Quick Start Guide

GR*i*NS Editor for SMIL, Version 1.5

Multimedia Authoring for

Windows, Macintosh and Linux

GR*i*NS Editor for SMIL, Version 1.5 Quick Start Guide for Windows, Macintosh and Linux. January, 2000.

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Important Notices

This document is the GR*i*NS Editor for SMIL, Version 1.5 *Quick Start Guide*. All of the information has been verified, but incremental product updates may impact part of this guide.

This version of the GR*i*NS Editor for SMIL, Version 1.5 *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 GR*i*NS Editor for SMIL, Version 1.5 1.5-win32-0 for Windows-95|98|NT-4. While the look of other versions of GR*i*NS are slightly different because of adherence to common conventions on those other environments, the functionality described is similar for all versions of GR*i*NS. In order to reduce document size, mainly images from the Windows version have been included in this document.

We welcome your questions on GR*i*NS Editor for SMIL, Version 1.5 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 GR*i*NS Editor for SMIL, Version 1.5 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*.

Table of Contents

GR*i*NS/SMIL Version 1.5 Distribution Roadmap

Thank you for downloading the GR*i*NS Editor for SMIL, Version 1.5 (or, GR*i*NS/ SMIL for short) for creating presentation for the W3C Structured Multimedia Integration Language (SMIL) format.

This publication will help you understand how GR*i*NS/SMIL works, and how it can help you create effective multimedia presentations for the Web quickly and easily.

Distribution Package Contents

The GR*i*NS/SMIL distribution package consists of the following components:
- GR*i*NS Editor for SMIL, Version 1.5 *Quick Start Guide*: an overview of the installation instructions for GR*i*NS and a tour of the basics of the GR*i*NS Environment. (This is this guide.)
- *Templates*: a set of templates used in GR*i*NS/SMIL and which you may use to build you own presentations;
- *GRiNS-Icons*: a directory containing Icons used by GR*i*NS/SMIL;
- *Software:* depending on the distribution you downloaded, a GR*i*NS distribution for Windows-95/98/NT, Linux/UNIX or the Apple Macintosh;
- *Tutorials.pdf*: a step-by-step guide to both basic and advanced features of GR*i*NS/SMIL;
- *Assets*: a directory containing assets used in building the tutorial examples.

Most of the GR*i*NS documentation and tutorials are updated from time to time. They are available for free download from GR*i*NS Web site. The site also contains example presentations created with GR*i*NS.

GR*i*NS/SMIL Editor and Player

This version of GR*i*NS contains both an *editor* for creating presentations and a *player* for rendering presentations. The GR*i*NS editor allows you to create presentations for any SMIL-compliant player; the player lets you play back general SMIL documents. See the GR*i*NS Comparison Document for details.

GR*i*NS/SMIL Quick Start Guide

The GR*i*NS/SMIL *Quick Start Guide* will help you get started making SMIL presentations for RealSystem G2. It is divided into seven sections:

1. *Introduction to GRiNS and* GR*i*NS/SMIL: a description of the GR*i*NS architecture and a discussion on how you can protect your authoring investment by using the GR*i*NS multi-targeting approach to presentation design and maintenance.
2. *Installing and Running GRiNS*: an overview of how to load GR*i*NS/SMIL on to your system and what to expect when you load an existing presentation in the GR*i*NS/SMIL Editor.
3. *Using GRiNS/SMIL*: a simple tutorial that gets your fingers and mind working in *GRiNS/SMIL* compatible mode.
4. *Bird's-Eye View of GRiNS*: a quick tour of the basics of the GR*i*NS/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.
5. GR*i*NS/SMIL *Version Comparison Information*: an overview of the differences in functionality offered in the various editions of GR*i*NS/SMIL.
6. *GRiNS Editor Quick Reference*: an overview of the data types supported by the GR*i*NS/SMIL environment and other useful reference information for getting started with the GR*i*NS/SMIL Editor.
7. *Where Next?*: A set of pointers to GR*i*NS/SMIL resources and other hints to help you on your way to creating SMIL presentations.

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 GR*i*NS, you should obtain the GR*i*NS Editor for SMIL, Version 1.5 *Tutorial Guide*, which provides a step-by-step introduction to building your own presentations.

Introduction

The GR*i*NS Editor for SMIL, Version 1.5 is an authoring environment for creating, editing and maintaining streaming media documents based on the W3C SMIL language. GR*i*NS/SMIL allows you to take source materials such as audio, video, image and text *assets*, and integrate them into a presentation that can be distributed via the Web. GR*i*NS/SMIL is one product in a range of tools that help you create compelling presentations for Web-based multimedia — for more details on the GRiNS product family, see *http://www.oratrix.com/GRiNS/*.

Fundamental to GR*i*NS/SMIL is that the complex task of presentation authoring is partitioned so that you have the freedom required to build and manage presentations easily. At the "assets-end," you can work with the asset types, management tools and editors that best meet the requirements of the task at hand. At the "presentation end," GR*i*NS allows presentations to be either published for local presentation, or to be published and uploaded to a Web server of your choice.

The GR*i*NS/SMIL environment has native support for the W3C SMIL language. This means that you can open and edit existing presentations, whether or not they were made with GR*i*NS/SMIL. This gives you an advantage by reducing your development time: you can update earlier versions of presentations made by others, or you can create new presentations directly with GR*i*NS/SMIL.

Key Features of Version 1.5 of GR*i*NS/SMIL

GR*i*NS/SMIL has been designed to help you produce compelling productions that are targeted directly to a generic SMIL player (such as the GR*i*NS Player).

Note that other versions of the GRiNS family can be used to produce presentations for specialty SMIL players, such as the RealNetworks RealSystem G2 player, or the Apple QuickTime-4.1 player. You should use these versions if you wish to target and make use of the extra features of these platforms directly.

GR*i*NS/SMIL has been based on the feedback we have received from the thousands of GRiNS users world-wide. The key features of this release are:

- integrated *Preview Player* that lets you evaluate your presentation as you create it, before you publish;
- integrated *bandwidth simulation* for multiple levels of network performance to show if your presentation will 'fit thru the pipe';
- presentation authoring using the GR*i*NS/SMIL *structure*, *timeline*, *layout* and *hyperlink* editing views;
- *drag and drop* editing, using both source assets or pre-converted RealMedia files (allowing you to fine-tune asset conversion with RealProducer — or any other conversion tool — before placing it in your production);
- support for SMIL's SWITCH, allowing you to build *adaptive presentations* that can optimize your production to the available bandwidth;
- the ability to *open previously created SMIL files*, even those created with Real's Slideshow, TAG Composer, or a text editor;
- automatic generation of a distributable version of your presentation and upload support to your Web server.

