



MANUAL

For use with *Test Servlets*®

Programs for browser-based

testing and assessment

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testing and assessment any where any time

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Welcome to WebTest

WebTest is an application for formatting text for fill-in, true or false, and multiple choice tests. *WebTest* will assist you in creating tests for delivery and processing by *Test Servlets*®. *WebTest* formats the text of a question to create a test file and folder that can be read by *Test Servlets* on your Java Web server. Once your test is transferred to your Web server, you can enjoy the benefits of online testing at anytime and anywhere.

This manual contains all the information you need to create test files and folders for your tests and for *Test Servlets*.

System Requirements

Hardware Requirements (minimum)

32 MB Ram (128MB recommended)

6 MB hard disk space (20 MB recommended)

Software Requirements

Windows 98, NT, 2000, XP, Mac OSX, Linux.

Internet Explorer, Firefox, or Netscape Communicator

Java Runtime Environment (JRE) Version 1.1 or later.

Test Servlets Implementation Strategy

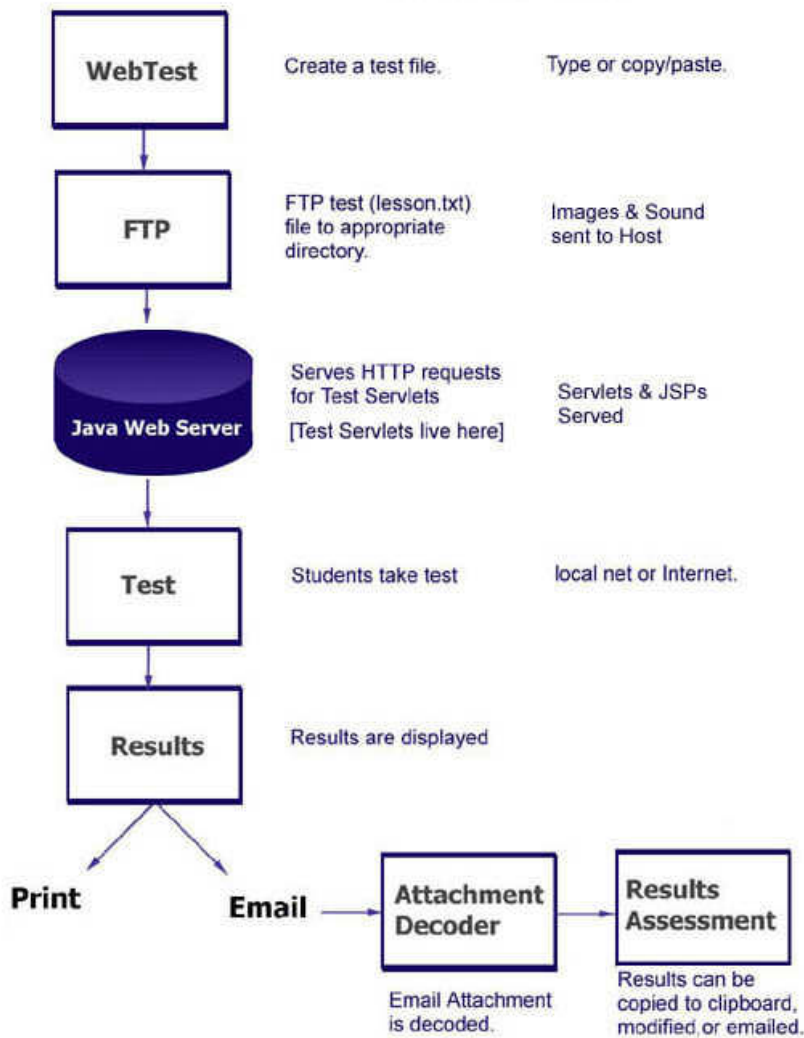
The testing and assessment methodology of *Test Servlets* is composed of three (3) parts. They are:

- *WebTest* - an application for creating Fill-In, True/False, and Multiple Choice tests. Runs on client. This manual focuses on *WebTest*.
- *Test Servlets* - servlet based programs that handle the test presentation, session management, assessment, email delivery. *Test Servlets* reside on a Java Web Server. See *Test Servlets* Manual.
- *Decoder* - a small application for decoding email attachments (results that are emailed from students). Runs on client. See Decoder documentation.

