

RAD User Guide

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Introduction

The Rapid Application Developer (RAD) is a graphical user interface (GUI) authoring tool for creating language learning and content-focused lessons.

Throughout this document the Rapid Application Developer is referred to as RAD. When an application is created, it is called a rad application, a rad app, or simply a rad. Therefore, RAD (in uppercase letters) represents the software and rad (in lowercase letters) refers to an application or lesson created using the software. There are references in this user guide to both RAD and rad.

Acknowledgements

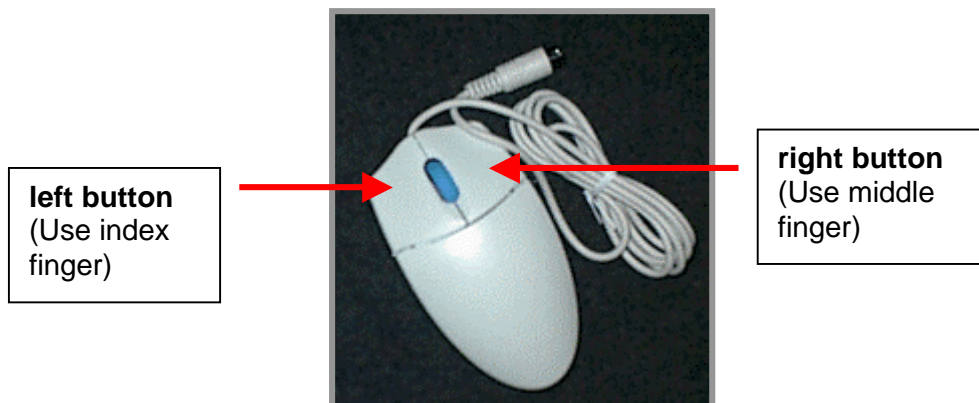
The research and development required to create the Rapid Application Developer was supported by NSF Challenge and Care grants to the University of Colorado at Boulder; Ron Cole, Primary Investigator.

Using Microsoft[†] Windows[†] Operating System

Use a PC Mouse

This section describes how to get started using the Microsoft[†] Windows[†] operating system to use the Rapid Application Developer (RAD) and how to save the rad application you create. RAD currently operates only on PCs running the Windows operating system.

Windows requires a PC mouse. A PC mouse has two buttons, a left button and a right button; whereas, a Macintosh[†] mouse has only one button.



In the manual, there are references to:

- Clicking clicking the left button once
- Double-clicking clicking the left button twice
- Right-clicking clicking the right button once

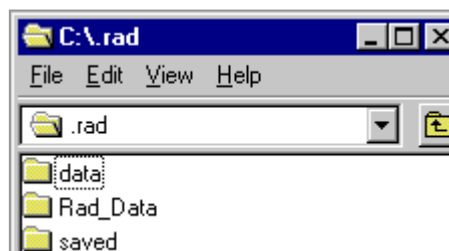
Create Your Folder

You will save your rad application, images, and sound files in your folder.

1. Double-click on the My Computer icon in the upper left corner of the screen.
2. Double-click on the (C:) drive.
3. Double-click on the .rad folder.
4. Right-click in the window and select New.
5. Select Folder.
6. Type your name.
7. Press the Enter key on the keyboard.

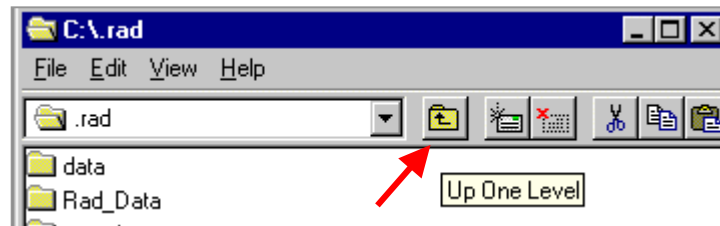
Browse in Windows

Browse for (or find) a folder, image, sound, or rad in Windows.

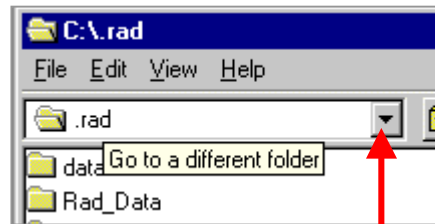


There are two ways to browse for something if you do not see it right away in the window.

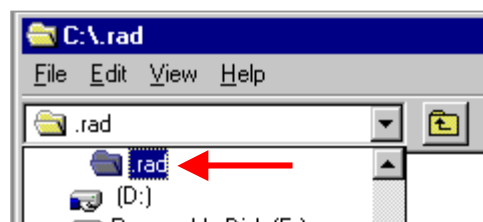
- Click on the folder icon to go up to the next folder level (directory). If you do not find what you are looking for, click again to go up to the level until you find it.



- Another way to browse is to click on the drop-down button (arrow) for the folder name field.



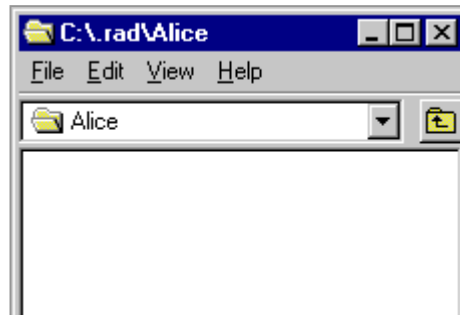
Select the .rad folder. You should find your own folder within the .rad folder.



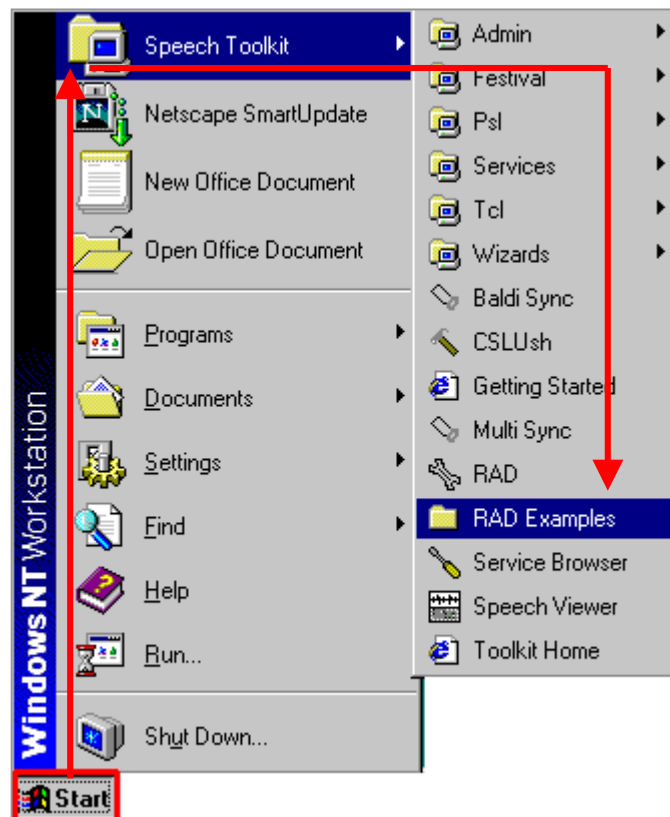
Before Getting Started With RAD

This manual will focus on creating applications about Chile, Italy, and other countries. The manual refers to a number of files which you will need to place in your folder.

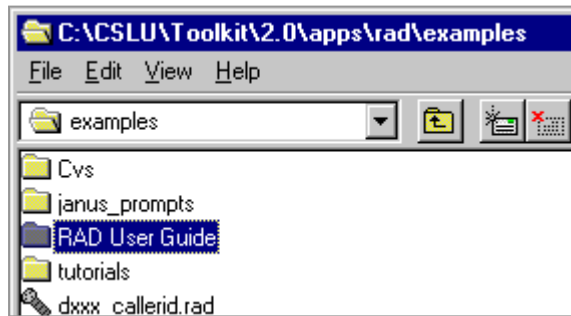
1. Find your folder and double-click on it to open it.



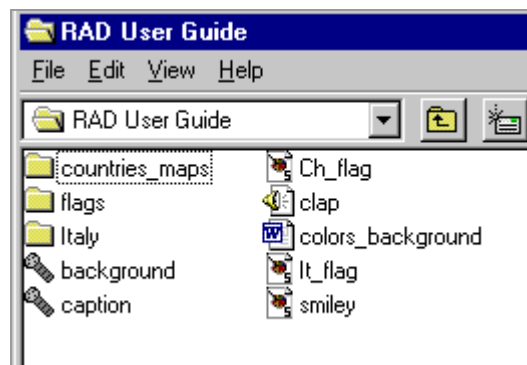
2. Click on the Start button in the lower left corner of the screen. Scroll up to Speech Toolkit. Scroll over and then down to the RAD Examples. Select RAD Examples by clicking on it when the option appears highlighted.



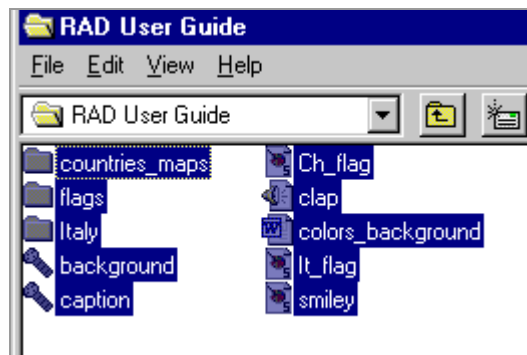
3. Open (double-click) the RAD User Guide folder.



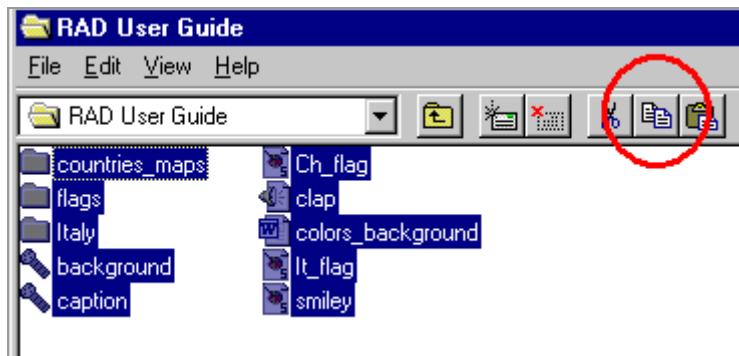
4. Copy and paste all the files into your folder.



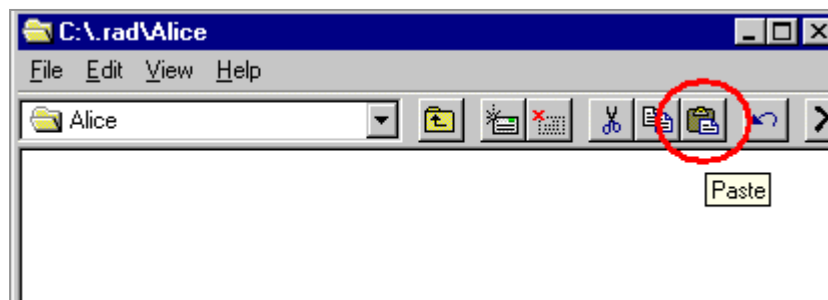
5. Press the Ctrl key on the keyboard and the "A" key. Ctrl + A means select all.



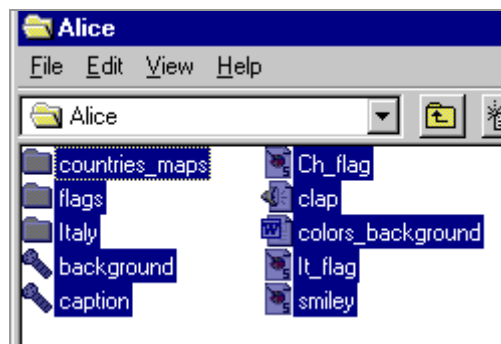
6. Click on the Copy icon.



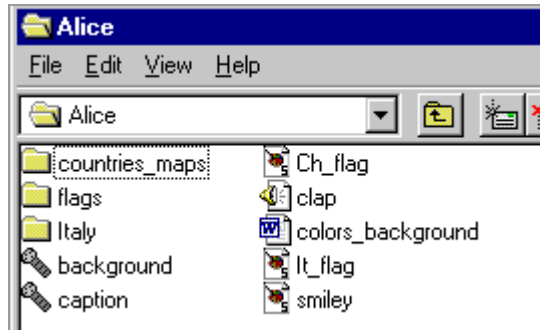
7. Click in your folder's window to make the window active (the top bar of the active window is highlighted). Then click on the Paste icon.



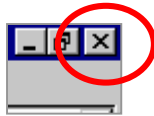
8. The files should now appear in your folder.



9. Click anywhere in the window to deselect the files.

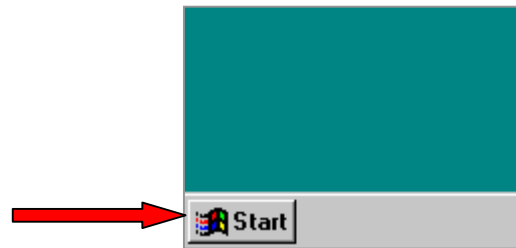


10. Now you are ready to get started. Close the windows by clicking on the X in the top right corner of the windows.

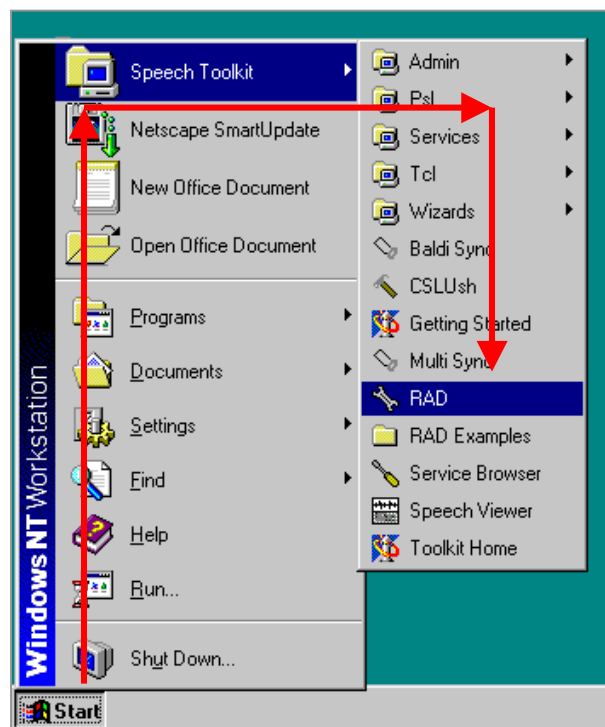


Getting Started with RAD

1. Click on the Start button in the lower left hand corner of the screen.



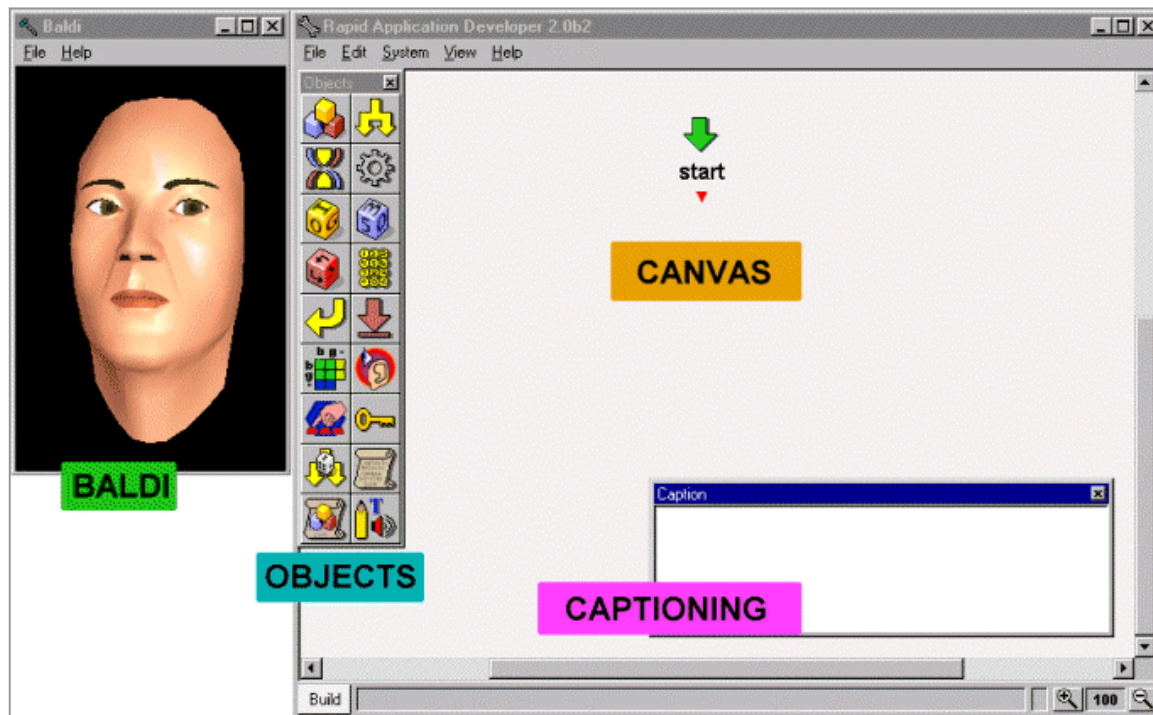
2. Scroll up to Speech Toolkit and then over and down to the RAD.



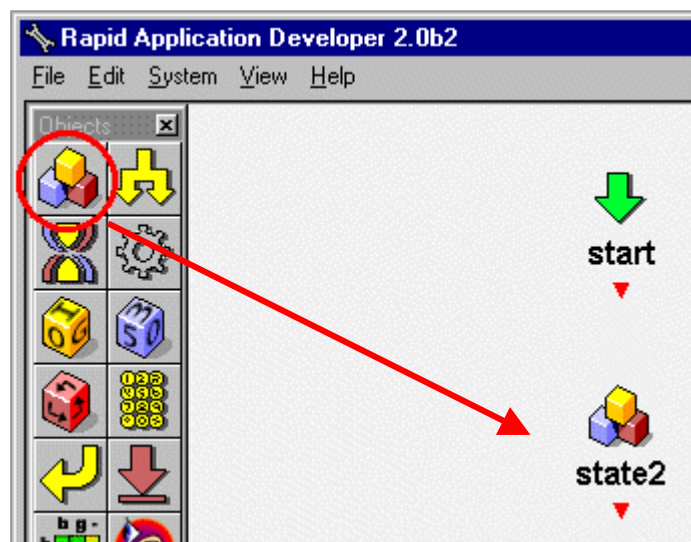
3. Wait for RAD to load (open).



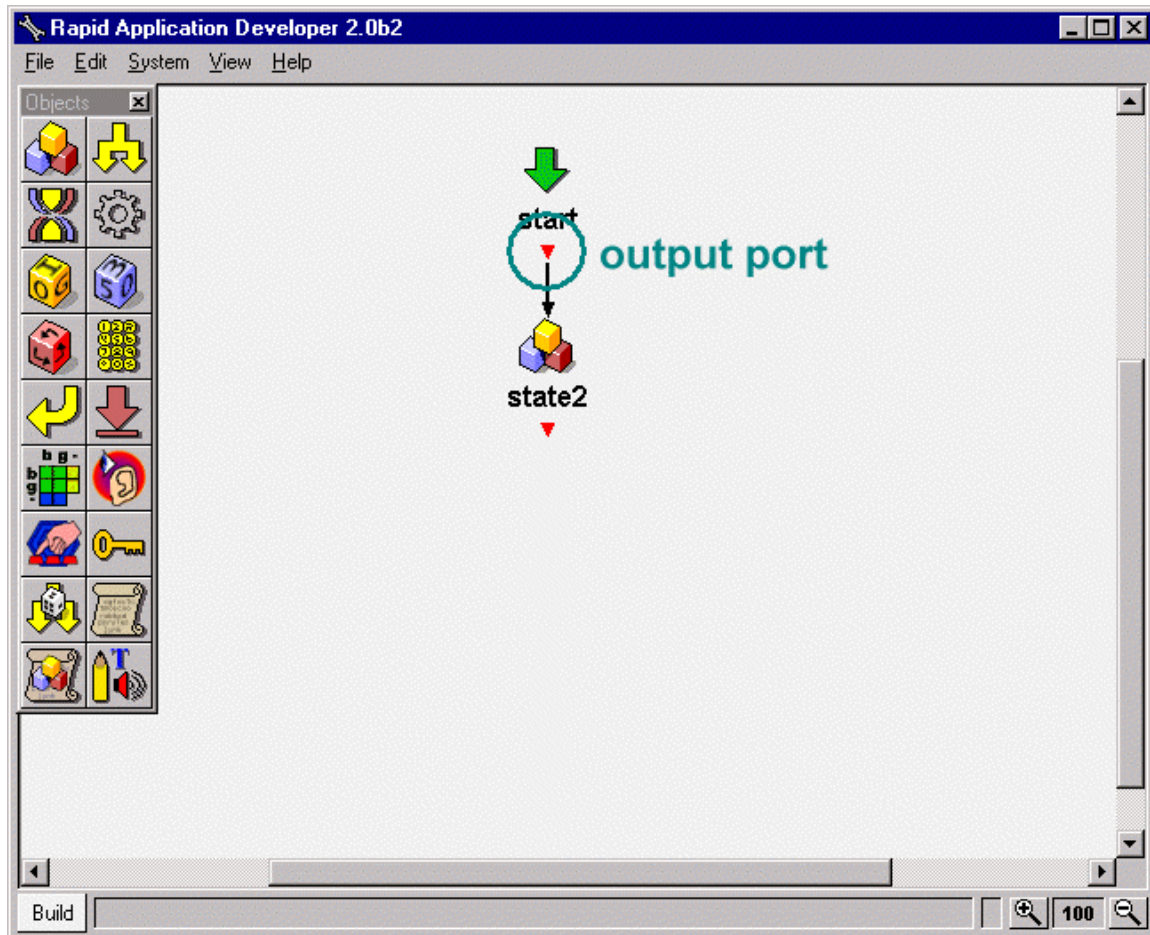
- When RAD opens, four parts will appear: Baldi, the canvas, the objects, and captioning. The canvas window often appears in front of Baldi. You can drag the windows around by clicking on the top bar and moving them.



- To make an application or lesson, click on the generic object and drag it onto the canvas under the start object.



6. To connect the objects, click on the little red triangle, called an output port, and drag a line to the next object.



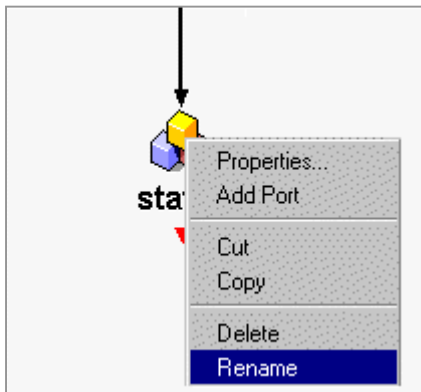
The Generic Object and TTS (Text-To-Speech) Parameters

The Generic Object

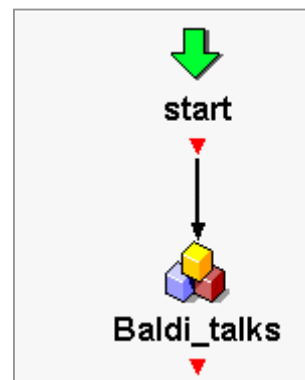
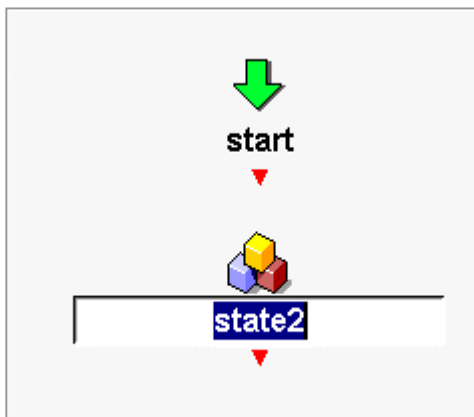


Use the generic object to make Baldi talk.

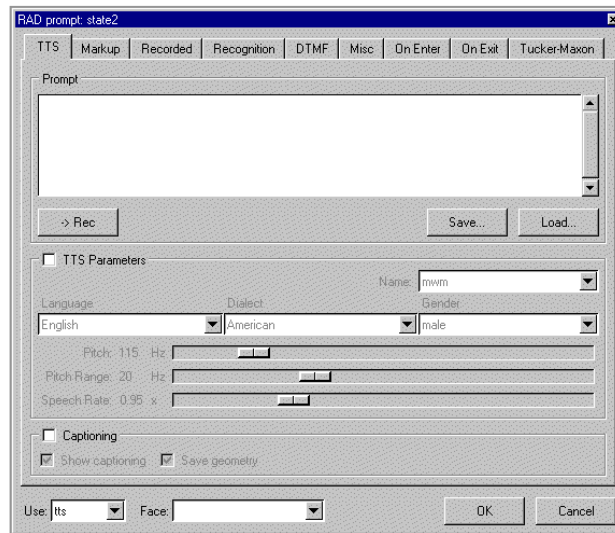
1. Rename the generic object called “state2.” Right-click on “state2” and select Rename.



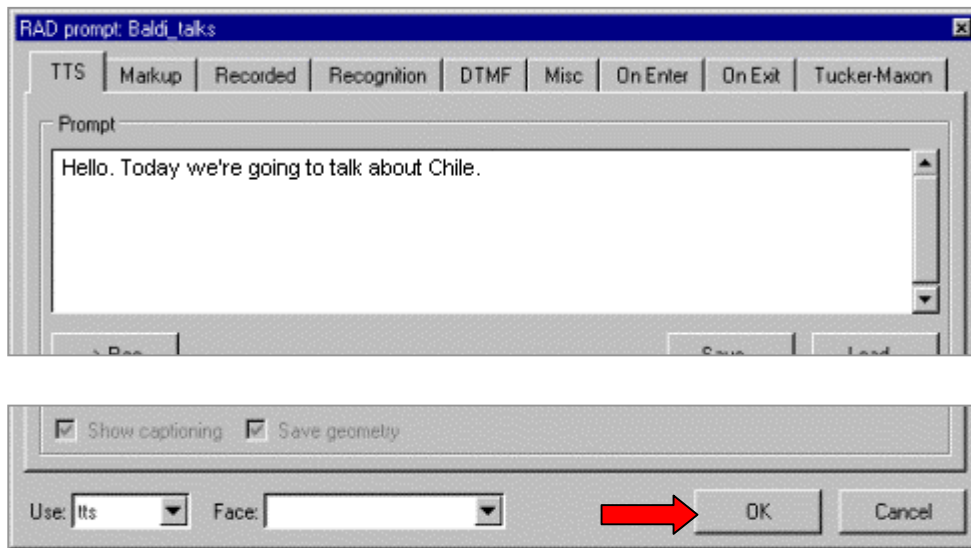
2. Type “Baldi talks” where it says “state2” and press the Enter key on the keyboard. Do not type an underscore between words. A space automatically does that.



3. Double-click on the object, “Baldi_talks,” to open it.



4. Click in the Prompt text box and type an introduction about Chile for Baldi to speak. Click the OK button at the bottom of the window.



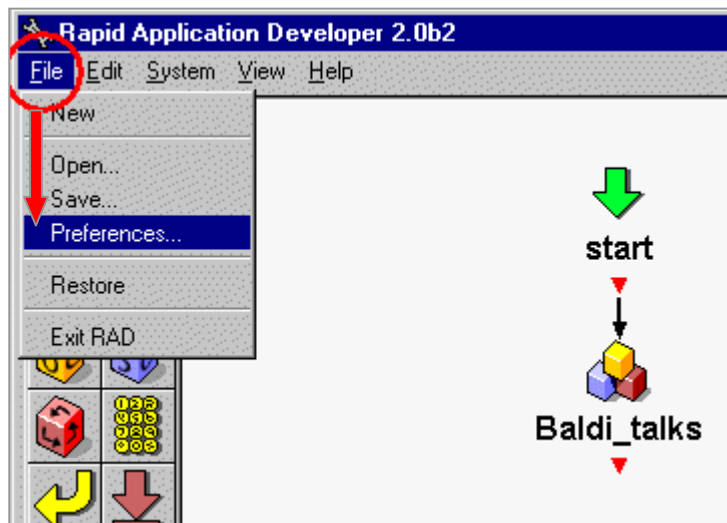
5. Click on Build and then Run to listen to Baldi.



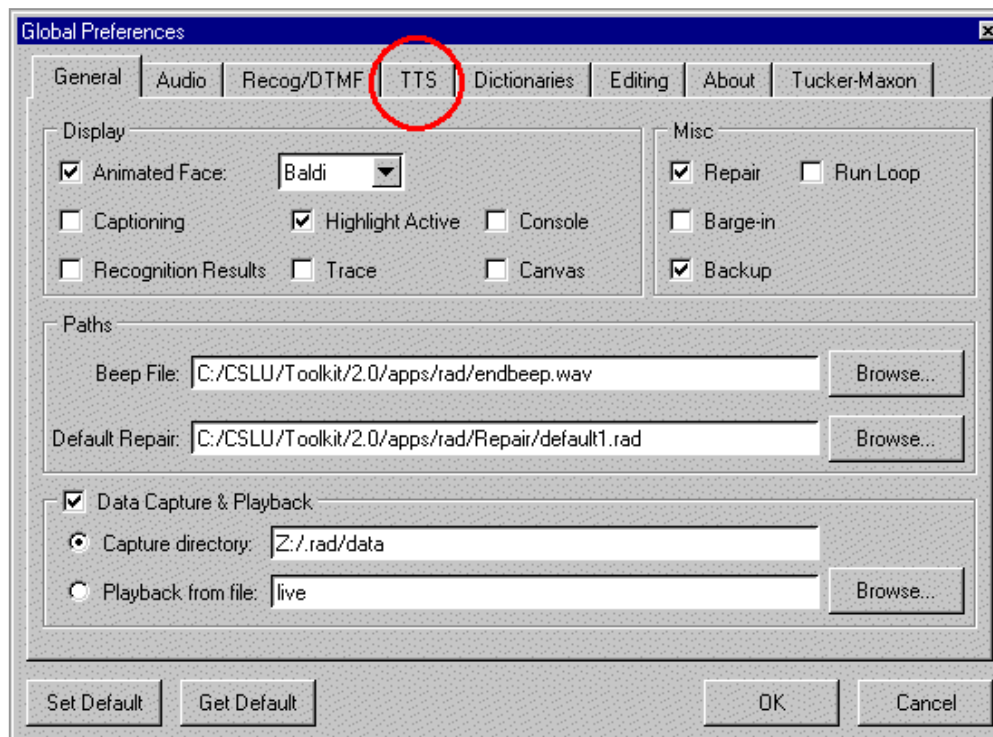
TTS Parameters

The TTS parameters are the controls for Baldi's synthetic voice to make him speak faster or slower or higher or lower in pitch.

1. Click on File and scroll down to Preferences.

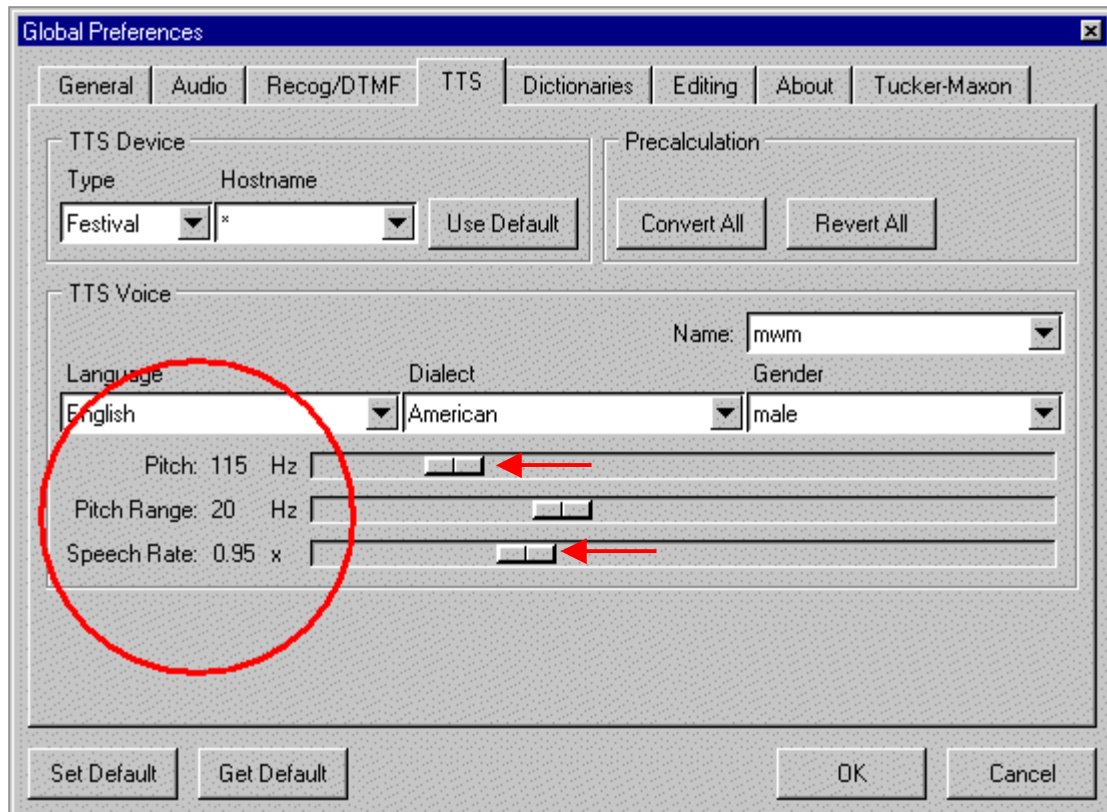


2. Click on the TTS tab.

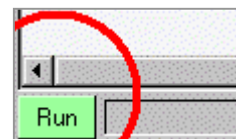
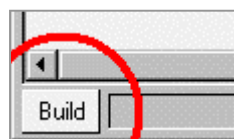


3. You can adjust Baldi's Pitch and Speech Rate by clicking on the bar and moving it to the left or right.

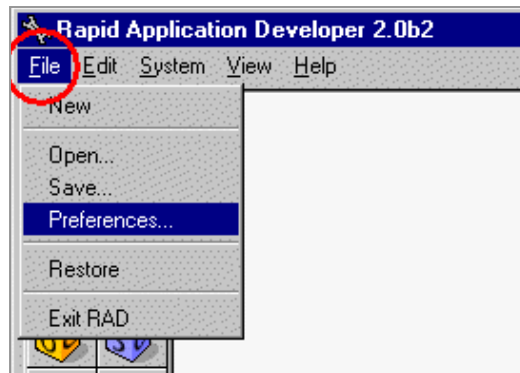
If you want your Pitch and Speech Rate changes to stay for **all** applications, then click on Set Default in the bottom left corner. If it is only for **this** application, then click OK in the bottom right corner.



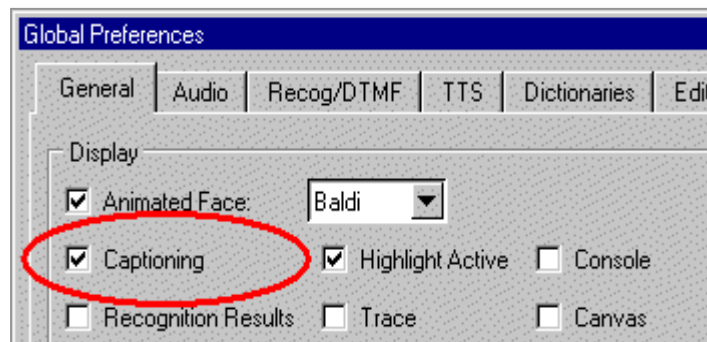
4. Run the application.



5. If you want to turn off captioning, go back to File and scroll down to Preferences.



6. Click in the box to remove the checkmark. Click Set Default for all applications or click OK to set the captioning for just this application.



7. Run the application.

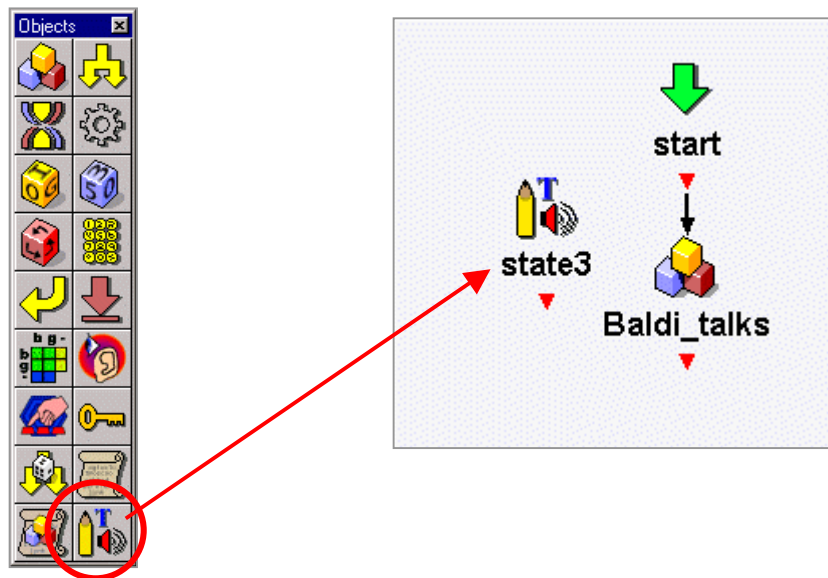
The Media Object and Saving an Application

The Media Object

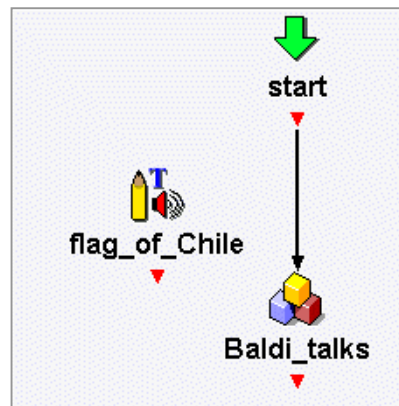


Use the media object to present a picture.