We strongly recommend that you read the GR*i*NS for SMIL Tutorial Guide, so that you can make optimum use of these facilities.

The GR*i*NS/SMIL Work Flow

Creating compelling streaming media presentations is a complex task. The challenges that must be addressed are:

- creating or selecting appropriate media objects for the presentation
- structuring the presentation to convey the message you want
- defining a presentation that 'fits' through the network connection available to the viewer of your presentation

Designing presentations for the Web presents you with both opportunities and problems. The basic opportunity is that you can reach a world-wide audience with your message. The basic problem is that the world is a non-standard place. People speak different languages, people use different computers, people have access to the Web via connections of varying speeds.

GR*i*NS/SMIL helps you manage the complexity of the Web by giving you control over the essential parts of your presentation. Want to quickly get out Version 1? No problem: the GR*i*NS/SMIL template-based approach lets you get started in seconds. Want to make new versions that are tailored to specific groups of users, or to specific architectures or to users with high- or low-bitrate connections? Again, no problem: GR*i*NS/SMIL gives you the freedom to edit, update and maintain your presentations and to target as many specific groups as you like.

The following illustration gives you an overview of the steps in the GR*i*NS/SMIL workflow.
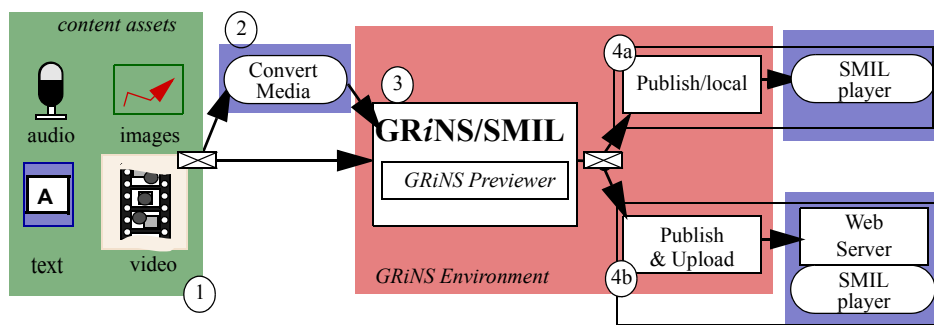
1. Creating content is perhaps the most challenging part of making a compelling presentation. You should keep in mind that the Web is not TV: the Web is a delivery vehicle that can vary widely in performance, while TV is a predictable delivery vehicle that 'looks good' in spite of supporting relatively low bandwidth audio and video information. In a similar vein, be careful with image data and with text: create or select each datatype carefully, keeping your intended audience, their equipment and their patience in mind. GR*i*NS/SMIL allows you to use nearly all popular audio, video and image formats available, including AIFF, AVI, BMP, GIF, SWF, JPEG, MPEG-1&2, and PNG. (Macintosh users can also use MOV and QT formats.)

2. An optional second step in the process is the encoding of your media assets into one of the common data formats on the Web. This is often the trickiest part of the process, since you won't always know what kind of support will be available on remote sites. See the appendix for information on GRiNS format support.

3. Once your media objects have been selected, GR*i*NS/SMIL's unique structure-based approach allows you to combine, edit and maintain your presentations in a flexible and easy manner. We look at this process in detail later in this Quick Start Guide.
GR*i*NS/SMIL allows you to open existing presentations for editing, whether or not initially created with GR*i*NS/SMIL. GR*i*NS/SMIL also allows you to preview your presentation incrementally, while creating it, using the GR*i*NS/SMIL Preview Engine.

4. Once your presentation is made, you can publish it for use with the GRiNS Player. You can do this in two ways:
   (a) publish for presentation on your local computer. Using this option allows you to playback the entire presentation and to identify if the entire presentation meets the bandwidth constraints identified for the system.
   (b) publish and upload your presentation to a remote server. You can upload the main presentation and the associated data objects to one server.

Using GR*i*NS/SMIL, you can create complex presentations from scratch, or from one of the GR*i*NS/SMIL templates. You can also open any existing SMIL presentation, whether created by GR*i*NS/SMIL, another SMIL-compatible authoring tool or a simple text editor.

Building Presentations with GR*i*NS/SMIL

This Guide will provide a quick tutorial that will help you get started with GR*i*NS/SMIL. (You get the tutorial after we discuss installation issues.)

After you get your edition of GR*i*NS/SMIL installed and work through the tutorials, you should check for expanded tutorials from the GR*i*NS/SMIL Web site:

http://www.oratrix.com/GRiNS/.

If you would like us to showcase your work, please send a message to
grins-support@oratrix.com.

GR*i*NS Editor for SMIL, Version 1.5 *Quick Start Guide*

Installing GR*i*NS Editor for SMIL, Version 1.5

GR*i*NS Editor for SMIL, Version 1.5 (GR*i*NS/SMIL) is currently available on Windows-based PCs and Apple Macintosh PowerPCs; a Linux port will be released in early 2000. Each implementation of GR*i*NS/SMIL 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 GR*i*NS/SMIL authoring environment.

Obtaining GR*i*NS/SMIL

The GR*i*NS/SMIL environment can be obtained from the GR*i*NS Web site:
http://www.oratrix.com/GRiNS/

The GR*i*NS/SMIL Editor is a visual authoring environment that is coupled with an internal GR*i*NS Preview Player: you can create, preview, edit, review and publish your presentation from within a single GR*i*NS framework.

Installing GR*i*NS/SMIL

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

NOTE:
1. The first time you execute GR*i*NS/SMIL, you must provide your GR*i*NS License Key. Instructions for using this key are provided when the key is issued via e-mail.

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

To install GR*i*NS/SMIL for Windows, execute grins_win_1.5.exe. This program will install GR*i*NS/SMIL and related files in the location you give during the installation process.

