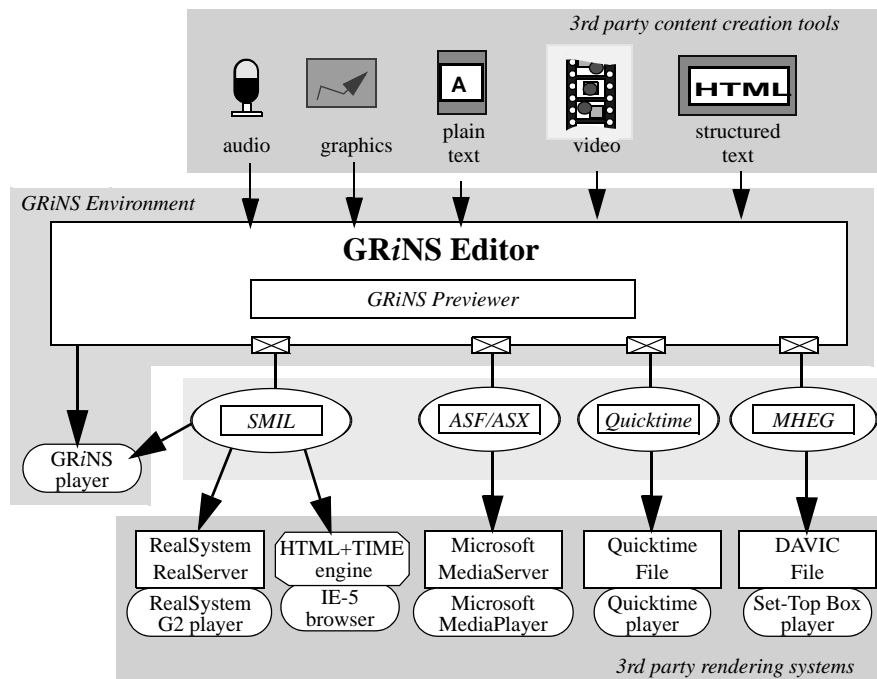
1. *Introduction to GRiNS and GRiNS/SMIL*: a description of the GRiNS architecture and a discussion on how you can protect your authoring investment by using the GRiNS multi-targeting approach to presentation design and maintenance.
2. *Installing and Running GRiNS*: a overview of how to load GRiNS on to your system and what to expect when you load a SMIL presentation in the GRiNS Editor or GRiNS Player.
3. *Bird's-Eye View of GRiNS*: a quick tour of the basics of the GRiNS/SMIL environment. Spending five minutes here will get you ready to create and edit complex presentations without ever having to type a single line of SMIL code.
4. *GRiNS Editor Quick Reference*: an overview of the data types supported by the GRiNS environment and other useful reference information for getting started with the GRiNS Editor or the GRiNS Player.

Each of the sections has been written to be relatively stand-alone, but we suggest that you read them all to get a good overview of the system. (Most people find it useful, for example, to learn about installing the system before trying to use it.)

Once you install GRiNS, you should obtain the *GRiNS Tutorial Guide*, which provides a step-by-step introduction to building your own presentations. After you get experience working with GRiNS you should read the *GRiNS/SMIL User's Guide* and the *GRiNS/SMIL Reference Manual* for more detailed information on how SMIL and GRiNS can support your presentation development needs.

Introduction

GRiNS is an authoring and player environment for Web-based multimedia documents. It is available as the stand-alone *GRiNS Player* or as the *GRiNS Editor* (which includes an embedded *GRiNS Player* for previewing your presentation while it is being created).



The illustration above shows the GRiNS architecture. Fundamental to GRiNS is that the complex task of presentation authoring should be partitioned so that the user has the freedom required to build and manage presentations easily. At the “assets-end,” the author should work with the asset types, management tools and editors that best meet the requirements of the task at hand. GRiNS works with the databases and editors that the author has available. At the “presentation end,”

GRiNS allows presentations to be exported to popular streaming media servers, or to be converted to popular stand-alone formats. Presentations for some formats (like SMIL) can also be played directly by the GRiNS Player, whether or not they were made with the GRiNS Editor.

This *GRiNS for SMIL Quick Start Guide* describes GRiNS for W3C SMIL, a version of GRiNS tailored to the W3C Structured Multimedia Integration Language (SMIL). We refer to this version as GRiNS/SMIL.

Presentations created with the GRiNS/SMIL Editor can be played on any SMIL-compliant player, such as the RealNetworks G2 player, the GRiNS Player, or the Helios *Soja* player.

Note that each player may have restrictions on the types of data encodings it supports. The RealNetworks G2 player, for example, is geared to the efficient rendering of RealMedia's streaming data types (RealAudio, RealVideo, RealText, RealFlash and RealPix), while the GRiNS Player is designed for the use of a wide-range of conventional (non-streaming) data types. You should choose a player based on the needs of your target audience.

The GRiNS architecture allows you to build a single presentation specification which can be directly or indirectly tailored to run on many main-stream presentation platforms. In most cases, you can purchase a GRiNS Editor environment that is matched to the capabilities of a particular format. A presentation created with one GRiNS environment (such as GRiNS/SMIL) can be accepted as input to other GRiNS environments and then further processed to meet the constraints of that environment.

Installing and Running GRiNS for SMIL

GRiNS for SMIL (GRiNS/SMIL) is available on Windows-based PCs, Apple Macintosh and UNIX computers. Each implementation of GRiNS has been developed to meet the expectations of the user community for that platform, but all versions can edit and play presentations made by any GRiNS authoring environment.

Obtaining GRiNS/SMIL

The GRiNS/SMIL environment can be obtained from the GRiNS Web site. Depending on the software you downloaded, you will have either the GRiNS/SMIL Player or a combination of the GRiNS Player and the GRiNS/SMIL Editor. The Player is a fully functional player for non-streamed SMIL-V1.0 documents. The GRiNS Editor is a visual authoring environment that is coupled to the GRiNS Player: you can create, preview, edit, review and publish your presentation from within a single GRiNS framework.

The GRiNS Player is available for general download through the GRiNS Web site (<http://www.oratrix.com/GRiNS>). (Note: a redistribution license is required to distribute the GRiNS Player with your production.)

The GRiNS Editor comes in various versions, with a number of integrated and add-on filters for creating multimedia presentations that can be presented on a variety of popular third-party players. The GRiNS/SMIL Editor is available for a free test drive — see the GRiNS web site (<http://www.oratrix.com/GRiNS>) for details.