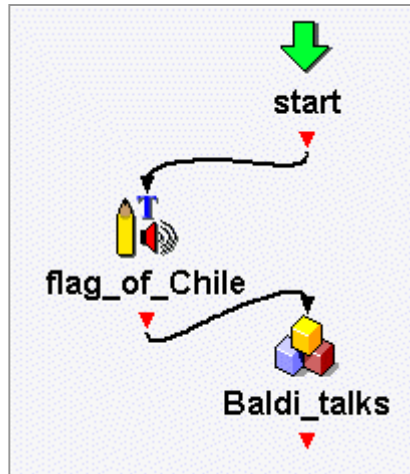
1. Click and drag a media object onto the canvas.



2. Rename "state3." Right-click on "state3," scroll down to Rename, type "flag_of_Chile," and press the Enter key.



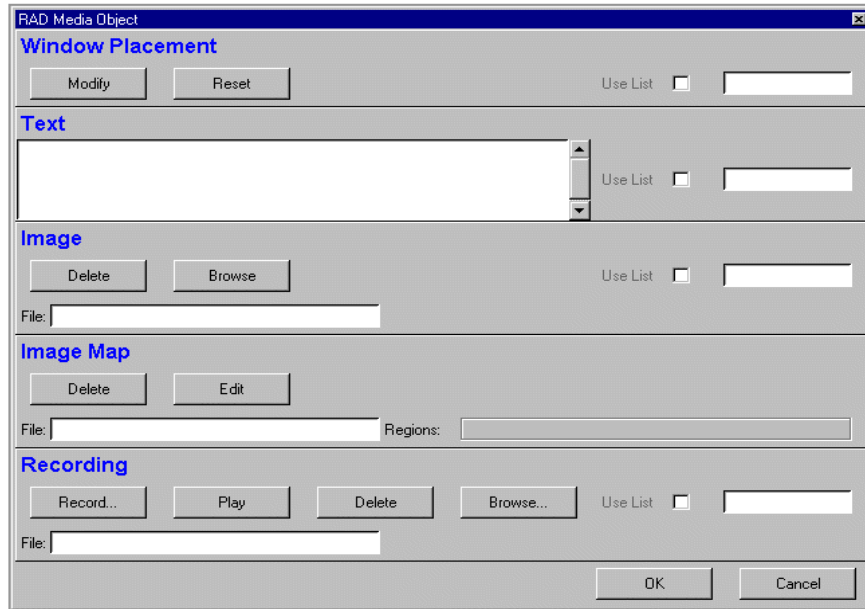
3. Connect start to “flag_of_Chile.” Click on the red triangle (output port) under “start” and drag the line to “flag_of_Chile.” Then connect “flag_of_Chile” to “Baldi_talks.”



4. Drag “Baldi_talks” lower on the canvas and drag “flag_of_Chile” to the right. If you want the lines to be straight, reconnect them by clicking on the output ports and dragging them to the objects.



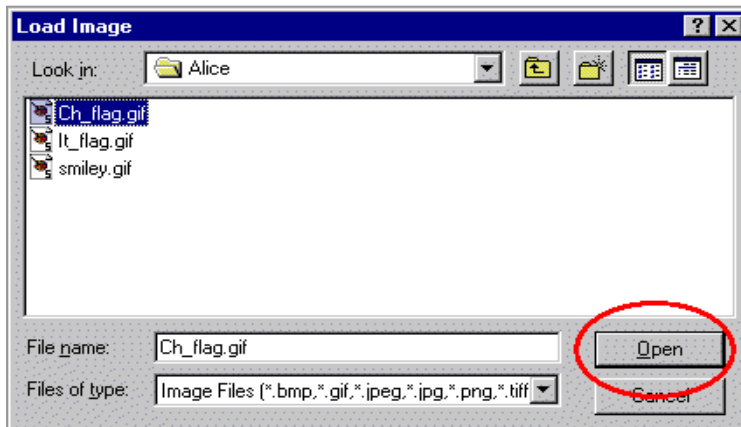
5. Double-click on “flag_of_Chile” to open it.



6. Click on Browse in the Image section to get a picture of the flag of Chile.



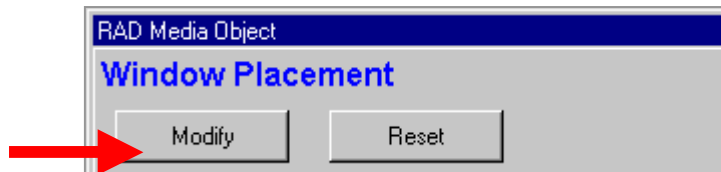
7. Find the picture of the flag, Ch_flag.gif, in your folder. If you do not have a folder or the pictures, go to page 8. Click on the picture and click Open.



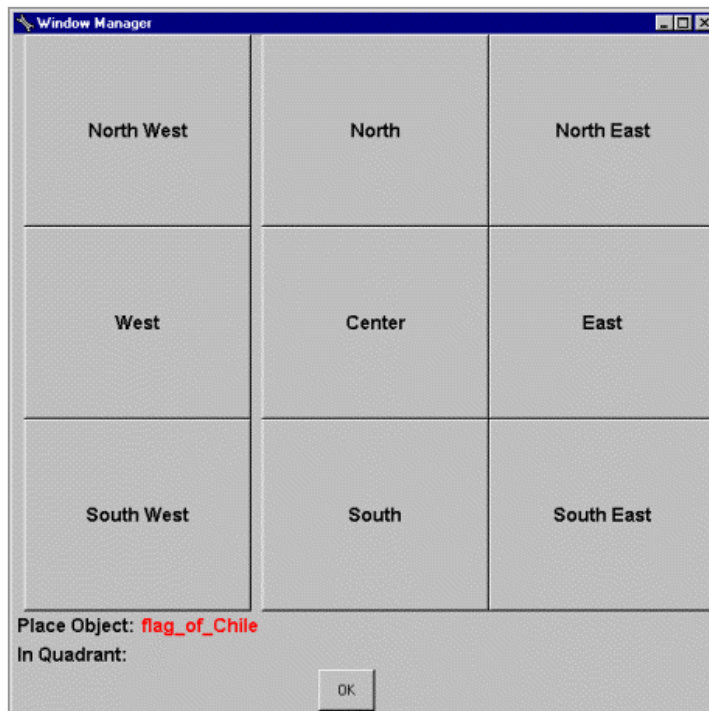
8. The path name of the picture will appear.



9. To set the location of the picture on the screen click on Modify.



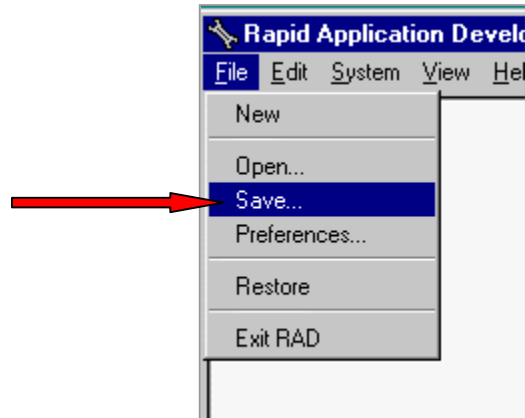
10. Choose a location for the picture. Then click OK at the bottom.



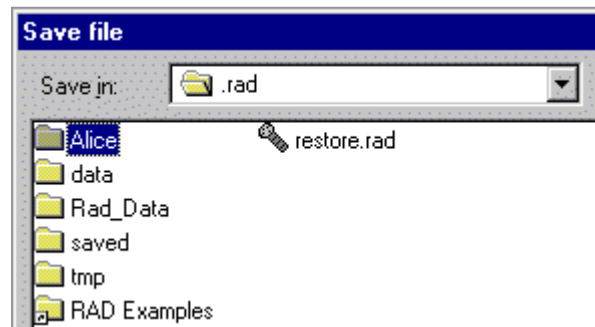
11. Click OK again to close the media object window.

Save the Application

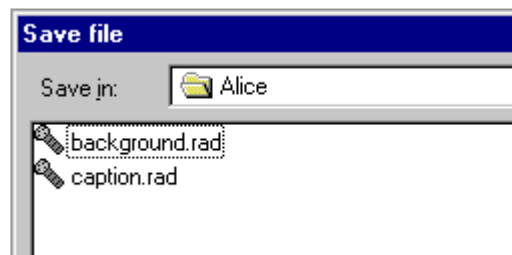
1. Click on File and scroll down to Save.



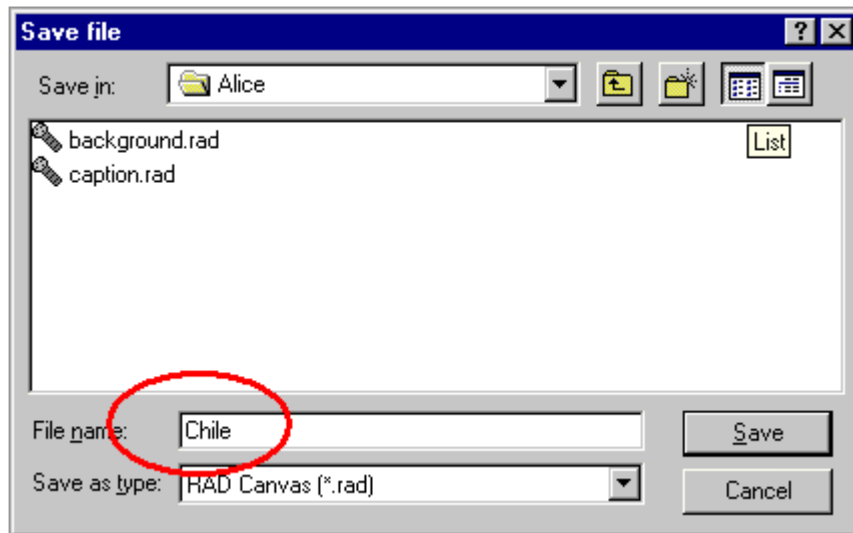
2. Go to your folder to save the application.



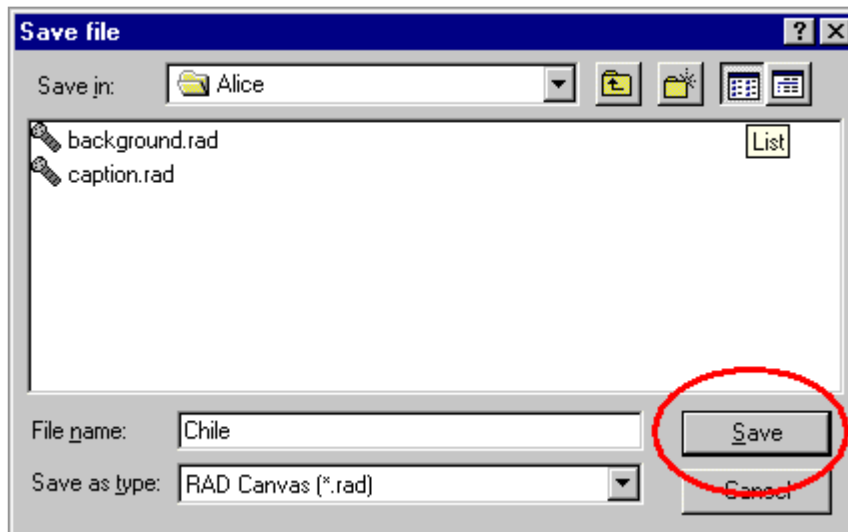
3. Double-click on your folder.



4. Type a name for the application, such as, Chile.



5. Click on Save.



6. Build and Run the application.

Using the Generic Object with Recognition

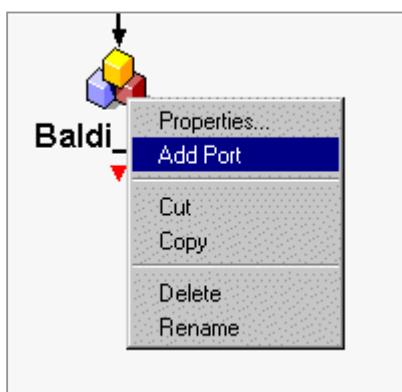


Use the generic object for recognition, such as, when answering questions.

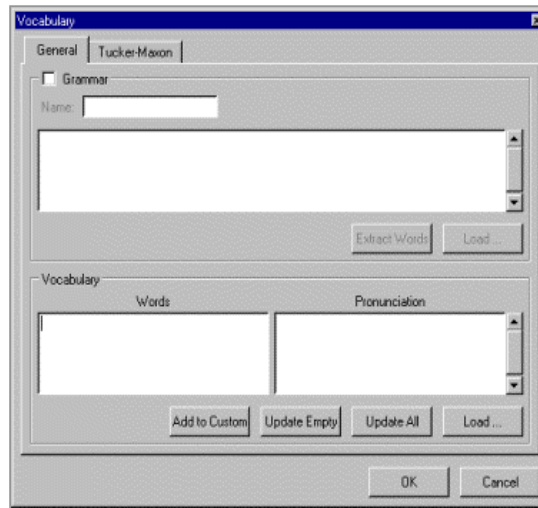
1. Open “Baldi_talks” by double-clicking on it. Delete the text and type a question with “or”. Click the OK button.



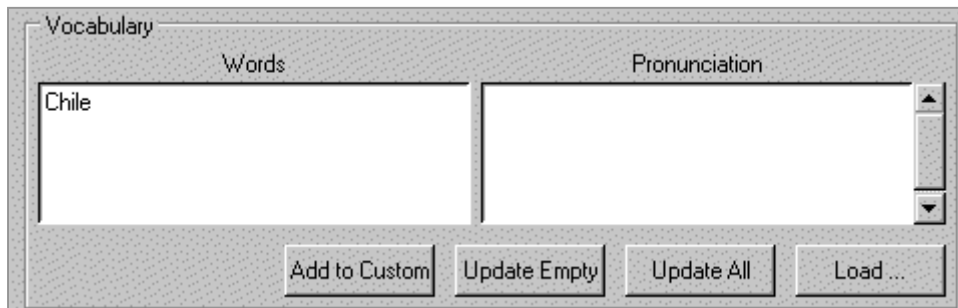
2. Right-click on “Baldi_talks” and go to Add Port. A second output port should appear.



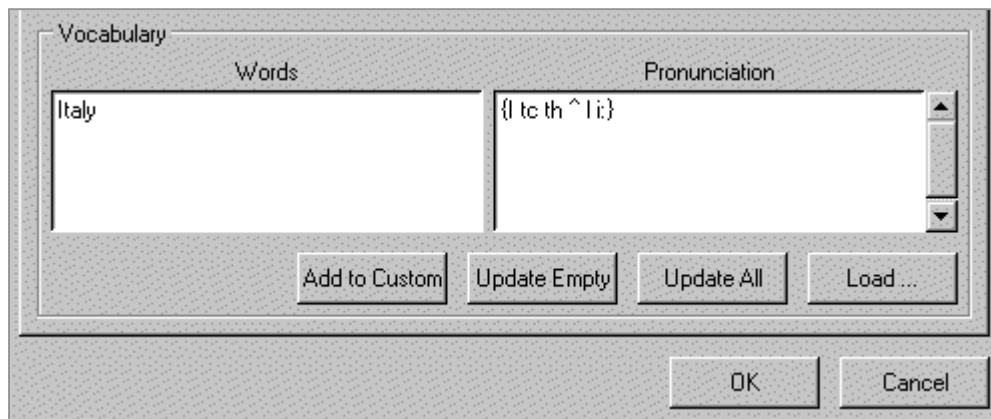
3. Double-click on the left triangle (output port) of “Baldi talks.”



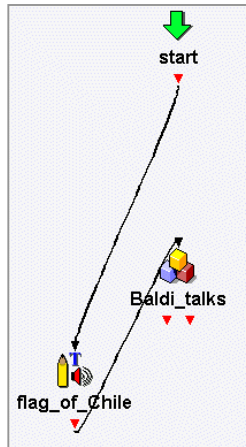
4. Type one of the answers to the question in the Words text box. Click Update All and then OK.



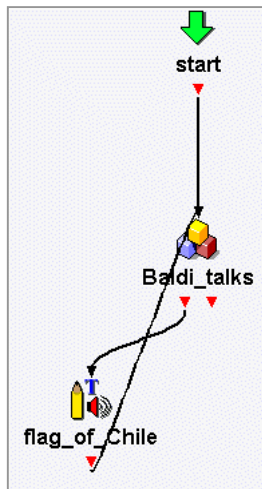
5. Open the right output port and type the other answer in the Words text box. Click Update All and then OK.



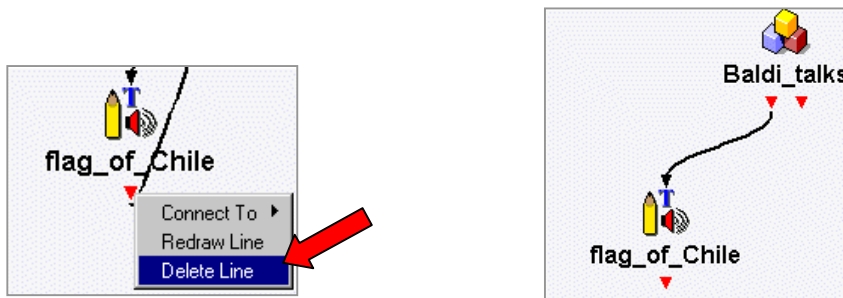
6. Drag “flag_of_Chile” to the left and below “Baldi_talks.”



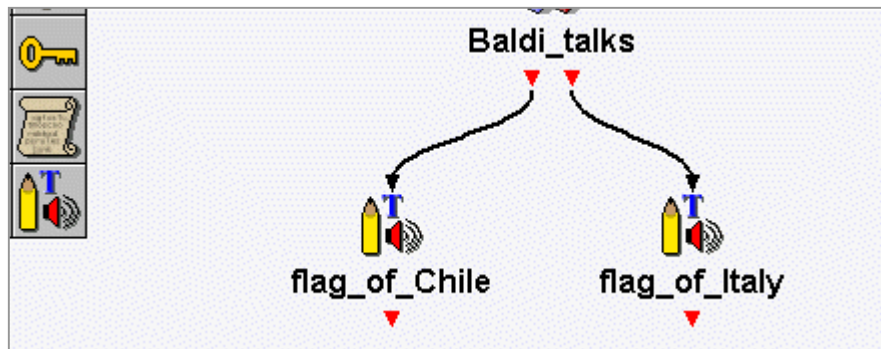
7. Connect “start” to “Baldi_talks” and connect the left output port of “Baldi_talks” to “flag_of_Chile.” To do this, click on the output port and drag to the target object.



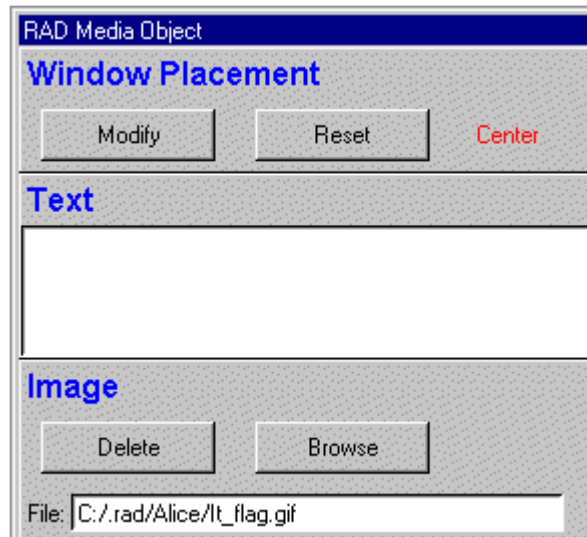
8. Right-click on the output port under “flag_of_Chile” and choose Delete Line.



9. Add another media object and rename it “flag_of_Italy.” Connect the right output port of “Baldi_talks” to “flag_of_Italy.”



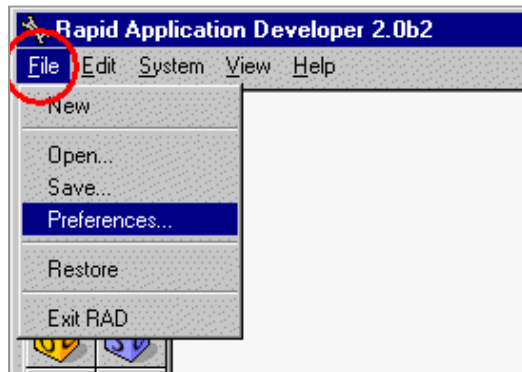
10. Browse for the picture of the flag of Italy and set the location.



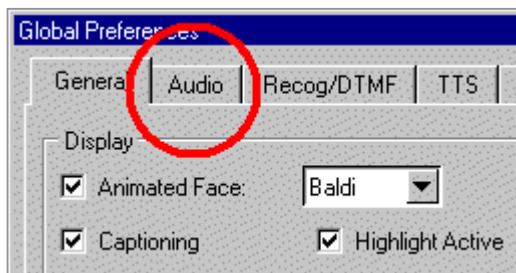
11. Save the application; click on File and scroll down to Save. When it asks if you want to replace the rad, click “Yes.”
12. Before you Build and Run the application, go to the next lesson on Calibrating the Microphone.

Calibrating the Microphone

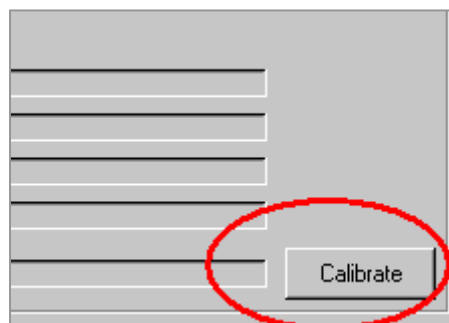
1. Click on File and scroll down to Preferences.



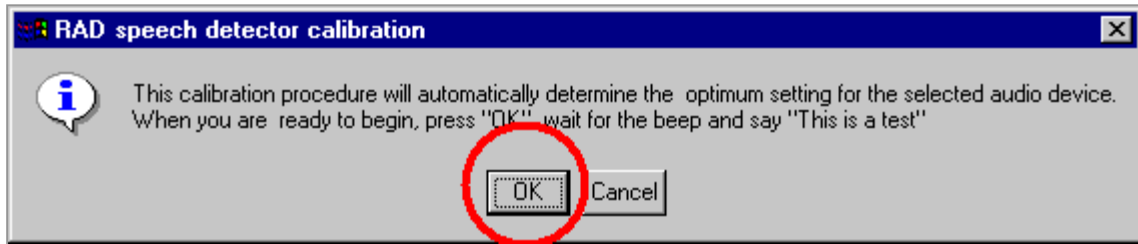
2. Click on Audio.



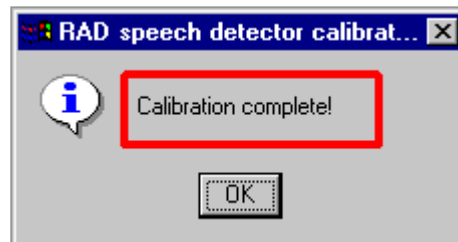
3. Click on Calibrate.



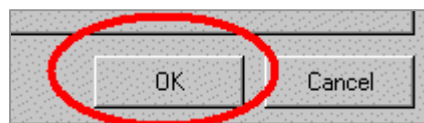
4. Click the OK button. Wait for the beep and then say, "This is a test."



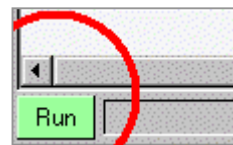
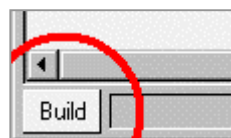
5. This "Calibration complete!" message should appear. If it does not, check to make sure that the microphone is plugged in. If the microphone is plugged in and calibration continues to fail, contact technical support.



6. Click the OK button again.



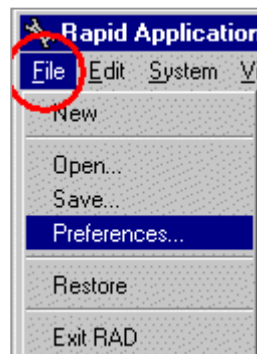
7. Click Build and then Run.



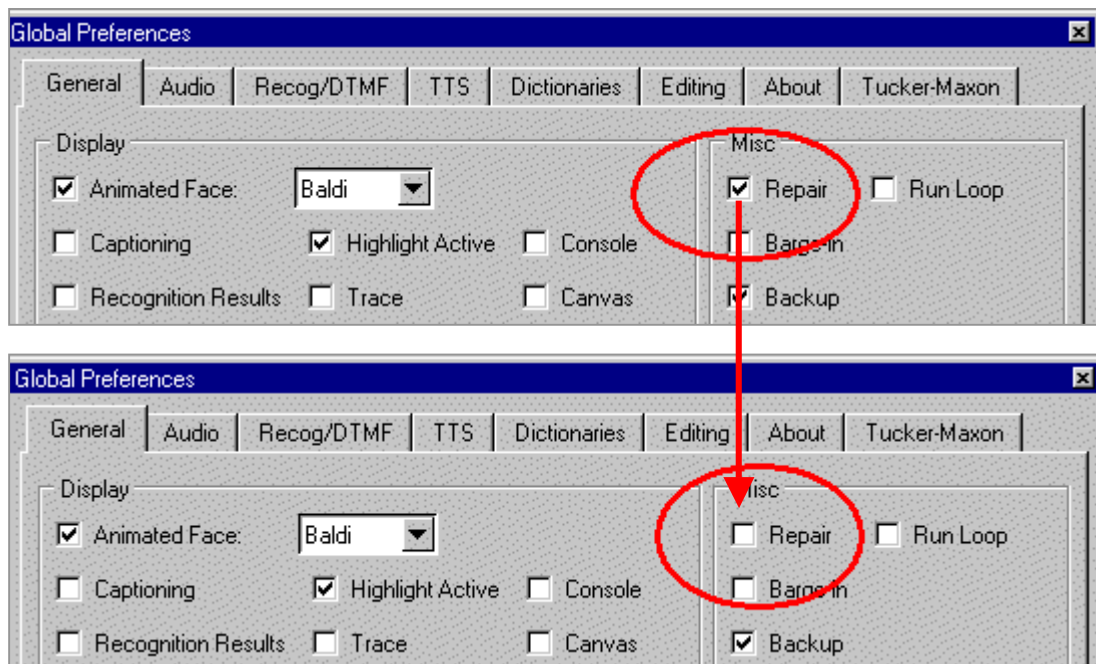
8. If recognition does not work, continue to the next chapter on recognition parameters.

Recognition Parameters

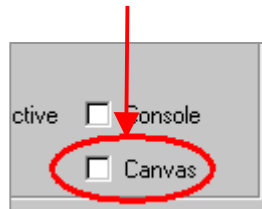
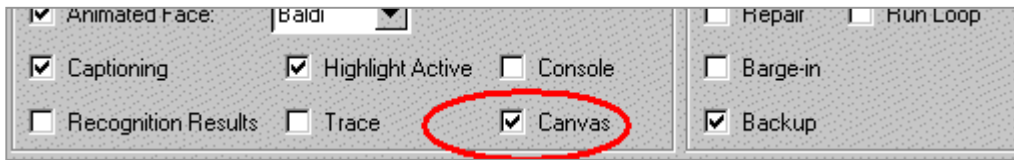
1. If recognition does not work, there are a number of things you can do. Click on File and go to Preferences.



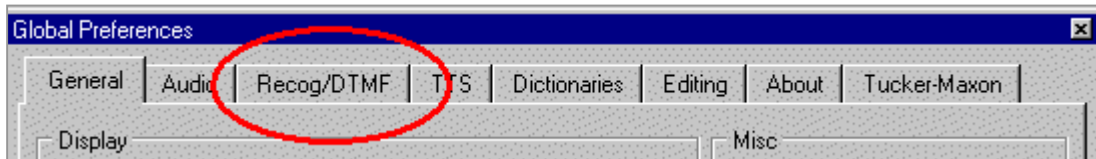
2. If you see a check in the Repair box, click in the box to deselect the option.



3. Also, while this window is open, click in the Canvas box if there is a check. This will minimize the canvas (disappear) during runtime.



4. Click on Set Default and Run the application again.
5. If you want to make the recognition settings more or less accepting, return to File and select Preferences. Click on the Recog/DTMF tab



6. Click on the Out of Vocabulary Rejection Median and Word Spotting Median bars. Move the bars to the left to make recognition less accepting and to the right to make it more accepting.



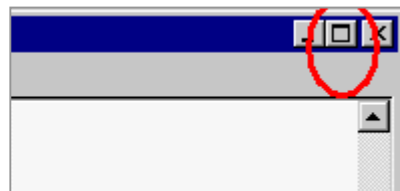
7. Click on Set Default and Run the application again.

The Subdialogue Object

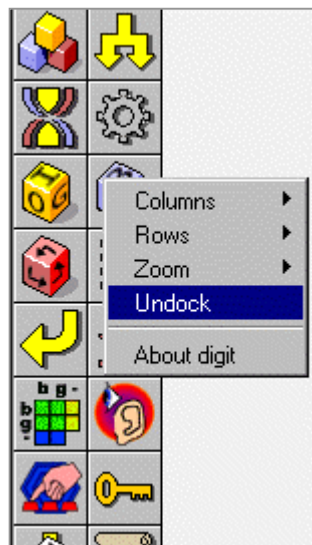


Use the subdialogue object to create an application inside of an application. Otherwise, the main canvas can become cluttered.

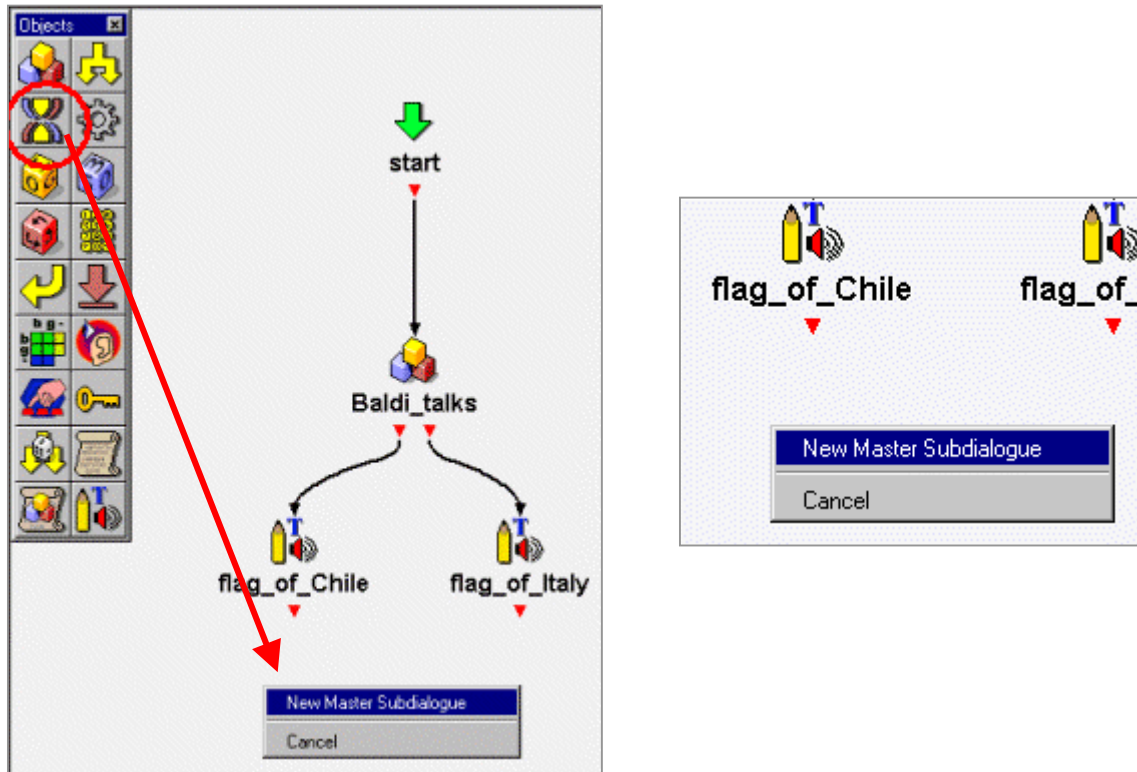
1. Maximize the canvas by clicking on the square in the top right corner.



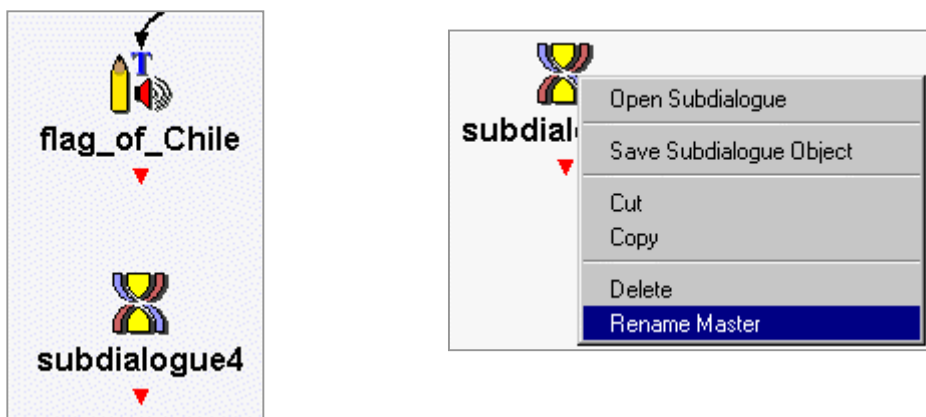
2. Undock the objects by right-clicking anywhere on the objects and selecting Undock. This allows you to use the objects in a subdialogue object.



3. Drag a subdialogue object under “flag_of_Chile” and select New Master Subdialogue.



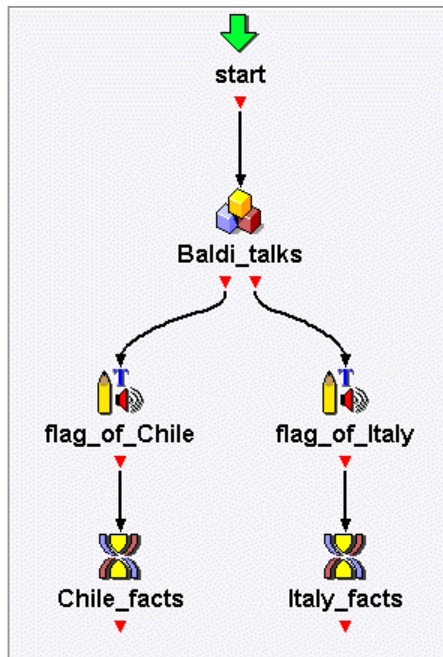
4. Rename subdialogue4 by right-clicking and selecting Rename Master. Type “Chile_facts”, then press Enter.



5. Connect “flag_of_Chile” to the subdialogue “Chile_facts.”



6. Drag another subdialogue object below “flag_of_Italy,” rename it, and connect “flag_of_Italy” to it.

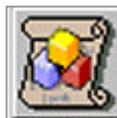


7. Save the application.

The Listbuilder and Listrecognizer Objects



Use the listbuilder to store lists of questions and answers.



Use the listrecognizer to call in the list of questions and answers.

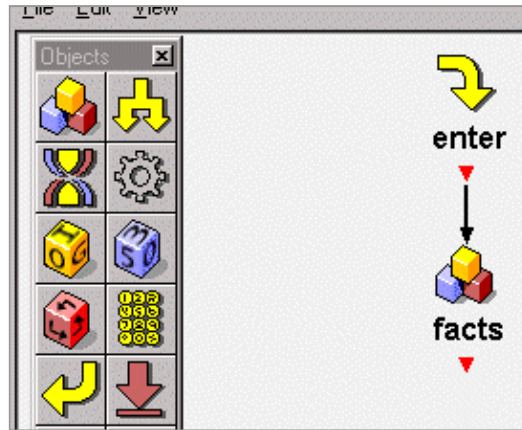
1. Double-click on the subdialogue object, “Chile_facts,” to open it.



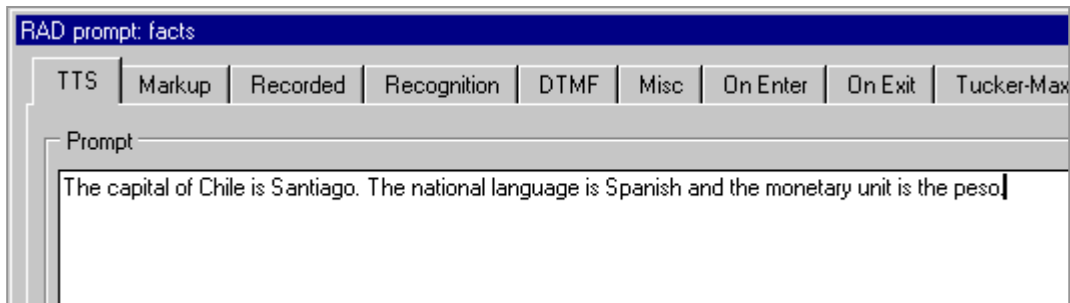
2. Notice that there is an “enter” object. The subdialogue application starts from this object.