When complete, the GR*i*NS/SMIL icon will be added to your desktop. The default location for starting GR*i*NS/SMIL is:

c:\Program Files\Oratrix\GRiNS_SV1\GRiNS_SV1.exe,

NOTES:
1. While Administrative privileges are not required to install GR*i*NS/SMIL, 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 GR*i*NS/SMIL Components via the 'Add/Remove Programs' program in the control panel or via the Uninstall tools provided with the distribution. Administrative rights are typically required to uninstall GR*i*NS/SMIL.
3. The GR*i*NS/SMIL 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 RealSystem G2. GR*i*NS/SMIL places its local information in a file with the *.grins* extension.

Installing GRiNS on the Apple Macintosh

To install GR*i*NS/SMIL distributions for the Macintosh, you should download the self-extracting installer. During installing, nothing is placed in the System Folder except a small preferences file, so removing GR*i*NS/SMIL can be done by moving the entire distribution folder to the Macintosh Trash icon.

Checking for updated GRiNS/SMIL software

Once GR*i*NS/SMIL has been installed on your system, you may select the Check for GRiNS update option in the File menu to see if updated versions are available.

Using GRiNS Editor for SMIL, Version 1.5

This section provides you a short tutorial to get you started with GRiNS/SMIL. After you get some practice with this presentation, you should work through the full tutorials set (including sample data assets), available as part of the GRiNS distribution package.

The GRiNS Work-Flow Model

To understand how GRiNS/SMIL 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 Player View allows you to preview your work-in-progress. Once you are satisfied with the presentation, you can publish it in a form that is compatible with the RealSystem G2 Player.

GRiNS is a full SMIL editor. You can open any existing SMIL presentation with GRiNS and maintain/edit/expand it to meet your needs. Do keep in mind that if that presentation references unavailable data objects, the Editor will correctly display the presentation's structure, but it won't include the data. If you reuse existing presentations, respect the original copyrights on structure and data!

Tutorial: Creating a Simple Presentation

The purpose of this tutorial is to create a very simple SMIL file that consists of a sequence of objects that get rendered onto a default area of the screen. This presentation makes use of a GRiNS Template document.

Overview and Goals

In order to create this small presentation, you will perform the following steps:
1. Start the GRiNS/SMIL Editor and select the *QSG1-Slideshow* template;
2. Go into the Structure View;

3. Select each object in the template and define a image to be associated with each block;
4. Preview the presentation
5. Publish the presentation for use with the GRiNS Player.

The result of building the first part of this tutorial is a series of three pictures displayed in the (player-dependent) default location on the screen. A thumbnail presentation preview is:
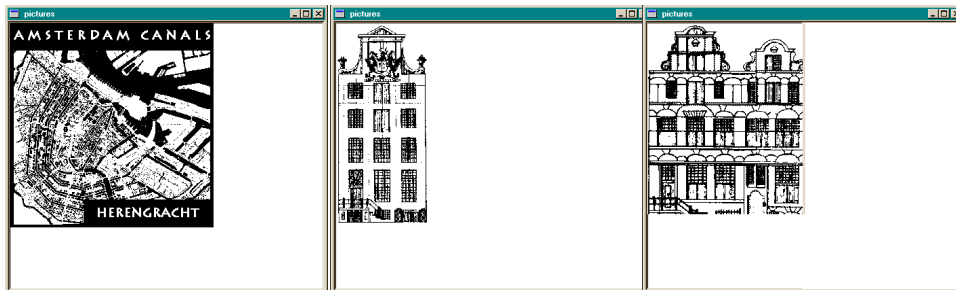
We close this tutorial with background information on GR*i*NS that will make your creation of template-based more effective.

Opening a Template File

If you have not already done so, start-up the GR*i*NS Editor; if you get a pop-up box asking if you want to create a new presentation or edit an existing one, select New Presentation. Otherwise, if no pop-up appears, go to the File menu and select New, which allows you to select a GR*i*NS Template file. Select the *QSG1-Slideshow* file, as shown below:[1]

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1. On Macintosh versions of GR*i*NS, you may need to navigate to the Templates folder located in the GR*i*NS application folder.
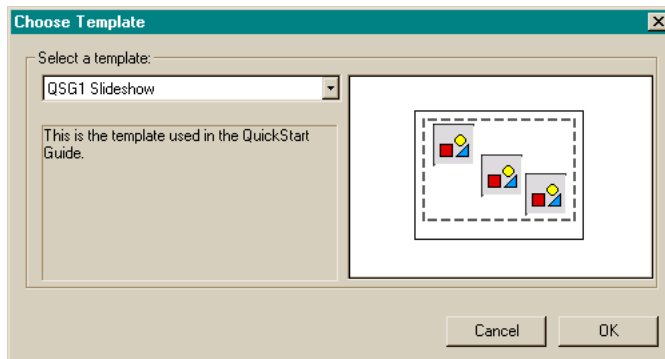
This will create a new document called *Untitled1.grins*. Before continuing, save your work-in-progress in a directory on your system. Do this by selecting Save as ... from the File menu.

Whenever you create or open a file, you see the Editor's Structure view. In this view, we see you blue outer container labelled *QSG1-Slideshow* and a series of three light-colored nodes called *picture_1*, *picture_2*, and *picture_3*. (The warning triangles indicate that the nodes are empty.)

At the top-left of the structure container is an expand icon. (This is a "+/-" box under Windows and a selection triangle on the Macintosh.) Give it a click to see one of GR*i*NS/SMIL's information hiding features.

NOTES:
1. The opening screen assumes that you use the default configuration for GR*i*NS as distributed;
2. Some of the default dimensions of various GR*i*NS windows have been changed in the illustrations in these tutorials to make for a space-efficient presentation;
3. The colors used for the various GR*i*NS windows depend on the Windows color scheme installed for your system. This tutorial uses the Desert color scheme;

4. If you work on a multi-user system, make sure you don't overwrite files created by other users of this tutorial. On a multi-user system, each user should create their own copy of the Tutorials.