Installing GRiNS

The instructions for installing GRiNS depend on the platform that you use. This section reviews the general instructions. See the release notes shipped with the GRiNS software for the latest details on installing GRiNS.

Note:

1. The first time you execute the GRiNS Editor program, you must provide your GRiNS License Key. Instructions for using this key are provided when the key is issued.

Installing GRiNS on Windows 95/98/NT-4.0 systems

To install the GRiNS Player on Windows platforms, execute the file *GRiNS_Play.exe*; this program executes the Player installer. Follow the instructions provided by the installer program.

To install the GRiNS Editor for Windows, execute the file *GRiNSed_1.0_install.exe*; this program will install both the GRiNS Editor and a separate GRiNS Player, based on the information you give during the installation process.

When complete, either the GRiNS Player Icon or the GRiNS Editor and GRiNS Player Icons will be added to your desktop. The default location for starting the GRiNS Player or the GRiNS Editor from the Start Menu is:

c:\program files\oratrix\grins 1.0\GRiNS.exe, or
c:\program files\oratrix\grins 1.0\GRiNSed.exe

NOTES:

1. While Administrative privileges are NOT required to install GRiNS, some systems may restrict your access to shared disks or certain directories. Contact your local administrator if you have problems.
2. You can remove all of the GRiNS Components via the 'Add/Remove Programs' program in the control panel or via the Uninstall tools provided with the distribution.
3. The GRiNS components have been architected to be as unintrusive to your system as possible, but care should always be taken when removing or replacing system files.
4. In the Windows release, the file extensions .smi and .smil are claimed by GRiNS. The assignment will be made optional in a future release.

Installing GRiNS on the Apple Macintosh

To install the GRiNS Player-only or Editor/Player distributions for the Macintosh, you should download the self-extracting installer for the version you want. During installing, nothing is placed in the System Folder except a small preferences file, so removing GRiNS can be done by moving the entire distribution folder to the Macintosh Trash icon.

Installing GRiNS under UNIX

GRiNS is currently supported for Silicon Graphics (SGI) IRIX-6.3 (and later) systems and under Sun's SunOS 5.5 (Solaris 2.5). The SGI and Sun versions supports both the GRiNS Player and the GRiNS Editor.

Silicon Graphics IRIX-6.3 (and later)

For IRIX-6.3 (and later) on SGI systems, you have two options when installing the GRiNS Editor and Player: using the SGI *inst* tools or using the gzipped Tar distribution.

1. Using *grins.tardist* or *grinsed.tardist*: Download the file (*grins.tardist* for the Player-only or *grinsed.tardist* for the Editor and Player). If your browser is setup correctly, it will start the *SGI Software Manager* automatically. If not, you can extract the tardist file in a new directory and start the *Software Manager* (*swmgr*) or *inst* manually. Point either program to the directory with the extracted files reside to start the installation process.

From the *Software Manager* or *inst*, select the subsystems you want to install:

- > *grins.sw.player* contains the GRiNS Player-only software and is required.
- > *grinsed.sw.editor* contains the GRiNS Editor and is required.
- > *grinsed.sw.player* contains the GRiNS Player and is required.
- > *grins.help* contains help information and is recommended.
- > *grins.relnotes* contains the release notes and is also recommended.

Important Note: You need superuser (root) privileges to use the *inst* installation method. The GRiNS Player and Editor (and the supporting files) will be installed in */usr/local/grins*.

2. Using *grins.tar.gz* or *grinsed.tar.gz*: If you don't have super-user privileges, download the appropriate file (*grins.tar.gz* for the Player-only version of GRiNS and *grinsed.tar.gz* for the Editor and Player) and extract it in a directory of your choice. The command to do this is something like this

```
gzip -cd grins.tar.gz | tar xf - (for the GRiNS Player), or  
gzip -cd grinsed.tar.gz | tar xf - (for the GRiNS Editor).
```

The tar file contains the same files as the tardist files and in the same relative configuration.

SunOS-5.5 (Solaris 2.5)

The Sun version of GRiNS is distributed as a gzipped Tar archive. To install the GRiNS Player for SunOS 5.5 (Solaris 2.5), simply ungzip the file into a target directory and then un-Tar the file to the place where you want GRiNS to reside on your system (typically /usr/local/grins).

If you have problems downloading or extracting these files, please send e-mail with detailed problem report to: grins-support@oratrix.com.

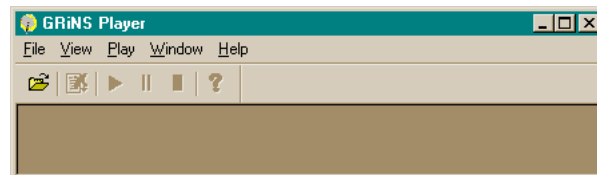
Using the GRiNS/SMIL Player

The GRiNS/SMIL Player is a fully-functional player for SMIL-1.0 documents. You can download it for free for single-license use from the GRiNS Web site at: <http://www.oratrix.com/GRiNS>. The GRiNS/SMIL Player is appropriate for applications that do not require streaming media support, or for applications that want to use datatypes not supported by the RealSystem G2 player.

To use GRiNS/SMIL to play a standard SMIL file, start the player and use the Open action in the File menu to select the SMIL presentation to play. The presentation may be located on your local system or it may be referenced via a URL.

A syntax check is made of the presentation as it is loaded and any problems found by the Player are reported to the user. Some problems are fatal, while others will generate error messages or warnings.

The menu in the player is shown below.



The File pull-down menu allows standard file operations (Open and Close in the Player), plus a means of setting preferences. The View pull-down menu in the Player allows you to view the presentation source file. The Play pull-down menu allows you to Start, Stop and Pause the current presentation; short-cuts to these

functions are also presented on the menu bar. The Play menu also allows you to select visible channels; this is a GRiNS-specific functionality. The Window pull-down menu allows you to close the entire presentation view and the Help menu gets you access to the on-line help files. In all cases, inactive menu selections are 'grayed-out' in the menus.

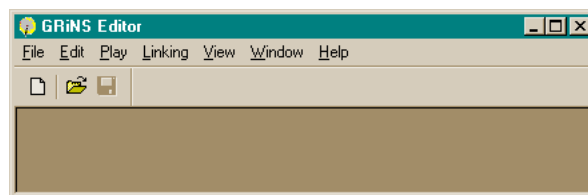
Most presentations do not start upon loading; you must explicitly press the start button on the top control bar. You should look at the demonstration programs provided for GRiNS (see the release notes for details) to obtain confidence in using the player. If you did not purchase the GRiNS Editor, you can write your own programs directly in SMIL or you can play SMIL-compliant presentation created with other authoring environments.