3. Drag and drop a generic object onto the subdialogue canvas, rename it “facts,” and connect the objects.



4. Double-click on “facts” to open it and type in some facts about Chile. Then click the OK button.

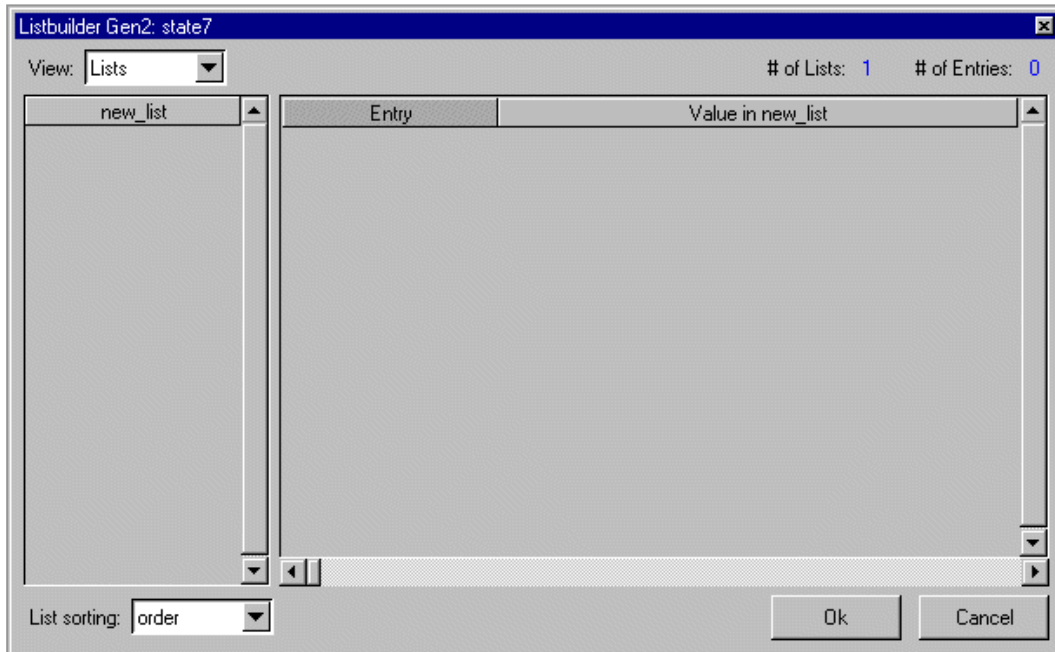


5. Drag and drop a listbuilder object onto the canvas below “facts.” Rename the listbuilder “list_of Chile,” and connect the objects.

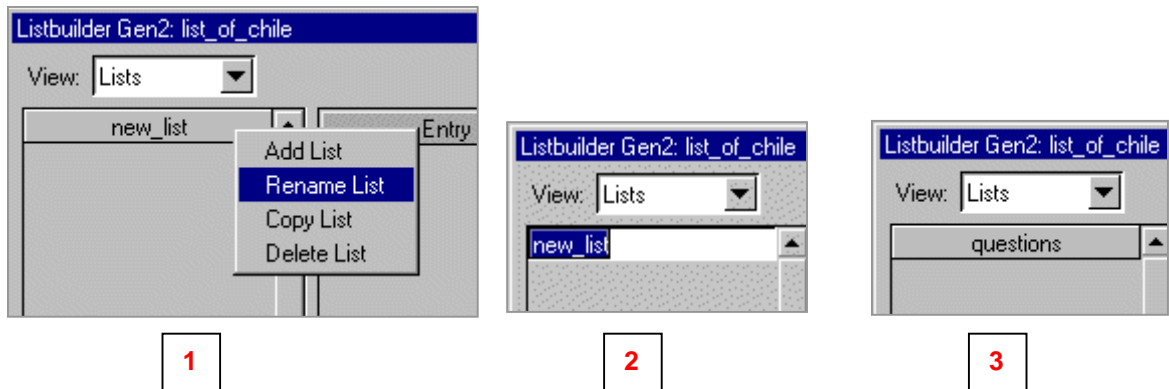


Notice that the listbuilder has a blue output port and a red output port. The blue output port will be for ending the list of questions and answers and continuing the application.

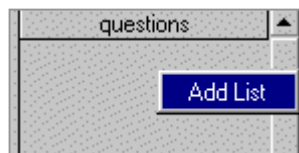
6. Double-click on the listbuilder to open it.



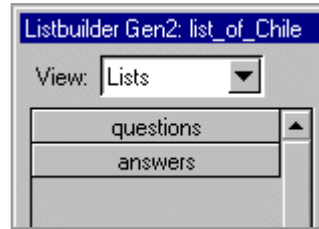
7. Right-click on new_list and select Rename List. Type “questions” and press Enter on the keyboard.



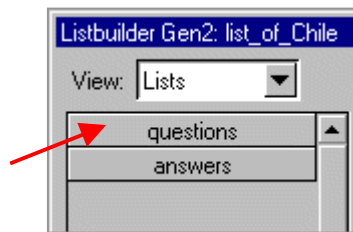
8. Right-click in the grey area below “questions,” select Add List.



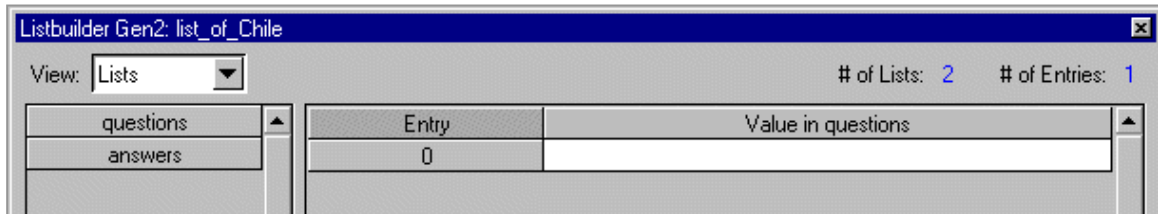
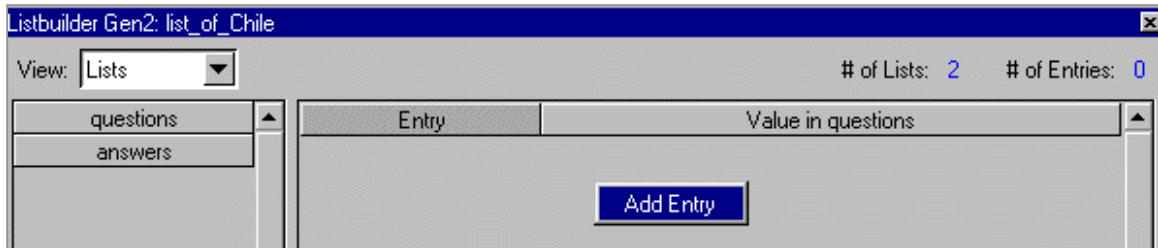
9. Rename new_list to “answers.”



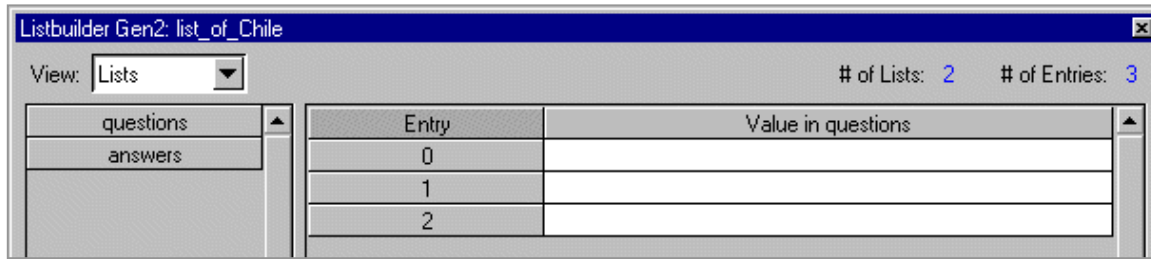
10. Click on the “questions” list.



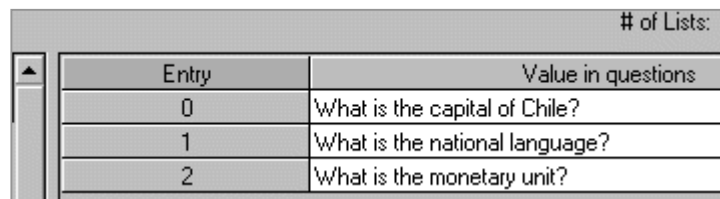
11. Right-click in the right hand side of the listbuilder and select Add Entry.



12. Add two more entries.



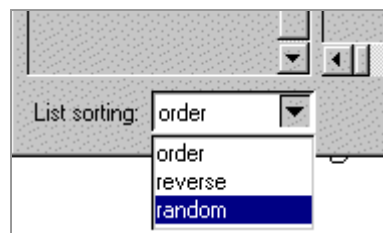
13. Type the questions. You can use the Tab key to move from one entry down to the next one.



14. Click on the "answers" list and type in the answers.



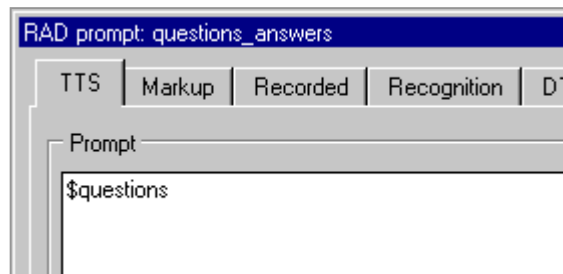
15. If you want the lists to be randomized, click on the drop-down arrow in the bottom left corner of the listbuilder and select random. Then click the OK button in the bottom right corner of the window.



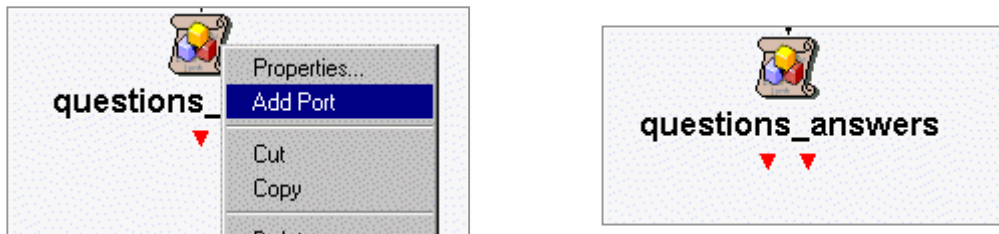
16. Drag and drop a listrecognizer below the listbuilder, rename it “questions_answers,” and connect the objects.



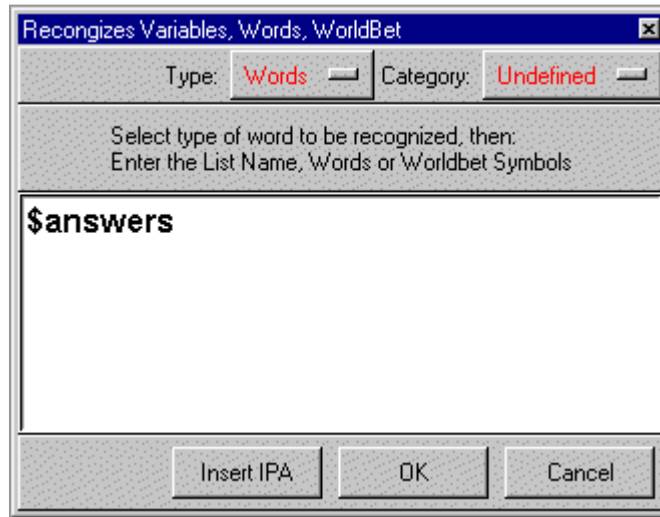
17. Double-click on the listrecognizer to open it. Type \$questions. The “\$” is very important. Baldi is going to ask the questions from the listbuilder. He is not going to say the actual word, “questions.” Click OK.



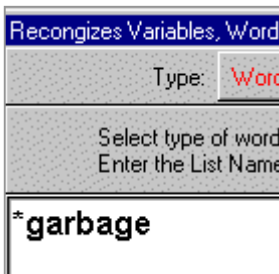
18. Right-click on the listrecognizer and select Add Port. A second output port should appear.



19. Double-click on the left output port of “questions_answers.” Type \$answers. Again, the “\$” is very important. Click the OK button.

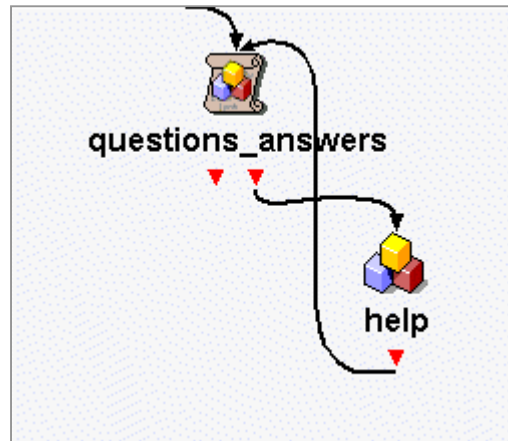


20. Open up the right output port and type “*garbage” (star garbage). This refers to anything said other than the answers.



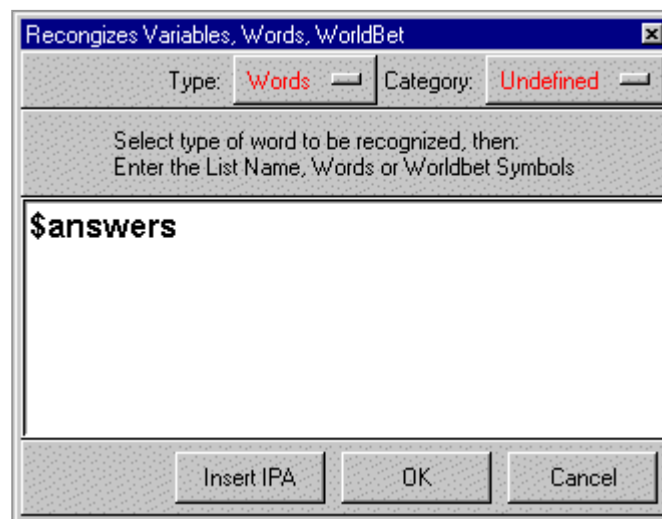
Add Feedback

1. If the user responds with the incorrect answer or Baldi cannot recognize the response, Baldi can give feedback by giving the correct answer. Drag a generic object below the listrecognizer, rename it “help,” and connect the objects.

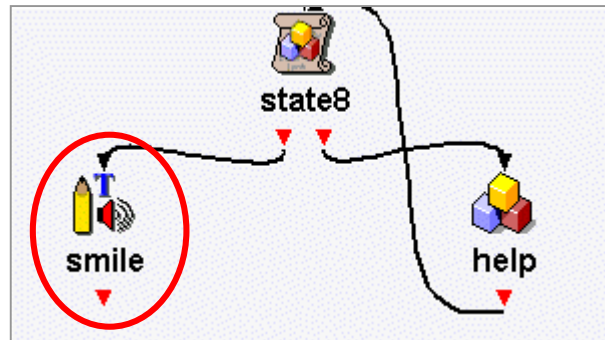


Notice that “help” connects back to the listrecognizer so that Baldi asks the question again, and the user has another chance to answer.

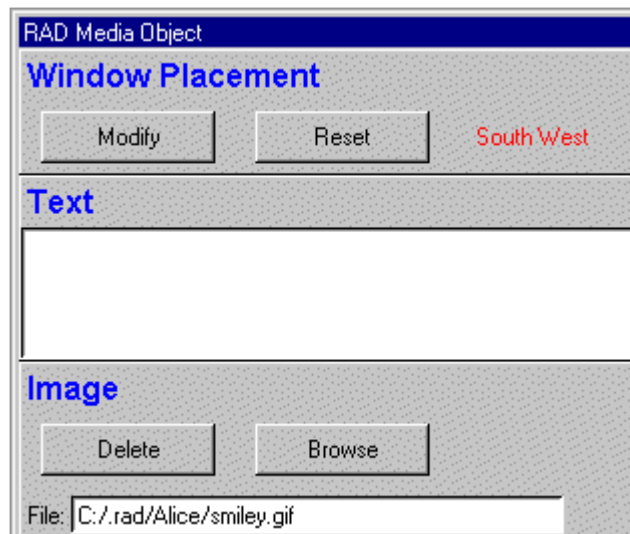
2. Open “help” by double-clicking on it and type “\$answers.” Click the OK button.



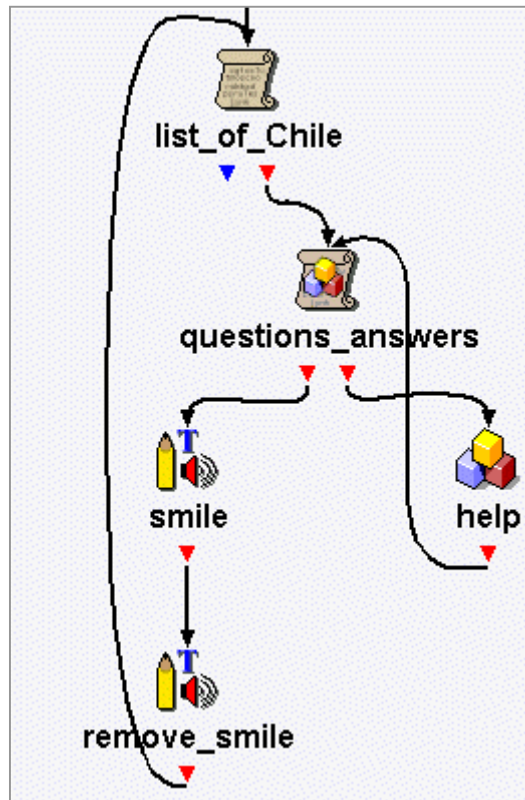
3. You can have a smiley face appear if the user responds with the correct answer. Drag and drop a media object to the left of “help.” Rename it “smile” and connect the objects.



4. Open the media object and browse for a smiley face in your folder. Set the location and click the OK button. If you do not have a folder or the images necessary to go through this manual, go to page 8.



5. Add another media object below “smile.” Rename this object to “remove_smile” and connect the objects.

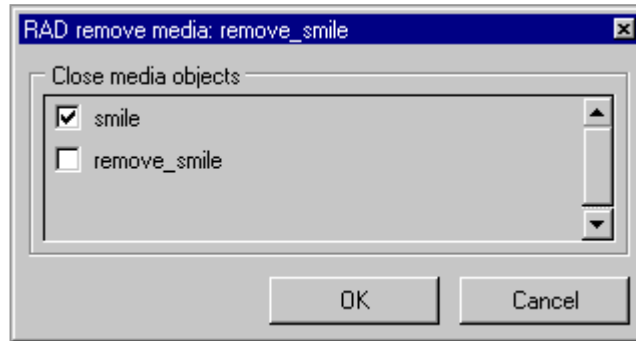


Notice that “remove_smile” connects back to the listbuilder “list_of_Chile.” This causes the application to loop back to the listbuilder to pick up the next question and answer in the list.

6. Right-click on “remove_smile” and select Remove Media.

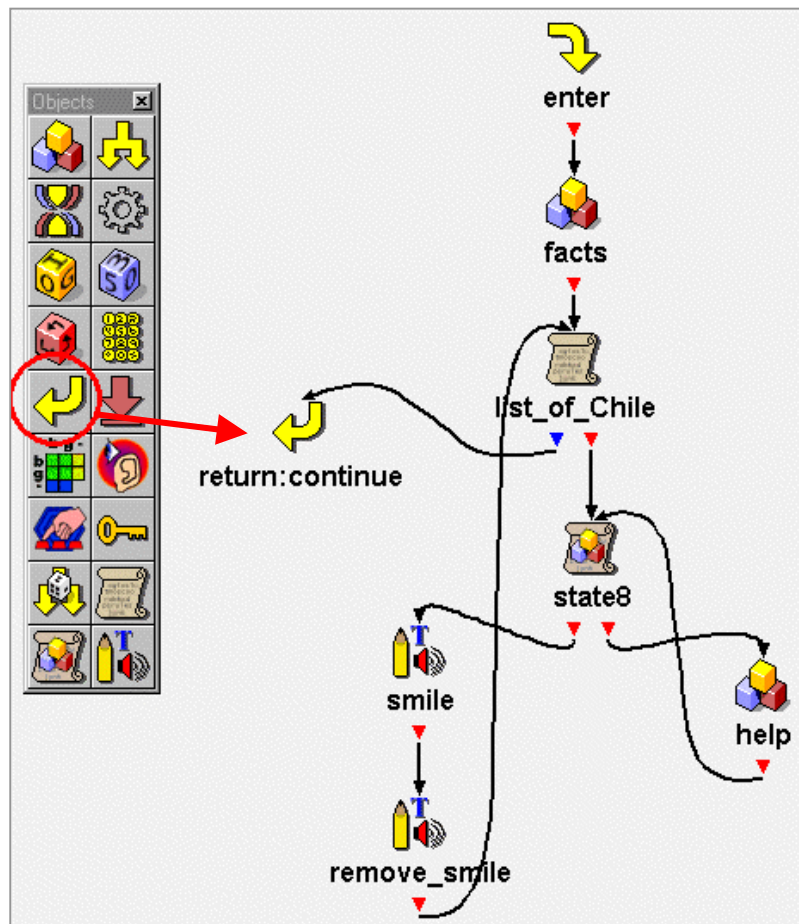


7. Select “smile” and click the OK button.

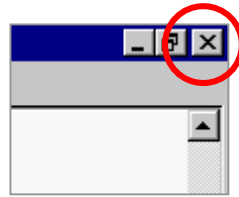


Close the Subdialogue

1. In order to get back to the main canvas, drag an “exit” object to the left of the listbuilder. Connect the blue output port of the listbuilder to the “return:continue” or “exit” object.



2. Click on the X in the top right corner to close the subdialogue. Save the application.

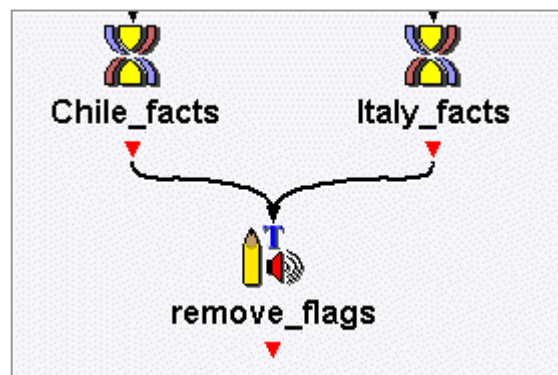


3. For more practice with the procedures, return to the beginning of this chapter, page 37, and do all the same things to the “Italy_facts” subdialogue. If you do not have time, skip to the next part, End an Application.

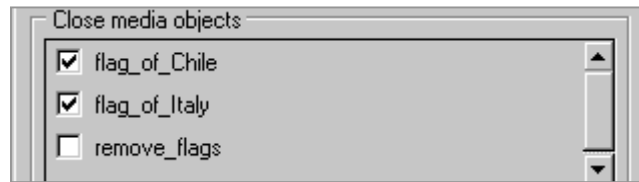


End an Application

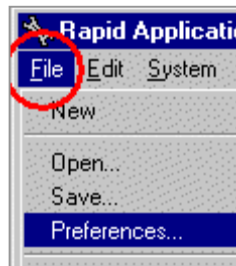
1. Once you have completed the “Italy_facts” subdialogue (if you had chosen to do it), add a media object below the subdialogues, rename it “remove_flags,” and connect the objects.



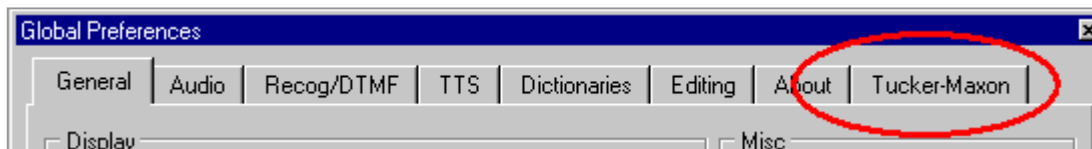
2. Right-click on “remove_flags,” select Remove Media and click in the “flag_of_Chile” and “flag_of_Italy” boxes. Click the OK button.



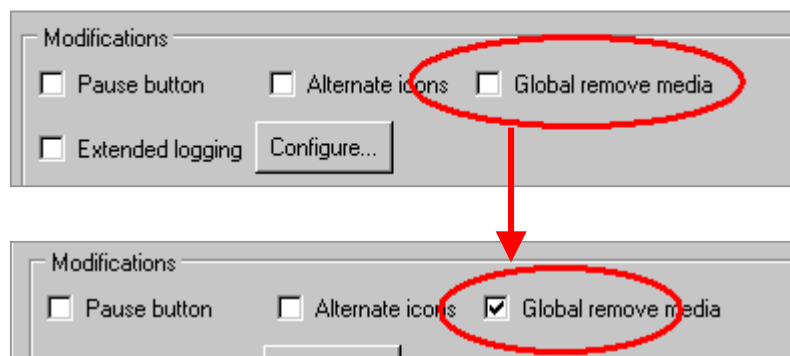
3. At the moment, you can only see the media objects of the main canvas. You cannot see the media objects in the subdialogues. If you want to see all of them, click on File and scroll down to Preferences.



4. Click on the Tucker-Maxon tab.

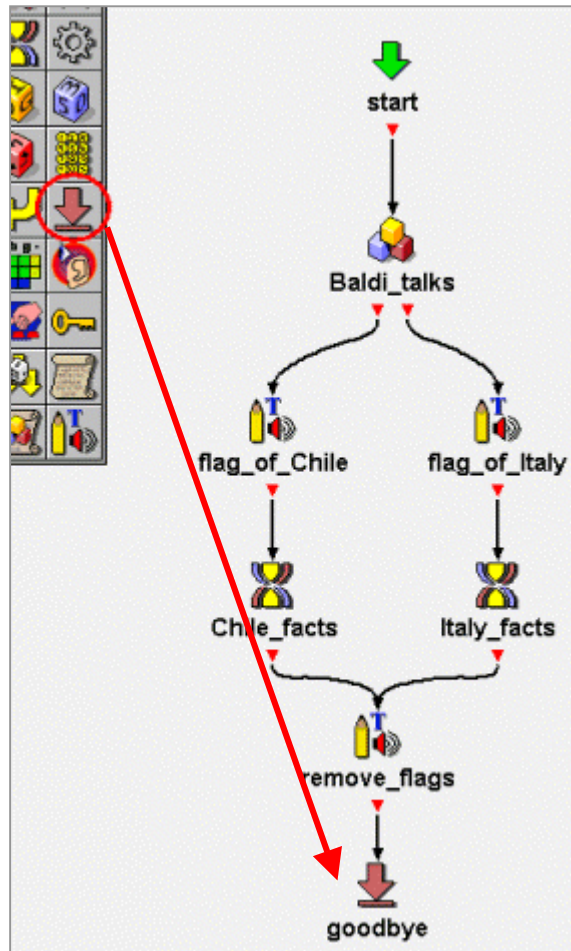


5. Click in the Global remove media box to select that option.



6. Click Set Default.

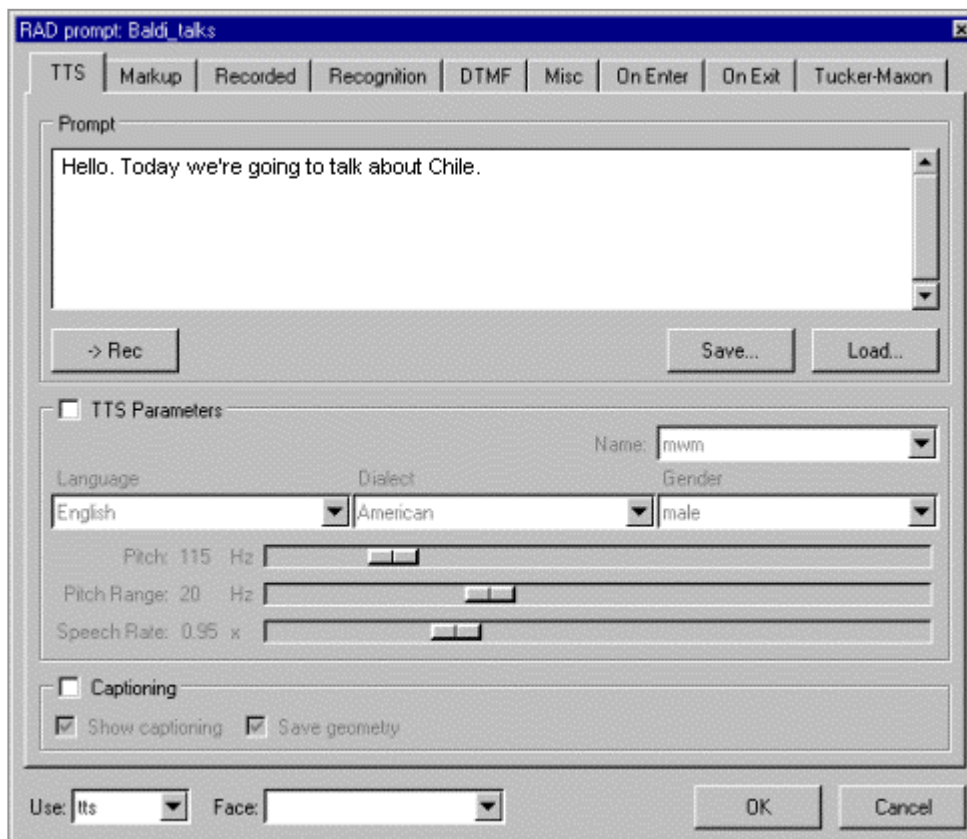
7. To end the application, drag a goodbye object and connect the objects.



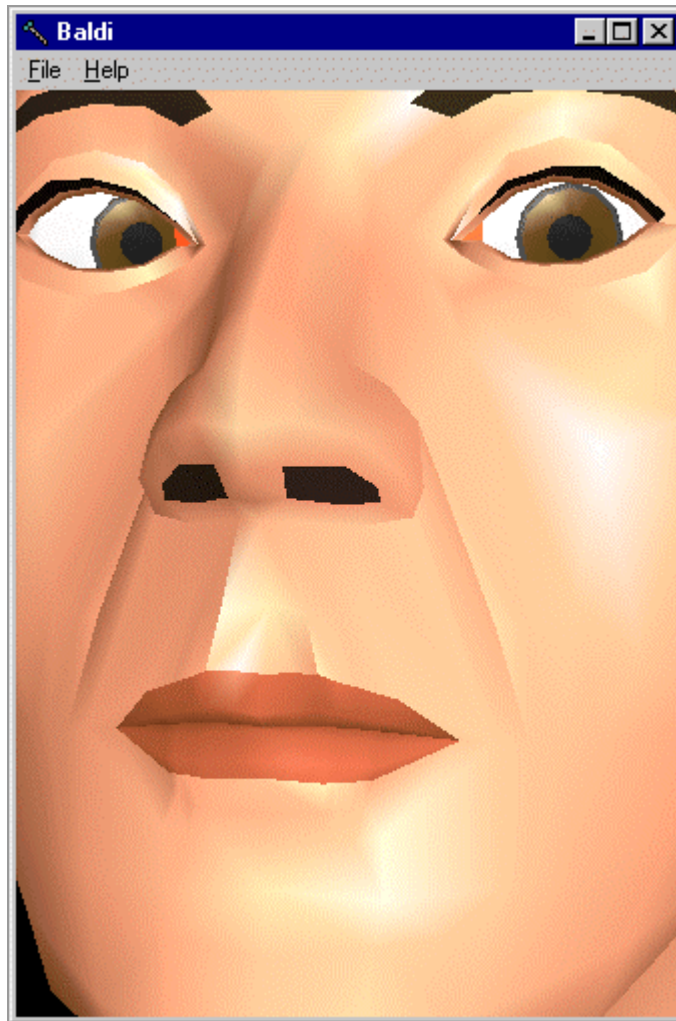
8. Save the application. Then Build and Run it.

Baldi Preferences

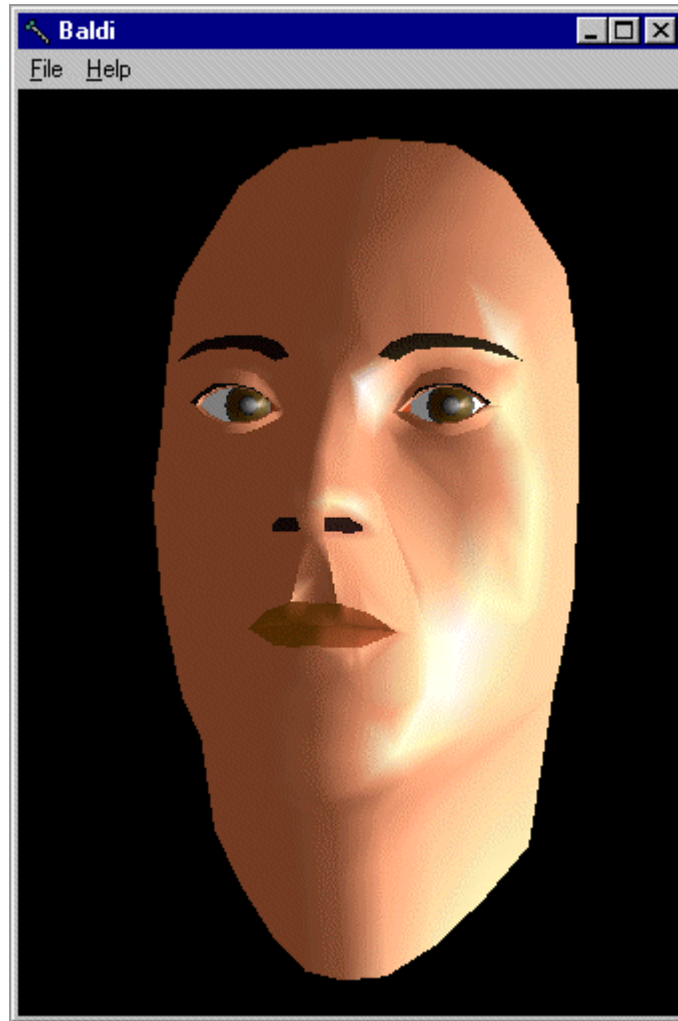
1. Open the first generic object in the application. In this application, the first generic object is “Baldi_talks.”



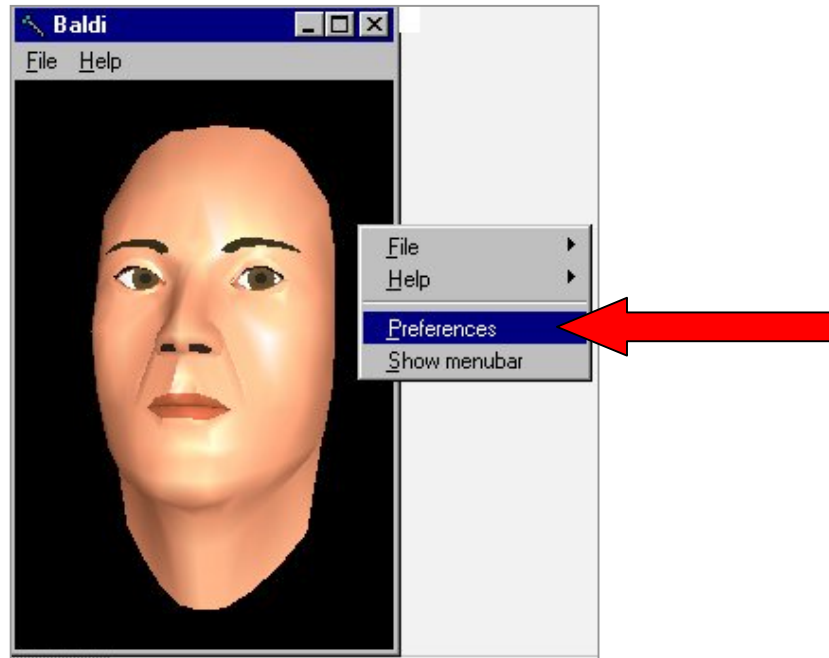
2. There are two features of Baldi which can be controlled with the keyboard and left mouse button: zooming in and changing the lighting.
3. In order to zoom in, press the Shift key and the left mouse button at the same time. Move the mouse over Baldi from top to bottom or from bottom to top.