How it Works

Tests are created using *WebTest*. *WebTest* creates a test file that contains the questions, alternatives, and answers (e.g. lessonf.txt, lessonmc.txt, lessonf.txt, etc.). *WebTest* creates a test folder that serves to encapsulate the test in the form of text, images (.jpg), and sound (.au, .wav, .mp3). (See "Packaging Tests for Delivery")

How it Works



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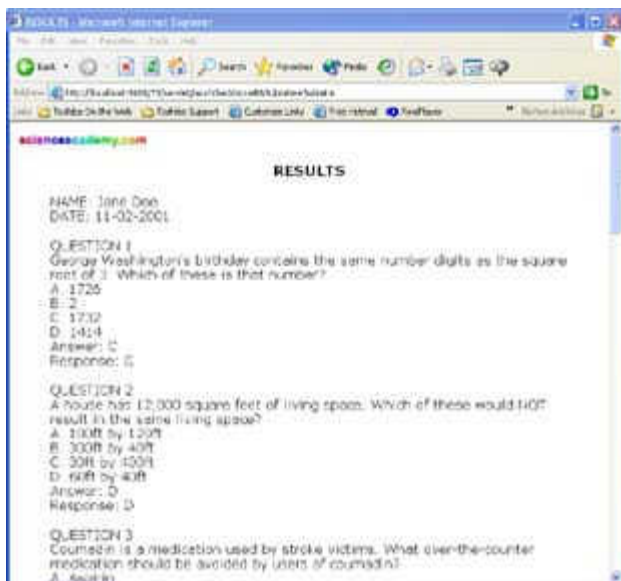
After tests are created, the test folder is uploaded to the host server via FTP (File Transfer Protocol).

Note: The sound files will not play in Netscape browsers. Sounds can be converted to .au, .wav, or .mp3 using *GoldWave* or other sound utility.

The *Test Servlets* are test engines; their role is to present and process test administration. *Test Servlets* can be invoked (called) by HTML or JSP's (Java Server Pages). The HTML refers to the appropriate servlet URL and passes parameters that is made up of the name of the test servlet, where the test is located, and added functionality. The servlet URL can be used by browser-based learning systems.

When students take a test, the servlet then dynamically presents the test, creates a user session, and processes responses.

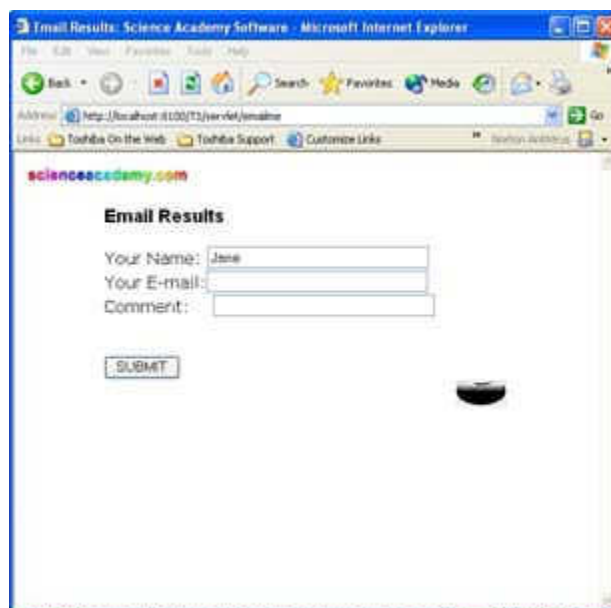
At the conclusion of the test, results are displayed.



SUMMARY			
Question	Answer	Response	Outcome
Q1	C	C	Correct
Q2	D	D	Correct
Q3	A	A	Correct
Q4	B	B	Correct
Q5	A	A	Correct
Q6	C	C	Correct
Q7	B	A	X
Q8	B	B	Correct
Q9	A	?	X
Q10	B	B	Correct

Raw Score: 8

The results presented can be printed, copy and pasted, or emailed to the teacher or test administrator. Immediate results lets students know how they are doing.



Results are sent as encoded attachments to emails. If sent by email, the encoded attachment can be decoded by a separate application known as *Decoder*.

Installing WebTest

The **setup.exe** file starts the Installation. *WebTest* requires the installation of a Java Runtime Environment 1.1 or later. This JRE can be downloaded from the Sun Microsystems site at <http://java.sun.com>. To install *WebTest*:

1. Place your *WebTest* CDROM in your computers CDROM reader.
2. From the Taskbar, go to **Start**, select **Run**, and
3. Type **D:\setup.EXE** (where D:\ is the device letter of your CDROM reader).
4. Click **OK** and then follow installation instructions that are presented by the installation program.

NOTE: A Java runtime environment must be installed. Install the runtime that comes with *WebTest* CD or modify the CLASSPATH to support your current JRE installation. Please read the **readme** file.

To remove *WebTest*, use the uninstall program in the \WebTest directory.

Using WebTest

Double click the *WebTest* icon.