NOTES:

1. The current version of GRiNS supports standard information types for the platform being executed on. The Player directly executes formats such as RealAudio, RealVideo, RealText and RealPix via the RealNetworks G2 player in this release. In order to execute RealMedia datatypes, you must have the G2 player installed on your system. (A compatibility table is given in the References section of this Guide.)
2. Viewing HTML pages is made possible via an HTML control embedded in the application. For information on the configuration of the HTML control on various platforms, please see the release notes that come with your version of the Player.
3. System manufacturers may load system libraries (DLLs or their equivalent on non-Windows systems) that 'enhance' the media experience to a degree that playback via standard GRiNS drivers is not possible. See the release notes section of the GRiNS on-line documentation if you encounter problems.

Using the GRiNS Editor

If the GRiNS Editor was successfully installed, a window with the following menu and activation options is presented:



The pull-down menus contain functions that allow you to create and preview SMIL documents. The pull-down menus contain all of the functionality of the Player, with extensions to create, save and maintain documents. The Linking menu allows you to create and manage links within a presentation, the Window menu allows you to select multiple views of the document under construction, and the View menu contains functions that are useful during editing when defining properties within objects in a presentation. The use of each of the elements in the menus is discussed in the *GRiNS Tutorial Guide*.

NOTES:

1. You are not required to open a "project" or other container file to work with the GRiNS Editor -
- you may freely import presentations made with a text editor or with any other SMIL editor.
2. While the Editor allows you to open and edit any SMIL presentation, if that SMIL presentation contains non-generic data types, you may not be able to preview data types. See the Reference section of this Guide for supported formats.
3. For some types of changes (like global substitutes) it is often desirable to use a text editor rather than a structure editor. This is possible with the GRiNS Editor: simply open the SMIL file with your favorite text editor and make whatever changes are necessary. You can then re-open the file from within the GRiNS Editor.
4. The Editor also allows you to create and play documents with GRiNS extensions called "cmif" files; these are enhanced-functionality documents that contain a super-set of SMIL functionality, but which can only be rendered using the GRiNS Player.

A Bird's-Eye View of the GRiNS Editor

Once GRiNS/SMIL is loaded onto your system, you should open a simple SMIL presentation (such those found in the *Examples* folder in the GRiNS distribution) and look at the multiple document views available under the Window pull-down menu. It is probably a good idea to close each GRiNS window after opening it, to avoid screen clutter. You may, of course, keep multiple views open if you wish. (The size of your presentation and the screen size and resolution of your editing system will often determine your use of GRiNS views.)

There are several key concepts about GRiNS that will help you be more productive when using the GRiNS Editor:

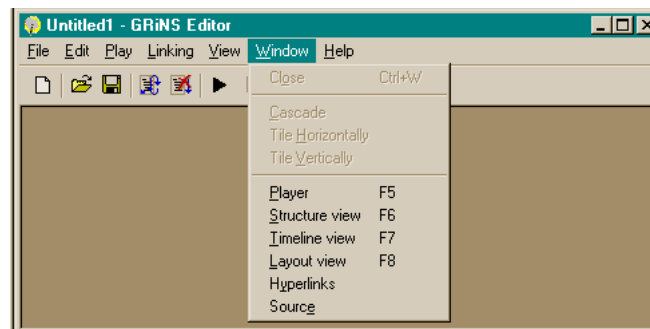
- GRiNS is a multi-view editor. This means that you can look at and manipulate a document from several perspectives, depending on the task you wish to accomplish.
- One of the GRiNS views is the Player View. This is the run-time view of a document. Where the separate GRiNS Player allows a complete presentation to be viewed using conventional start/stop/pause controls, the embedded previewer that drives the Player view allows you to play sub-parts of a document — anything from a complex sub-presentation to a single media object can be activated at any time. This is a tremendous productivity enhancement tool during authoring.
- The main GRiNS Editor view is the Structure View. In the Structure view, you can manipulate the general structure of your presentation in a visual way. The GRiNS Editor isolates you from the details of SMIL (or any other format), leaving you with an intuitive means of putting together presentations based on a standard set of presentation building blocks. The Structure view is the default view you get when a presentation is loaded into the editor.
- GRiNS also has a Timeline View. The Timeline view is generated for you by the GRiNS Editor. With the Timeline view, you can define detailed timing relationships among components using the GRiNS Synchronization Arcs (or sync arcs). Sync arcs give you explicit and exact control of the timing within your presentation when it really matters.
- Screen space and audio channels are managed in GRiNS via the Layout view. This view allows you to define properties of individual SMIL regions and it allows you to control resource use via extended regions properties. These

areas are *GRiNS Layout Channels*. You can also group collections of layout channels into sets called *GRiNS Screens*. A Screen bundles all of the regions can you want to display in one part of a presentation. This mechanism allows you to create visually interesting presentation easily and quickly with GRiNS.

- GRiNS provides powerful Hypermedia support through the Hyperlink View. Within this view, you can define anchors across media objects and then define various types of links between these anchors. Of course, if the underlying media types support links (such as HTML), then you can use these in addition to the SMIL-level links provided by GRiNS.

GRiNS also provides full support for building adaptive presentations using the SMIL switch statements. The semantics and properties of the SMIL switch are managed in several GRiNS views, as is illustrated below. Here again, GRiNS worries about the syntax — you simply need to define the options available.

You can select a particular view in two ways: some views open automatically when you perform certain functions in the Editor, such as selecting Play or opening a new presentation. You can always turn a particular view on via the Windows menu bar, as shown in the following illustration:



Each of these views will be briefly introduced in this section. The *GRiNS Tutorial Guide* provides you with some simple tutorials that show how and when these views are used to help you quickly, efficiently and easily make us of the full power of SMIL.

A Note for Macintosh and UNIX Users

Although GRiNS is available for Windows, Macintosh and UNIX platforms, this *Quick Start Guide* provides illustrations and examples drawn only from the Windows version. We have done this to minimize the document's size. Most of the dialogs and menus are identical on all three platforms, so this guide can be used for all three platforms. However, users of the Mac and UNIX versions should keep the differences summarized below in mind.