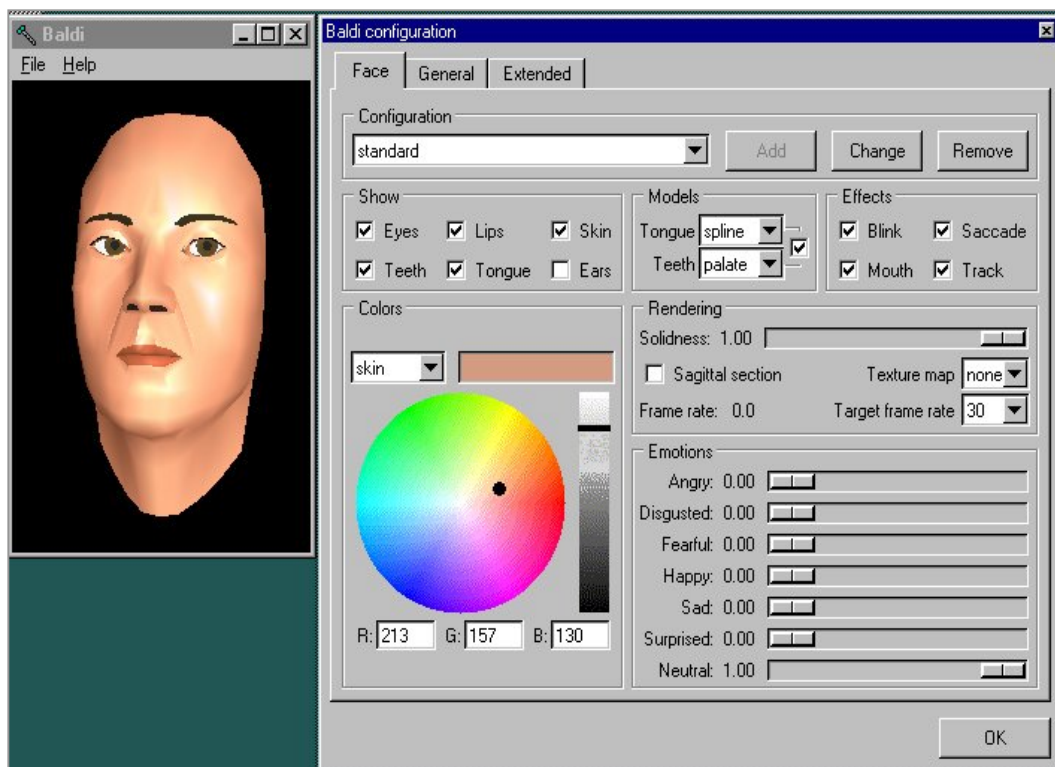
4. In order to change the lighting, press the Ctrl key and the Alt key and the left mouse button at the same time. Move the mouse over Baldi from left to right or from right to left.



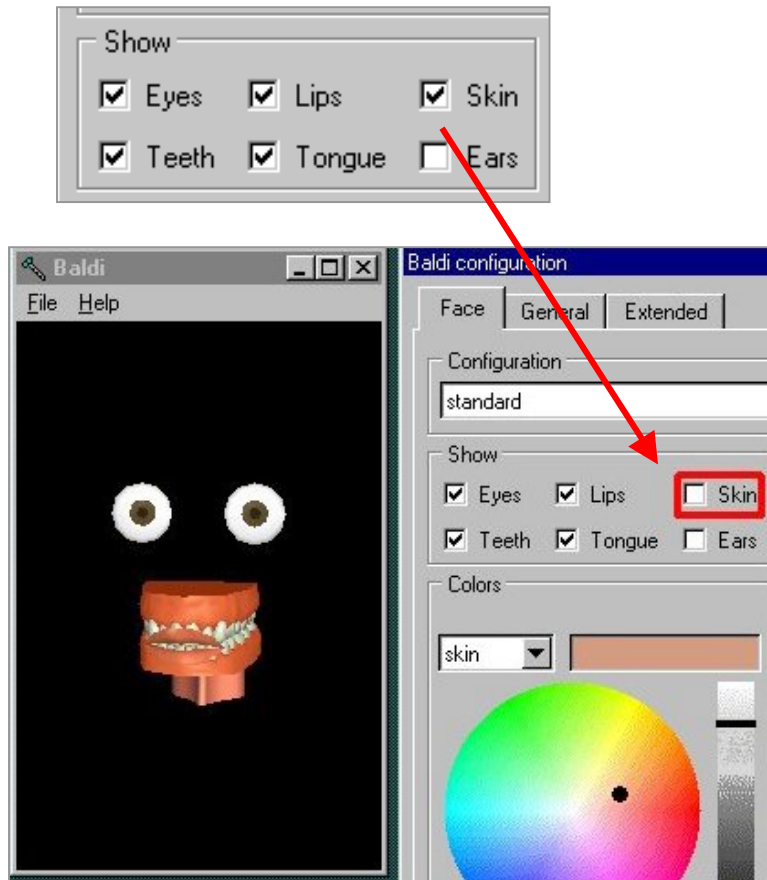
5. There are other features that are controlled in the Baldi Preferences window. Go to Baldi, right-click, and select Preferences.



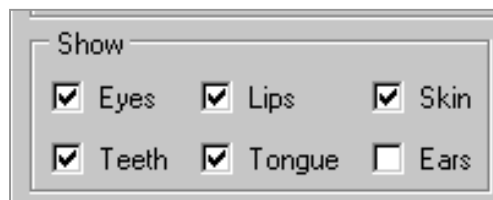
6. There are various features that can be modified.



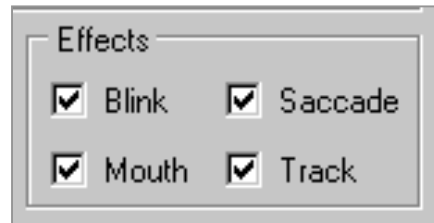
7. You can remove the skin, eyes, lips by deselecting them.



8. Click the "skin" box again for Baldi to get his skin back.



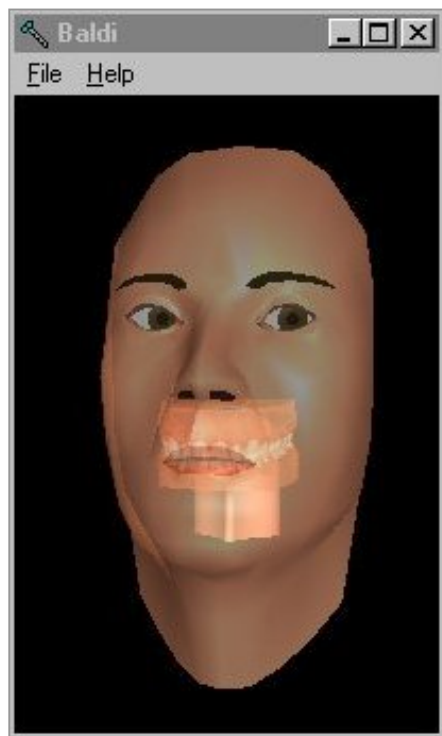
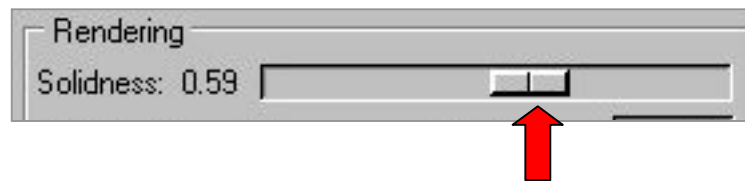
9. There are also Effects for the eyes and the mouth. Try selecting and deselecting them to see how Effects change Baldi.



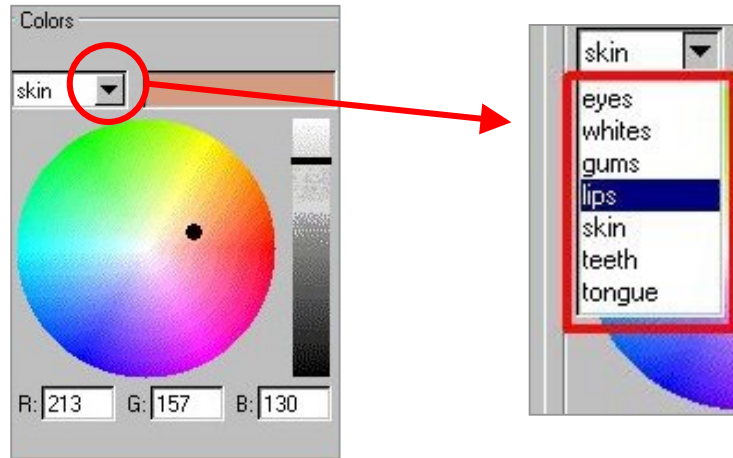
10. You can also make Baldi's skin transparent, allowing the user to view his tongue, teeth, and gums.



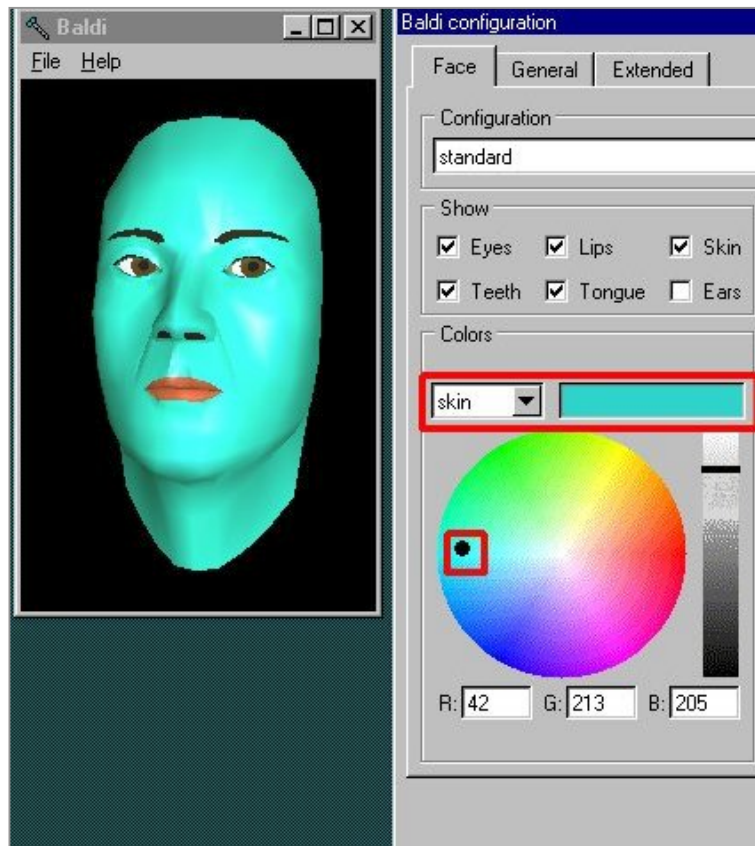
11. Click on the bar and move it to the left to make Baldi transparent.



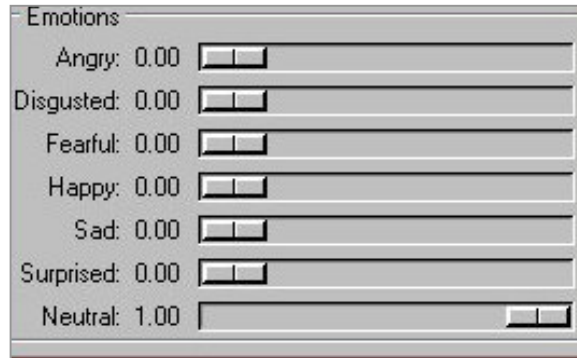
12. You can change the color of Baldi's skin or other parts of his face. Click on the drop-down arrow to select the part you want to change.



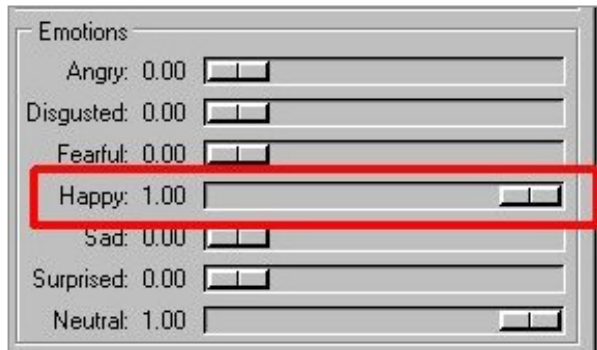
13. Select the part of the face you want to change. Click on the black dot on the color circle and move it to the desired color.



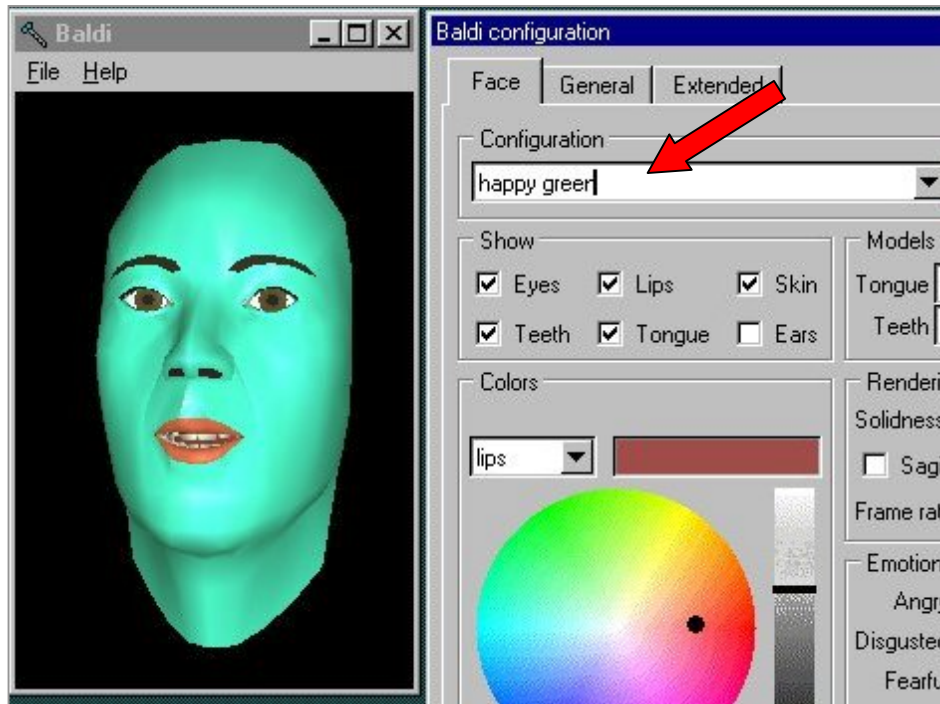
14. You can also give Baldi some emotion.



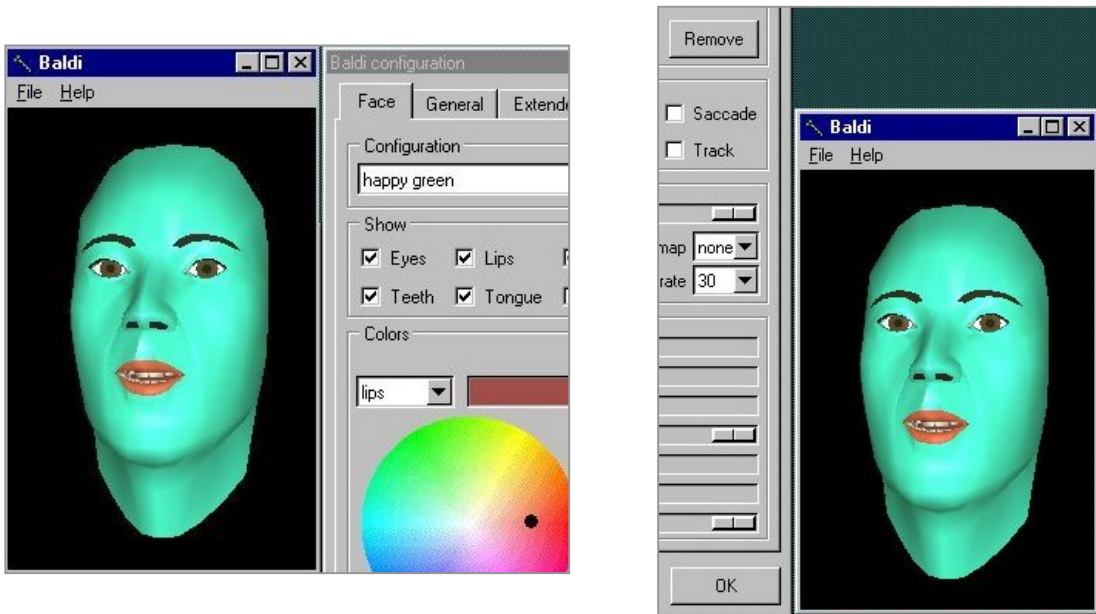
15. You can change Baldi's emotions by moving the bars of the emotions to the right or to the left. Here, Baldi is happy.



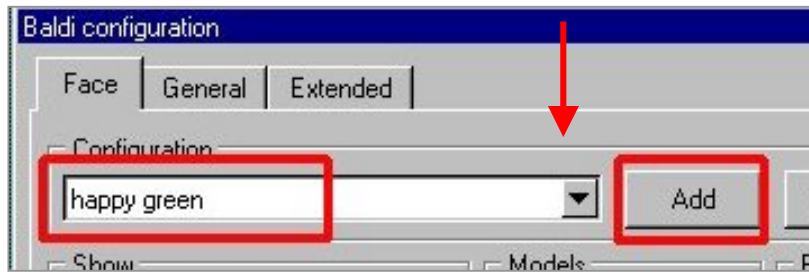
16. When you are satisfied with Baldi's face, type in a name.



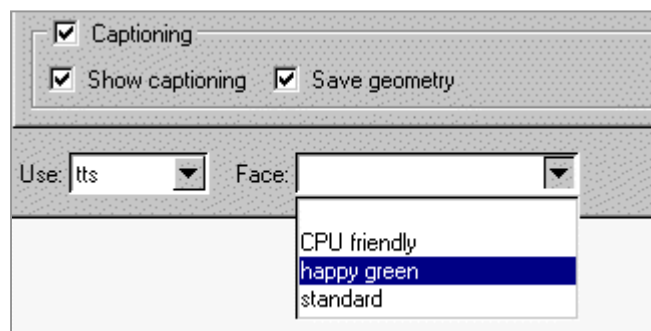
17. If you want to move Baldi to a different location on the screen, do so now. Click and hold down on the top part of Baldi (blue bar) and move Baldi to the desired location.



18. Click on Add to add the new Baldi face to the list.



19. Go to the generic window and click on the drop down arrow next to Face at the bottom of the window and choose the "name" of the face you want to use.



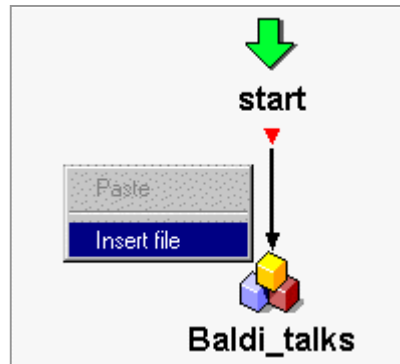
20. Click the OK button. Save the application. Then Build and Run it.

Adding a Background

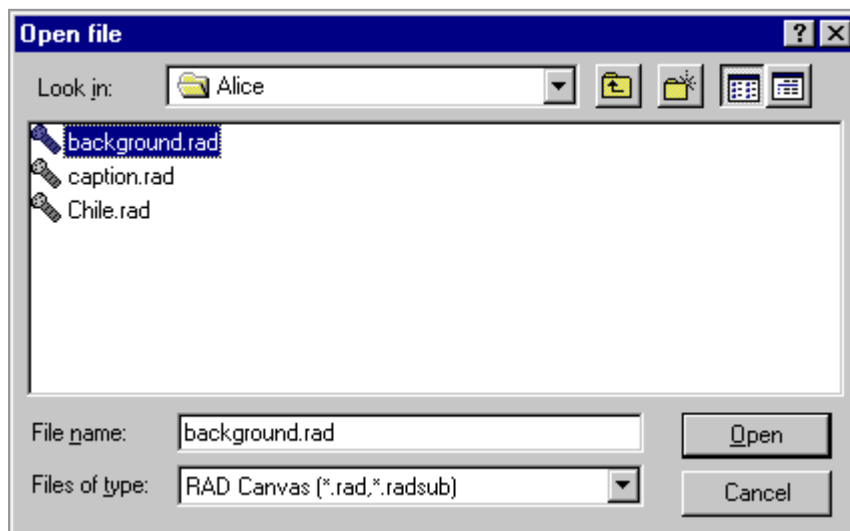


You use the action object to add a background color to the application.

1. Right-click on the white canvas at the beginning of your application and select Insert file.



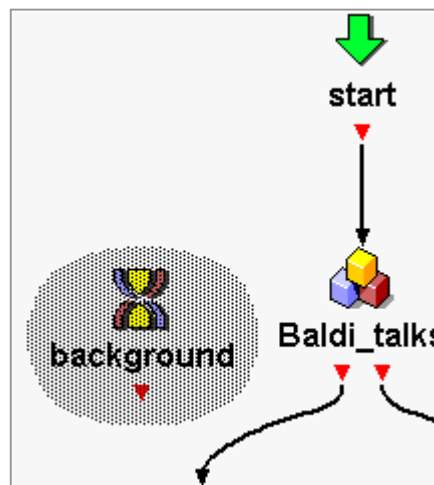
2. Find the background.rad in your folder, select it, and click Open. If you do not have a folder or the background.rad, go to page 8.



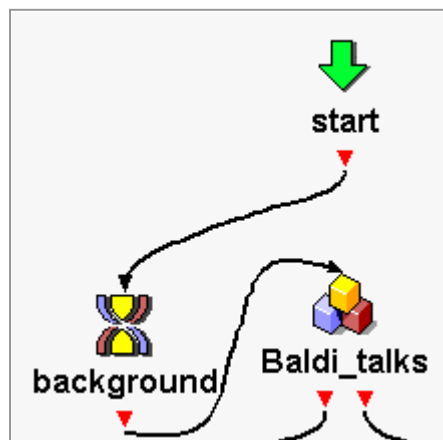
3. Click OK when you get this message.



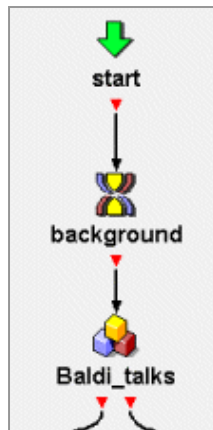
4. A subdialogue called "background" should appear.



5. Connect the start object to "background" and connect "background" to "Baldi_talks."



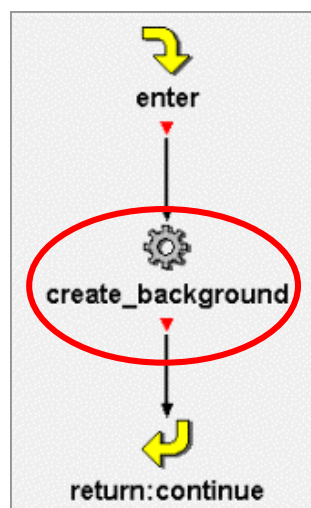
6. You can drag the objects up in order to straighten out the lines between them.



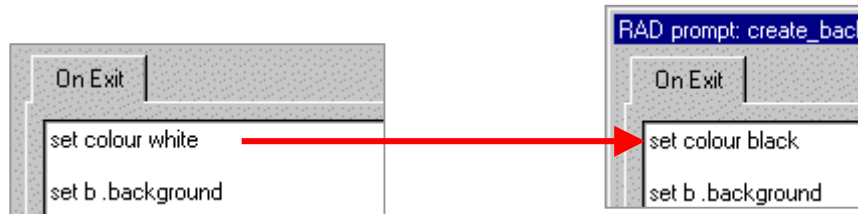
7. Double-click on the background subdialogue.



8. Double-click on the “create_background” action object.



9. Change the color of the background by deleting the color that is already there and typing a color. Open up the word document in your folder called background colors. It lists all the colors available. You can either type the color or the numbers associated with the color.

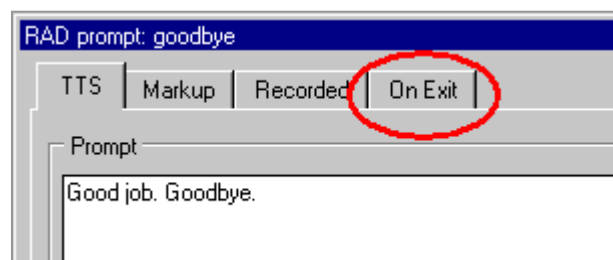


Click the OK button. Then close the subdialogue by clicking on the X in the top right corner.

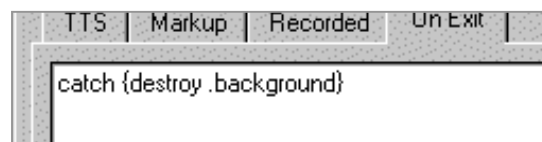
10. To remove the background color at the end of the application, you have to put a little bit of TCL code in the goodbye object.



11. Double-click the goodbye object. When it opens, click on the On Exit tab.

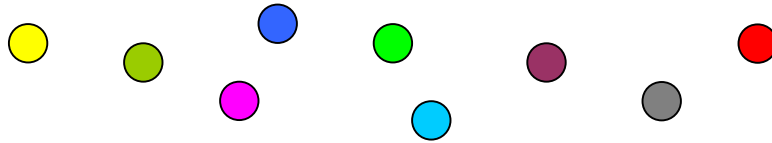


12. Type: `catch {destroy .background}` in the blank window. Important: there is a period before the word background. Click the OK button.



13. Save the application.

14. Run the application to see if you like the color.

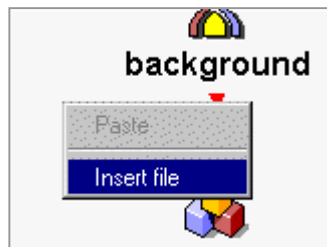


Setting the Captioning Parameters

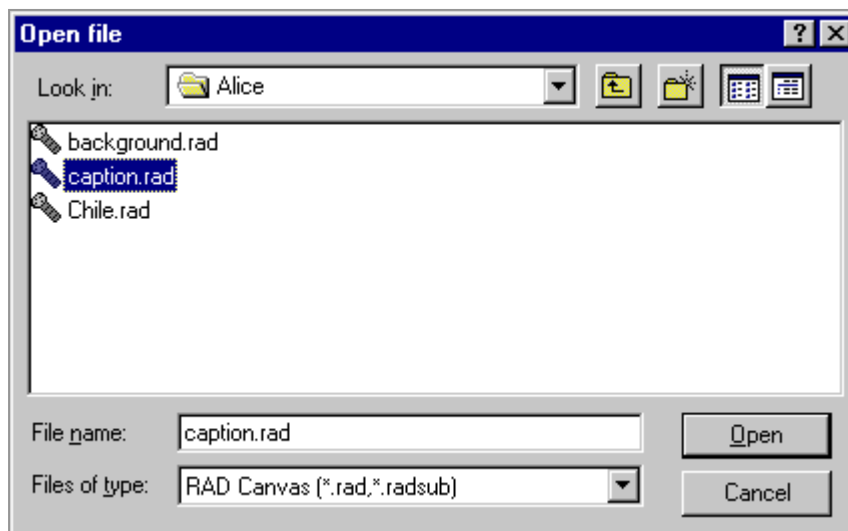


This lesson on captioning also includes the action object. This chapter will teach you how to set the history, font size, font style, and location of the captioning on the screen.

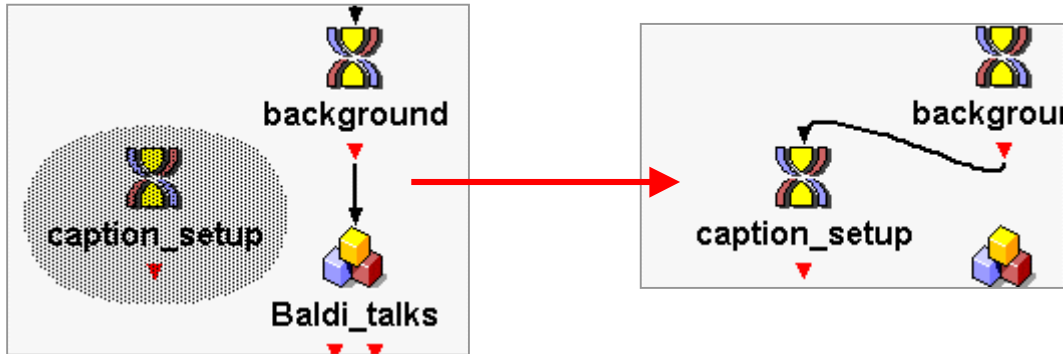
1. Go to File and Preferences. Click in the captioning box. Click Set default or the OK button.
2. Right-click below the background subdialogue and select Insert file.



3. Find and open the caption.rad in your folder. If you do not have a folder or the caption.rad, go to page 8.



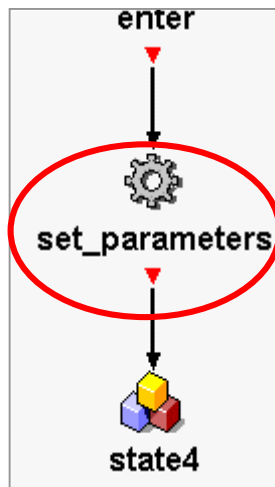
4. Connect the background subdialogue to the “caption_setup” subdialogue. Do not connect the “caption_setup” subdialogue to “baldi_talks” because in the next lesson you’re going to add another object between them.



5. Double-click on caption_setup.



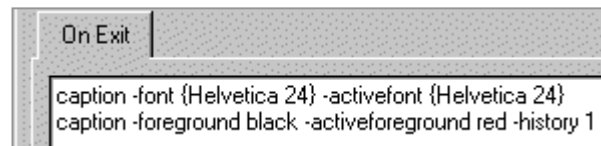
6. Double-click on “set_parameters” action object.



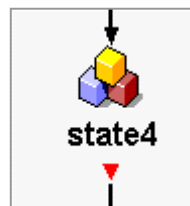
7. In this window you can change the font type and size for the caption and the highlighting. Currently, the color of the font is black and when highlighted (when Baldi talks), the font is red.

The history of 1 means that only one sentence is displayed in the captioning window at a time.

When you are finished, click the OK button.



8. To set the the captioning location, double-click on the generic object called "state4."



9. Click on the captioning window and drag it to the desired location on the screen. When you are satisfied with the location, click OK in the generic object window.



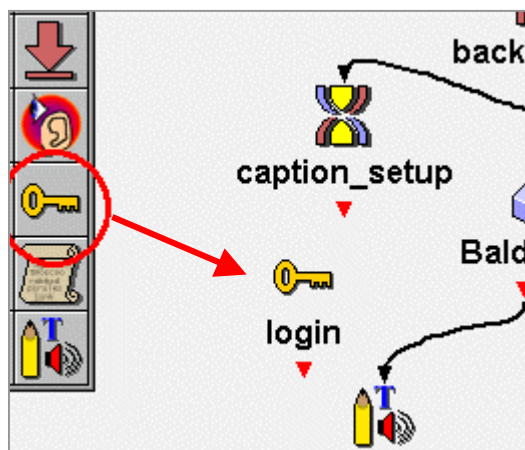
10. Close the subdialogue and save the application.

Using the Login Object

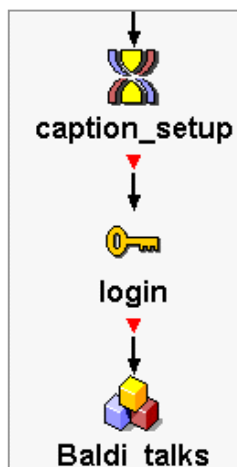


You use the login object to individualize students' applications and to capture their data.

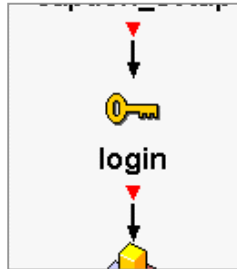
1. Drag and drop a login object onto the canvas below the "caption_setup" subdialogue and rename it "login."



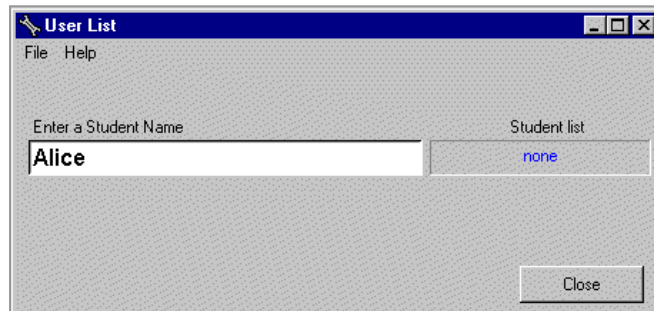
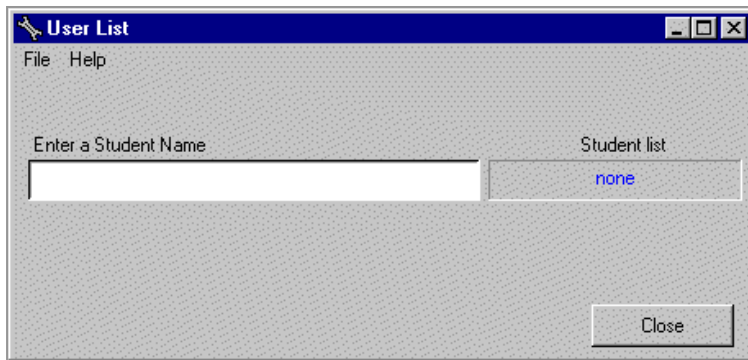
2. Connect the objects: "caption_setup" to "login" and "login" to "Baldi_talks." Straighten out the objects if you like.



3. Double-click on the login object.



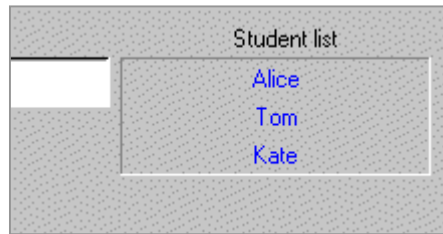
4. Enter a student's name and then press the Enter key on the keyboard.



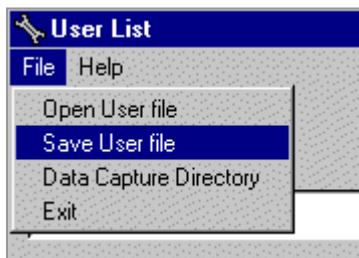
5. The name will appear on the right.



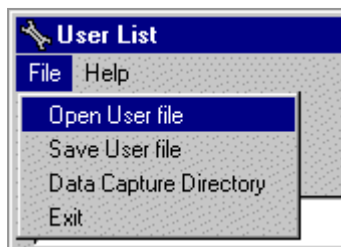
6. Enter as many names as you wish.



7. If you wish to save the list for another application, click on File and scroll down to Save User file.



The next time you make an application for these students, click on File and scroll down to Open User file to load in the student list.



8. When you are finished, click Close.

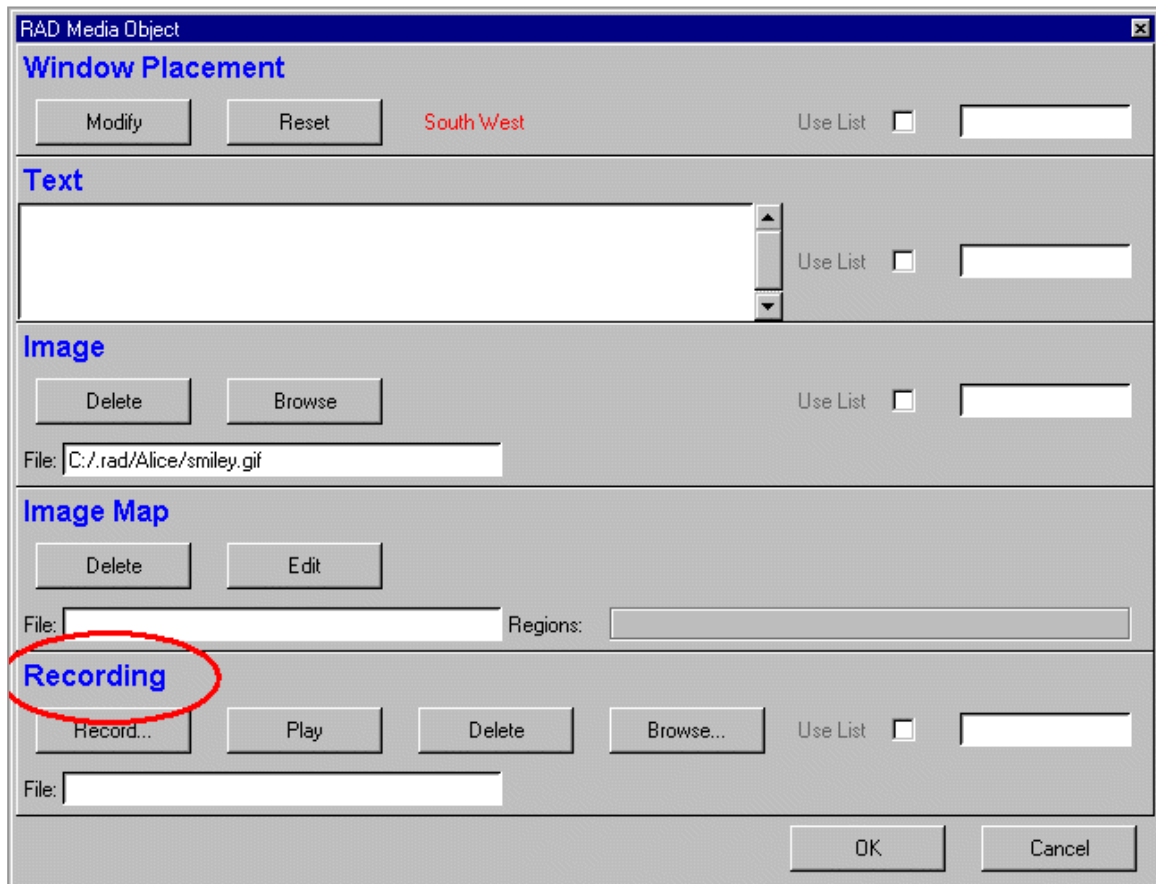
9. Save and Run the application.

Adding Sounds



You use the media object to play sounds or wavefiles that have the .wav extension.