Inserting the Media Objects

The *QSG1-SlideShow* template contains all of the information required to create a simple presentation *except* the actual images used. To get started quickly with GR*i*NS, do the following:
1. Using the Windows file navigation, open the *Assets* folder in the *Tutorials* directory (typically located in the GR*i*NS root directory; this is usually
    *c:/Program Files/Oratrix/*GR*i*NS_SV1
    depending on the edition installed on Windows platforms, or the *Tutorials* folder on the Macintosh);
2. Select the image *map.gif* from the folder and drag it on to the light-colored box labelled *Picture_1*;
3. Select the image *h168.gif* and drag it on to the box labelled *Picture_2*;
4. Select the image *h218.gif* and drag it on to the box labelled *Picture_3*.

The illustration shows a 'filled' version of the Structure view, containing thumbnail icons for each of the images you have placed on the presentation.
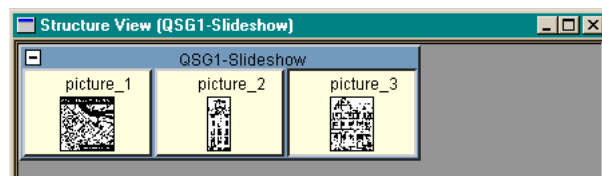
Previewing the Presentation

Playing the entire presentation

In the *QSG1-Slideshow* template, each object has a default duration of 5 seconds. As a result, when you play the presentation, you see each object for five seconds, with each new object replacing the old.

To see this behavior, select Play. You can do this in three ways:
1. using the triangular Play button on the shortcut bar;

2. by selecting Play -> Play command from the menu bar
3. by selecting the Ctrl+P key combination.

Playing part of a presentation

GRiNS allows you to selectively play parts of a presentation.

To get a quick taste of what GRiNS/SMIL can do, select the box labelled *Picture_1* (it contains the icon of the *map.jpg* image). Go to the Play menu and select Play Node. Once you do this, you get to see the Map image. Only that single node is played. You can use Play Node on any GRiNS node (data nodes or structure nodes).

You can also select Play From Node in the Play menu. For example, select the box labelled *Picture_2* in the Structure View. You now see both the second and third pictures — that is, all nodes are played starting at the point that you selected Play From Node.

The ability to selectively activate and preview nodes or sub-parts of a presentation is a powerful tool that can help you fine-tune your presentation with a minimum of authoring effort.

Publishing the Presentation

Publishing your presentation consists of several steps, some of which are optional.

Check Bandwidth Usage

First, you should check to see if the presentation you've made 'fits thru the pipe' between the Server and your user. GRiNS provides several features to help you do this:

1. you should select a system bitrate from the Edit->Preferences menu.
2. next, select View->Check bandwidth usage to see if your presentation will fit thru a line with the properties defined in (1).

GRiNS does not correct errors for you (since such corrections involve artistic design issues), but it does indicate where you should look for the problem spots in your presentation. These are indicated by red blocked pipes on data items. Items which do not cause a problem are indicated by green pipes on data items.
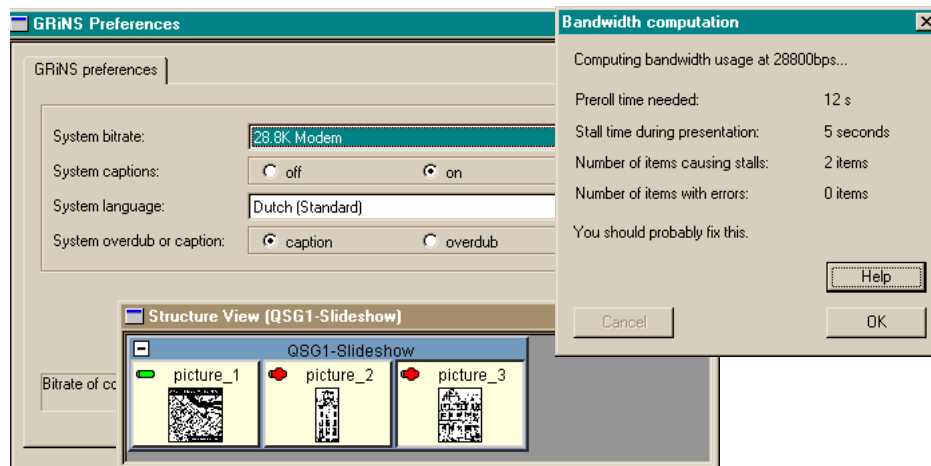
The following situation shows the result of a bandwidth computation with settings for a 28.8 modem. The problems shown in this report can usually be fixed in one of several ways:

- by increasing the duration given to load the image (in this case, increase the duration of *picture_1* from 5 to 10 seconds); or
- by reducing the complexity of an individual data object (by using a different format or by cropping out unwanted parts of the image).

Generate the Presentation

The next step is to actually generate the presentation. This consists of:
1. copying Media components to common folder
2. creating the various SMIL control files
3. optionally uploading your presentation

All of these steps are automated; they are triggered by the File->Publish command.

You can now preview the presentation to see if fine-tuning is required.

Generate the Presentation and Upload

Once the presentation has been created, you can also upload it automatically to a Web Server. Select Edit->Publish and Upload to do this from GR*i*NS. Please check with your system or network administrators to set the various upload parameters that must be set in the Document Properties dialog required for the Web Server you plan to use for hosting your presentation.

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!

SMIL has the 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. GR*i*NS/SMIL was designed to make this sort of substitution easy to create, easy to maintain and easy to present to the user.

A Bird's-Eye View of GR*i*NS/SMIL

The Menu Structure

The following menu and activation options are available when you start the GR*i*NS/SMIL Editor:
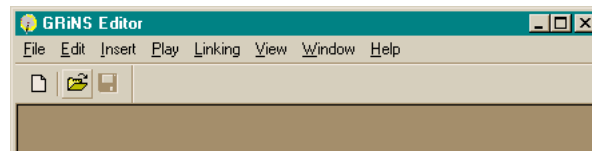
The pull-down menus contain functions that allow you to create and preview SMIL documents:

- The File pull-down menu allows standard file open/save/close operations. It also lets you publish your documents and (optionally) upload them to a Server. You can also set document properties via this menu.
- The Edit pull-down menu contains standard cut/copy/paste/delete operations. It also lets you access the property tabs for a selected node. If you have a content editing program installed for the datatype of the node (such as Adobe Photoshop for images), you can edit the content directly with that program via the Edit Content button. Finally, you can set general preferences for this editing session (such as the bandwidth used for simulation or the language settings for previewing) using the Preferences command.
- The Insert menu lets you insert new nodes into your presentation (both structure and data nodes), and lets you wrap new structure nodes around existing ones;
- The Play pull-down menu allows you to Start, Stop and Pause the current presentation;
- The Linking menu allows you to create anchors and links within your presentation, so that you can jump to them from elsewhere in the presentation — a handy way of providing logical navigation to your users. In GR*i*NS/SMIL, extensive support is provided for creating several types of links and anchors in a presentation;