Apple Macintosh

The Macintosh has only a single-button mouse. Where the text refers to a selection using the right mouse button, you should substitute a CTRL-click selection instead. Contextual menus (selected with right-mouse on windows) will pop up on the Macintosh if you keep the mouse button depressed for about half a second.

The Macintosh does not have the concept of windows-within-windows, hence each open view has its own window. There is one point where this can be slightly confusing: it is possible to have a document open, but no views (open windows) on this document. The Window->Close closes a single view, while the File->Close closes the document (and all views).

The player toolbar is shown when you open the player view; there is no Editor toolbar. The keyboard shortcuts follow standard Macintosh conventions.

SGI and SUN UNIX notes

Each view in the Editor under UNIX has its own window. Moreover, each window has a private menubar. The order of menus and commands within menus is the same as on Windows and Macintosh, but menus and commands that have no meaning within a certain view are omitted. UNIX keyboard shortcuts follow standard UNIX conventions, and are listed in the menus.

Under Unix, GRiNS uses a small separate window where you can open documents and exit the editor, and another small window per open document where you select which views to open, save the document, etc.

An Overview of the GRiNS Authoring Views

This section will look at each of the views provided by the GRiNS Editor. We will not show you how to create and manipulate objects within each view (we leave this to the *GRiNS Tutorial Guide*). Instead, we will give an overview of how GRiNS helps you to manage the work-flow during document creation and maintenance. While document creation is the focus of many competing tools, the GRiNS Editor was designed to let you not only build, but also edit, tailor and refine presentations—even if they weren't made with the GRiNS Editor initially!

The Player View: The Embedded Presentation Previewer

The place to start with GRiNS is to preview the demos supplied in the Examples folder (located in the main GRiNS program folder). Executing these demos will also help you determine if there are any installation problems with GRiNS on your environment: if these demos execute without problems, chances are good that the installation went well.

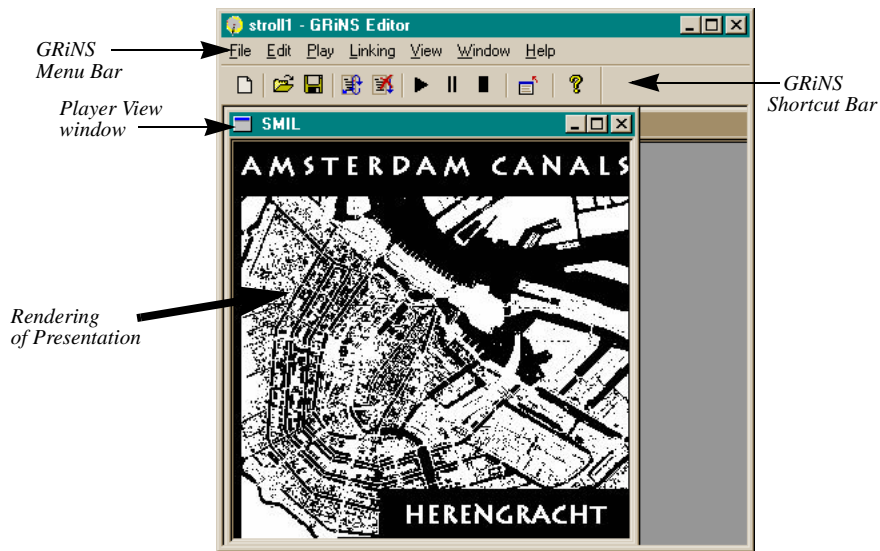
To play a particular demo, either drag the demo file onto the GRiNS Editor icon, or open the editor via the command line, the desktop or the Start Menu (depending on your version of GRiNS), and then load a demo via the Open option in the File menu of the Editor.

The following demos are located in the *Stroll* set in the GRiNS Examples folder:

- *stroll1.smil* shows a sequence of unformatted sequential images.
- *stroll2.smil* shows these images in sequence in a specific layout on the screen.
- *stroll3.smil* show media objects being played in Parallel as well as in sequence.
- *stroll4.smil* adds sound to the presentation.
- *stroll5.smil* uses sync arcs to allow more accurate timing to take place.
- *stroll6.smil* provides hyperlinks from an image to other parts of the presentation.

GRiNS takes a different approach to creating presentations than most timeline or text-based systems, so getting to know the nature of GRiNS now will help you to become more productive in the future.

To start a presentation after it is loaded, select Play from the Play menu or click on the VCR-like start button on the short-cuts bar of the editor window:



The Player view is opened whenever any form of Play is selected from Play Menu. The view can be activated/removed at anytime by selecting/deselecting Player from the View menu.

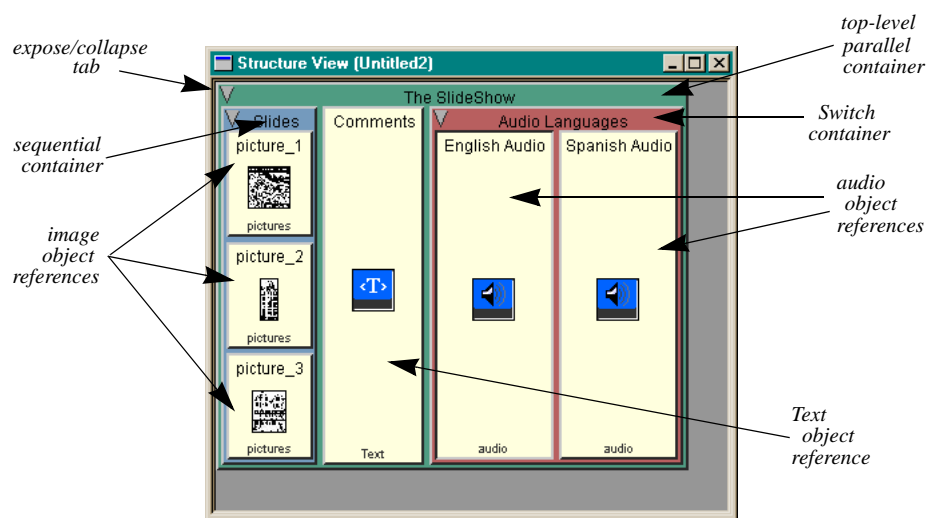
NOTES:

1. There are three versions of each of the stroll files in the examples/stroll sub-folder: stroll*.smil (containing black and white images, stroll*c.smil(containing color images) and stroll*sw.smil (containing a SMIL switch statement that, based on BITRATE, decides which version is appropriate).
2. If the Player view is already open and another view covers the Player view, the Player view is not automatically brought to the front of the editing window when Play is selected. If you don't see the Player view, make sure some other view is not hiding it from you.
3. The default view in the editor, the Structure View, will pop-up on open. You can either close it using the standard window techniques for your system, or you can leave it on the screen: the Player View will be displayed on top of the Structure View.