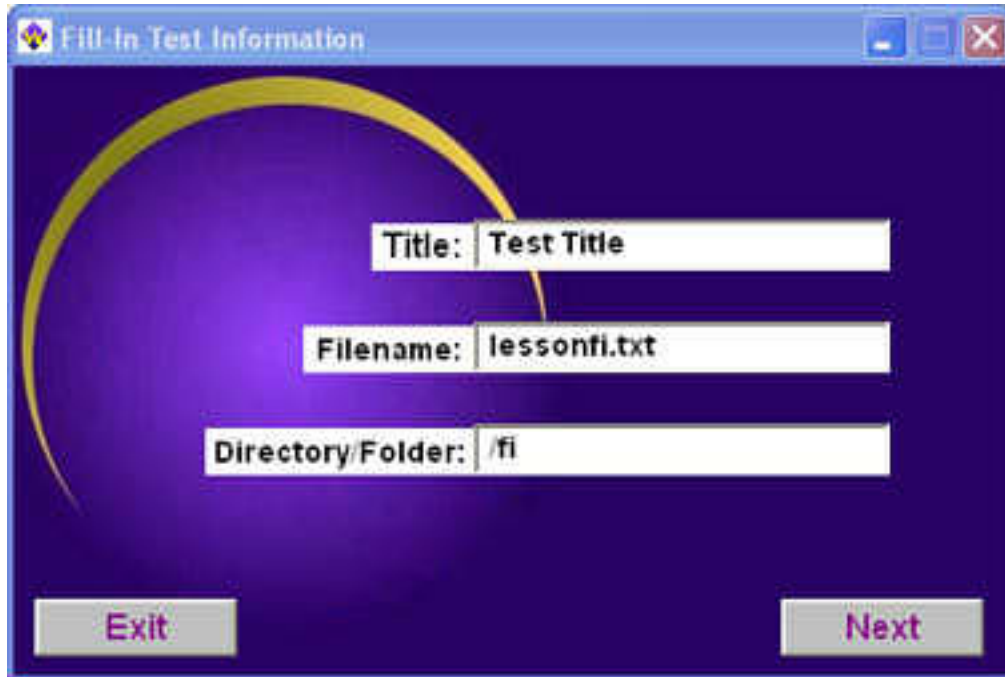


From the *WebTest* Main Menu, choose the type of test you would like to create.



The Create Test Information Screen follows the Main Menu.

Create Test Information Screen



The Test Information Screen obtains for each test:

Title – the title of the test; displayed in the title bar of the test.

Filename – the name of the test file; usually followed by .txt (e.g. lessonfi.txt, test.txt, pyramid.txt, etc.). Please short filenames in lower case letters with no spaces. Filenames can contain up to 32 alphanumeric characters; avoid punctuation marks and other symbols like "@,#,<,>" and "\$."

Directory/Folder – the name of the directory/folder that will contain the test file. This directory/folder may also contain images and sound if desired. Please use short filenames and lower case letters with no spaces.

You can change or accept the default values. To continue, click **Next**; this will take you to the appropriate test authoring screen.

To cancel or abort test creation click, **Exit**.

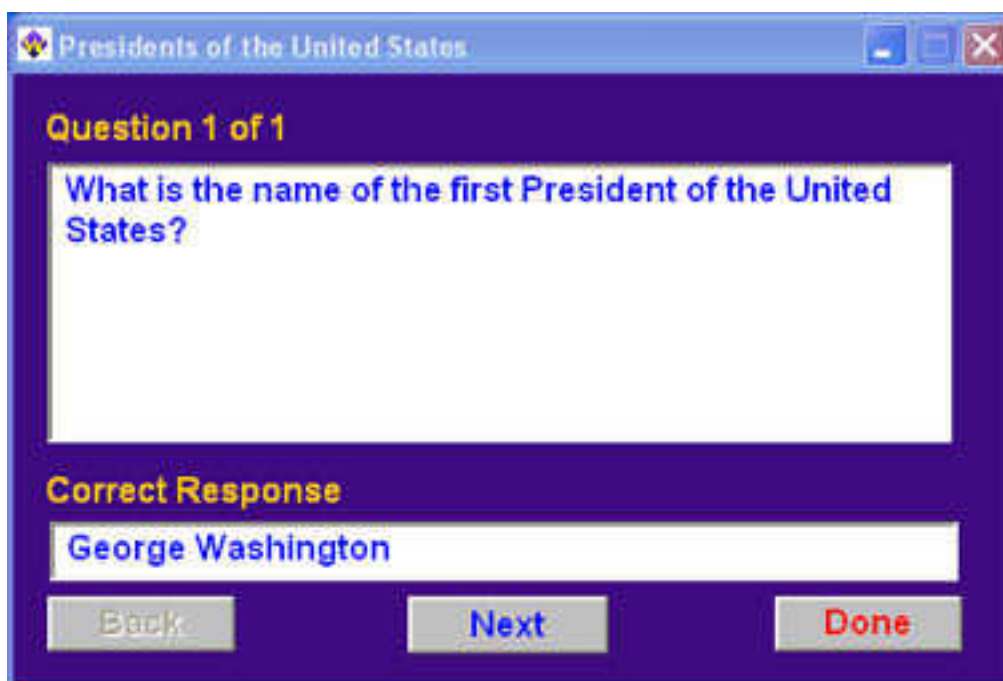
When finished, your directory/folder will be created in the C:/WebTest directory for transfer to your server, using FTP, for delivery by *Test Servlets*.

NOTE: Fields left blank will use default values.