1. Double-click on the subdialogue “Chile_facts” and then double-click on the media object “smile.”



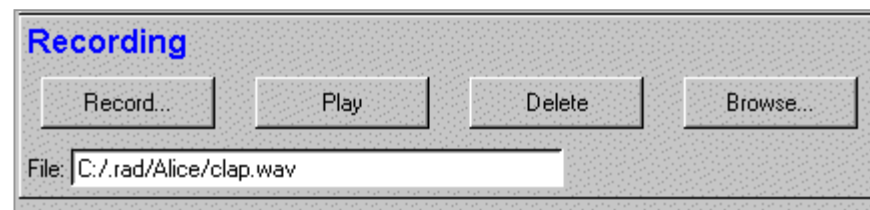
2. Browse in the Recording section for the clapping sound in your folder.



3. Select and open the clapping sound wavefile in your folder. If you do not have a folder or the clap.wav, go to page 8.



4. Notice the path name of the wavefile. Click the OK button.



5. Close the "Chile facts" subdialogue and add the clapping sound to the "Italy_facts" subdialogue.
6. Save and Run the application.

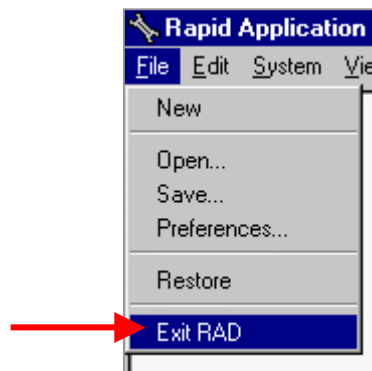
Exiting RAD

There are two ways to exit an application.

1. Click on the X in the top right corner. Then click on Yes when the message about wanting to quit appears.

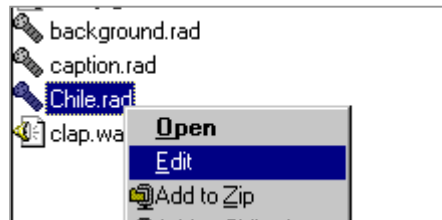


2. The second way is to click on File and scroll down to Exit RAD. Then click on Yes when the message about wanting to quit appear.



Edit an Existing Application

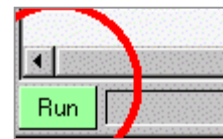
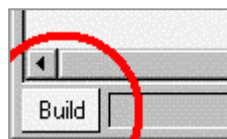
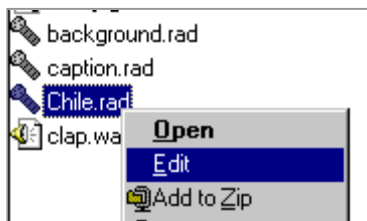
If you want to make changes to a rad application, find the Chile.rad and right-click. Select Edit and wait for it to open.



Run an Existing Application

There are two ways to run an existing application.

1. Right-click on the application and choose Edit. Wait for the application to load and then click Build and Run.



2. The second way to run an application is to double-click on the application.

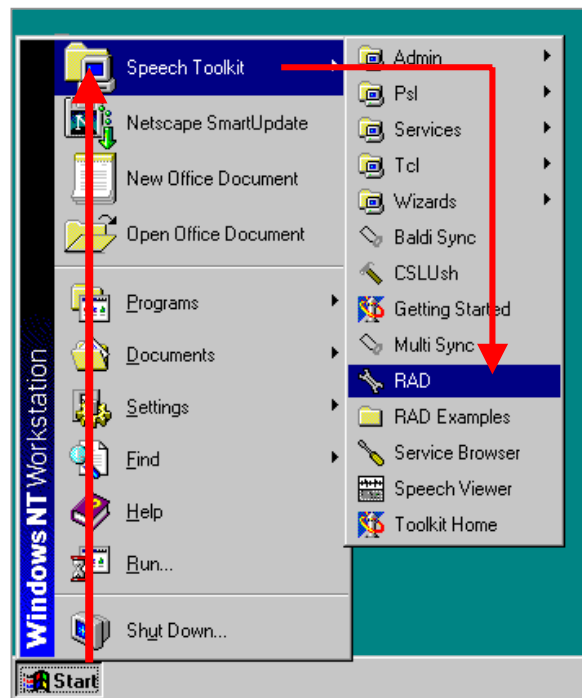


Natural Speech

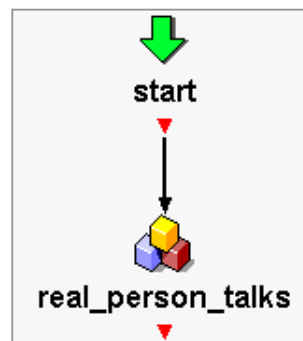


You use the generic object to add natural speech.

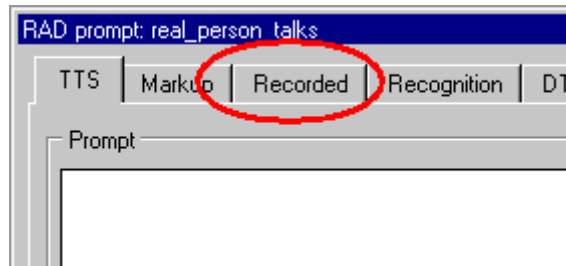
1. Close your Chile.rad and start a new rad. Click on Star, scroll up to Speech Toolkit, and scroll over and down to RAD.



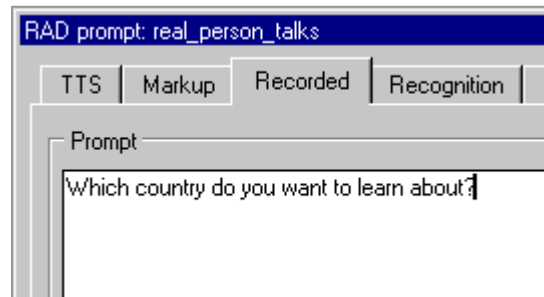
2. When RAD opens, drag a generic object, rename it, and connect the objects



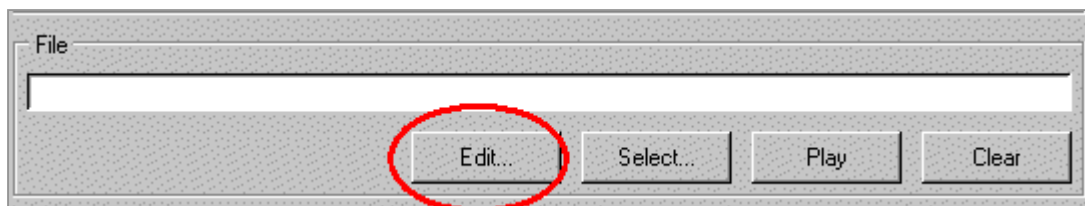
3. Double-click on “real_person_talks” to open it and click on the “Recorded” tab.



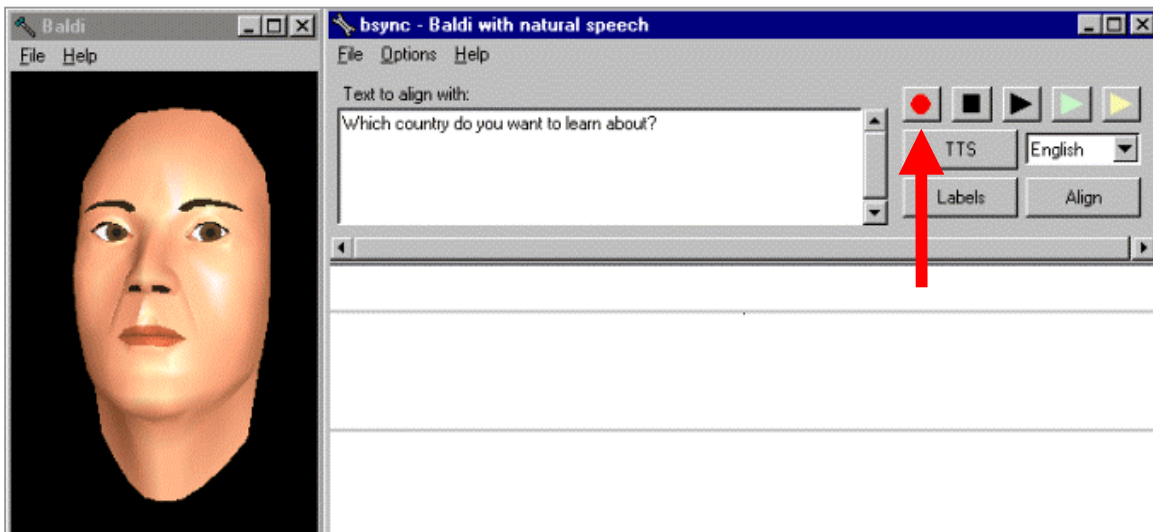
4. Type, “Which country do you want to learn about?”.



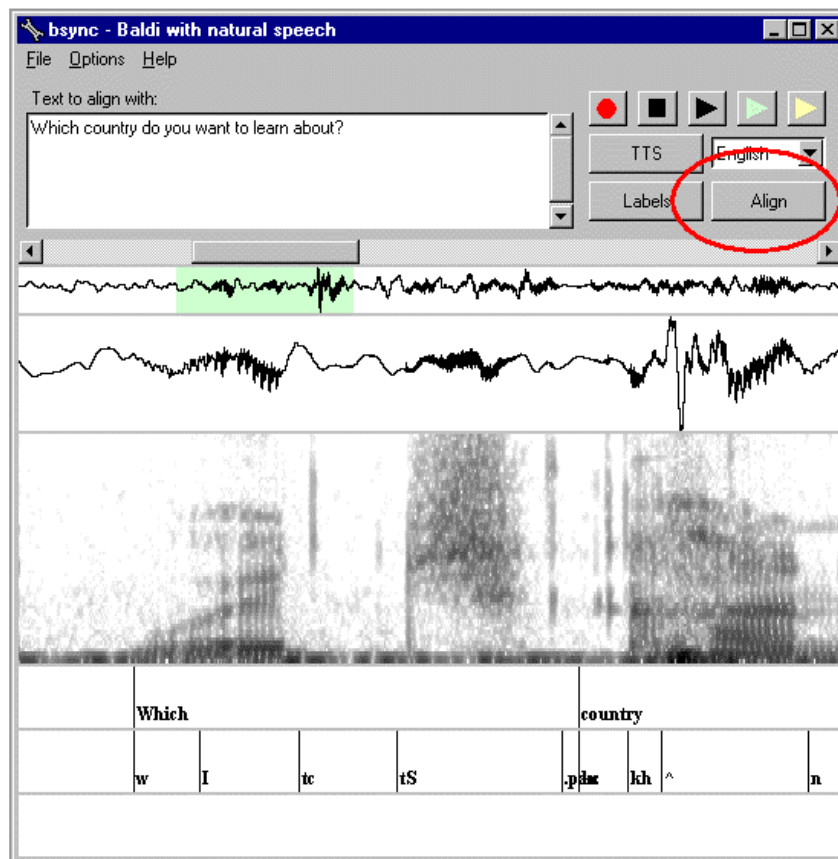
5. Click on Edit and wait for Baldi Sync to open. Baldi Sync will allow you to record and align your speech with Baldi.



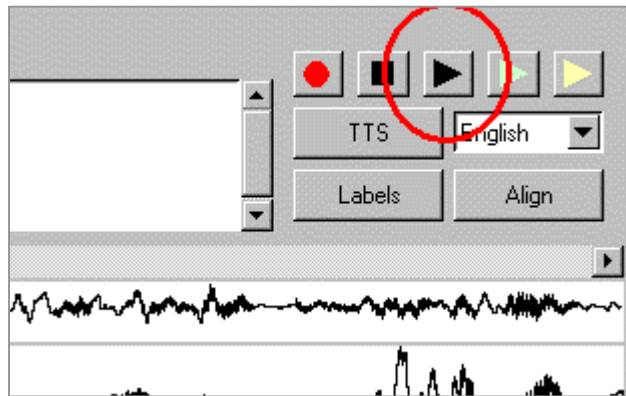
6. Click on the red button to record. When you are finished speaking, click the red button again to stop the recording.



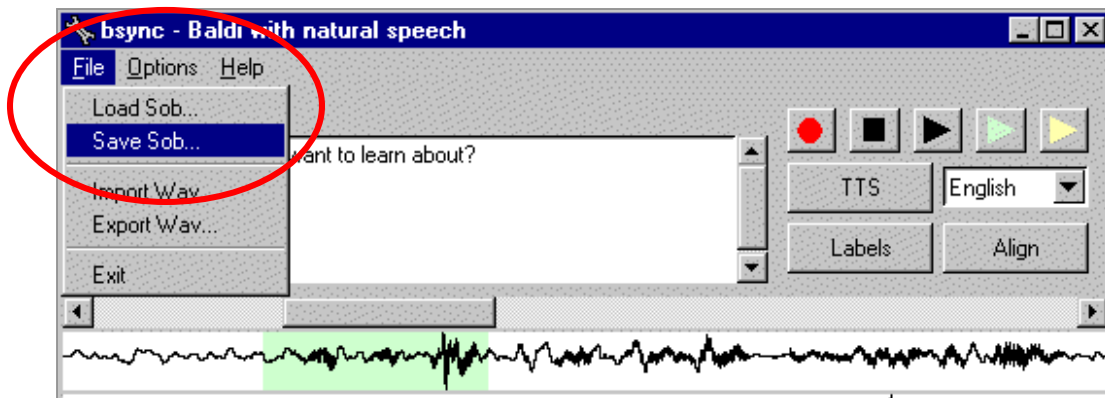
7. Click Align. Wait for the button to reload.



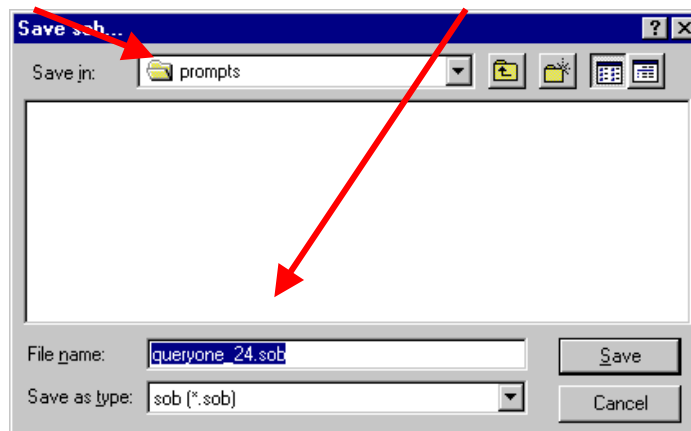
8. To play your recording and see and hear Baldi speak with your voice, click on the black arrow.



9. If you are satisfied, save the recording. Click on File and scroll down to Save Sob.



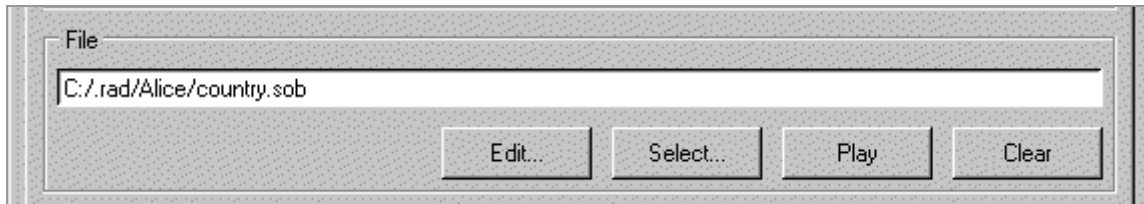
10. The default place to save a recording (sob file) is in a folder called prompts with the name "queryone_24.sob"



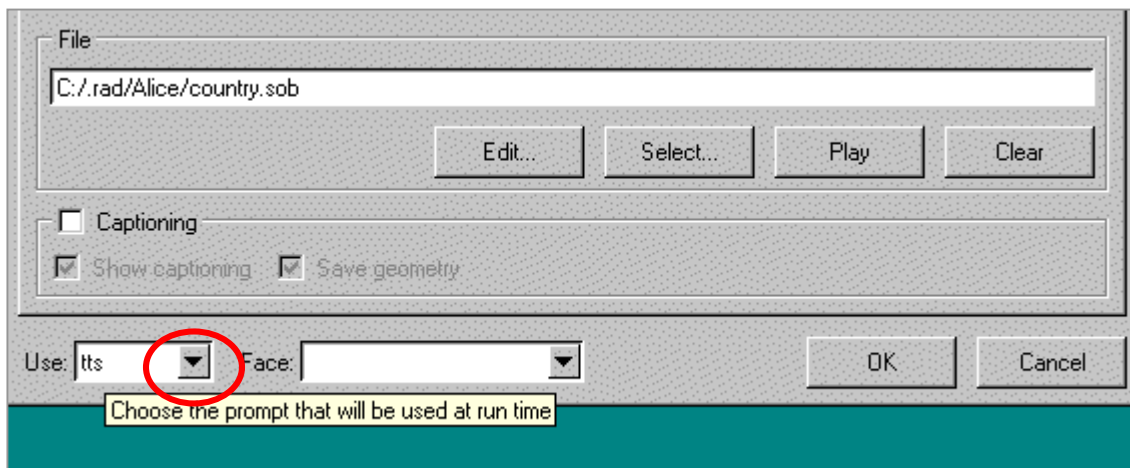
11. Do not save it there. Go to your own folder, give it a different name such as, “country,” and save it.



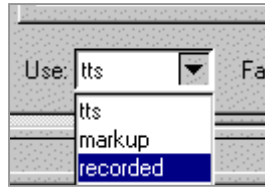
12. Baldi Sync will close. Notice the path name of the recording.



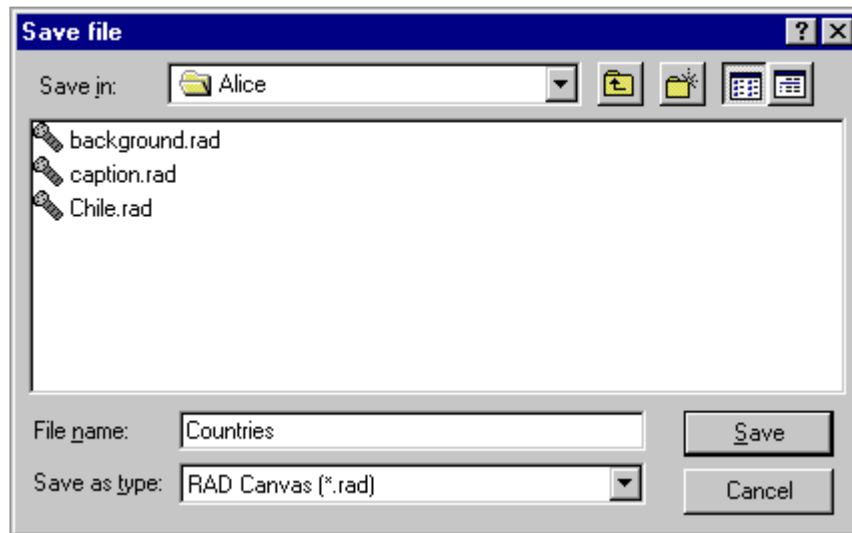
13. In the generic object window, go to the bottom left corner and click on the drop down arrow to the right of “tts.”



14. Choose “recorded.”



15. Click the OK button. Save the application in your folder.



16. Build and Run it.

Clickable Text and Pictures

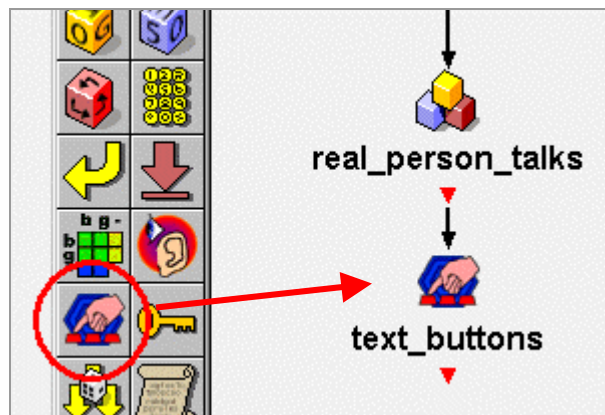
The Button Object



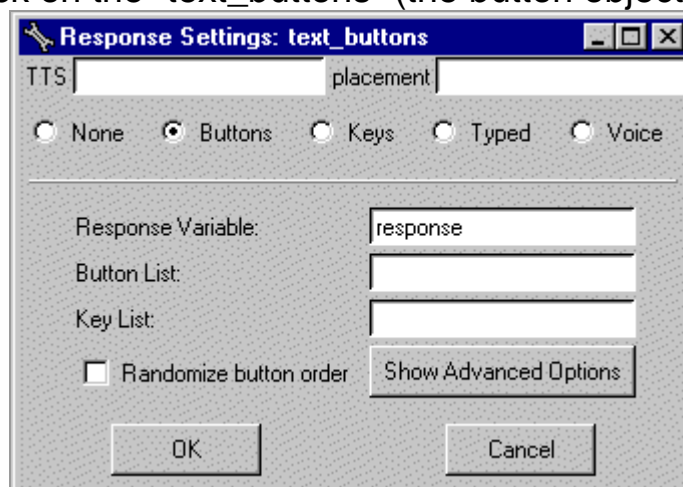
You use the button object to make text and pictures clickable.

Text Buttons

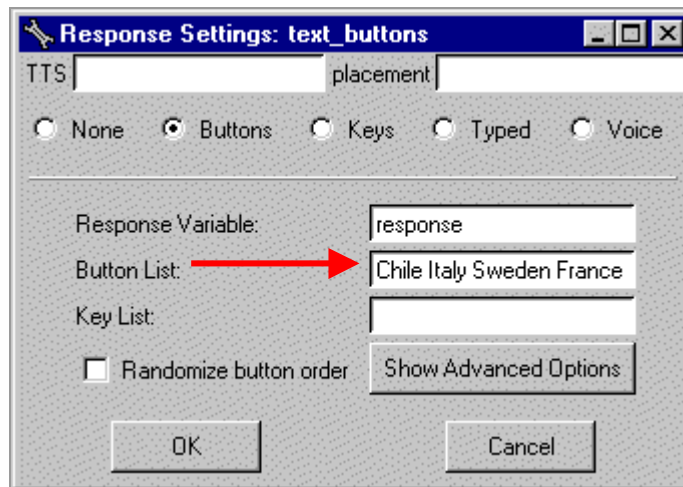
1. Drag a button object underneath “real_person_talks,” rename it “text_buttons,” and connect the objects.



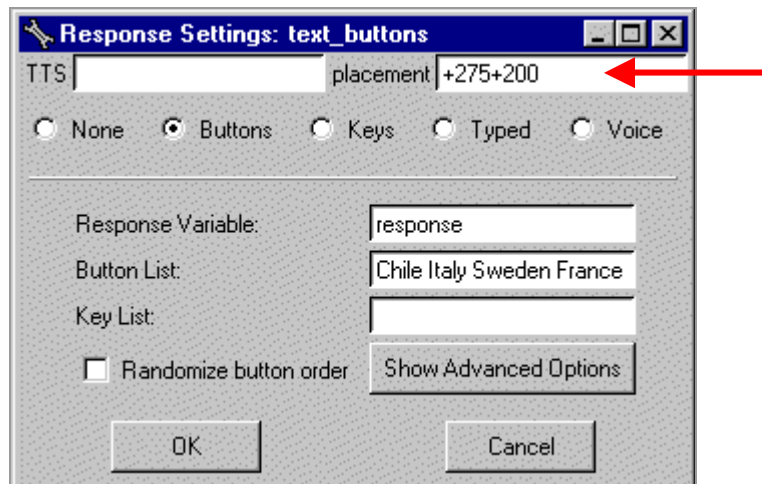
2. Double-click on the “text_buttons” (the button object) to open it.



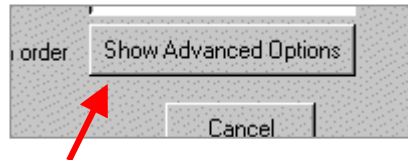
3. Type these countries in the “Button List” form.



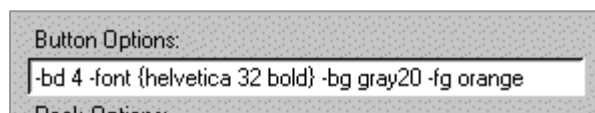
4. Set the location of the buttons on the screen. The default location is at the bottom of the screen. If you want to change that, you have to use + or – numbers in the “placement” form. +300+300 is about in the center.



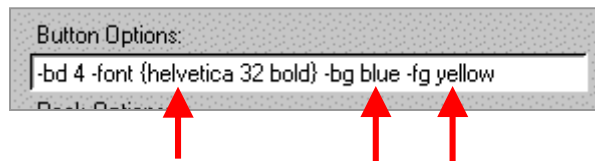
5. The other changes you can make are to the font size and style, the colors of the buttons and the text, and how many buttons you want in a row. Click on Show Advanced Options.



6. These are the default font size, style, and colors.



7. To change something, delete it and retype.

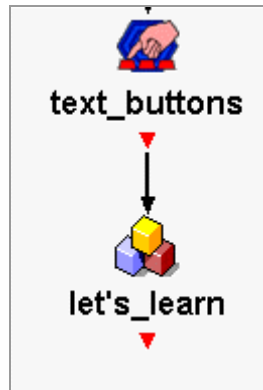


8. To change the number of buttons in a row, delete the number and type a different number.

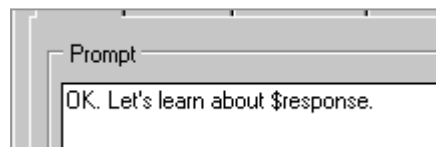


9. Click the OK button.

10. If you want Baldi to say something after a button is clicked, drag a generic object, rename it “let’s learn,” and connect the objects.



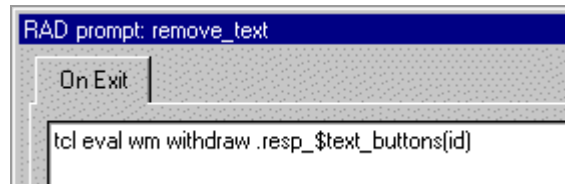
11. Double-click on the generic object and type the following: **OK.** **Let's learn about \$response.** “\$response” refers to what has been typed in the button list. This is hard coded in the button object.



12. Click the OK button. Save the application. Then Build and Run it.
13. In order to make the buttons go away, drag an action object, rename it “remove_text,” and connect the objects.



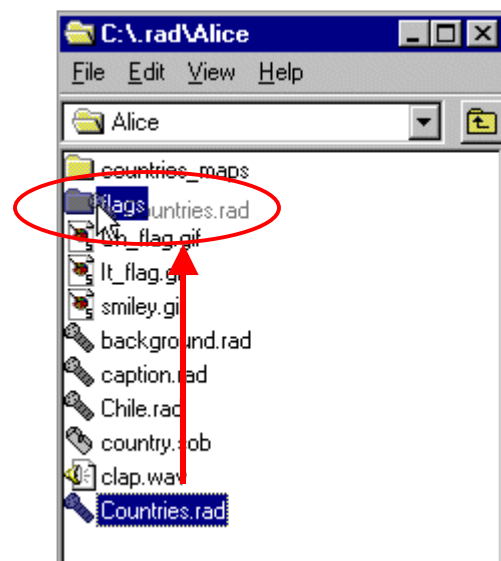
14. Double-click on the action object and type the following line of code: `tcl eval wm withdraw .resp_$text_buttons(id)`



15. Click the OK button. Save the application and Run it.

Picture Buttons

1. You need to move Countries.rad into the flags folder. Close the rad (go to page 74 for exiting a rad). Go to your folder. Click on Countries.rad and drag it onto the flags folder. When the flags folder is selected (blue), remove your finger from the mouse. If you do not have your own folder or the flags folder, go to page 8.

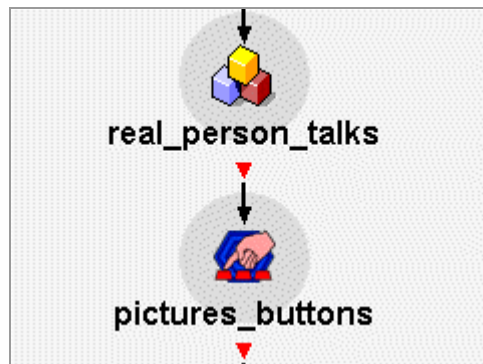


Countries.rad was moved into the flags folder because the application must be in the same folder as the pictures in order to make them buttons.

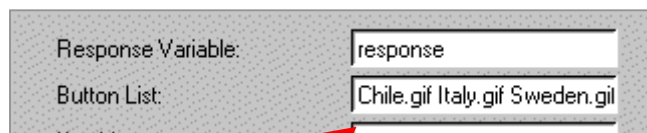
2. Countries.rad should now appear in the flags folder. Open the folder to make certain it is there.



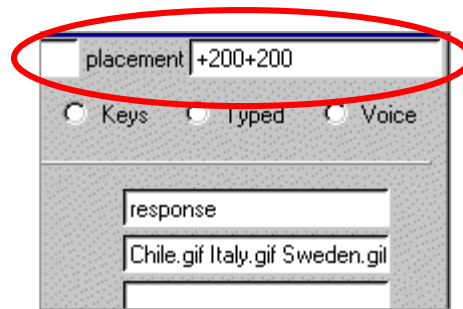
3. Rename the button object from “text_buttons” to “pictures_buttons”.



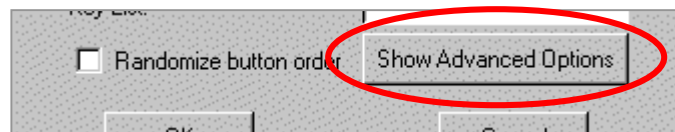
4. Open the “pictures” button object and add “.gif” to each country. Make sure there is a space between each picture.



5. Change the placement of the pictures to +200+200.



6. Click on Show Advanced Options in order to change the default number of pictures across from 4 to 2, otherwise the pictures will go off the screen.

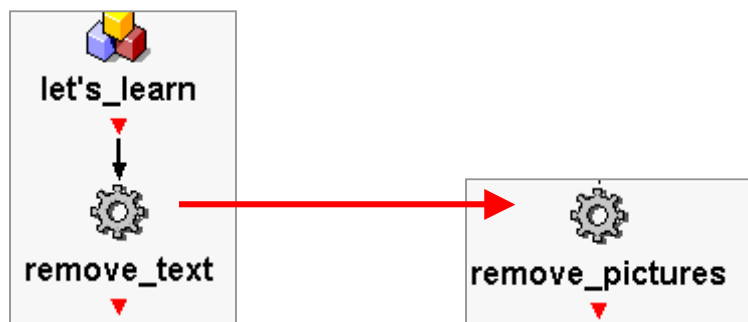


7. Change the number from 4 to 2.

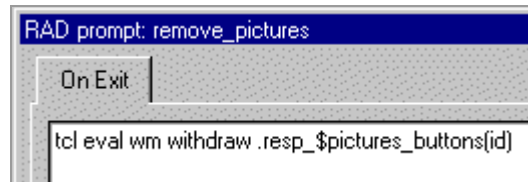


8. Click the OK button.

9. Rename the action object "remove_text" to "remove_pictures."



10. Open the action object, “remove_pictures,” and change “\$text_buttons” to “\$pictures_buttons.”



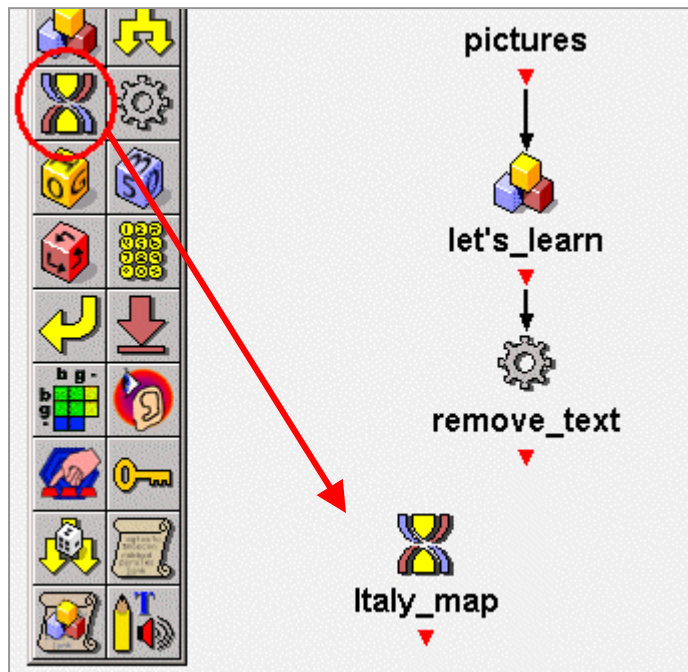
11. Click the OK button. Save the application and Run it.

The Image Map



You use the media object to make an image map (a clickable picture).

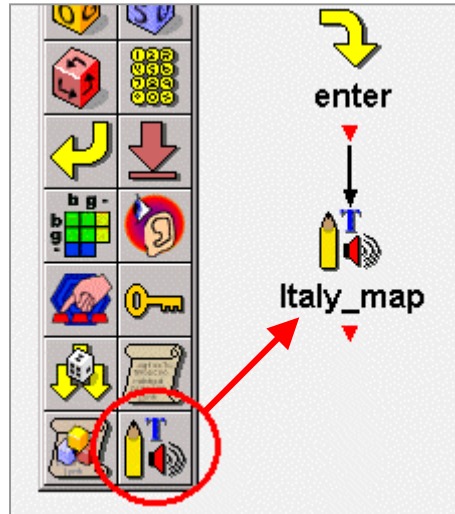
1. Drag a subdialogue object onto the canvas, choose New Master Subdialogue, and rename it “Italy.” Do not connect any objects, yet.



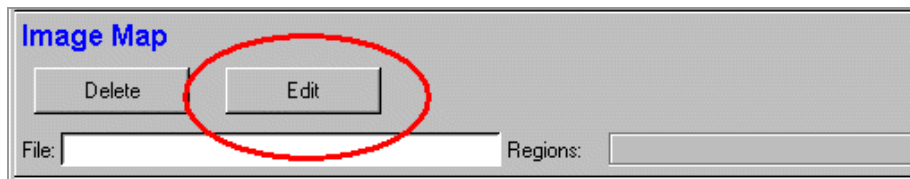
2. Open the subdialogue by double-clicking it.



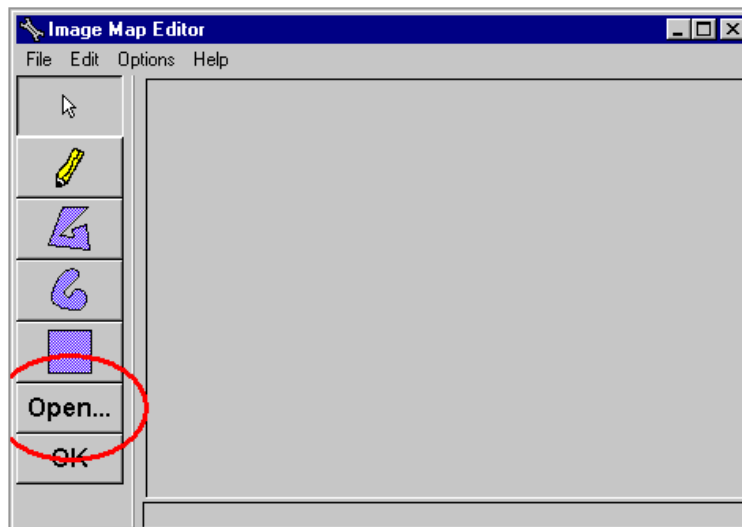
3. Drag a media object, rename it “Italy_map,” and connect the objects. You are going to put a picture of a map of Italy in this object.



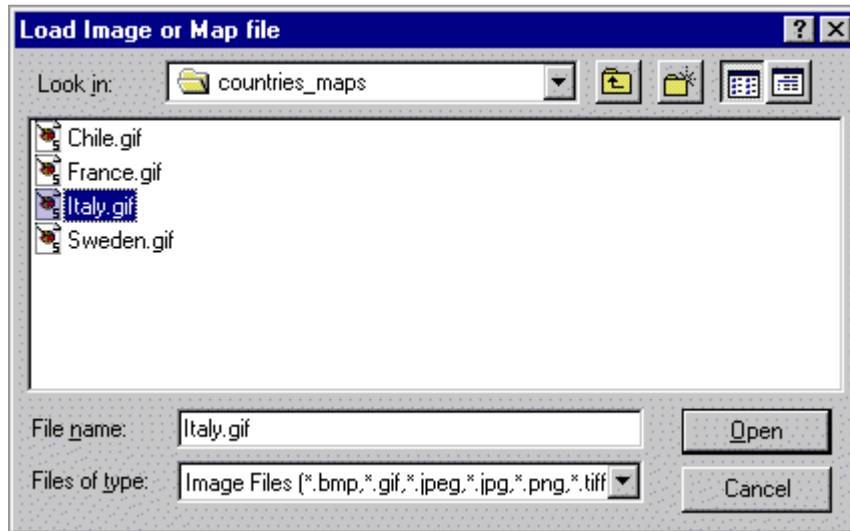
4. Open (double-click) “Italy_map” and click on Edit in the Image Map area.