- The View menu lets you manage the complexity of the display in the Structure view (letting you selectively zoom in or out of your presentation). It also lets you see the bandwidth constraints of your presentation and it lets you see which object will get played at the current simulation settings (as set in the Edit menu's Preferences command).
- The Window pull-down menu allows you to open or close the active editor views (the Preview, Structure and Source views) In GR*i*NS/SMIL, extra facilities are offered for manipulating the presentation in the timeline, layout and hyperlink views.
- the Help menu gives you access to the on-line help files.

In all cases, inactive selections are 'grayed-out' in the menus. Many of the sensible alternatives (based on what you are doing in the Editor) are also available in the context-sensitive commands provided under the right mouse button.

Note that on some systems, a Rapid-Access icon set is also available under the menu tabs. (This is currently not available for Macintosh or Linux.)

The use of each of the elements in the menus is discussed in the GR*i*NS/SMIL *Tutorials Guide*.

NOTES:
1. In GR*i*NS/SMIL, you may freely import presentations made with a text editor or with any other SMIL editor. Syntax error checking is performed upon import.
2. 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 GR*i*NS/SMIL: simply open the *.grins* file with your favorite text editor and make whatever changes are necessary. You can then re-open the file from within GR*i*NS/SMIL. (Be careful when doing this, since errors put in the file by direct text editing may make the presentation unusable from within GR*i*NS/SMIL.*)*

Creating Presentations Using GR*i*NS/SMIL

There are several key concepts that are common to all editions of GR*i*NS/SMIL that will help you be more productive:

- One of the GR*i*NS windows is the Player View. This is the run-time preview of a document. The Player allows a complete presentation to be viewed using conventional start/stop/pause controls, and the embedded previewer 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 GR*i*NS/SMIL view is the Structure View. In the Structure view, you can manipulate the general structure of your presentation in a visual way. GR*i*NS/SMIL isolates you from the details of SMIL, 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.
- Screen space and audio channels are managed using a concept known as the GR*i*NS/SMIL *Resource Channels*. (We will call these *Channels*, for short.) You can group collections of 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, available in GR*i*NS/SMIL, allows you to create visually interesting presentation easily and quickly with GR*i*NS.
- GR*i*NS provides powerful Hypermedia support: you can define anchors across media objects and then define various types of links between these anchors. GR*i*NS/SMIL provides extensive features to define anchors and links at various (sub-)parts of a presentation, while GR*i*NS/SMIL gives you the ability to build simple links and anchors for navigation in and through your presentation.

GR*i*NS/SMIL also provides full support for building adaptive presentations using the SMIL switch statements. The semantics and properties of the SMIL switch are managed in the GR*i*NS structure view. Here again, GR*i*NS worries about the syntax — you simply need to define the options available.

A Note for Macintosh and Linux Users

Although GR*i*NS is available for Windows, Macintosh and (soon) for Linux platforms, this *Quick Start Guide* provides illustrations and examples drawn from the Windows version. We have done this to minimize the document's size. Most of the options available in dialogs and menus are identical on all three platforms, but the ordering and layout of these options may differ. Users of the Mac and Linux versions also 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 in Windows) will pop up on the Macintosh if you keep the mouse button depressed for about half a second. Also, since the Macintosh does not have the concept of windows-within-windows, 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). Additionally, the Player toolbar is shown when you open the Player view; there is no Editor toolbar. The keyboard shortcuts follow standard Macintosh conventions.

Note that for MIME decoding, please use the ".*type*" extensions when given.

Linux notes

Each view in the Editor under Linux 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. Linux keyboard shortcuts follow standard Linux conventions, and are listed in the menus.

Under Linux, GR*i*NS/SMIL 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 GR*i*NS Authoring Views

This section will look at each of the views provided by GR*i*NS/SMIL and gives you an overview of how GR*i*NS helps you to manage the work-flow during document creation and maintenance. The GR*i*NS/SMIL Editor was designed to let you not only build, but also edit, tailor and refine presentations — even if they weren't made with the GR*i*NS Editor initially!

### *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.

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

The editing philosophy behind GR*i*NS is that of *structured authoring*. As with structured programming and structured design, it is often useful to create documents based on the structural relationships among components rather than getting lost in the details of a single object's activation. This not only makes initial creation easy, it also makes editing and updating a document much easier to accomplish.

For example, if a single presentation contains an audio node and an image node that are to be presented together, GR*i*NS puts these inside a *parallel structure container*. If, on the other hand, a presentation contains two audio nodes that get played one after the other, GR*i*NS puts these inside a *sequential structure container*. If you want to define a set of alternatives (such as having both Spanish and English audio tracks available in a presentation), GR*i*NS puts these inside of a *switch container*. All of these notions reflect the way that SMIL works: the parallel container is equivalent to SMIL's PAR, the sequential container to SMIL's SEQ and the switch container to — you guessed it! — SMIL's Switch. (This is no accident: the designers of GR*i*NS/SMIL were also the co-designers of SMIL.)