Fill-in Test Authoring



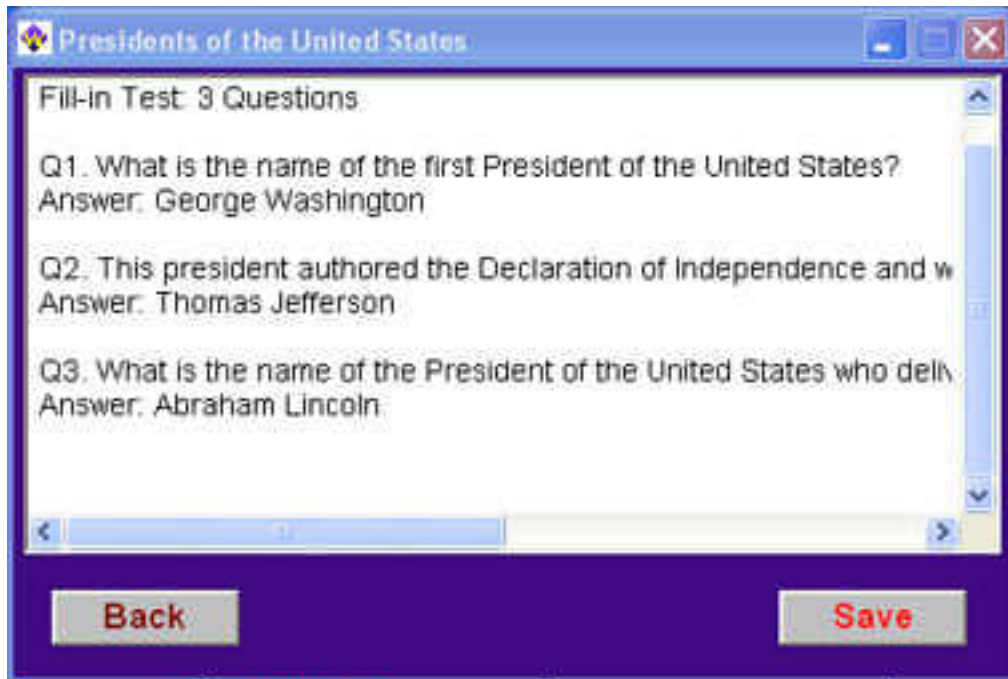
You can create fill-in tests of up to twenty (20) questions. Questions can be one paragraph long. A question or response is defined by a carriage return line feed. Pressing the “**Enter**” key on your keyboard defines the end of a paragraph and moves the cursor to the next field. Type your question in the top text area.



If there is a **Correct Response** to the question, type that in this field.

The **Next** button, stores the question and advances to the next question. Pressing the “**Enter**” key on your keyboard also advances to the next question.

The **Back** button goes back to the previous question (if there is one). If you go **Back** make sure you continue clicking **Next** until you pass the last question to end your test; the both the response fields should be empty. Click the **Done** button when finished.

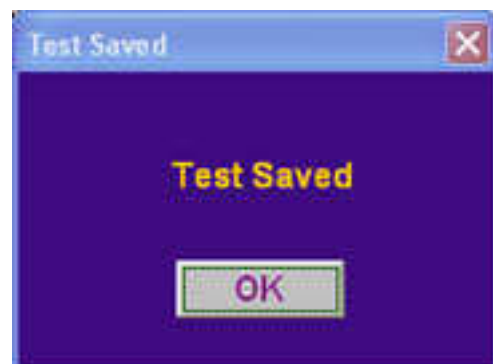


After clicking **Done**, the text of your test will be displayed in a large text area. You can scroll and view the test.

The text in this area is not editable but you can copy and paste it into your favorite word processor for printing or further modification. If a particular question in the text is wrong, clicking the **Back** button will allow you to go back and change that question.

Click the **Save** button to save the text of your test.

After the test file is saved, the **Test Saved** dialog box will displayed. The program will then assist you in creating the HTML tags and test parameters for invoking the appropriate servlet.



Defining Test Parameters

In the **Create HTML** window you can create the HTML that defines the test parameters so the appropriate test can be launched. In essence, it creates the **start.html** file in the WebTest folder/directory on your computer. The **start.html** contains the HTML needed to invoke the appropriate test servlet. The HTML includes the parameters that tell the servlet the name of the test file, it's location, any functionality. Default values have been changed below for the purposes of illustration.



Please note the **Title** and **filename** (test file) are not editable. The **dir** (directory or folder) parameter fields are editable. Changes made here will be reflected in the HTML created. If both these fields are left blank, the default values will be used.

You can manually create the URL for invoking a test servlet. It would consist of the default server address, the test type, the test file name, and directory.

Example:

test type
directory

<http://127.0.0.1:8080/fi?thefile=lessonfi.txt&dir=pilot>

default server address
test file name

Here is the URL that would be used to run a fill-in test located in the /pilot directory named lessonfi.txt. Applied as a link:

```
<A HREF=http://127.0.0.1:8080/fi?thefile=lessonfi.txt&dir=pilot>Start</A>
```

The default dir (directory/folder) field is defined in the wt.properties file. You may wish to change the contents of this file to support your particular default server address for servlets. See the *Test Servlets Manual* for additional information on the default server address.