5. Click Open to load a map of Italy.



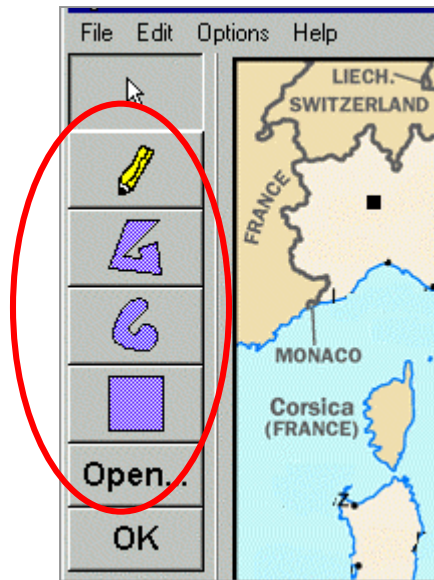
6. Go to your own folder and open the folder called countries_maps. Select Italy.gif and click Open. If you do not have a folder or the images, go to page 8.



7. The picture will appear.

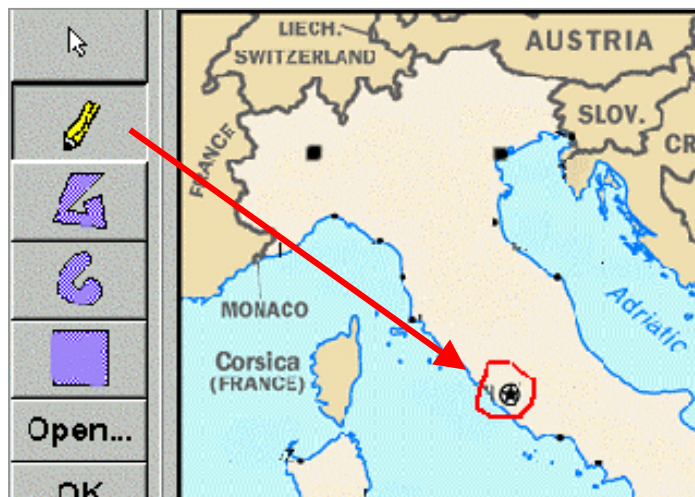


8. These are the drawing tools that you can use to make selections in the picture.

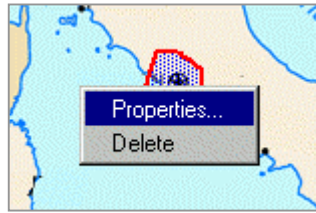


- The pencil is freehand and ends a selection with a click.
- The next two tools require a click in between each line drawn and ends with a double-click or right-click.
- The last tool is a square and ends with a click.

9. Click on the pencil drawing tool and make a selection around the capital of Italy, Rome.



10. Right-click on the created region and choose Properties in order to give it a name.



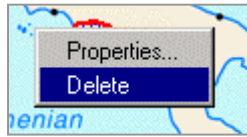
11. Highlight shape#1 and type Rome. Click Ok or press the Enter key on the keyboard.



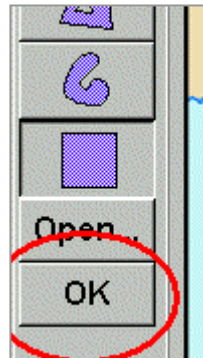
12. Create three more selections for Venice, Milan, and Naples. Don't forget to name all the shapes.



13. If you do not like the selection you made, right-click and choose Delete. Try again to make the selection.



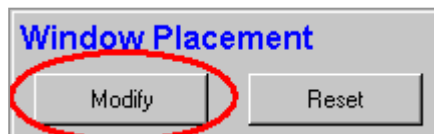
14. Click the OK button when you are done.



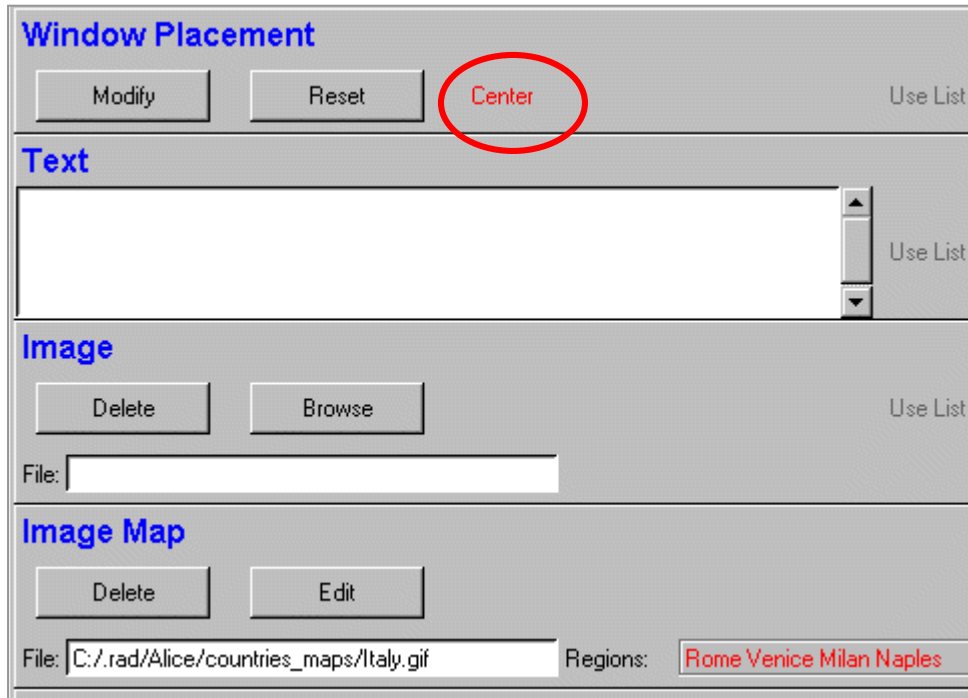
15. The directory path of the image and the names of the regions should appear in the Image Map area of the media object.



16. Set the location of the image map on the screen. Click on Modify in Window Placement at the top of the media object window. Choose a location. Click the OK button.

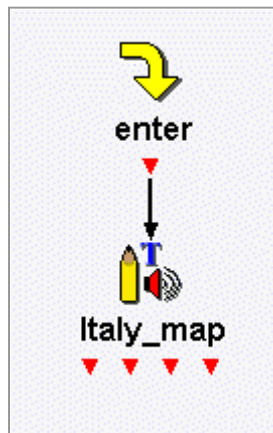


17. The location should appear in the window.

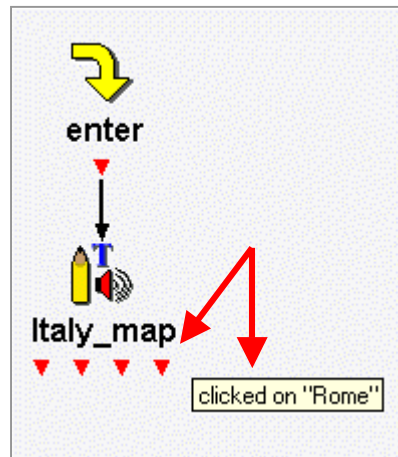


18. Click OK to close the media object.

19. Notice that "Italy_map" media object now has four output ports.



20. Mouse over the output ports and notice that they correspond to the selections that you created. The outside right output port corresponds to the “Rome” selection.



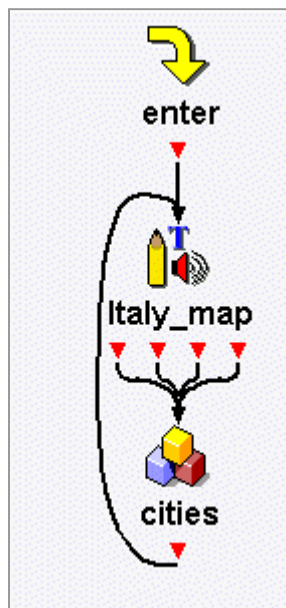
21. Let's have Baldi say the name of the city when it is clicked. Drag a generic object and rename it “cities.”



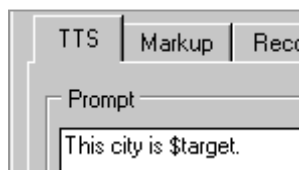
22. Connect all the output ports of “Italy_map” to “cities.”



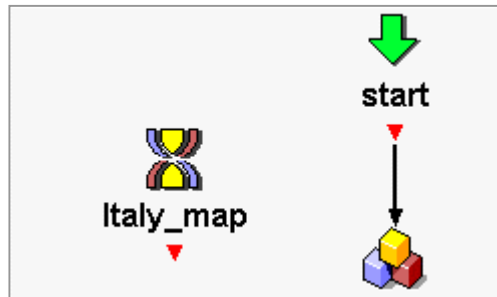
23. Connect the “cities” output port back to “Italy_map.”



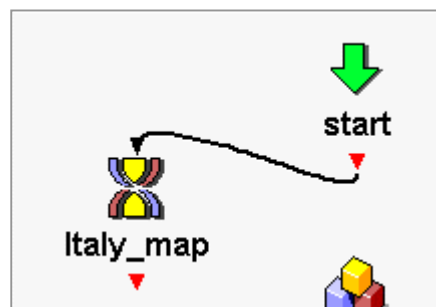
24. Open the “cities” generic object and type, “**This city is \$target.**”
“\$target refers to the selections in the image map.



25. Click OK to close “cities.”
26. Close the subdialogue by clicking on the X in the top right corner.
27. Save the application.
28. In order to see how the image map works when the application is run, drag the “Italy_map” subdialogue next to start. You are going to bypass the other objects for now because you need to learn about the conditional object.



29. Connect start to “Italy_map.”



30. Build and Run the application. Click on the cities.

The application will continue until you stop it.

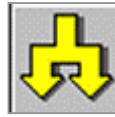
31. Click on the Rapid Application button at the bottom of the desktop screen to bring back the canvas.



32. Click on Stop in the bottom left corner of the canvas.



The Conditional Object

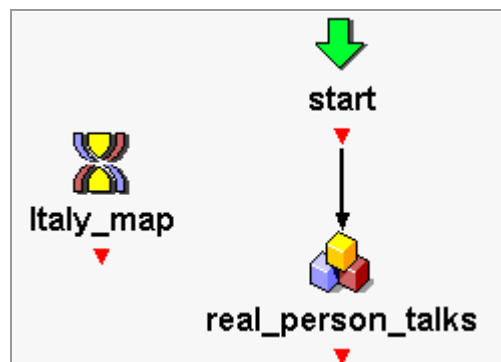


You use the conditional object to make decisions in an application.

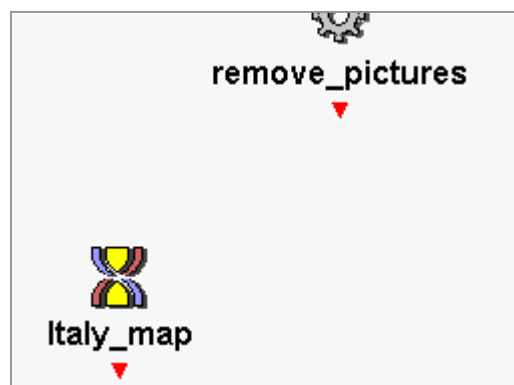
With Buttons

You use the conditional object with buttons to make the application continue in a certain way after clicking on a certain button.

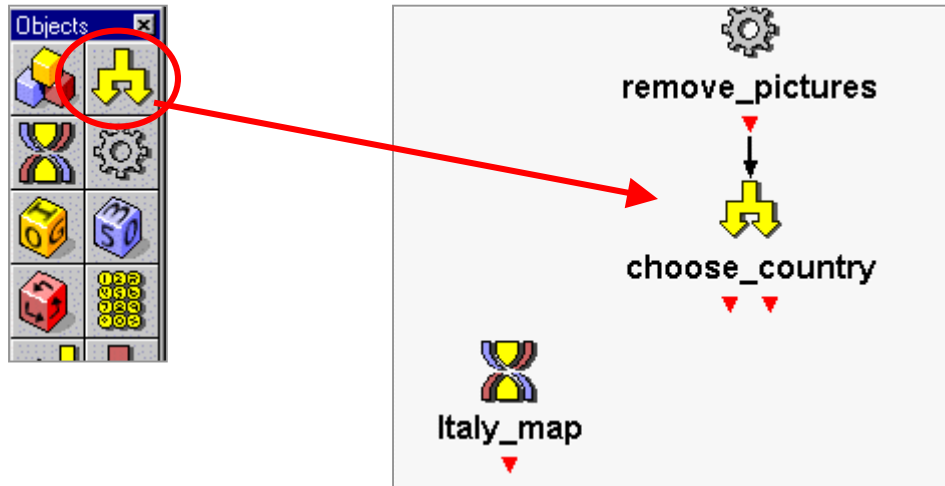
1. Reconnect the start object to “real_person_talks.” Click on the output port of start and drag it to “real_person_talks.”



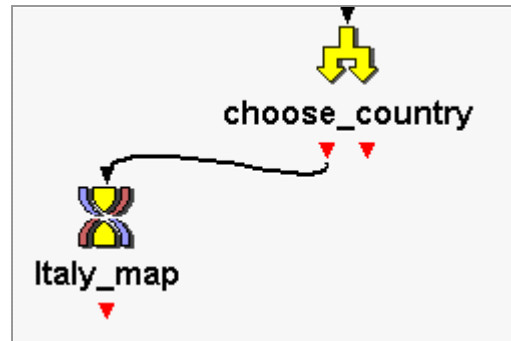
2. Drag the “Italy_map” subdialogue back down to the end of the application.



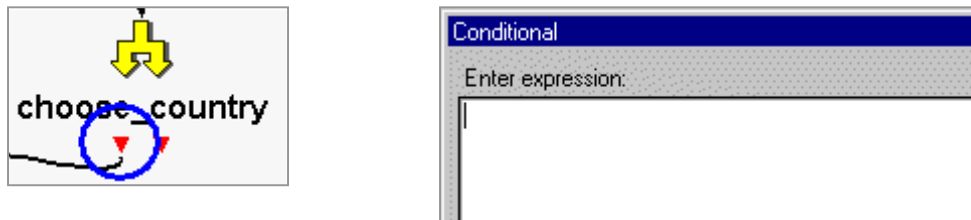
3. Drag a conditional object onto the canvas underneath “remove_pictures.” Rename it “choose_country” and connect the objects.



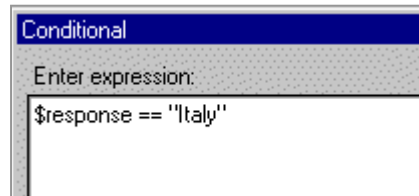
4. Connect the left output port of “choose_country” to “Italy_map.”



5. Double-click on the left output port of “choose_country.”



6. Type `$response == "Italy"`. This means that if the user clicks on the Italy flag button, the application will take the Italy subdialogue path.

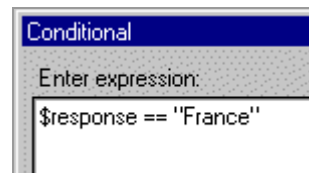


7. Click the OK button.

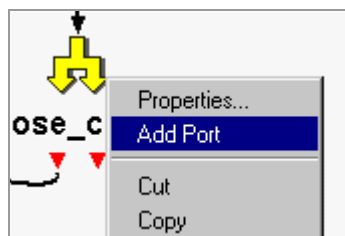
8. Double-click on the right output port of "choose_country."



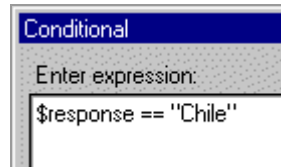
9. Type `$response == "France"`. Click the OK button.



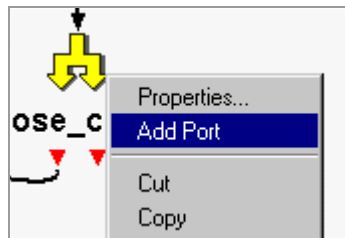
10. Right-click on "choose_country" and select Add Port.



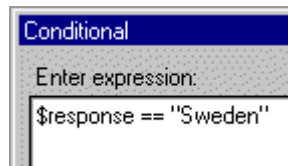
11. Double-click on the output port and type, `$response == "Chile"`.



12. Right-click on "choose_country" again and select Add Port.



13. Double-click on the output port and type, `$response == "Sweden"`.



14. If you have time, add "France_map," "Chile_map," and "Sweden_map" subdialogues.

15. Save the application. Build and Run it and click on the flag of Italy. Again you will have to stop the application yourself by clicking on Rapid Application at the bottom of the screen and then Stop on the canvas.



With Image Map

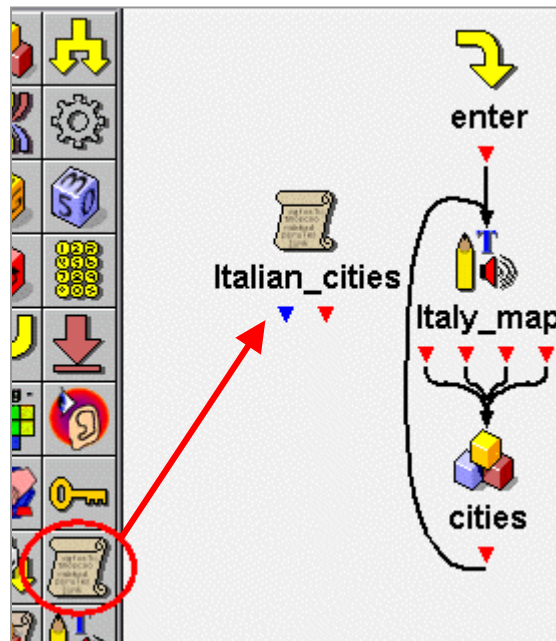
You use the conditional object with the image map to make the application continue in a certain way after clicking on a certain selection of the image.

You can have Baldi ask the user to click on a certain city and then give feedback as to whether the user clicked on the correct city or not.

1. Double-click on “Italy_map.”



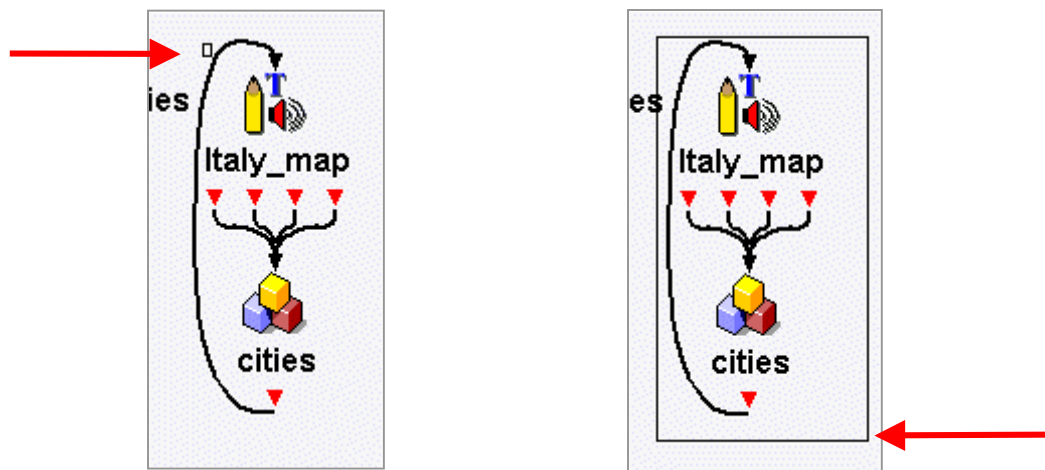
2. Add a listbuilder object to the canvas and rename it, “Italian_cities.”



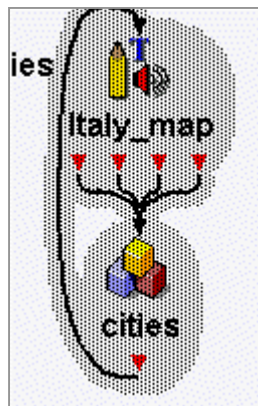
3. Connect the “enter” object to “Italian_cities.”



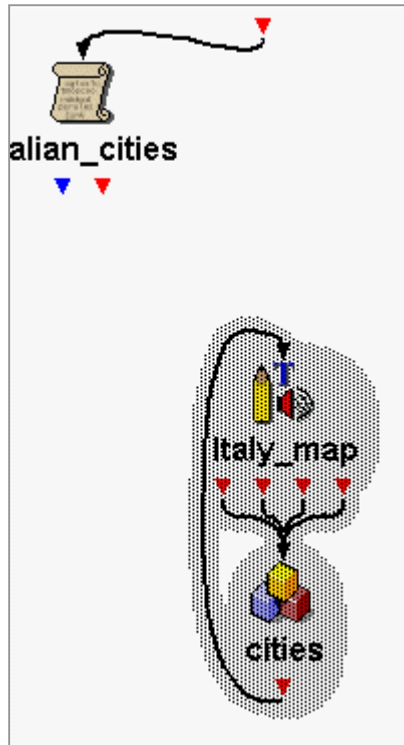
4. Move “Italy_map” and “cities” down by selecting both objects. In order to do that, click and hold the mouse on the top left of “Italy_map” and drag it down to the bottom right of “cities.”



5. Release your finger and the objects will be selected.



6. Click and drag the selected objects lower on the canvas.



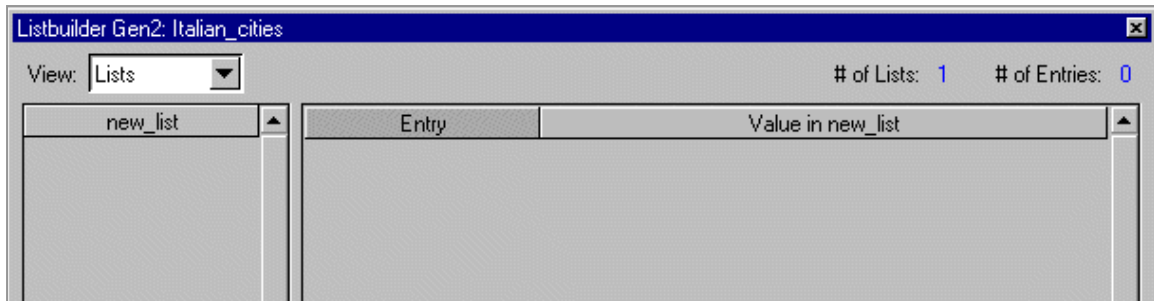
7. Click anywhere on the canvas to deselect the objects.



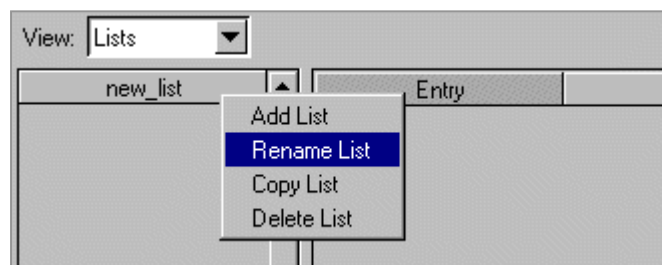
8. Move the listbuilder “Italian_cities” underneath the “enter” object.



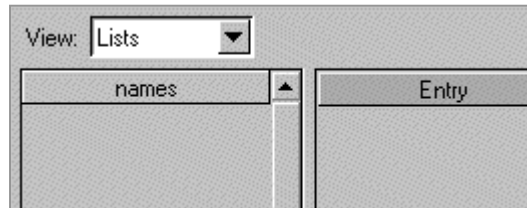
9. Double-click on “Italian_cities” to open it.



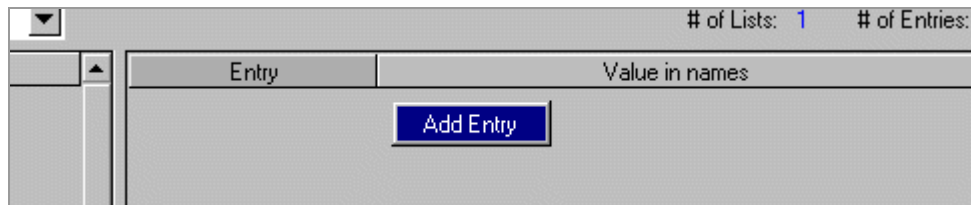
10. Right-click on new_list and select Rename_List.



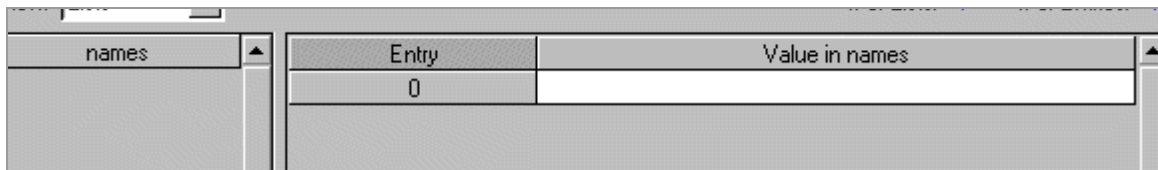
11. Type the word, “names” and press the Enter key.



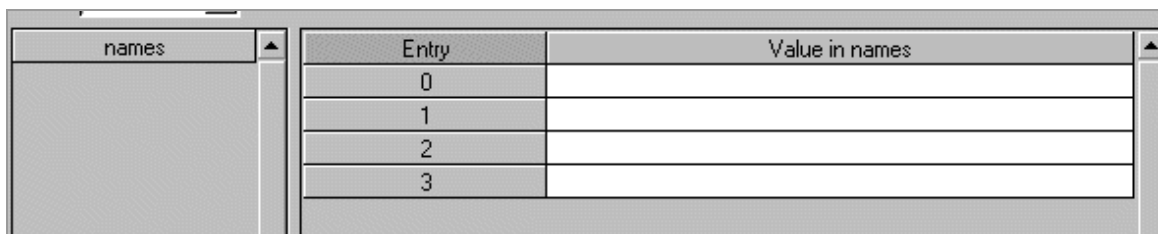
12. Right-click in the Value section and select Add Entry.



13. Notice that the first entry starts with 0.



14. Add three more entries.



15. Type the names of the Italian cities.

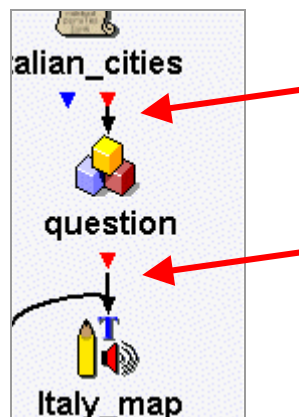
names	Entry	Value in names
	0	Rome
	1	Venice
	2	Milan
	3	Naples

16. Click the OK button.

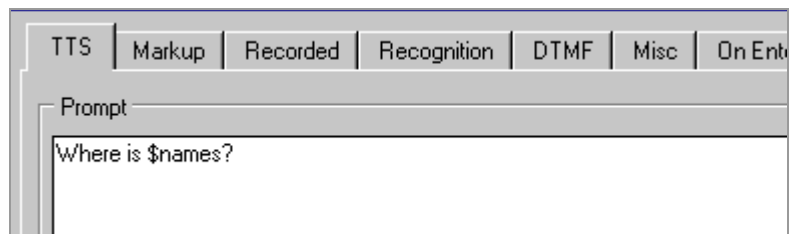
17. Drag a generic object onto the canvas below the listbuilder, "Italian_cities" and rename it "question."



18. Connect "Italian_cities" to "question" and connect "question" to the image map, "Italy_map."

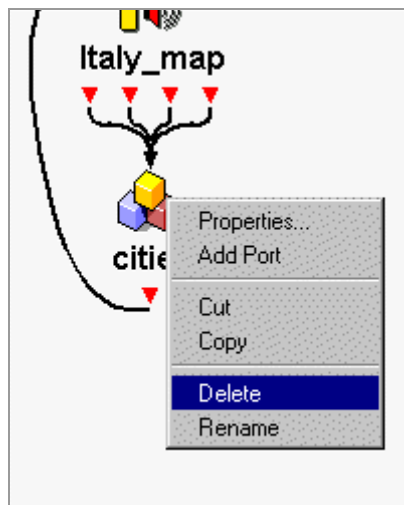


19. Double-click on “question” to open it. Type “Where is \$names?”
\$names refers to the cities in the listbuilder.

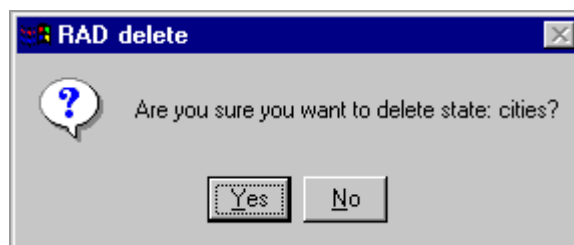


20. Click the OK button.

21. Right-click on the generic object called “cities” and select Delete.



22. When this message appears, click Yes.



23. Notice that the “cities” object and the lines have disappeared.



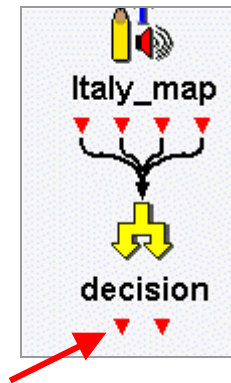
24. Drag a conditional object onto the canvas below “Italy_map” and rename it “decision.”



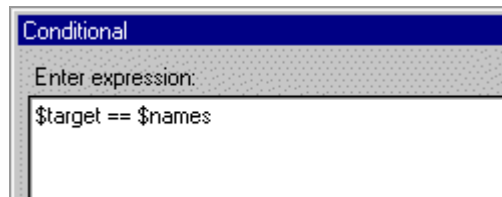
25. Connect all the output ports of “Italy_map” to “decision.”



26. Double-click on the left output port of “decision.”

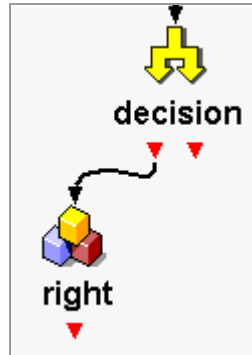


27. Type “**\$target == \$names.**” \$target refers to the cities on the image map and \$names refers to the cities in the listbuilder. The expression means that the user clicks on the city that matches the name.

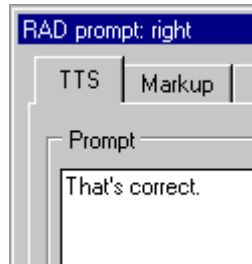


28. Click the OK button.

29. To add positive feedback, drag a generic object onto the canvas, rename it “right” and connect the left output port of “decision” to “right.”

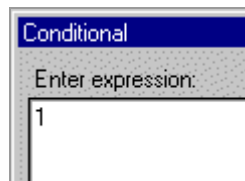


30. Open “right” and type, “That’s correct.”



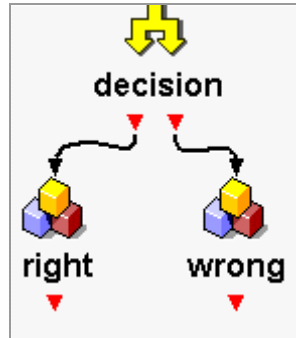
31. Click the OK button.

32. Double-click the right output port of “decision” and type, “1.” This means that the user has clicked on the wrong city.

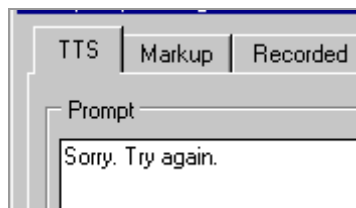


33. Click the OK button.

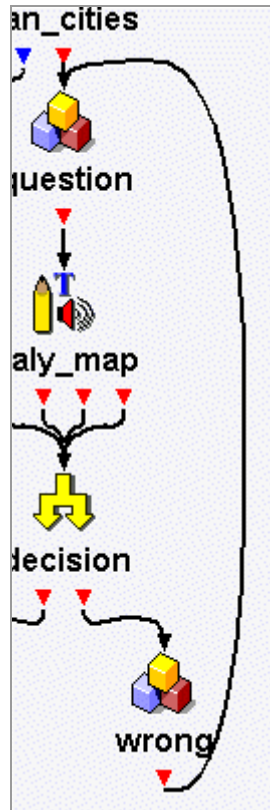
34. To add negative feedback, drag a generic object onto the canvas, rename it “wrong,” and connect the right output port of “decision” to “wrong.”



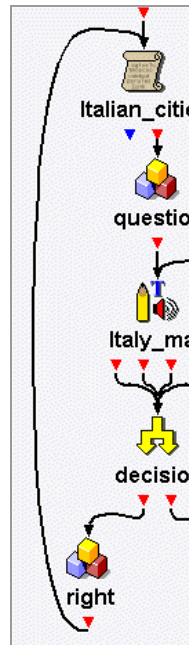
35. Open “wrong” and type, “Sorry. Try again.” Click the OK button.



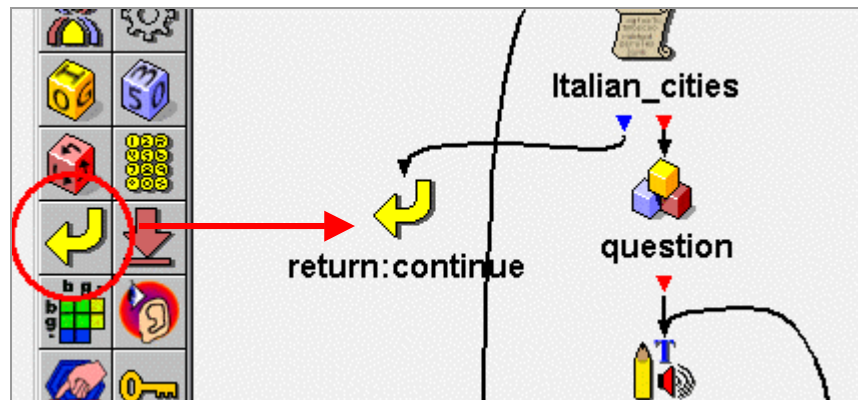
36. Connect “wrong” up to the image map, “question,” so that the user can try again.



37. Connect “right” to the listbuilder, “Italian_cities,” so that Baldi can ask the next question.



38. To end the subdialogue, drag an “exit” object onto the canvas and connect the blue output port of the listbuilder to it.



39. Close the subdialogue by clicking on the X in the top right corner and save the application.

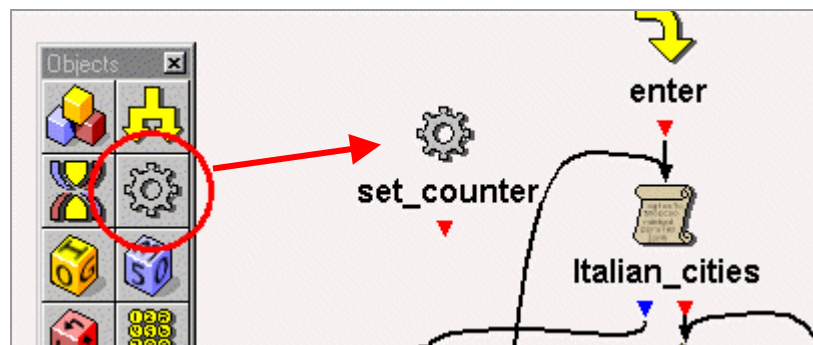
40. Build and Run it. Remember to click on the Italy flag.

Add Counters

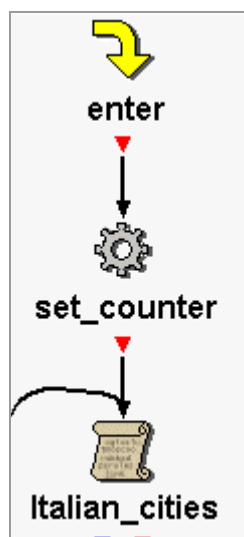
You use the conditional to create counters if you want something to happen a certain number of times.

Put a counter after the user clicks on the wrong city. Give them 3 chances to click on the correct city.

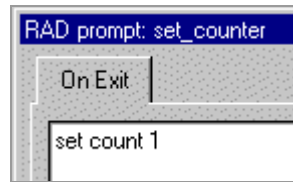
1. Open the “Italy_map” subdialogue. Drag an action object onto the canvas and rename it “set_counter.”



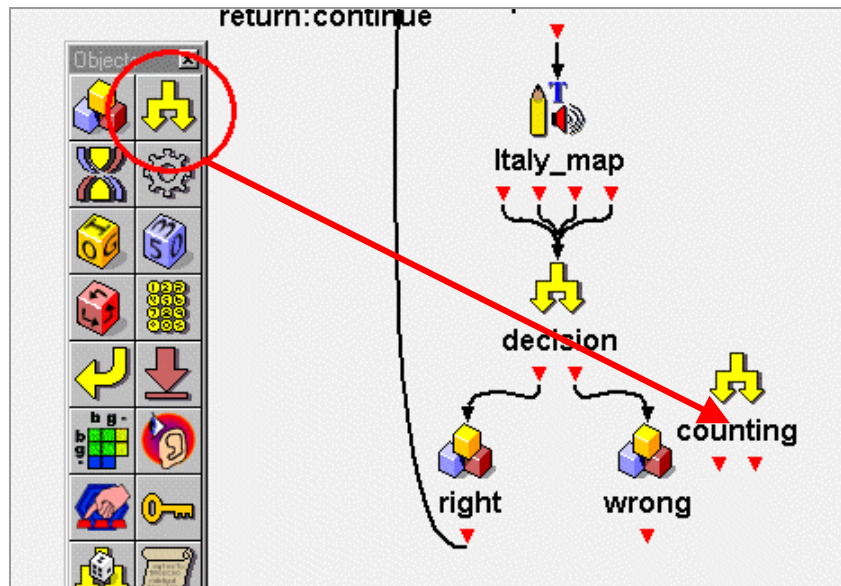
2. Connect “enter” to “set_counter” and connect “set_counter” to “Italian_cities.” Move the objects and straighten out the lines if you wish.