The following annotated view shows the basic components of the Structure view.
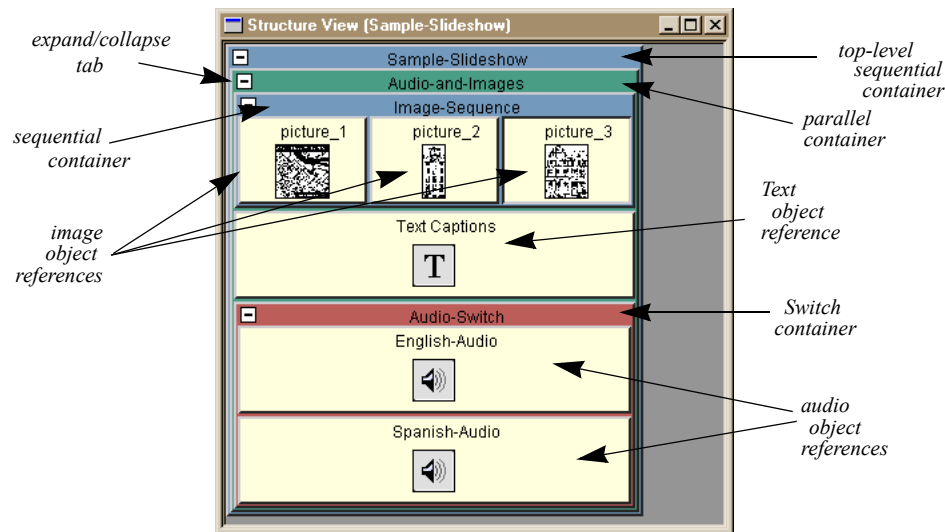
This picture describes a presentation named *Sample Slideshow*, and which contains three images played in sequence, which are presented in parallel with one Text object containing text comments and either an English-language or Spanish-language audio object (the selection of which will be determined 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 GR*i*NS.

The purpose of the Structure view is to give a logical projection of the contents in a presentation to the author. 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 GR*i*NS, 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 GR*i*NS 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/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. If the view becomes too crowded, these thumbnails are removed. (You may influence this behavior via the GR*i*NS 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 short-cut 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 selecting a GR*i*NS 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.
2. The keyboard equivalents have been customized to meet the expectations of experienced users on each of the platforms upon which GR*i*NS is implemented. The structure of the menus is constant across all versions of GR*i*NS 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 Player View: The Embedded Presentation Previewer

One of the unique features of GRiNS is the ability to incrementally preview a presentation as it is being designed. To do this, 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. 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 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 *given the bandwidth preference currently selected for simulation* (via Edit->Preferences). In this way, the Timeline view gives you an 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.
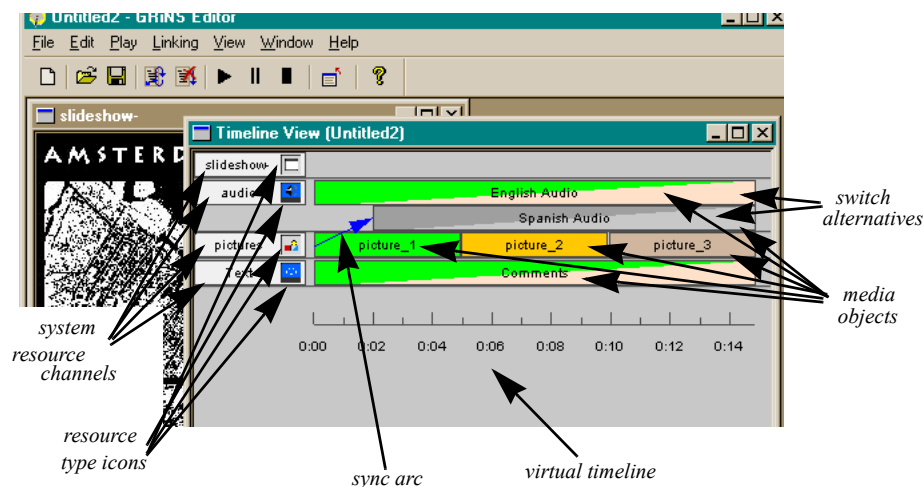
The elements of the Timeline view are arranged in resource order. The primary resources in a multimedia presentation are either screen space or audio rendering spaces (that is: left, right or stereo audio channels). In SMIL, this ordering corresponds roughly to a listing by SMIL's *Regions*. The channel 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. (GR*i*NS/SMIL provides management attributes for each channel; you can see these attributes by right-clicking on the channel icon.)

The Timeline view shows resource use for the presentation. 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). The level of performance is influenced by the bandwidth selected in the Edit->Preferences setting — images will download faster (thus consume less presentation time) when you set the network connection to a higher value.

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 GR*i*NS/SMIL 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 GR*i*NS/SMIL 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 GR*i*NS/SMIL what you want, and GRiNS does the rest. (Note: SMIL-1.0 is very restrictive in the definition of sync arc timing relationships, so GR*i*NS will warn you if you 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 GR*i*NS Player will only highlight the choices made for the current preferences setting of a document. (Again, for complete details, consult the GR*i*NS documentation that is supplied when purchasing the GR*i*NS Editor.)

The final type of information presented in the Timeline view is a *bandwidth resource meter strip*. When activated via the View->Show Bandwidth Usage option, this strip will be 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 a 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.

The Layout View: Managing Visual and Auditory Resources

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

The following illustration shows an annotated Layout view.

Player view *with regions highlighted*

GRiNS Layouts
(only default is shown)

Layout channels *in this* Layout

Other available
Layout channels
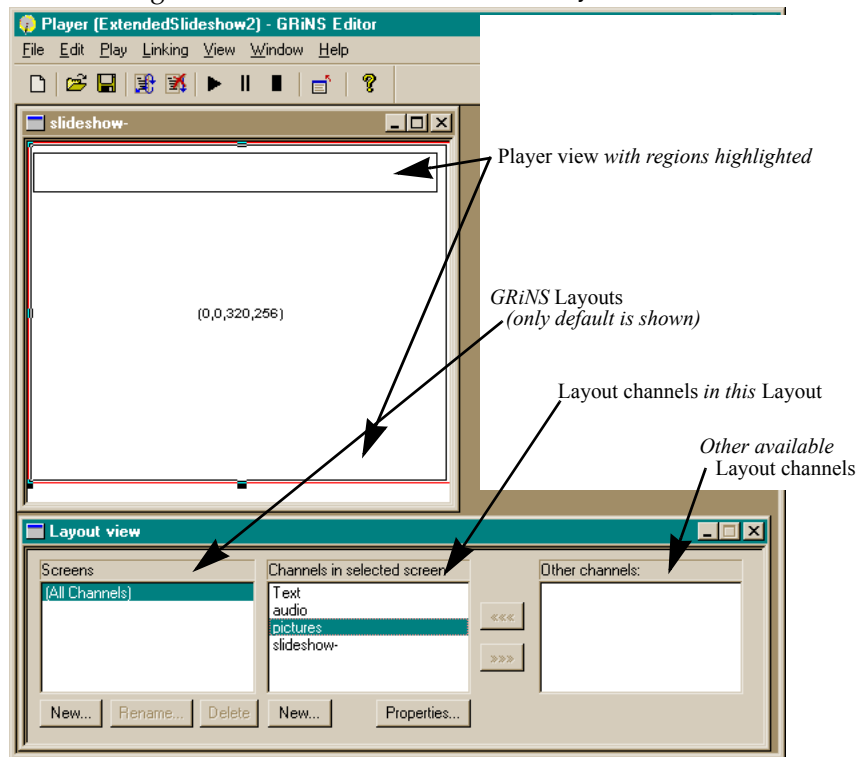
When activated, the Layout view shows a window similar to the GR*i*NS Player window and a separate editing window for adding and updating layout areas. In GR*i*NS terminology, these areas are called Layout Channels. Layout Channels carry