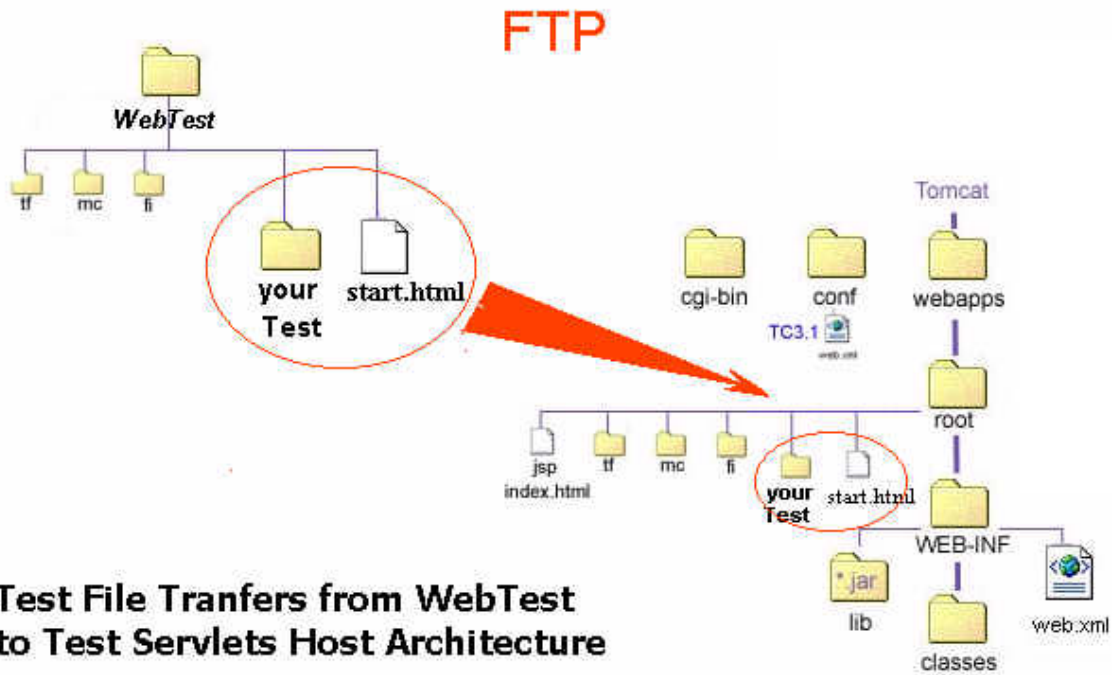
Clicking OK will save the **start.html** file.



The **start.html** file is saved in the **/WebTest** directory. You may wish to modify the HTML in this file to suit your own webpage design or copy the HTML link to your browser-based Learning System (e.g. like at the end of lesson).

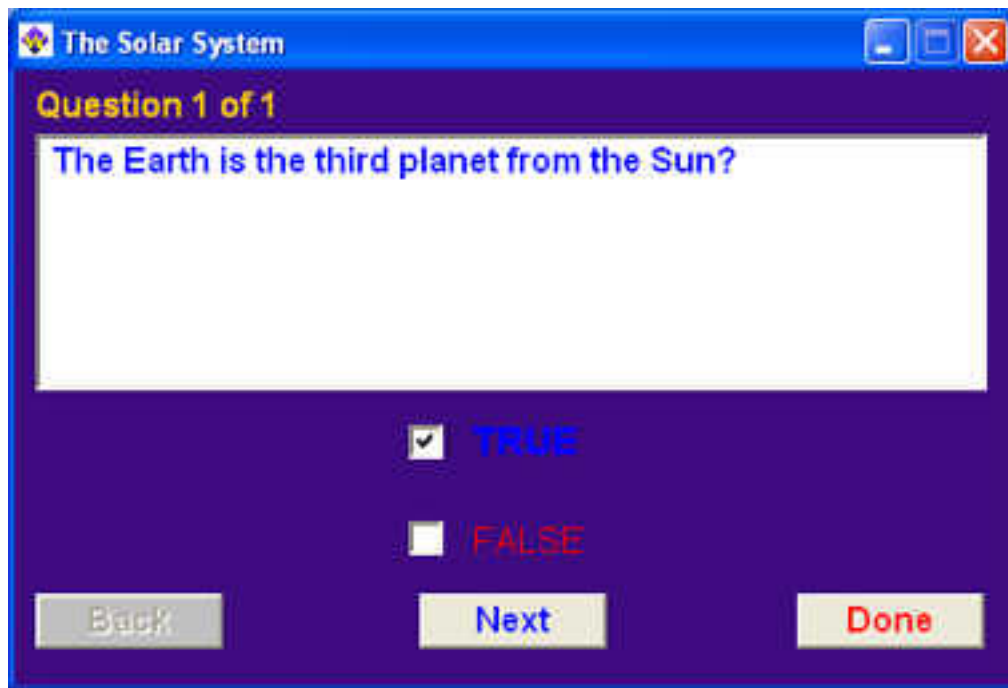
Transferring a Test

After running *WebTest* to completion, you may wish to add to the test directory background images and sound. This directory and all of its contents should then be upload to your server. Usually this is done using FTP. *WebTest* does not include a FTP program at this time.