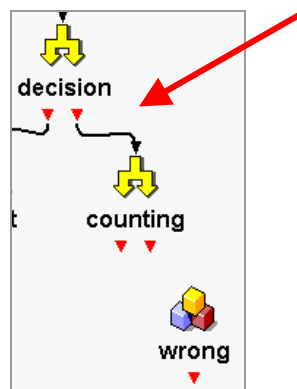
3. Double click on "set_counter." Type "set count 1." Then click the OK button.



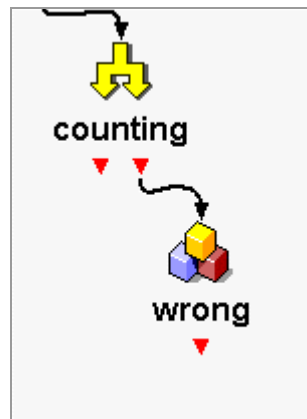
4. Drag a conditional object onto the canvas and rename it "counting."



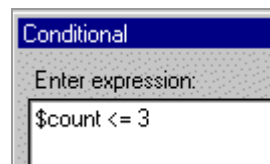
5. Connect "decision" to "counting." Move "wrong" lower on the canvas.



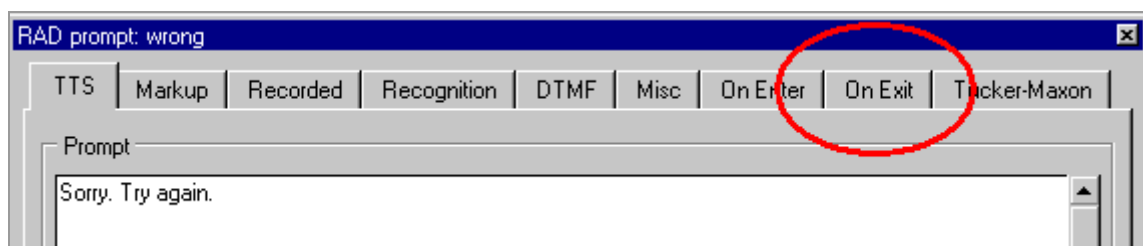
6. Connect the right output port of “counting” to “wrong.”



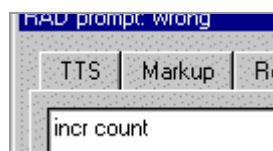
7. Double-click the right output port of “counting.” Type “ $\$count \leq 3$.” This means that the counter will go to “wrong” if it is less or equal to 3. Click the OK button.



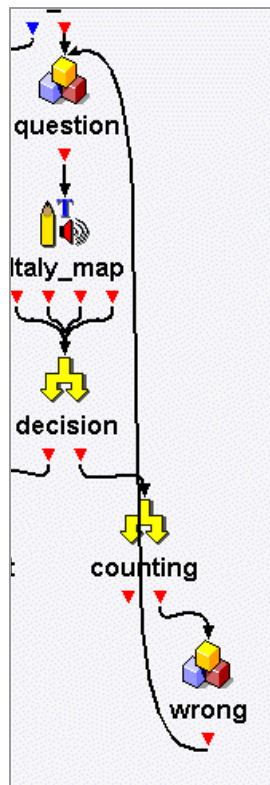
8. To make the counter increase from 1, double-click on “wrong” and click on the On Exit tab.



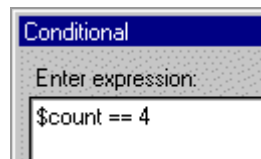
9. Type “ $incr\ count$ ” which means to increment count. Click the OK button.



10. Connect “wrong” to “question.”

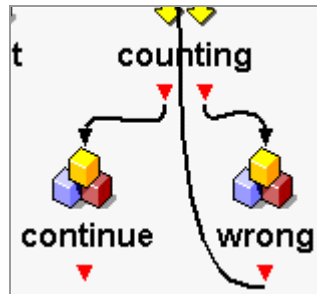


11. Double-click the left output port of “counting.” Type “ $\$count == 4$.” This means that the counter will go to the next question if it is equal to 4.



12. Click the OK button.

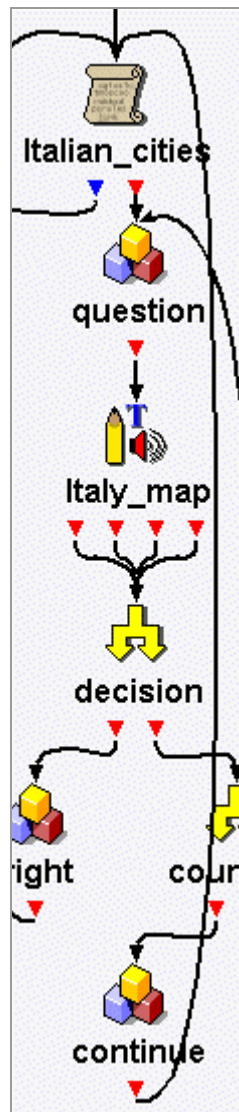
13. Drag a generic object onto the canvas, rename it “continue, and connect the left output port of “counting” to it.



14. Open “continue” and type, “Let’s go to another city.” Then click the OK button.



15. Connect “continue” to the listbuilder “Italian_cities.”



16. Close the subdialogue. Save the application. Then Build and Run it.

More Features With the Listbuilder



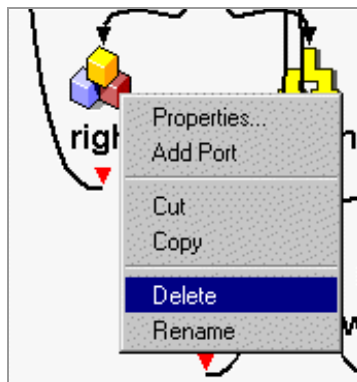
In addition to Baldi asking a sequence of questions, you use the listbuilder to present a sequence of pictures or sounds.

Pictures

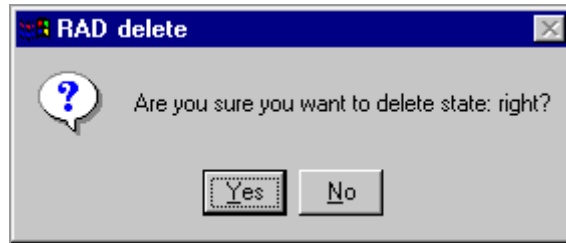
1. Open “Italy_map” subdialogue.



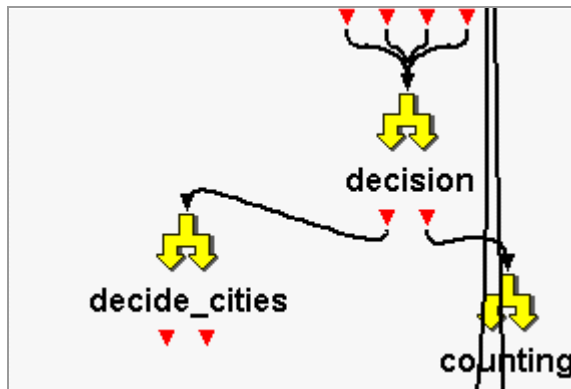
2. Delete the “right” generic object by right-clicking on the object and selecting Delete.



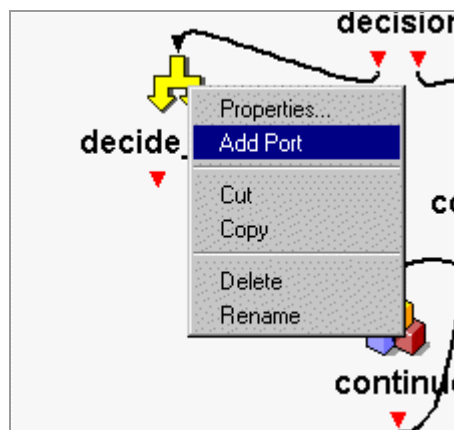
3. Click Yes when this message appears.



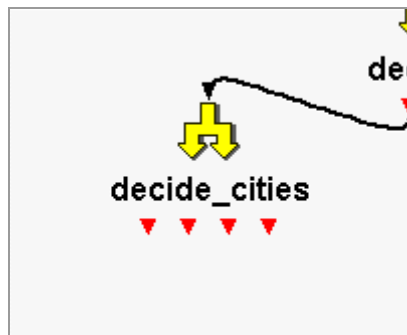
4. Drag a conditional object onto the canvas. Rename it "decide_cities." Connect "decision" to "decide_cities."



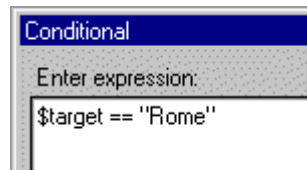
5. Right-click on "decide_cities" and select Add Port.



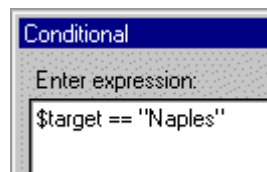
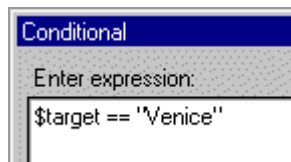
6. Add Port twice until there are 4 output ports in total.



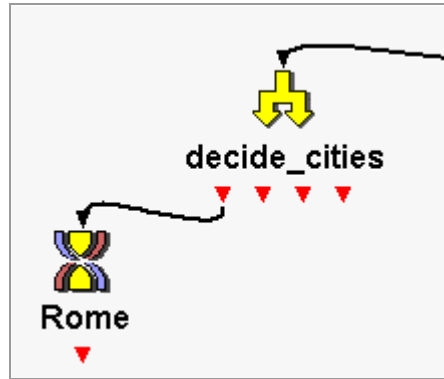
7. Double-click (open) the leftmost output port and type **\$target == "Rome"**. Click the OK button.



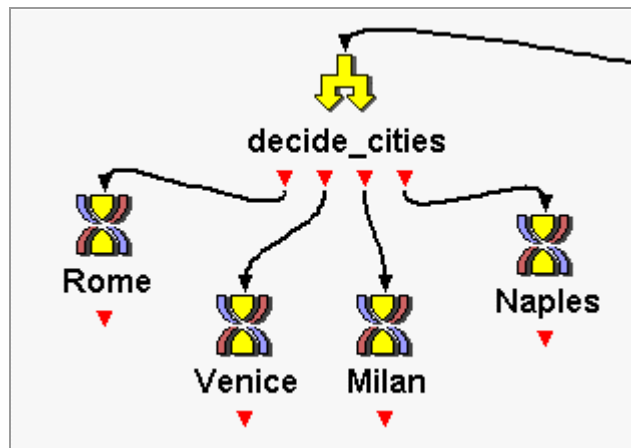
8. Double-click the next output ports and type **\$target == "Venice"**, **\$target == "Milan"**, and **\$target == "Naples"**. Click the OK button.



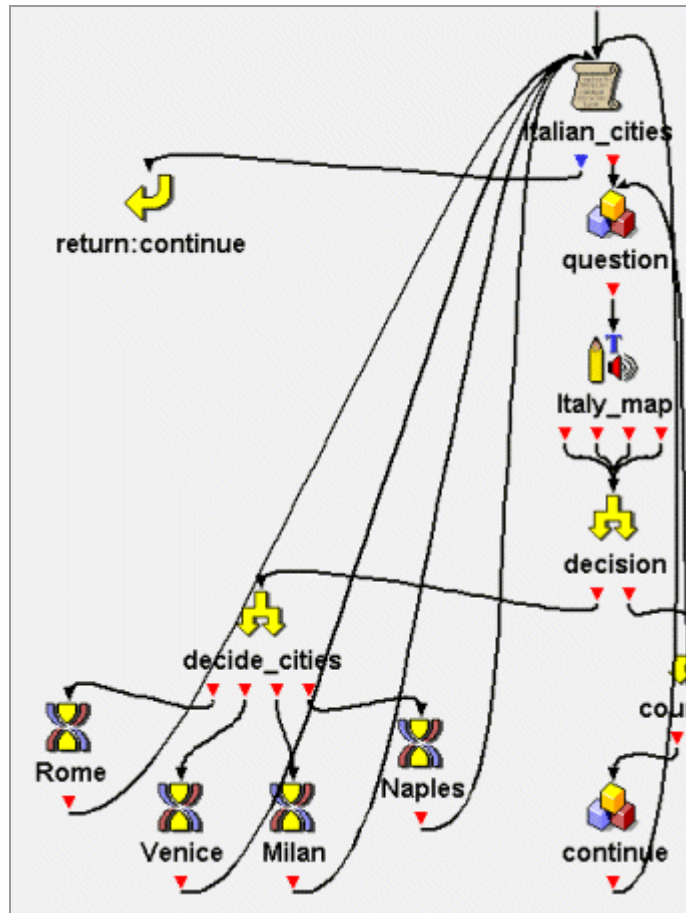
9. Drag a subdialogue object onto the canvas, select New Master Subdialogue, and then rename it "Rome." Connect the leftmost output port to "Rome."



10. Drag and connect three more subdialogues. Rename them, "Venice," "Milan," and "Naples."



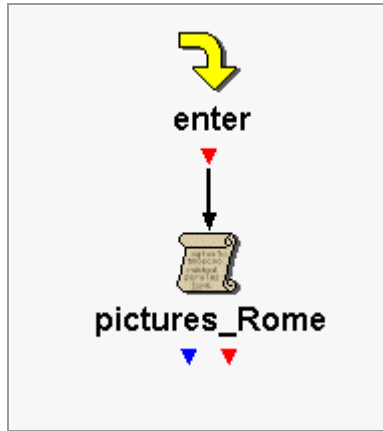
11. Connect all the subdialogues up to the listbuilder, “Italian_cities.”



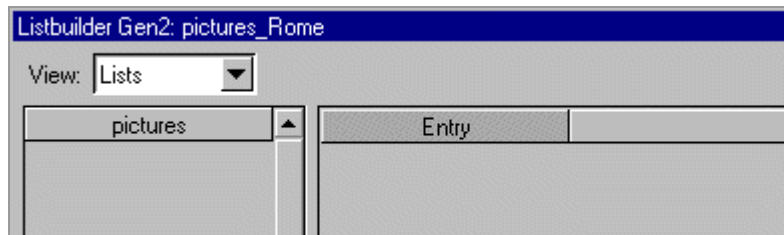
12. Double click on “Rome.”



13. Drag a listbuilder onto the canvas. Rename it “pictures_Rome” and connect the objects.



14. Open “pictures_Rome” and rename new_list to “pictures.”

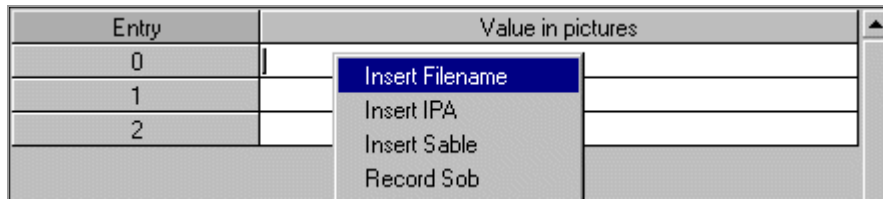


*******WARNING:** the listname, such as, “pictures,” cannot be the same as the name of any object in the rad. Therefore, you cannot name any object “pictures.” If you do, you will get a message about “pictures” being a variable, and you will have to either change the name of the object or the name of the list.

15. Add 3 entries.

Entry	Value in pictures
0	
1	
2	

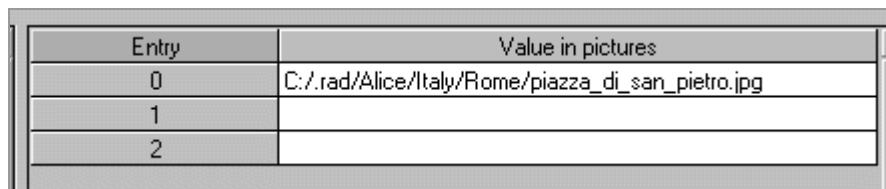
16. Right-click in the first entry, entry 0, and select Insert Filename.



17. Browse in C:/rad/"your_name"/Italy/Rome for the first Rome picture. If you do not have a folder or the images, go to page 8.



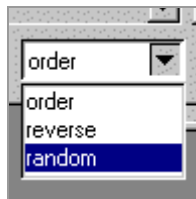
18. Notice the path name in the first entry.



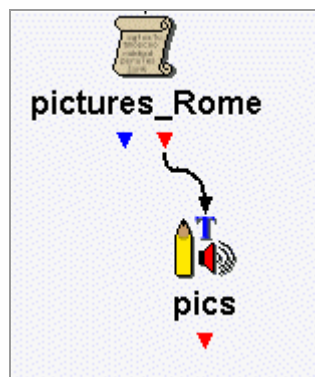
19. Add the other two Rome pictures to the second and third entries.

Entry	Value in pictures
0	C:/rad/Alice/Italy/Rome/piazza_di_san_pietro.jpg
1	C:/rad/Alice/Italy/Rome/pope.gif
2	C:/rad/Alice/Italy/Rome/Sistine_Chapel.jpg

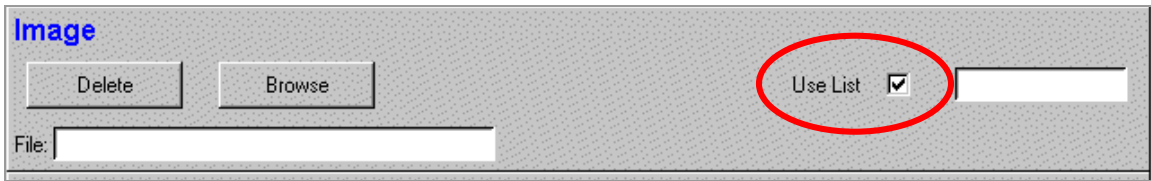
20. Click on the drop-down arrow in the bottom left corner and choose random. Click the OK button.



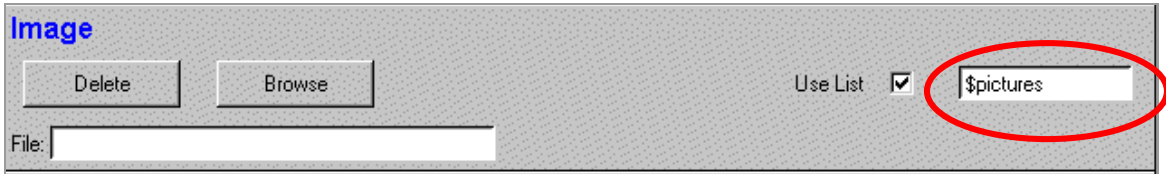
21. Drag a media object onto the canvas, rename it “pics,” and connect the objects.



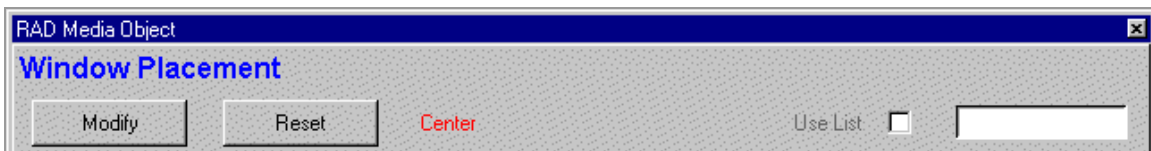
22. Open “pics” by double clicking on it and click in the Use List box in the Image section of the window.



23. Type \$pictures (that's the name of your list of pictures in the listbuilder) in the form next to the checkmark.

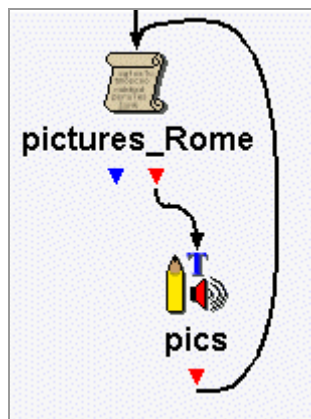


24. Click on Modify in Window Placement section and choose a location. Click the OK button.

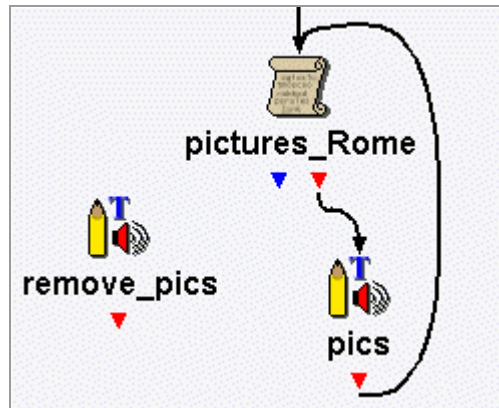


25. Click the OK button to close the media object window.

26. Connect "pics" to "pictures_Rome."



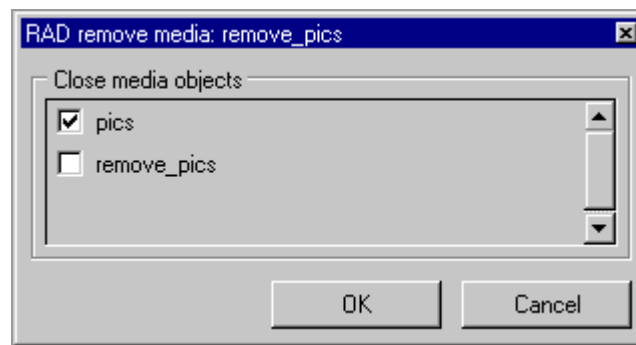
27. Drag another media object and rename it “remove_pics.”



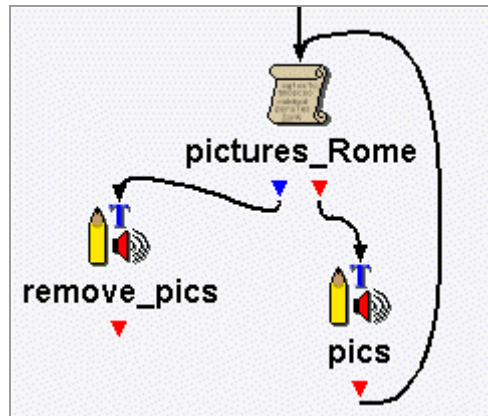
28. Right-click on “remove_pics” and select Remove Media.



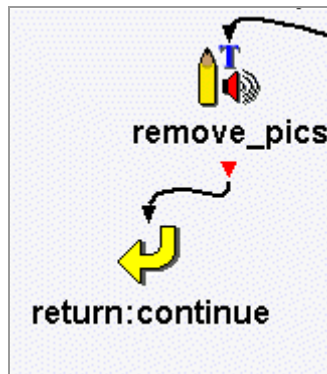
29. Check the box that is named “pics.” Click the OK button.



30. Connect the blue output port of the listbuilder to “remove_pics.”



31. Drag an exit object onto the canvas and connect “remove_pics” to “return:continue.”



32. Close the subdialogues and save the application. Build and Run the application.

Location of Pictures

You use the listbuilder if you want pictures to appear in different locations.

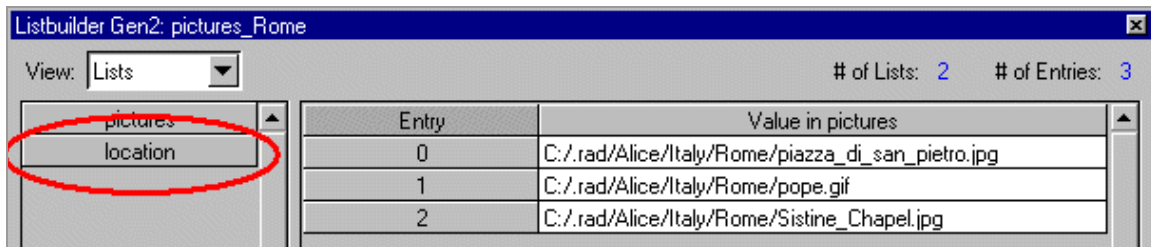
1. Go back into the “Rome” subdialogue.



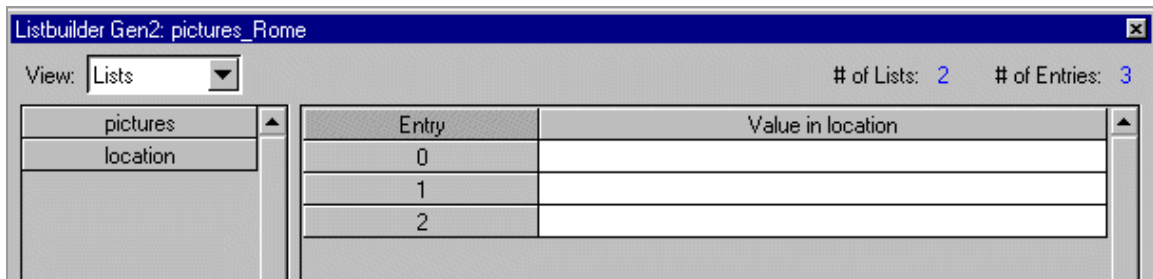
2. Double-click on “pictures_Rome” listbuilder.



3. Add a new list and rename it “locations.” If you do not remember how to do that, see page 39. number 8.



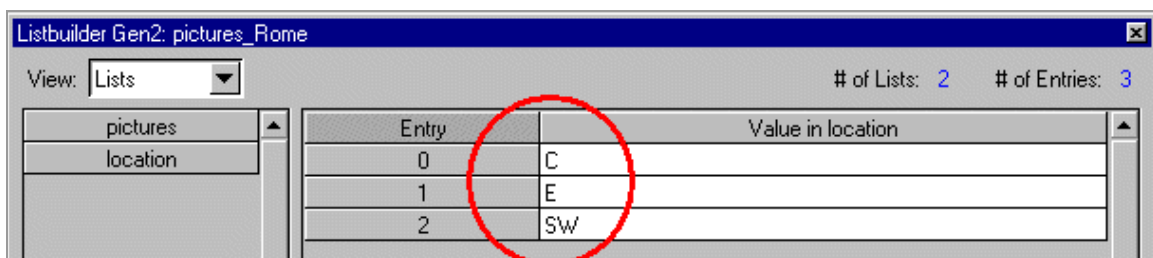
4. Click on the “location” list to get the blank entries.



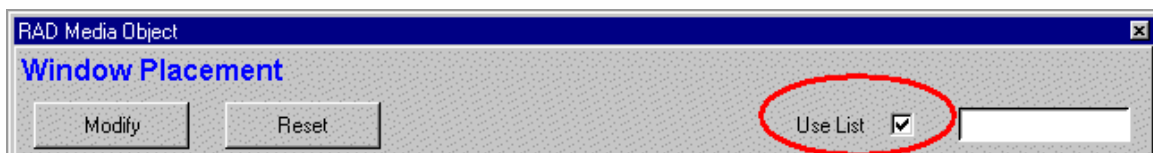
There are two types of references to location: letters and numbers:

The letters, N, C, S, W, NW, NE, SW, SE represent North, Center, South, West, Northwest, Northeast, Southwest, and Southeast.

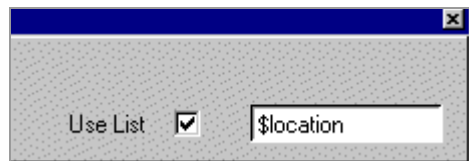
5. Type location letters in each of the entries. Click the Ok button.



6. Open the “pics” media object and click in the “Use List” box in the Window Placement section.



7. Type \$location in the form next to the checkbox. This refers to the location letters in the listbuilder.



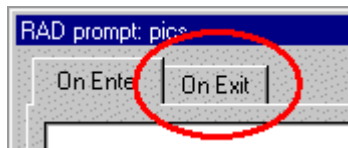
8. Click the OK button.

Add some TCL code to the media object in order to slow the pictures. Otherwise the pictures will appear and disappear very quickly.

9. Right-click on "pics" and select Properties.



10. Click on the On Exit tab.



11. Type "after 2000." This means that the picture will stay on the

screen for 2 seconds.

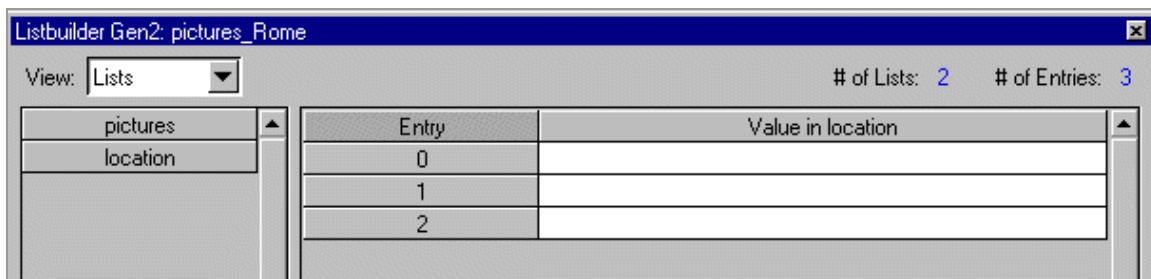


12. Click the OK button.

13. Close the subdialogues. Save the application. Build and Run it to see if you like where the pictures appear.

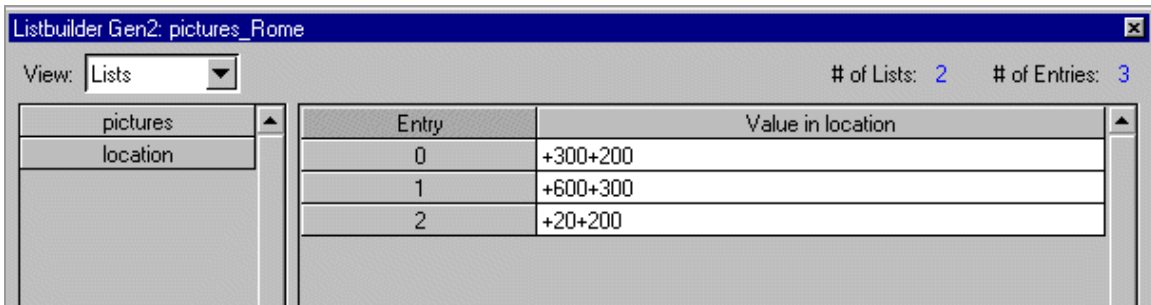
If you do not like where the pictures appear, and you want the pictures to appear in more exact locations, then you should use the numbers.

14. Go back into the “pictures_Rome” listbuilder, click on location, and erase the letters, so that the entries are blank.



The numbers must include a + or a – in front of them. +300+300 is approximately the center of the screen. The first +300 refers to 300 pixels to the right from the left side of the screen, and the second +300 refers to 300 pixels down from the top of the screen. -300-300 would mean 300 pixels from the right and 300 pixels from the bottom.

15. Type in the following numbers in the location entries: +300+200, +600+300, and +20+200.

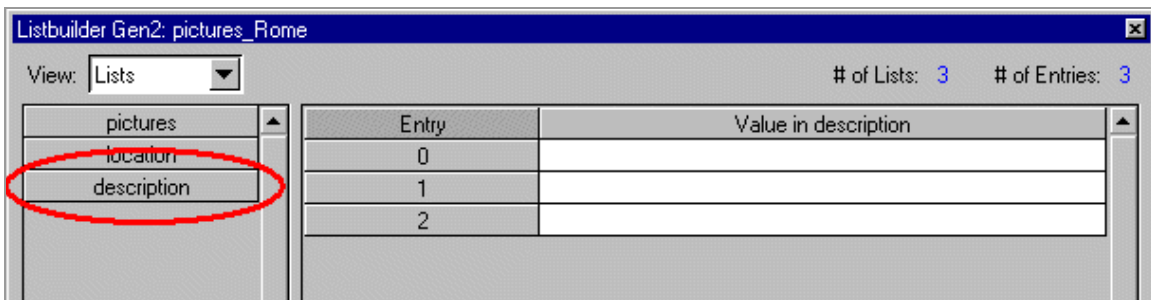


16. Click the OK button. Run the application to see if you like where the pictures appear.

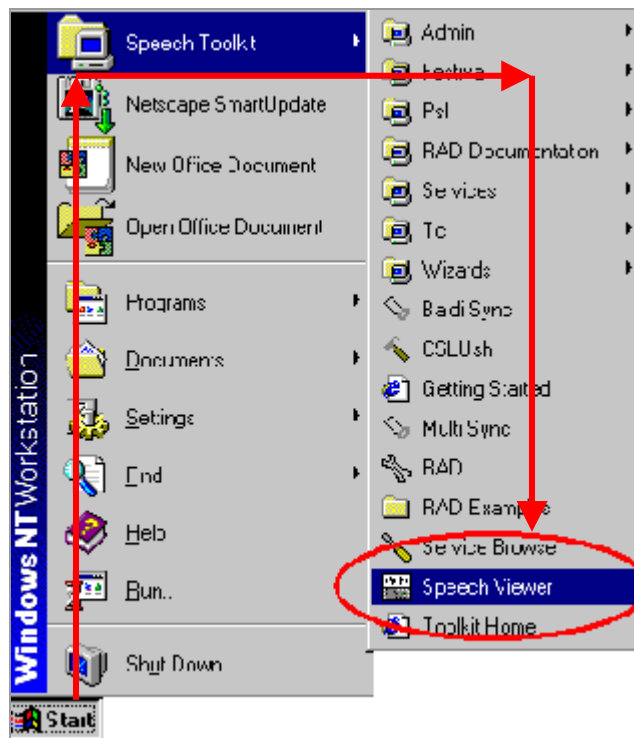
Sounds: Wav Files

You can also have a list of sounds called wavefiles in the listbuilder. The extension on a wavefile is .wav. If you remember in the Chile application, you used a clapping sound referred to as clap.wav.

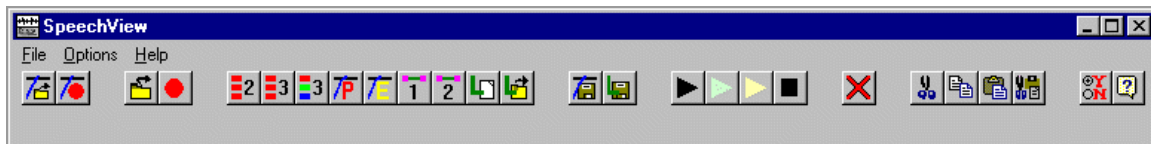
1. Double-click on the “pictures_Rome” listbuilder. Add a new list and rename it “description.”



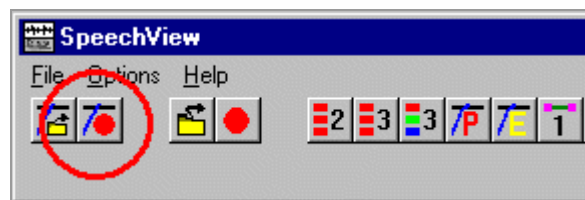
2. You use an application called Speech Viewer to record wavefiles. Click on Start in the lower left corner of the screen, scroll up to Speech Toolkit, and over and down to Speech Viewer.



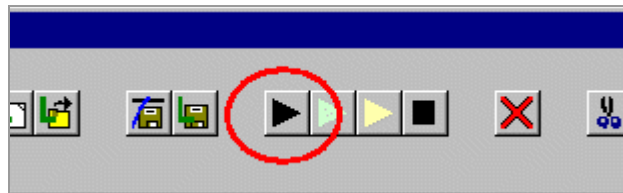
3. When Speech Viewer opens, you can record a description of the pictures.



4. Click on the red record button on the left and record yourself saying, "This is the Plaza of San Pietro." When you finish recording, click on the same red button to stop the recording process.

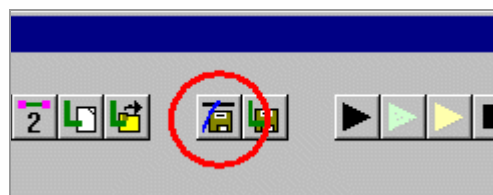


5. In order to hear your recording, click on the black arrow.

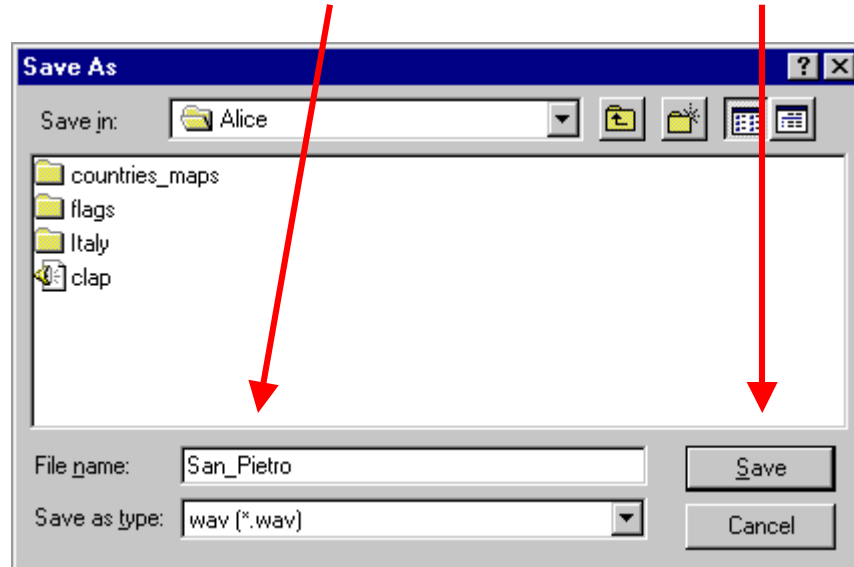


If you are not satisfied with the recording, you can redo it. Click on the red record button all the way to the left and rerecord yourself.