more properties than standard SMIL Regions. This information carried transparently within a *.grins* 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, GR*i*NS allows a user to cluster different sets of regions together into GR*i*NS 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 GR*i*NS 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 Macintosh version does not display coordinates in the center of the region preview box. In the Windows version, these coordinated are only visible when shown against a light background.

The Hyperlink View: Creating Order within the Chaos of Links

The GR*i*NS/SMIL 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.

The following image shows the Structure view of a presentation containing internal links:
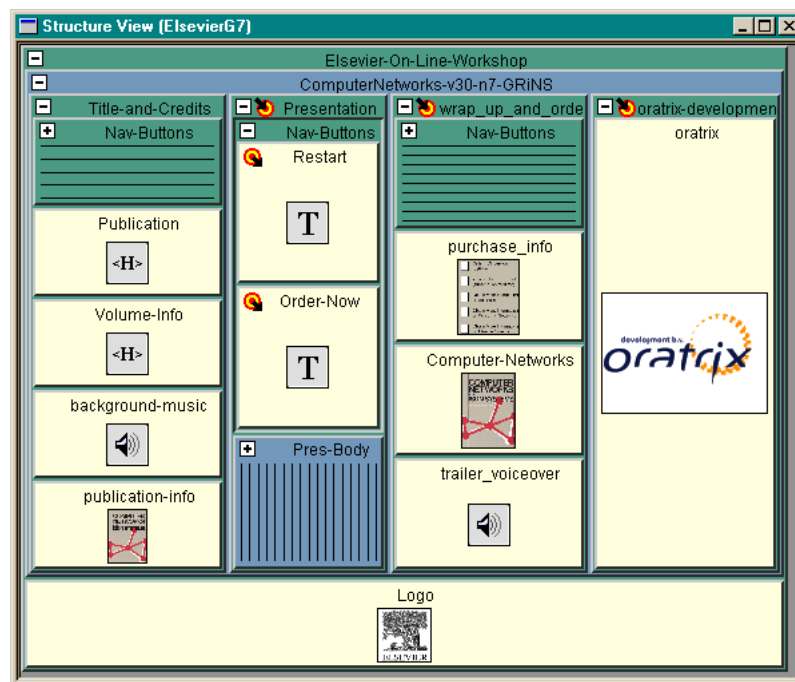

Two symbols identify the presence of hyperlinks:
- the *destination anchor* icon with the arrow pointing at the center, which indicates that this node contains an anchor that is the destination of a link.

- the *source anchor* icon with the arrow pointing out from the center, which indicates that this node contains an anchor that is the source of a link.

In GR*i*NS/SMIL, you can create anchors that cover an entire media object for its full activation time: these are *whole node* anchors. In addition, you can create *partial node* anchors that are active on only a part of a object (that is, over a hot spot somewhere over an image or video). You can also create *timed anchors,* that are active for only a particular part of the activation time of an object.

You create anchors in GR*i*NS/SMIL by using the anchor property tab for a node:
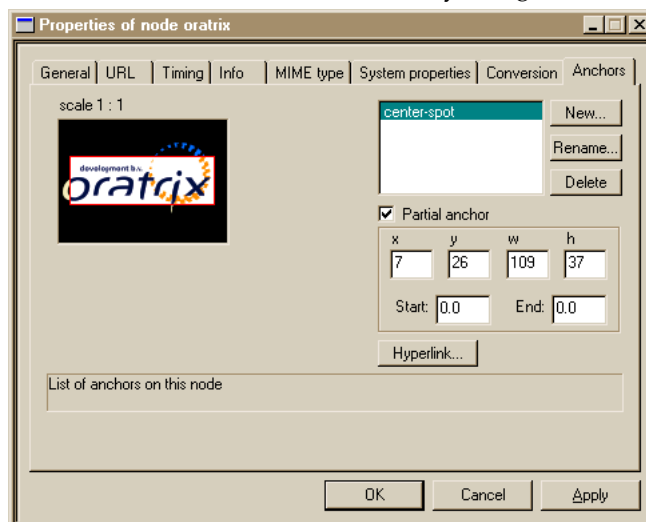
Notes:
1. In Macintosh and Linux versions, the layout of the options is different, but the functionality is the same.

Using this dialog, you can indicate where anchors get placed (or, if partial node is not checked, place them on the whole node), and when they are active. In this example, a center hot-spot is placed in an image. You draw the anchor directly on the image preview as part of the anchors property tab.

Creating anchors is required before you can make a link. To create a link inside a document, you can open the Hyperlinks window, either directly from the anchor tab or from the Window menu.