True or False Test Authoring

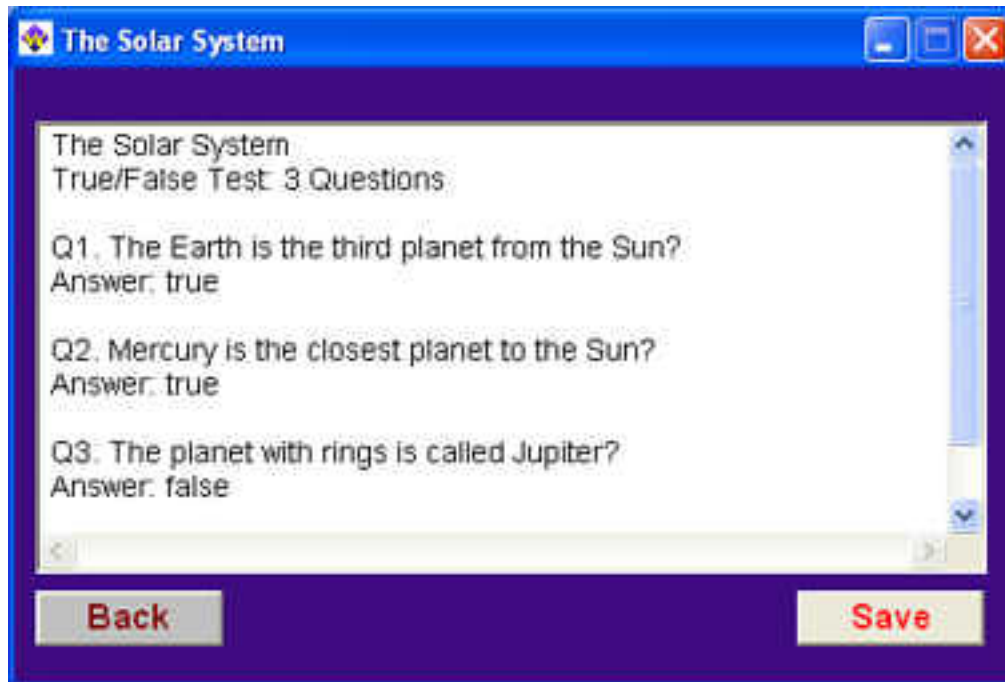
You can create up to ten True or False questions. Questions or statements can be one paragraph long. Use the large text area to type your question. A question is terminated by a carriage return line feed. Pressing the “**Enter**” key on your keyboard defines the end of a question/paragraph and moves the cursor to the next field—the **True** choice box.



Make your selection (TRUE or FALSE) by clicking the appropriate choice box. A recognized response will be displayed in **bold**. Click the **Next** button to go to the next question.

The **Back** button advances to the previous question (if there is one).

When you have finished with your questions, click **Done**.



The text of the test is displayed in the large text area. You can view, scroll, or copy and paste to your favorite text editor or word processor. If a particular question in the text is wrong, click the **Back** button and edit your question.

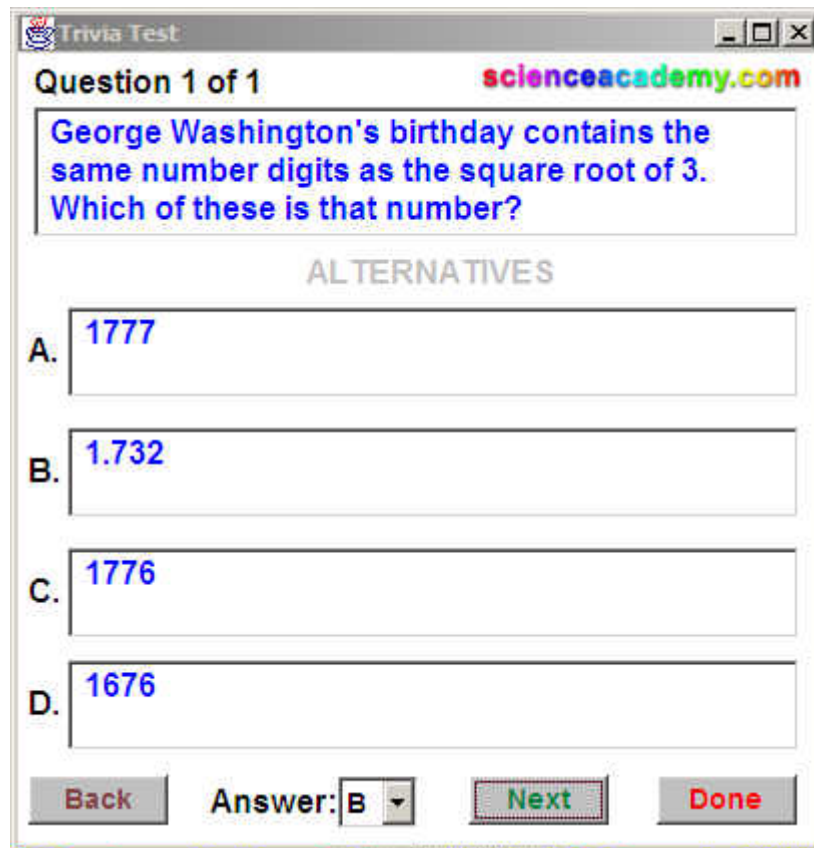
NOTE: If you go **Back** to a previous question, you *must* go forward by clicking **Next** until you get past the last question, then click **Done**.