The Structure View: The Logical View of a Presentation

When you open a presentation, the Editor gives you a picture of the relationship among the objects in that presentation. We call this the Structure View. The Structure view can be very simple for simple presentations, or it can be a complex presentation roadmap for large, complex presentations.

The following annotated view show the basic components of the Structure View.



This picture describes a presentation named Slideshow, and which contains three images played in sequence, which are presented in parallel with one Text object containing text comments and either an English-language or Spanish-language audio object (the selection of which will be determined by a user preference in the player.)

Please re-read the last paragraph and look closely at the image: if you understand the correspondence, then you already understand the basics of GRiNS.

The purpose of the Structure view is to give a logical projection of the contents in a presentation to the author. An important and unique feature of the Structure view is that **time flows from top to bottom**: elements that are activated in parallel are placed next to each other, while elements executing in sequence are shown top-to-bottom. The alternatives in a switch are drawn as a parallel container, since all of the options are available in parallel, although typically only one of the alternatives will be selected (by the player) at run-time. The top-to-bottom ordering may seem a bit unfamiliar at first, but it is exactly the way that you typically draw a sketch of the presentation by hand.

The Structure view contains the following types of information:

1. It shows the *data object references* used in the presentation; these are pointers to a particular object located either in a local file or as a remote asset on the Web or in a database, and its associated properties for this particular use in the presentation. While *data object reference* is the full name in GRiNS, we also use the term *data object* when the context is clear.
2. It shows what kind of *structure containers* are used to compose the presentation. Two basic kinds of structure containers are used with SMIL: the *parallel container* (called a PAR in SMIL) and the *sequential container* (called the SEQ in SMIL). Parallel and sequential structure containers can contain a nested combination of data objects or other structure containers.
3. It shows a grouping of possible alternative data objects or structure containers within a SMIL Switch statement. At run-time, one of the options within the switch will be selected based on either user preferences or system properties. The Structure view gives you an overview of the candidates for presentation.

Each of the basic types of container objects used in the Structure view are color coded for easy recognition. With a bit of practice, you can build a mental picture of your presentation without ever hitting Play — but since GRiNS lets you play anything from a single node to an entire presentation during editing, save those brain cells for other activity!

You can perform nearly all of the editing operations required to create most basic presentations from within the Structure view. You can add, move, cut, copy, and paste objects (both data objects and structure containers) using the menu options or right-mouse short-cuts. You can define SMIL switch directives and identify the

alternatives associated with the switch. You can create basic hyperlinks between nodes in the presentation. You can zoom in or zoom out of parts of the Structure view. You can also access all of the properties of each of the objects in the Structure view for detailed control of the presentation.

When possible, a thumbnail image of either the contents or the type of data objects is shown in the Structure view. If the view becomes too crowded, these thumbnails are removed. (You may influence this behavior via the GRiNS View menu.)

You can select any object in the Structure View and then select the Play node function from the Play menu to preview that object (or structure container). If you select Play from node instead, the presentation will start at that point and continue playing through the rest of the presentation's objects. To view the entire presentation, select the Play option from the Play menu. (Selecting the Play shortcut will reactivate the last type of Play mode you selected: Play, Play node or Play from node.)

The Structure view is the default Editor view. It can be activated by selecting Structure view from the Window menu. The Structure view can be closed by using standard windows techniques for your platform.

Notes:

1. There are often several ways of selection a GRiNS editing function: you can use the pull-down menus across the top of the Editor, you often can use the context-menus under the right mouse button or you can make use of the keyboard equivalents for most commands. See the GRiNS Reference Manual for details.
2. The keyboard equivalents have been customized to meet the expectations of experienced users on each of the platforms upon which GRiNS is implemented. The structure of the menus is constant across all versions of GRiNS in as far as they are relevant for those platforms.
3. If a nested structure container is selected when Play from node is requested, only the objects activated at or after the selected node will be activated.

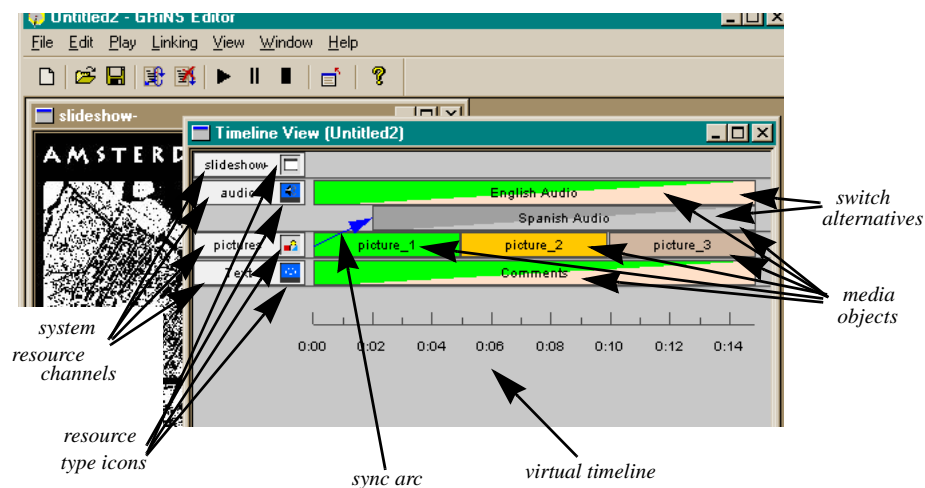
GRiNS Use Tip:

If you select Play->Play Node for an image or text file, the image/text will only appear if its duration is explicitly defined in the node.

The Timeline View: Showing Resource Use During a Presentation

The Timeline view of a presentation shows various aspects of the temporal relationships among data objects within a presentation. Where the Structure view shows the high-level logical relationships among parts of the presentation (which is the perspective that an author usually has), the Timeline view looks at a presentation in terms of how and when objects actually get activated — it gives insight into how a presentation renderer will actually execute the presentation.