6. If you are satisfied with the recording, then save it. Click on the Save wavefile icon.



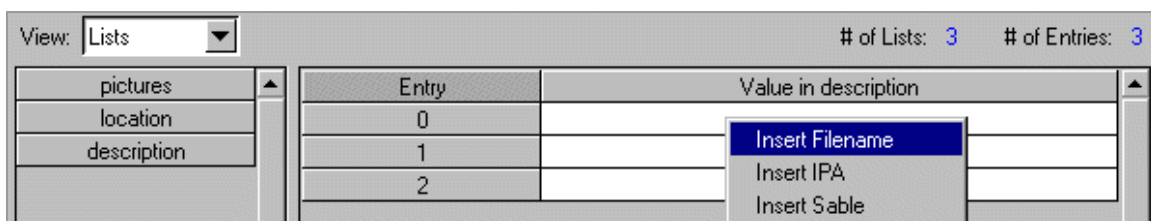
7. Go to your folder, type a name, and click on the Save button.



8. Make and two more recordings: “This is the pope” and “This is the Sistine Chapel.” Save them as pope.wav and sistine_chapel.wav.

9. When you are finished, close Speech Viewer by clicking on the X in the upper righthand corner.

10. Go back to the description list in the “pictures_Rome” listbuilder. Right click in the first entry and select Insert Filename.



- Browse for the San_Pietro wavfile in your folder and click on the Open button.



- Notice the pathname of the wavfile in the listbuilder entry.

Entry	Value in description
0	C:/rad/Alice/San_Pietro.wav
1	
2	

- Insert the wavfiles for the other two entries.

Entry	Value in description
0	C:/rad/Alice/San_Pietro.wav
1	C:/rad/Alice/pope.wav
2	C:/rad/Alice/sistine_chapel.wav

14. Click the OK button.

15. Double-click on the “pics” media object and click in the Use List box in the Recording area.



16. Type “\$description” in the form next to the checkmark.

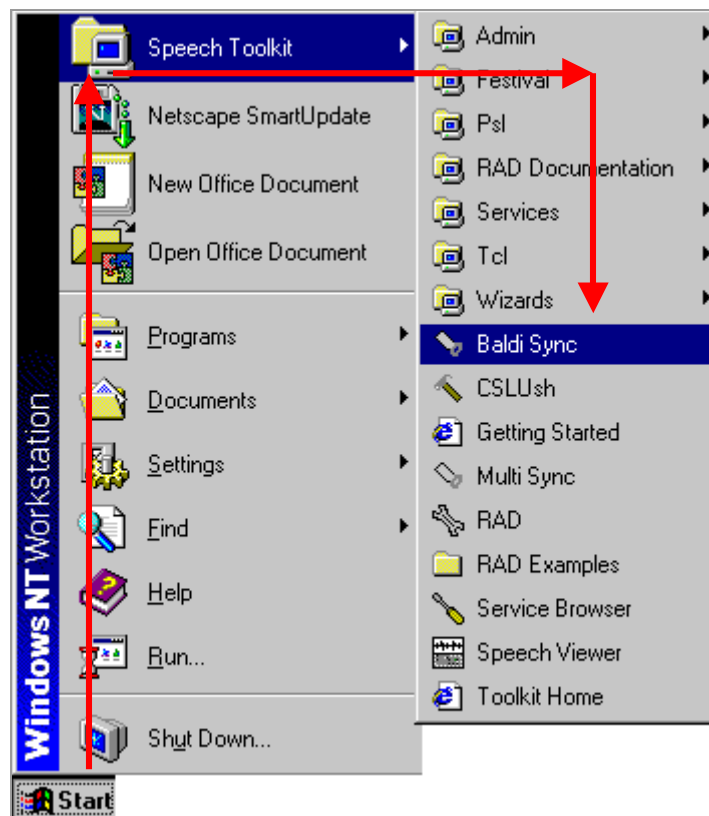


17. Click the OK button. Close the subdialogues. Save the application and Run it.

Sounds: Sob Files

If you want Baldi to speak with your voice, you can align your wavfile with Baldi's face and then save it as a sob file.

1. You use an application called Baldi Sync to change wavfiles into sobfiles. Click on Start in the lower left corner of the screen, scroll up to Speech Toolkit, and over and down to Baldi Sync.



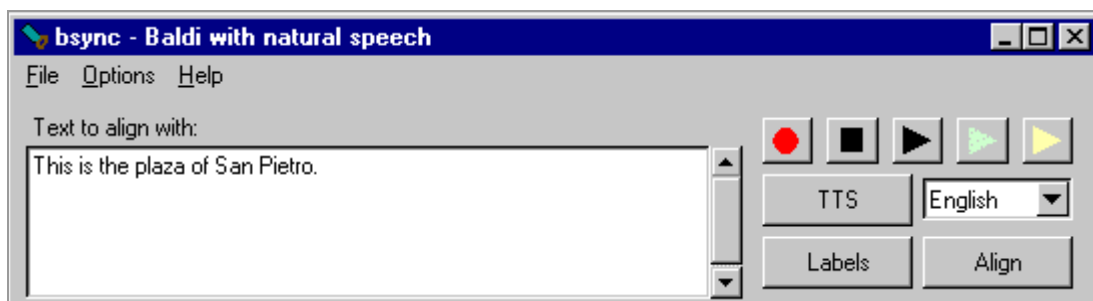
2. When Baldi Sync opens, click on File and scroll down to Import Wav.



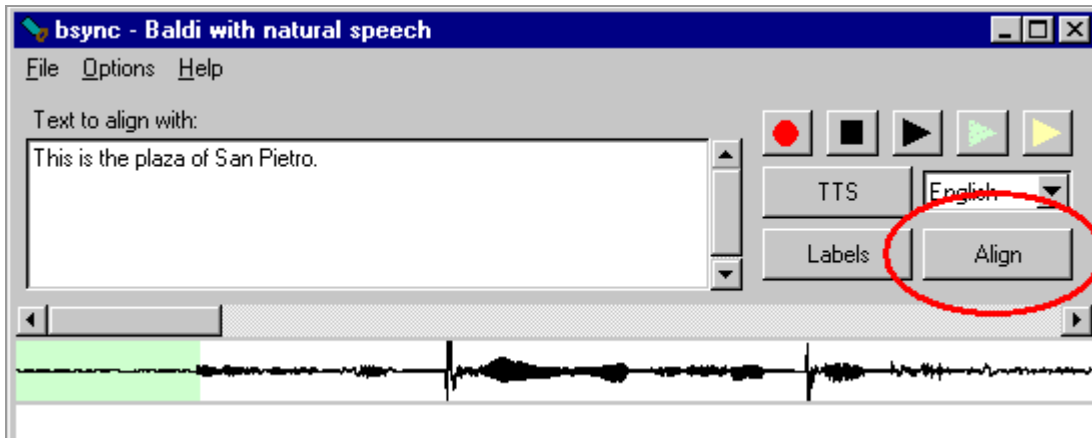
3. Find the “San_Pietro.wav” and click the Open button.



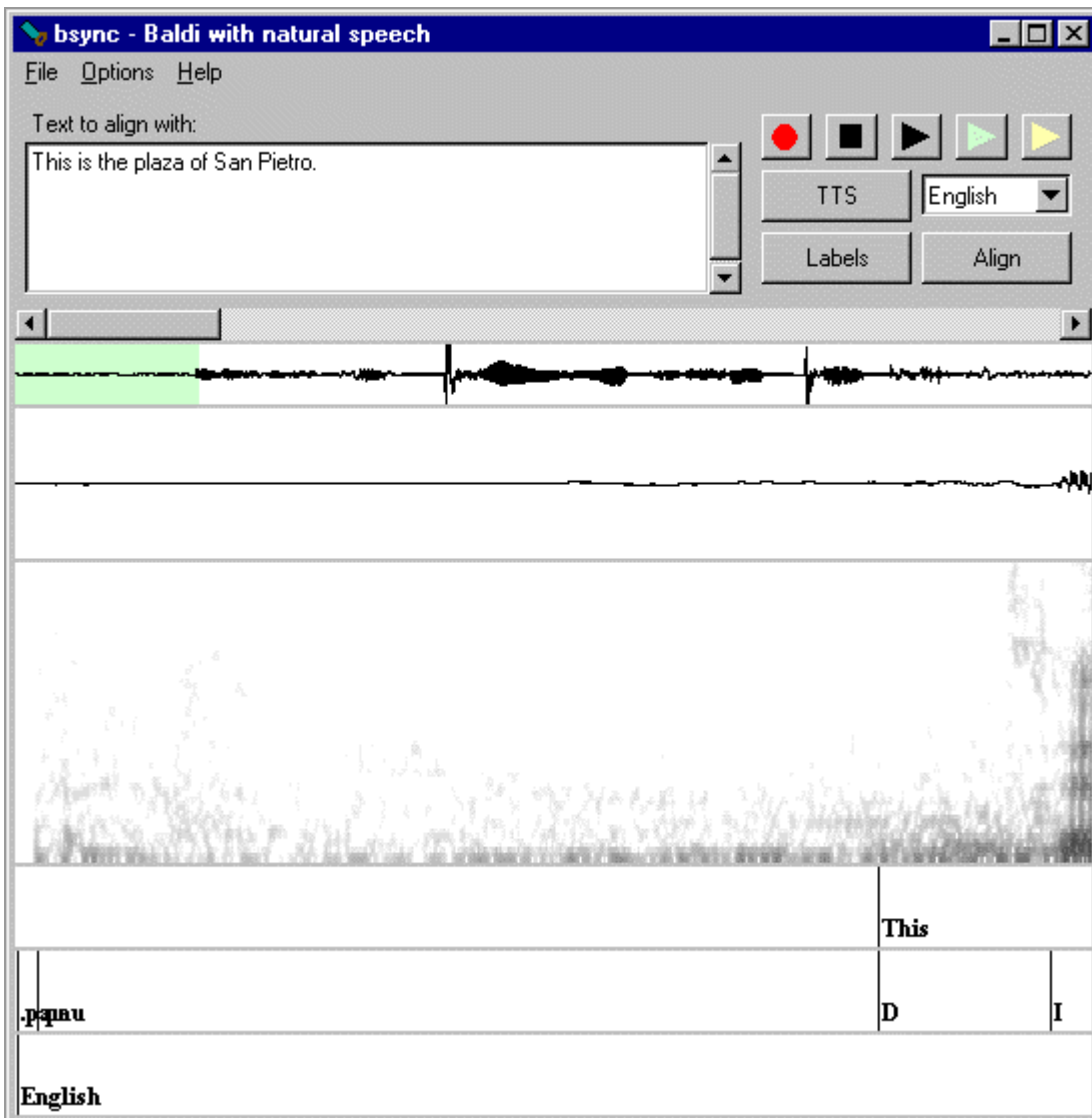
4. Type in the text, “This is the plaza of San Pietro.”



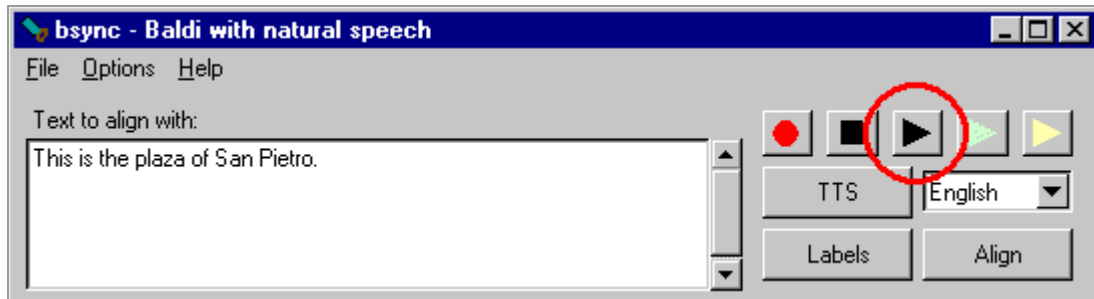
5. Click Align to align the text with the wavefile.



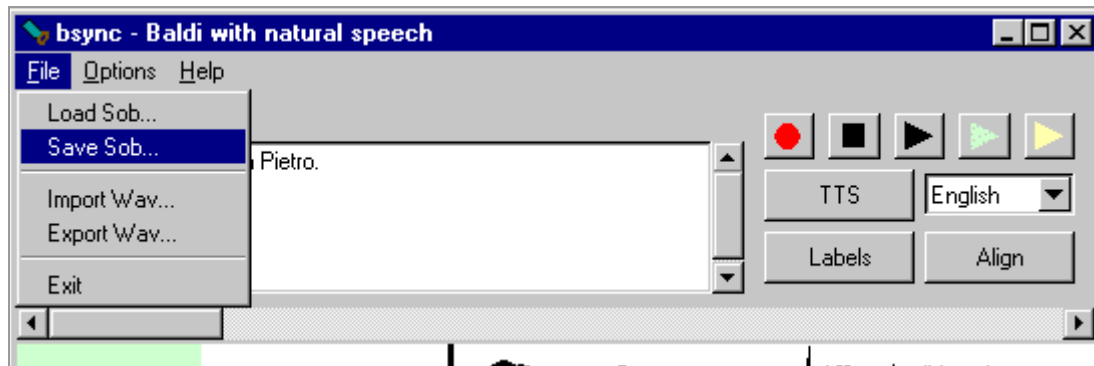
6. Wait for a few seconds for the alignment to process. Notice at the bottom of the window the waveform has been labeled.



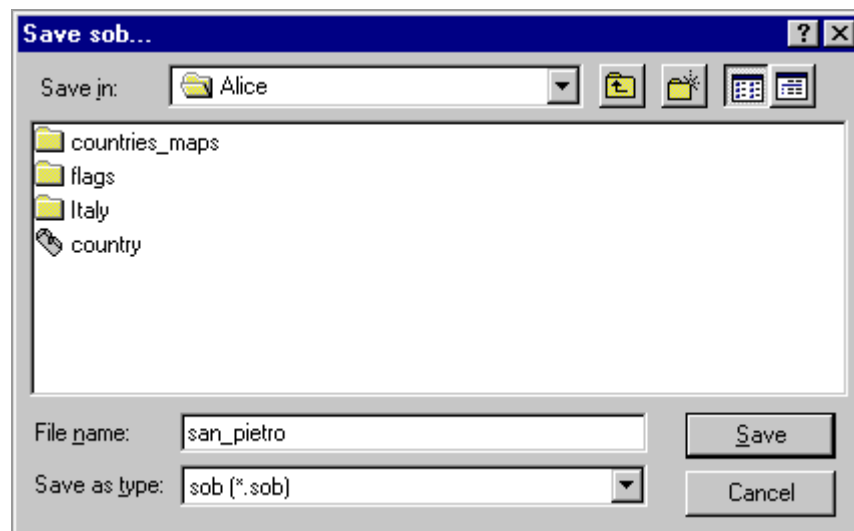
7. Click the black arrow to listen to and watch Baldi speak.



8. Save the sobfile by clicking on File and scrolling down to Save Sob.

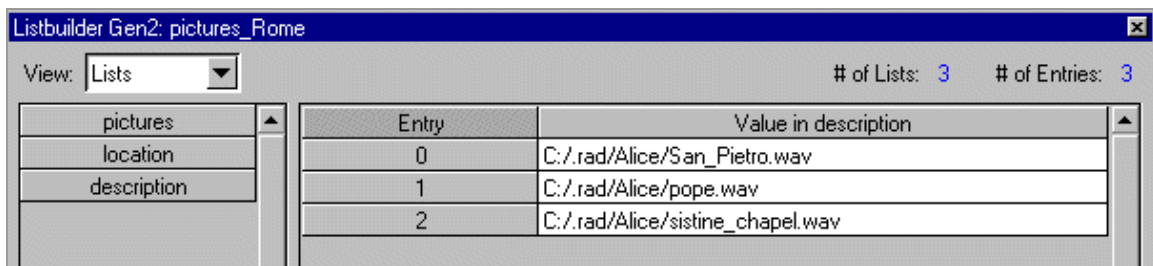


9. Type a name, such as, "san_pietro" and click on the Save button to save the sobfile in your folder.

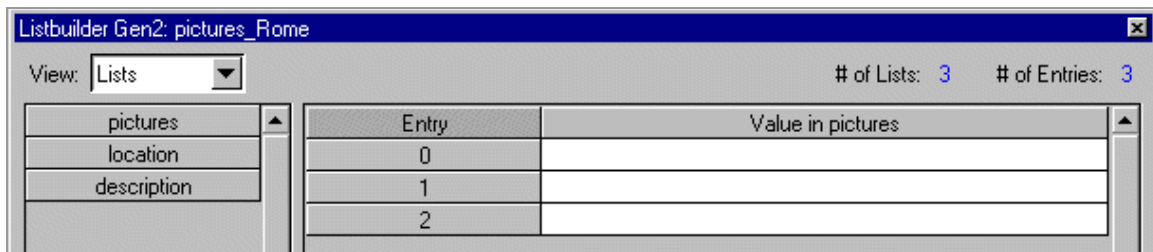


10. Import the “pope.wav,” and change it into a sobfile. Do the same to the “sistine_chapel.wav.”

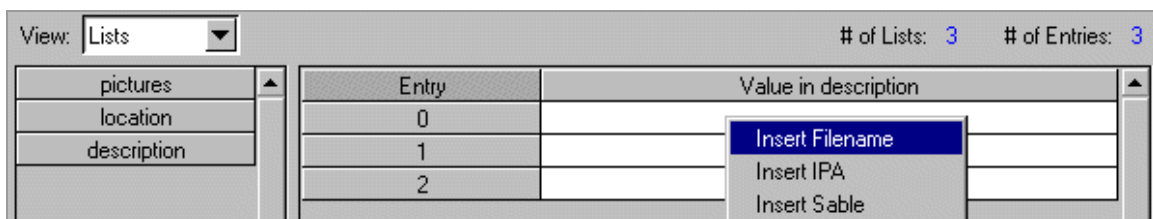
11. When you are finished changing the wavs into sobs, go back to the “description” list in the “pictures_Rome” listbuilder.



12. Erase all of the wavfiles, so that the entries are blank.



13. Right-click on the first entry and select Insert file.



14. Search for the “san_pietro.sob” and click on the Open button.



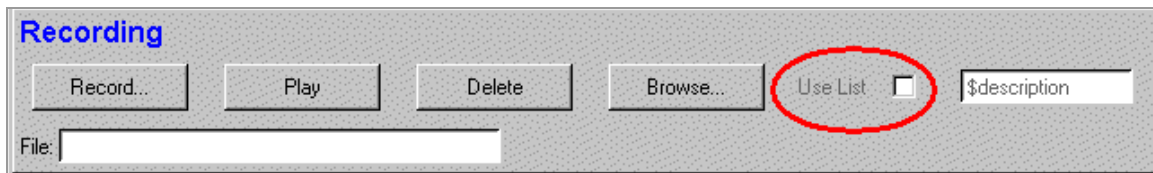
15. Insert the sobfiles into the other two entries.

Entry	Value in pictures
0	C:/rad/Alice/san_pietro.sob
1	C:/rad/Alice/pope.sob
2	C:/rad/Alice/sistine_chapel.sob

16. Click the OK button.

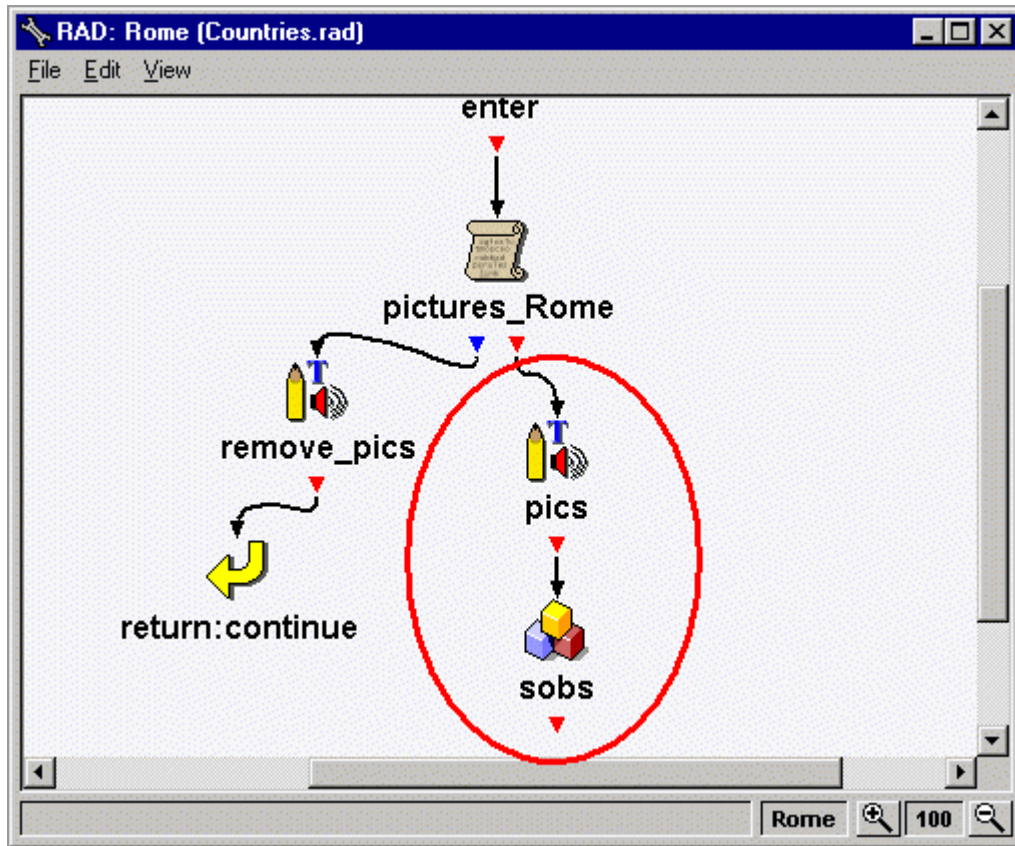
17. Double-click on the “pics” media object and deselect the Use List box in the Recording section since it is only for wavfiles, not for

sobfiles.

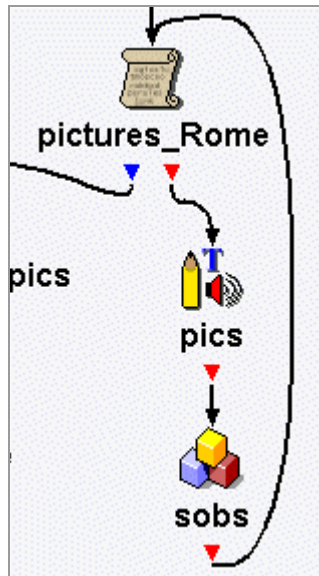


18. Click the OK button.

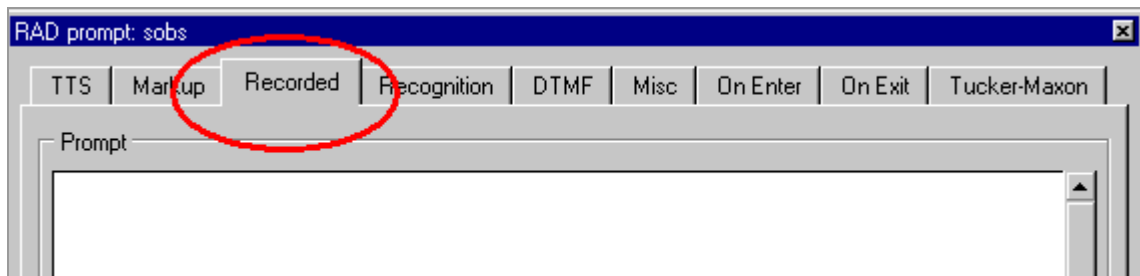
19. Drag a generic object onto the canvas, rename it "sobs," and connect "pics" to "sobs."



20. Connect "sobs" to "pictures_Rome".



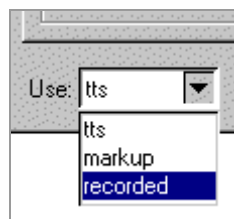
21. Double-click on “sobs,” and click on the Recorded tab.



22. Type “\$description” in the File form.



23. Click on the Use drop-down arrow in the bottom left corner of the window and select “recorded”.



24. Click the OK button.

25. Close the subdialogues. Save the application and Run it.

Copying and Pasting Objects

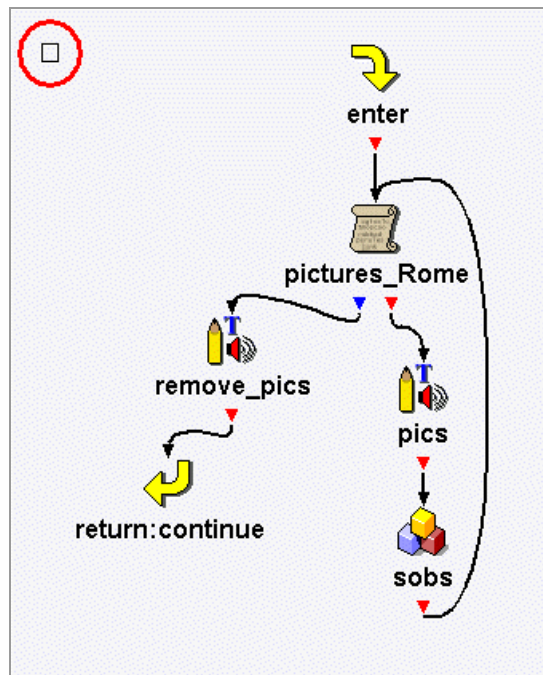
Copying and pasting objects is useful when you want the same operation to take place but with different prompts, pictures, and sounds.

*******WARNING:** it is better to copy and paste objects instead of whole subdialogues. Only copy a subdialogue if you want the exact same operation with the exact same prompts, pictures, and sounds.

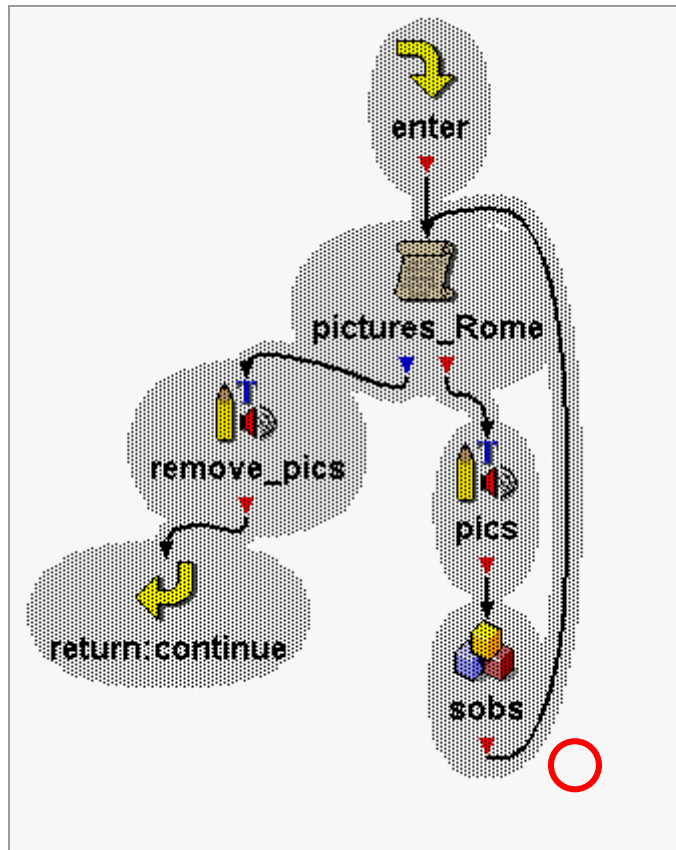
1. Double-click (open) “Rome” subdialogue.



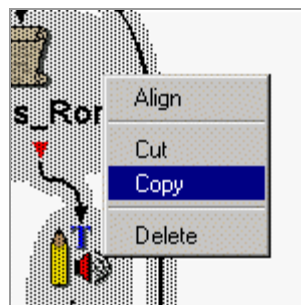
2. Select all the objects by first placing the mouse in the leftmost corner of the objects.



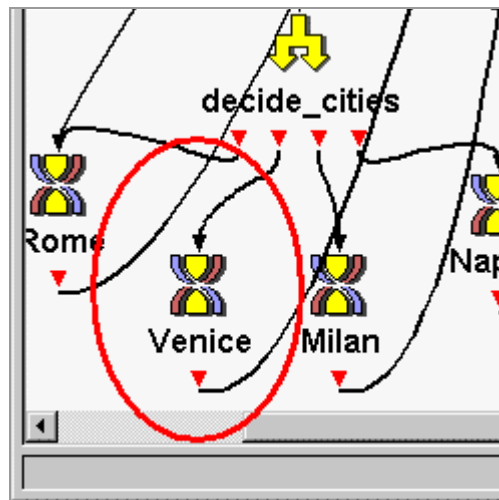
3. Click and drag the mouse diagonally to the lower right of the objects so that all of them are selected. Then lift your finger off the mouse.



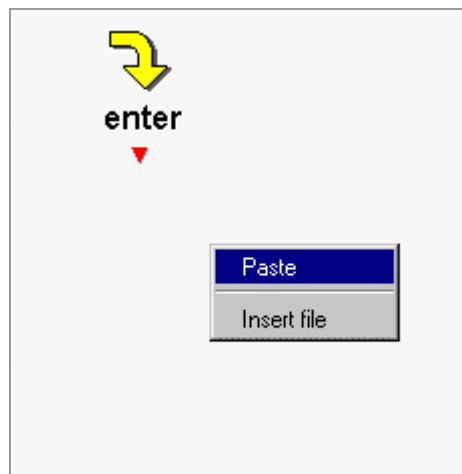
4. Right-click anywhere on the selected objects and select Copy.



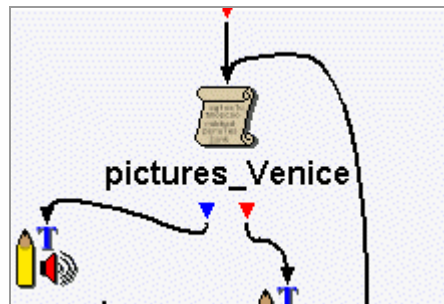
5. Close this subdialogue and open the “Venice” subdialogue.



6. Right-click and select Paste.



7. Rename “pictures_Rome” to “pictures_Venice.”



8. Double-click on “pictures_Venice.”



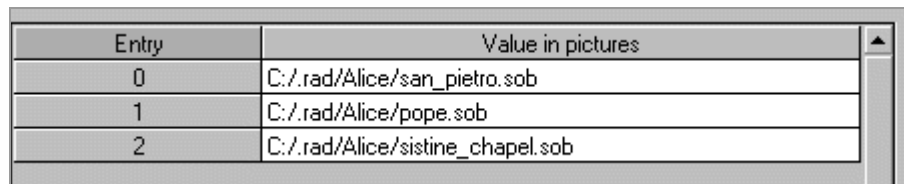
Entry	Value in pictures
0	C:/rad/Alice/Italy/Rome/piazza_di_san_pietro.jpg
1	C:/rad/Alice/Italy/Rome/pope.gif
2	C:/rad/Alice/Italy/Rome/Sistine_Chapel.jpg

9. Erase all the pictures and insert Venice pictures. Go to page 130 number 16 for inserting pictures. However, go into the Venice folder instead of the Rome folder.



Entry	Value in pictures
0	C:/rad/Alice/Italy/Venice/Canal.jpg
1	C:/rad/Alice/Italy/Venice/Gondolas.jpg
2	C:/rad/Alice/Italy/Venice/Sunset.jpg

10. Click on the “description” listname.



Entry	Value in pictures
0	C:/rad/Alice/san_pietro.sob
1	C:/rad/Alice/pope.sob
2	C:/rad/Alice/sistine_chapel.sob

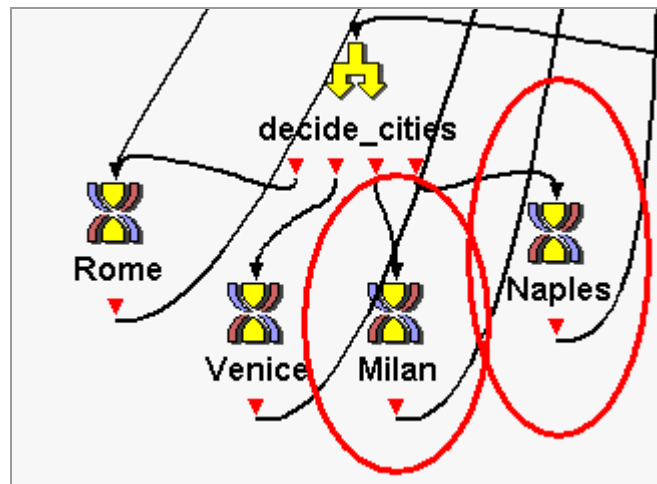
11. Erase all the sobfiles and make new ones. Go to page 144 number 1 for making sobfiles. However, instead of importing a wavefile made in Speech Viewer, record yourself in Baldi Sync.

Speech Viewer is used to make wavefiles; whereas, Baldi Sync is used to make sobfiles.

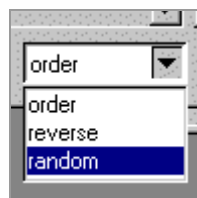
12. When you are finished making the sobfiles, insert them in the “description” list. Go to page 148 number 13 for inserting files.

Entry	Value in description
0	C:/rad/Alice/canal.sob
1	C:/rad/Alice/gondolas.sob
2	C:/rad/Alice/sunset.sob

13. Copy and paste the objects for “Milan” and “Naples” subdialogues and change the pictures and sobfiles.

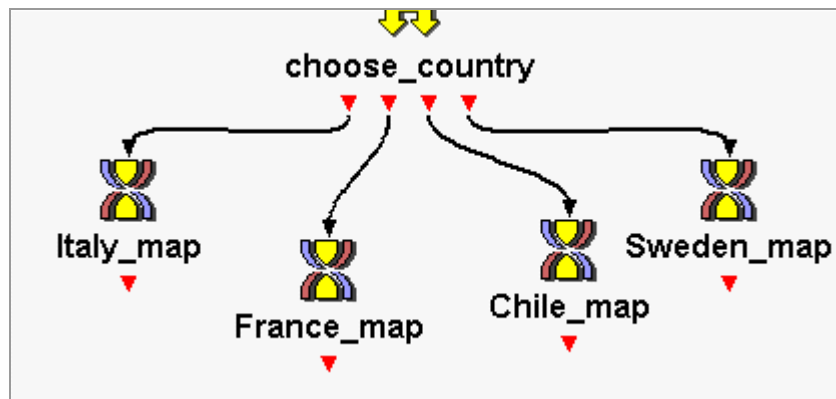


14. When you are finished, open “Italian_cities” listbuilder, and change the List sorting to random. Click the OK button.



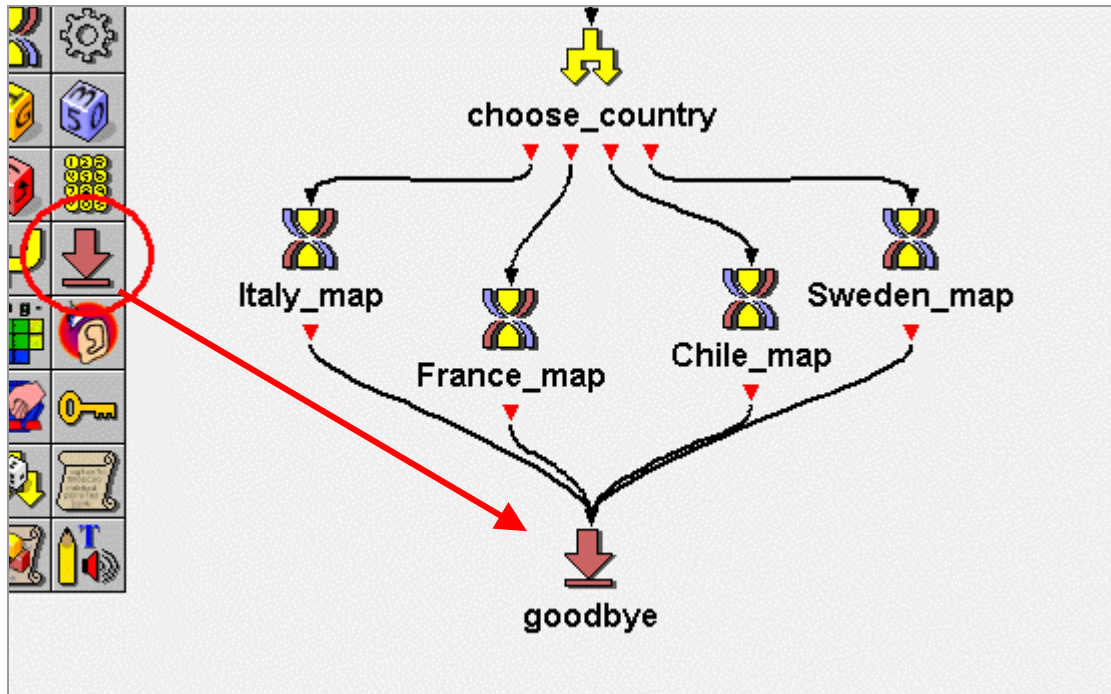
15. Close the subdialogue, save the application, and Run it.

16. If you have time, make subdialogues for France (France_map), Chile (Chile_map), and Sweden (Sweden_map).



17. Also, if you wish, add a background (page 61).

18. When you finish making the application, add a goodbye object and connect the objects.



19. Save the application and Run it.