Clicking **Save** will assist you in creating the HTML to define test parameters (see the section on Defining Test Parameters).

To abort or exit, click the close box.

Multiple Choice Test Authoring

You can create a test of up to 20 multiple choice questions. Type your question in the uppermost text area. Questions can be one paragraph long. In all text fields, pressing the “**Enter**” key on your keyboard defines the end of a paragraph and moves the cursor to the next field. There are four possible alternatives (**A, B, C, D**).



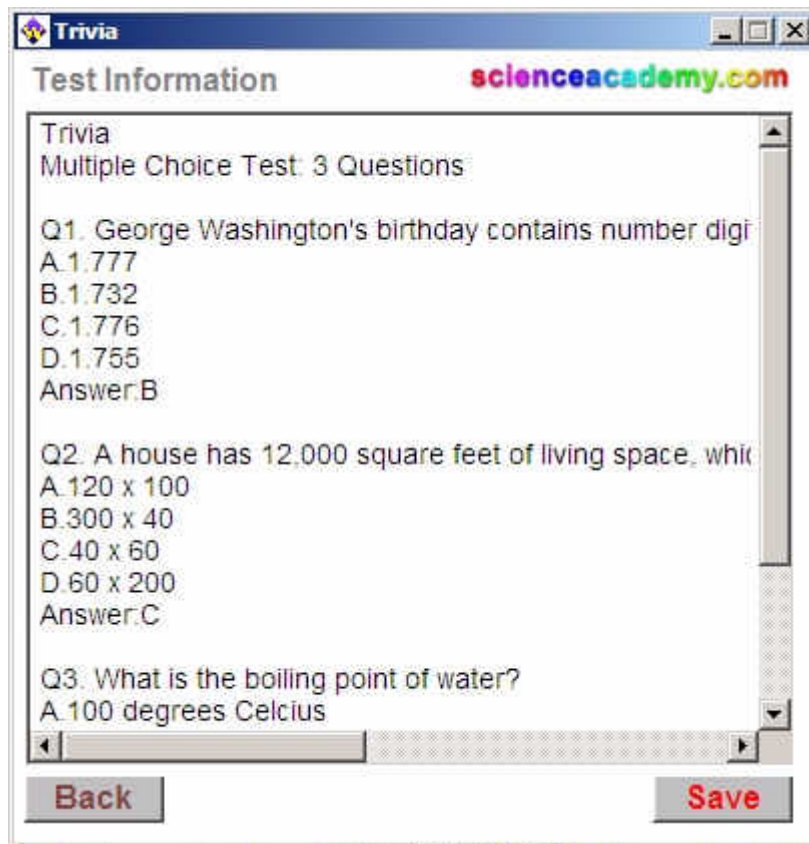
The screenshot shows a window titled "Trivia Test" with a logo on the left and window control buttons on the right. The main content area displays "Question 1 of 1" and the website "scienceacademy.com". The question text is: "George Washington's birthday contains the same number digits as the square root of 3. Which of these is that number?". Below the question, the word "ALTERNATIVES" is centered. There are four input fields labeled A, B, C, and D. Field A contains "1777", B contains "1.732", C contains "1776", and D contains "1676". At the bottom, there are four buttons: "Back", "Answer: B" (with a dropdown arrow), "Next", and "Done".

The **Next** button, advances to the next question.

The **Back** button goes back to the previous question, if there is one.

NOTE: If you go **Back** to a previous question, you must go forward by clicking **Next** until you get past the last question, then click **Done**.

The **Done** button is pressed when you are finished creating the test. The text of your test will be displayed in a large text area.



You can scroll and view the test. If a particular question in the text is wrong, clicking the **Back** button will allow you to go back and edit that question.

Clicking **Save** will assist you in creating the HTML to define test parameters (see the section on Defining Test Parameters).

To exit or abort, click the close box.