An annotated Timeline view is shown below, which also contains a piece of the Player window, to provide some context for the Timelines. This view corresponds to the run-time projection of the Structure View shown in the last section.



The elements of the Timeline view are arranged in resource order. The primary resources in a multimedia presentation are either screen space or audio rendering spaces (that is: left, right or stereo audio channels). In SMIL, this ordering corresponds roughly to a listing by SMIL's *Regions*.¹ The channel icon is shown at left. It is a rectangular icon, containing the channel name and media type. The type corresponds to the media type being managed by the channel resource. In

left-to-right timeline order, each of the media objects for that resource are shown in the Timeline graph. (GRiNS provides management attributes for each channel; you can see these attributes by right-clicking on the channel icon.)

When playing a presentation, the Timeline view shows resource use for the standard GRiNS Player. It lets you know when individual objects get fetched by the player (this is shown by an amber color), when a particular node is enabled for presentation (this is shown by a light-green color) and when a particular node is actually being presented (this is shown by a dark-green coloring).

Each node is shown as a solid picture, or it is shown as a picture containing a diagonal line. The diagonal line means that the type of object shown does not have an explicit duration, but that its duration has been calculated by the GRiNS scheduler. The details of this scheduling can be complex, and interested readers are referred to the *W3C SMIL-1.0 Standard* for more details.

A blue arrow in the Timeline graph shows a GRiNS sync arc. This arc defines a particular timing property between two objects in the timing graph. Sync arcs should be thought of as temporal annotations that define how two elements are scheduled. You can say, for example, that one element should start 6.3 seconds after the other. By using the sync arc, you don't need to count frames in the timebar: simply tell GRiNS what you want, and GRiNS does the rest. (Note: the current version of SMIL is very restrictive in the definition of sync arc timing relationships, so GRiNS will warn you if you are creating a SMIL document and inadvertently violate a SMIL restriction.)

Another type of information in the Timeline view is the set of alternatives presented in a SMIL *switch*. The Timeline view shows all possible combinations of elements in a switch. When two alternatives exist for the same resource at the same time, these are drawn as stacked items above one-another. The resource feedback for the GRiNS Player will only highlight the choices made for the

1. While it is tempting to consider GRiNS *channels* to be the same as SMIL *regions*, they do have subtle differences. Channels can be used as the basis for sophisticated resource management in advanced document — you can learn to use them effectively after you get the hang of creating standard SMIL files.

current preferences setting of a document. (Again, for complete details, consult the GRiNS documentation that is supplied when purchasing the GRiNS Editor.)

The final type of information presented in the Timeline view is a *bandwidth resource meter strip*, located at the bottom of the display. Depending on the target bandwidth you choose (for example, 28.8K or ISDN-line speeds), the graph will tell you the suggested pre-roll time for your presentation and whether you can fit all the information you want across the communication line you have selected. Note that bandwidth modeling and rendering is resource intensive. By default, it is off but you can turn it on via the View menu.

As with the Structure view, any object on the Timeline can be selected and previewed by selecting an option from the Play menu.

The Timeline view is selected from the Window menu and closed using standard platform-dependent techniques.

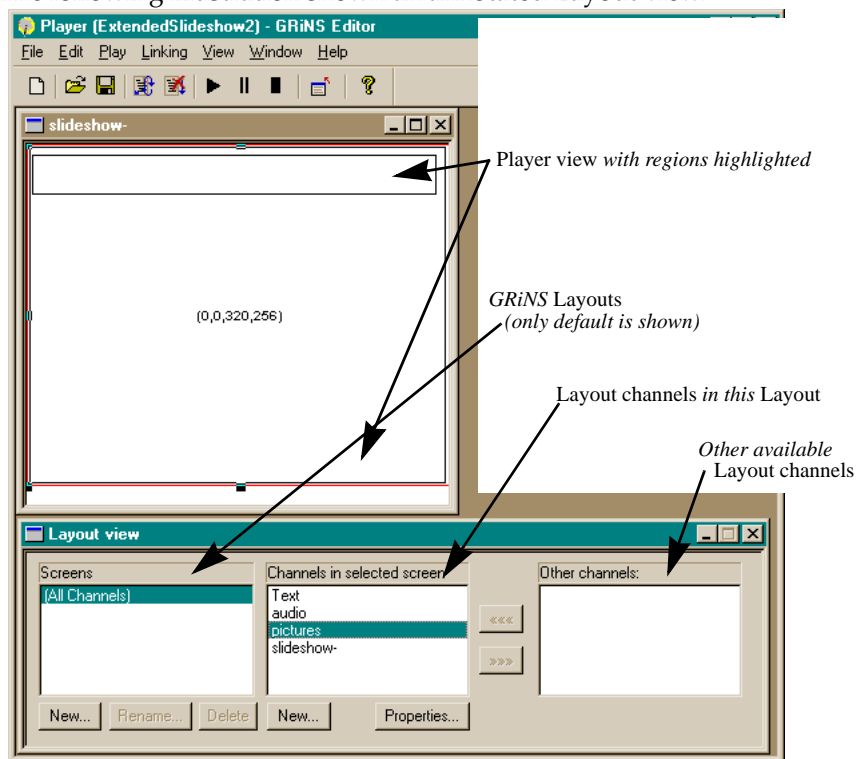
NOTES:

1. The colored blocks in the Timeline view show how the player pre-fetches several components before they are needed. As presentation complexity increases, the player will need to do more work. The Timeline view shows when the player or individual resources will be busy.
2. The coloring of the blocks only occurs when the player is in **Play** mode. When the presentation is stopped, all boxes are mono-color. To freeze a particular display, select **Pause** from the Play menu or the short-cut bar.
3. If another player is used (such as the RealNetworks G2 player), other player activity and scheduling can be expected. The 'colored block' view in the Timeline window will be representative but not exact unless you use an optional G2 performance-prediction module for GRiNS.

The Layout View: Managing Visual and Auditory Resources

When working with template-based SMIL presentations, the template creator will typically have created a number of SMIL Layout Regions to organize screen and other resources in the presentation. If you use only these regions, you will typically not need to visit the Layout view. For more complex presentation, or when creating your own templates, the Layout view provides a means of creating, sizing, editing and placing SMIL regions.

The following illustration shown an annotated Layout view.



When activated, the Layout view shows a window similar to the GRiNS Player window and a separate editing window for adding and updating layout areas. In

GRiNS terminology, these areas are called Layout Channels. Layout Channels carry more properties than standard SMIL Regions. This information carried transparently within a SMIL file.