An annotated Hyperlink view is shown in the following illustration:

source anchors

Links (with type)

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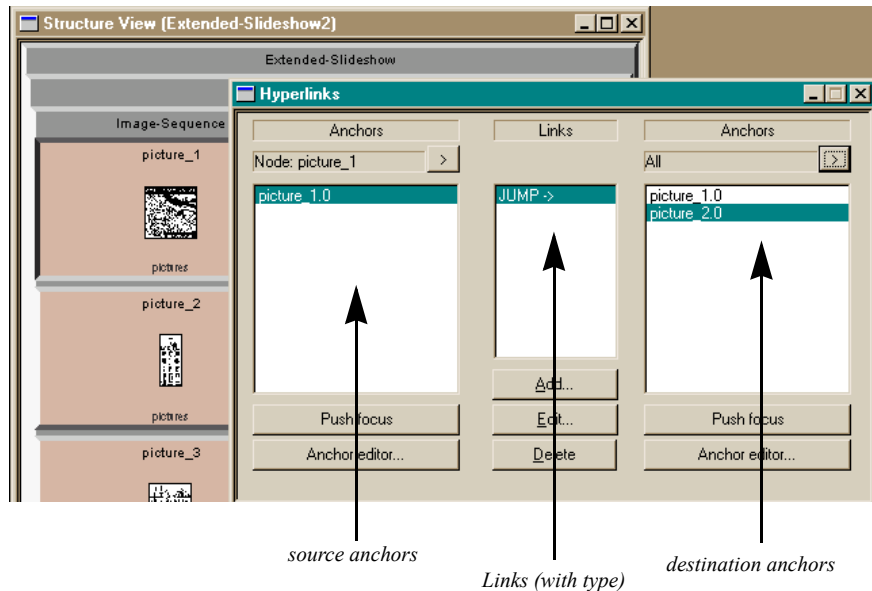
The Hyperlink view shows a collection of source anchors on the left of the display and destination anchors on the right. You can add links of several types by first selecting a source anchor, then a link type and then the destination anchor.

The GR*i*NS/SMIL *Tutorial Guide* shows how you can build anchors and links in a presentation.

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.

GR*i*NS Edition Comparison Information

Packaging Information

The GR*i*NS Editor is available in several editions, each tailored to the needs of particular groups of authors. These editions are supported under three generic operating systems. This section provides a feature differentiation and compatibility matrix for each of the available editions.

This section compares the various *features* of GR*i*NS. Please see the next section for a comparison of media types and compatibility with external systems.:

GR*i*NS Feature	GR*i*NS /SMIL	GR*i*NS /QT	GR*i*NS /G2*Pro*	GR*i*NS /G2*Lite*
Visual Editing Interface	√	√	√	√
Drag & drop editing	√	√	√	√
Integrated Previewer	√	√	√	√
Start Anywhere, Preview Anything	√	√	√	√
Bandwidth-constrained placement	√	√	√	√
Insert / preview all media in native format	√	√	√	√
Insert / preview pre-converted RealMedia	√*	√	√	√
Basic adaptive presentation support	√	√	√	√
Extended adaptive presentation support	√		√	
Basic hyperlink and anchor creation	√	√	√	√
Extended hyperlink and anchor creation	√		√	
Timed-anchor creation	√		√	
Structure view editing	√	√	√	√
Timeline view editing	√		√	
Basic layout editing as attribute	√	√	√	√

GRiNS Feature	GRiNS /SMIL	GRiNS /QT	GRiNS /G2Pro	GRiNS /G2Lite
Extended layout editing via Layout view	√		√	
Sub-region layout support	√	√	√	√
Edit from templates	√	√	√	√
Create new templates	√		√	
Basic G2 attribute suport	√*	√	√	√
Extended G2 attribute support			√	
Basic bandwidth analysis and preview	√	√	√	√
Extended bandwidth analysis and preview			√	
Basic conversion of native datatypes to RealMedia			√	√
Extended automatic conversion to RealMedia			√	
Open/edit any existing SMIL presentation	√*		√	√
Automatically generate Web Page for presentation			√	√
Automatically generate external G2 presentation			√	√
Automatically generate G2 presentation within an HTML Page			√	
RealServer Upload Support			√	√

NOTE:

1. Items tagged with a '*' require that the RealNetworks G2 player be installed.

The available versions of the GRiNS/SMIL products are updated regularly. Please consult the following Web URL for the most recent version of the GRiNS product matrix at:
http://www.oratrix.com/GRiNS/

GR*i*NS/SMIL Quick Reference Information

SMIL Compliance Information

The GR*i*NS Editor for SMIL, Version 1.5 supports 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 be supported in a future release.

Supported Media Table

The following chart gives a listing of the media types supported by various versions of GR*i*NS Editor for SMIL, Version 1.5:

MIME type	Extensions	Windows 95/98/NT	Mac	Linux(4)
audio/basic	au	yes	yes	yes
audio/x-aiff	aiff, aifc, aif	yes	yes	yes
audio/x-wav	wav	yes	yes (1)	yes (1)
image/jpeg	jpeg, jpg	yes	yes	yes
image/png	png	yes (2)	yes	yes
image/tiff	tiff, tif	yes	yes	yes
image/x-portable-anymap	pnm	no	yes	yes

MIME type	Extensions	Windows 95/98/NT	Mac	Linux(4)
image/x-portable-bitmap	pbm	no	yes	yes
image/x-portable-graymap	pgm	no	yes	yes
image/x-portable-pixmap	ppm	no	yes	yes
image/x-rgb	rgb	yes	yes	yes
image/x-xbitmap	xbm	no	yes	yes
	bmp	yes	yes	yes
	ras	yes	no	no
	tga	yes	no	no
video/mpeg	mpeg, mpg	yes	yes	yes
video/quicktime	qt	yes	yes	yes
video/x-msvideo	avi	yes	yes(3)	yes (3)
video/x-sgi-movie	mov	no	no	yes
text/html	html, htm	yes	yes	yes
text/plain	txt	yes	yes	yes

Notes
1. Uncompressed WAV only.
2. Support seems to be somewhat buggy.
3. Not all encodings supported.
4. Linux information provided for planning purposed only.

The following chart describes the levels of support provided in the GR*i*NS/SMIL version for the listed RealMedia data types used in the RealNetworks G2 Player:

RealMedia	Extension	Importable
RealAudio	ra, rm	yes
RealVideo	rv, rm	yes
RealText	rt	yes
RealPix	rp	yes

References and Links

Please see the Links section of the GR*i*NS/SMIL Web site (*www.oratrix.com/ GRiNS*).

Where Next?

The GR*i*NS Editor for SMIL, Version 1.5 *Quick Start Guide* provides you with a general overview of GR*i*NS and a particular introduction to GR*i*NS/SMIL.

Once you have installed GR*i*NS 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 GR*i*NS/SMIL tutorials. These can be found in the GR*i*NS/SMIL *Tutorial Guide*, which is available as part of the distribution package.

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

We recommend that you use the Check for GRiNS update button in the File menu. This version will poll the GR*i*NS Web site to see if an updated version of GR*i*NS exists.

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

We hope you find working with GR*i*NS a productive experience!