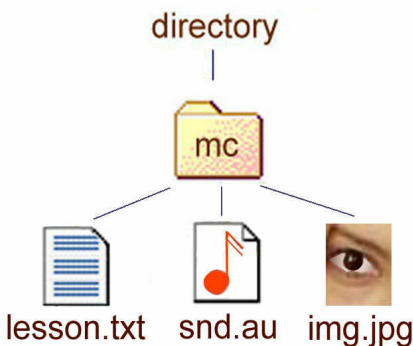
Test the Test

The test file and folder, created with this software, should be FTP'd to your appropriate Java Web server directory; generally this is the ROOT. For more details refer to the *Test Servlets Manual*.

Note: Some Java Web servers may need to be restarted; if you get a 500.htm server error, restart your server. Consult the documentation of your particular Java Web server for re-starting the server.

Packaging Test for Delivery

A test is packaged as a directory/folder containing a test file (e.g. lesson.txt), background images (.jpg), and audio files (.au, .wav, .mp3).



Background Images

The background is in itself the image. Any .jpg image can be used for a background. You may wish to use a photo editor to layout images appropriately. Background images are named in sequential order from 1 to 20. For example, “bkgnd1.jpg” for the first question, “bkgnd2.jpg” is for the second, etc.

Note: bkgnd.jpg - is the default background of all your tests. If no background image is associated with a particular question, this default background image would be displayed by *WebTest*.

Audio-Sound

Sound files will play with all tests in IE4 browser or later. The sound files will not play in Netscape. Sound files can be converted to .au, .wav, or .mp3 using *GoldWave* or other sound utility.

To add sound to a test, name your sound “sndX.au”, “sndX.wav”, or “sndX.mp3” where X is the number of the question in the test.

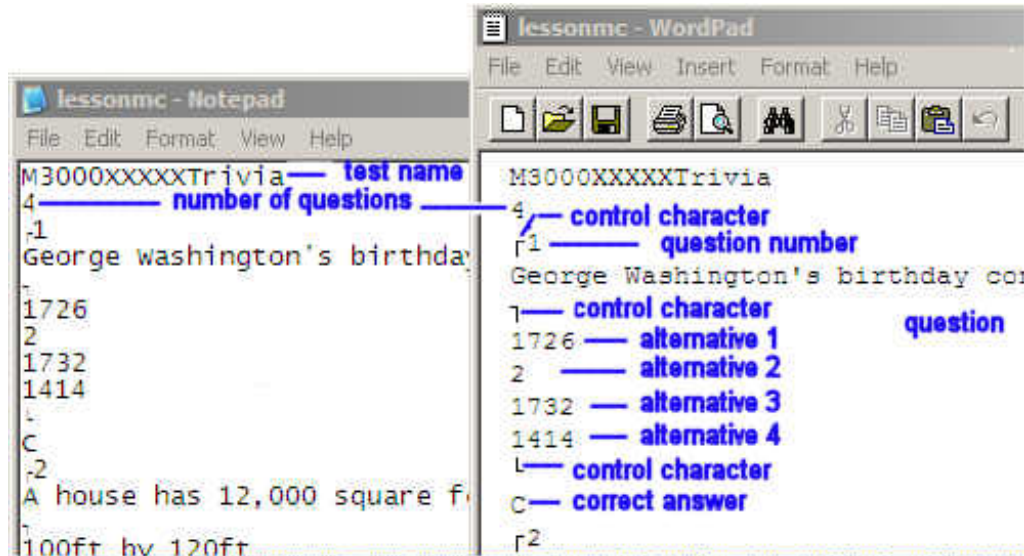
The snd.au, snd.wav, or snd.mp3 (with no number) is the sound that is presented on the first screen that requests the students name. This is useful for conveying test instructions, other information, or music .

To obtain audio for test at a time, place a file named snd0.au., snd0.wav, or snd0.mp3 in the test folder.

Note: Keep all sound types the same, either all .mp3, .au, or .wav. Mixed sound file types are not supported. Whenever possible, use short file names and lower-case characters..

Editing a Test

Editing a test it is possible using a text editor such as Notepad. *WebTest* provides no mechanism for editing test. The illustration below displays part of the contents of a test file (lessonmc.txt).



You will observe unusual characters which may be expressed by different wordprocessors like square boxes. These are control characters that define the boundaries of questions, alternatives, and answers. When making question changes, make your changes but do not disturb the placement of these control characters. If these characters are deleted or changed, the question formatting would be destroyed and the servlets will not be able to read the test file.

Note: Subsequent versions of *WebTest* may contain an editor to facilitate changes.

Helpful Hint: Use the copy and paste capability of a word-processor (e.g. Wordpad, Notepad) for creating your tests.

The Emailme Test Servlet

This servlet can send results to the email address defined in the `tts.properties` file. It sends Results as an attachment to emails and transfers execution to the **redirect.html** file. You can easily modify the code to redirect to any page you wish.

Note: Attachments to emails are encoded and are not subject to alteration. These attachments can be decoded using Decoder. See Decode documentation for more detail.

Product Support

Email support is provided by emailing support@scienceacademy.com

Versions

Test Servlets Version 2.1

WebTest Version 2.1

Decoder Version 1.0

Kindly report any errors you find in the software or manual to Science Academy Software at:

support@scienceacademy.com



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