When activated, the Layout view consists of a version of the Player view (in which the individual regions allocated in that view are highlighted) and a window for managing the resources associated with each region. In short, GRiNS allows a user to cluster different sets of regions together into GRiNS Layouts. A presentation can be assigned to use different Layouts at different times in that presentation. Layouts can be shared across documents allowing authors to create multiple presentations with the same look and feel. New Layouts and Layout Channels (the GRiNS value-added version of SMIL's Regions) can be defined and maintained in the Layout view.

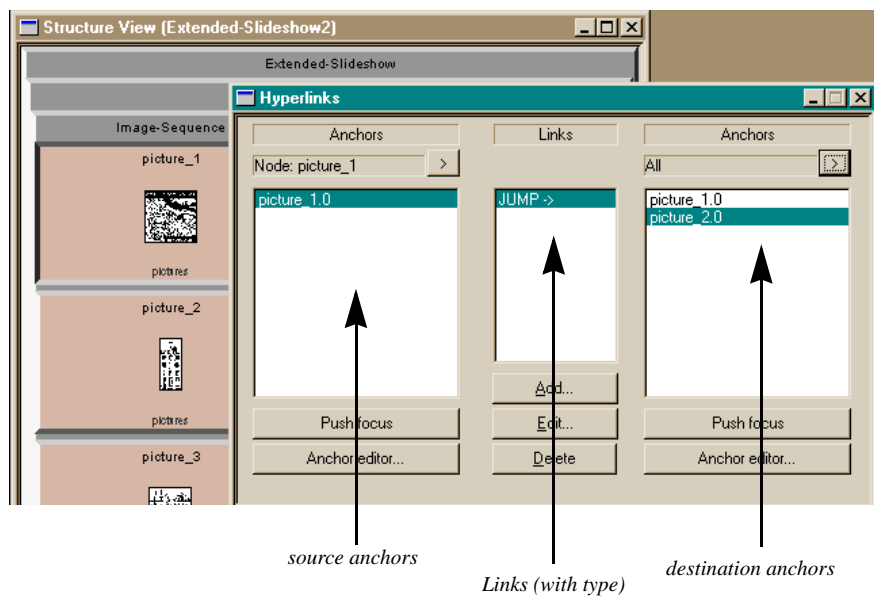
Notes:

1. SMIL *Regions* are visual abstractions for allocating screen space. Their use is optional in a presentation. The definition of **Layout Channels** is also optional but, as with SMIL, they are a very useful tool in making compelling presentations.
2. We use the term Layout Channel instead of a Layout Region because our Channels provide an extra measure of resource allocation and control that allow you to constrain how information is processed by the target player. It allows you to prioritize the activation of resources so that, if there are unexpected constraints during processing of the application, you can give the player hints as to what is really important and what is incidental.
3. The extra functionality provided by Layout Channels is currently only supported by the GRiNS Player. When playing GRiNS-built presentations on other players, these extra features are not available, and the base presentation will default to standard SMIL properties.

The Hyperlink View: Creating Order within the Chaos of Links

The GRiNS Editor provides you with full control over SMIL links. You can define anchors within a node (either a data node or a structure node), and you can associate links with each of these anchors. Unlike HTML links, SMIL links can be bi-directional. SMIL links also have the ability to be attached to whole nodes or to parts of a node.

An annotated Hyperlink view is shown in the following illustration:



The Hyperlink view shows a collection of source anchors on the left of the display and destination anchors on the right. You can add links of several types by first selecting a source anchor, then a link type and then the destination anchor.

SMIL allows you to define several types of anchors and links in a presentation. Each of these are supported by the GRiNS Editor. You should consult the *GRiNS User Guide* and *GRiNS Reference Manual* for full details.

Notes:

1. Simple hyperlinks between complete objects — the so-called whole node anchors and simple links — can be made directly from the **Structure** and **Timeline** views. The **Hyperlink** view is intended primarily for more complex links.
2. Individual media objects may contain internal links. (For example, a HTML page may contain links within that page or to other pages.) At present, these anchors and links are not shown in the **Hyperlink** view.

Getting Ready to Create Documents

The GRiNS Editor provides many ways to view a presentation. While the range of views may seem complex, each has been defined to localize a set of critical tasks that are an important part of the document creation process.

The GRiNS Work-Flow Model

To review how the GRiNS Editor works, consider this:

- The **Structure View** is the main editing view for a presentation created with the GRiNS Editor. It helps you to quickly and easily define relationships among data objects, and allows you to define structure containers that help you organize, edit and maintain your presentation.
- The **Timeline view** is generated automatically for you from the **Structure View** by the GRiNS Editor. The **Timeline view** is used to specify detailed synchronization and resource allocation options in a document. Depending on the player you choose, the **Timeline View** is used to help you plan how and when critical resources (such as presentation bandwidth) is used during the presentation.
- The **Layout View** allows you to define, maintain and cluster visual and auditory resources used in the presentation.
- The **Hyperlink View** allows you to create and manage links within the presentation. The view also allows you to control how anchors and links are presented in the other GRiNS views.
- The **Player View** allows you to see how your work-in-progress is developing. If you use the separate GRiNS Player, the actual presentation will be identical to that in the Editor. If you use another SMIL player (such as G2 or Soja), then the **Player View** will give you a good approximation of what you can expect,

although the actual rendering of the presentation will be determined by the facilities of the player you select.

The select-copy-cut-paste model supported by GRiNS allows you to quickly duplicate basic structures in your presentation (or in the GRiNS templates). You can have multiple presentation open at once, and copy structures between these presentations via the GRiNS clipboard. In all cases, GRiNS does most of the work in maintaining a correct and consistent SMIL presentation which you can preview in part or as a whole at any time during the editing process. This is a key benefit of the GRiNS approach.

Another benefit of the multi-view approach taken by GRiNS is to isolate you from the details of the underlying presentation format. In this way, the GRiNS Editor can produce presentations in multiple formats from a single GRiNS description and lets your presentation remain the same even as the underlying format evolves.

A Note on Designing Adaptive Presentations

As a content author, you can either create a simple presentation that assumes your users/clients will be able to view all of the data objects that you send them. You can also take a broader view by specifying some alternatives to either individual objects or to entire sub-parts of the presentation. Such alternatives can be based on presentation resources (for example, during peak hours on the Web, it may be wise to substitute a slide-show presentation for a piece of video), or the choice may be based on natural language (for example, having both an English and Spanish versions of an audio and/or set of text messages available within the same document).

One of the primary reasons to support alternate content is to help users who, for whatever reason, cannot accept one format of data—such as audio for a deaf user, or video for a blind user, or high-resolution information for a user attached to a low-resolution computer —by providing a more convenient type (such as text instead of audio). It is important to realize that this is not an “us vs. them” issue: all of us are unable to accept certain types of media at certain times, depending on our work or use situations. For example, if you are working without headphones in a shared office space, you may be unable to accept audio information, even if

there is nothing wrong with your hearing — the circumstances simply don't allow you to disturb others around you!)

Most SMIL Players (such as the GRiNS Player and RealNetworks G2) implement SMIL's ability to control content distribution via user preferences of player interrogation of system resources. If you make use of these facilities, you can increase your potential audience and help create a richer Web environment for everyone. The GRiNS Editor was designed to make this sort of substitution easy to create, easy to maintain and easy to present to the user.

GRiNS Quick Reference Information

SMIL Compliance Information

The GRiNS Editor for SMIL and the GRiNS Player support the entire SMIL v1.0 specification, with the exception of the constructs listed below. Documents that make use of these constructs are parsed correctly, but the features are ignored during rendering.

- begin and end attributes in the anchor element.
- fit="fill" and fit="scroll" attribute values in region element.
- name="pics-label" attribute value in meta element.
- alt attribute in media object elements.
- fill attribute.

These features are expected to supported in a future release.

Supported Media Table

The following chart gives a listing of the media types supported by various versions of the GRiNS Editor and Player for SMIL.

MIME type	Extensions	Windows 95/98/NT	Mac	SGI Irix-6.3	Sun Solaris-2.5
audio/32kadpcm		no	no	no	no
audio/basic	au	yes	yes	yes	yes
audio/x-aiff	aiff, aifc, aif	yes	yes	yes	yes
audio/x-wav	wav	yes	yes (1)	yes (1)	yes (1)
image/cgm		no	no	no	no
image/g3fax		no	no	no	no

MIME type	Extensions	Windows 95/98/NT	Mac	SGI Irix-6.3	Sun Solaris-2.5
image/ief		no	no	no	no
image/jpeg	jpeg, jpg	yes	yes	yes	yes
image/naplps		no	no	no	no
image/png	png	yes (2)	yes	yes	yes
image/tiff	tiff, tif	yes	yes	yes	yes
image/x-portable-any-map	pnm	no	yes	yes	yes
image/x-portable-bit-map	pbm	no	yes	yes	yes
image/x-portable-graymap	pgm	no	yes	yes	yes
image/x-portable-pix-map	ppm	no	yes	yes	yes
image/x-rgb	rgb	yes	yes	yes	yes
image/x-xbitmap	xbm	no	yes	yes	yes
image/x-xpixmap	xpm	no	no	no	no
image/x-xwindow-dump	xwd	yes	no	no	no
	bmp	yes	yes	yes	yes
	fts	no	no	no	no
	pm	no	no	no	no

MIME type	Extensions	Windows 95/98/NT	Mac	SGI Irix-6.3	Sun Solaris-2.5
	ras	yes	no	no	no
	tga	yes	no	no	no
video/mpeg	mpeg, mpg	yes	yes	yes	yes(6)
video/quicktime	qt	yes	yes	yes	no
video/x-msvideo	avi	yes	yes(5)	yes(5)	no
video/x-sgi-movie	mov	no	no	yes	no
text/html	html, htm	yes (7)	yes (3)	yes (4)	yes (4)
text/plain	txt	yes	yes	yes	yes

Notes

1. Uncompressed WAV only.
2. Support seems to be somewhat buggy.
3. Very limited.
4. HTML 2.0 only.
5. Not all encodings supported.
6. With Quicktime 3 or QT MPEG extension installed
7. Both IE4/5 and WebsterPro controls supported

Support for RealMedia (G2) Data Types

The following chart describes the levels of support provided in the GRiNS/G2 version for the listed RealMedia data types used in the RealNetworks G2 player:

Table 1:

RealMedia type	Extension	GRiNS Editor		GRiNS Player	
		Recognized	Rendered	Recognized	Rendered
RealAudio	ra, rm	yes	yes	yes	yes
RealVideo	rv, rm	yes	yes	yes	yes
RealText	rt	yes	yes	yes	yes
RealPix	rp	yes	yes	yes	yes

Notes

1. *Recognized* in the Editor means that RealMedia regions can be specified as part of a document. A G2-compatible presentation can be authored. Timing of RealMedia objects will not be displayed unless a RealSystem G2 player is installed.
2. *Recognized* in the Player means that data objects containing RealMedia items will be parsed correctly and will not cause the Player to crash.

Access methods

The GRiNS player supports the following access methods (URL schemes).

- file
- http
- ftp
- data
- gopher

References and Links

Please see the Links section of the GRiNS Web site (www.oratrix.nl/GRiNS).

Where Next?

The *GRiNS Quick Start Guide* provides you with a general overview of GRiNS and a particular introduction to GRiNS/SMIL.

Once you have installed GRiNS you can either set out on your own in the process of creating multimedia presentations, or you can save your time and energy by following a set of simple and straight-forward GRiNS/SMIL tutorials. These can be found in the *GRiNS Tutorial Guide*, which is available in on-line (HTML) or off-line (PDF) formats. Consult the documentation provided with your GRiNS Editor access key to find the current set of tutorials for your version of GRiNS.

If you purchased the GRiNS Editor for SMIL, you will also receive information on obtaining a copy of the *GRiNS User Manual* and the *GRiNS Reference Manual*. These manuals (which are not provided with the Test Drive or Beta evaluation versions) provide a wealth of detailed information on using GRiNS to solve practical tasks in creating either template-based or full-featured presentations using GRiNS.

The GRiNS Web site (www.oratrix.com/GRiNS) provides a set of *release notes* and *issues reports* for each version of the GRiNS Editor and Player releases. This site also contains a publicly-available version of the GRiNS Frequently-Asked Questions list and errata to this and other GRiNS publications. If you purchased GRiNS, you will have had the opportunity to enroll for our automatic notification service for the version(s) of GRiNS you acquired.

We welcome your comments, criticisms, compliments and suggestions. You can reach us at: grins-documentation@oratrix.com.

We hope you find working with GRiNS a productive experience!