

The Newscast Application

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Table of Contents:

Chapter I: Creating your first newscast

Drupal, the CMS (Content Management System).....	2
Logging into the Newscast Admin website.....	2
Roles	3
The newscast content type	5
Using the delimiter	7
Your first newscast	8

Chapter II: Managing your Newscast Manager

The Newscast Manager content type.....	8
Adding a Newscast to the list.....	10
Reordering the list	11
Updating the kiosk computer	12

Chapter III: Creating a scheduled task

Scheduling the Newscast Download Script.....	13
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Chapter IV: Technical Reference

The application pipeline.....	18
Installing the teleprompter environment.....	19
PERL Script documentation	19

Chapter I: Creating your first newscast

Drupal, the CMS (Content Management System)

Drupal is a free and open source content management system (CMS) written in PHP and distributed under the GNU General Public License. It is used as a back-end system for many different types of websites, ranging from small personal blogs to large corporate and political sites, including whitehouse.gov and data.gov.uk. It is also used for knowledge management and business collaboration.

The standard release of Drupal, known as Drupal core, contains basic features common to most CMSs. These include the ability to register and maintain individual user accounts within a flexible and rich permission / privilege system, create and manage menus, RSS-feeds, customize page layout, perform logging, and administer the system. As installed, Drupal provides options to create a classic brochureware website, a single- or multi-user blog, an Internet forum, or a community website providing for user-generated content.

Drupal was also designed to allow new features and custom behavior to be added to extend Drupal's core capabilities. This is done via installation of plug-in modules (known as contrib modules) created and contributed to the project by open source community members. For this reason, Drupal is sometimes described as a content management framework. Drupal is also described as a web application framework, as it meets the generally accepted feature requirements for such frameworks.

Although Drupal offers a sophisticated programming interface for developers, no programming skills are required for basic website installation and administration.

Drupal can run on any computing platform that supports both a web server capable of running PHP version 4.3.5+ (including Apache, IIS, Lighttpd, and nginx) and a database (such as MySQL or PostgreSQL) to store content and settings.

Logging into the Newscast Admin website

Open your browser and navigate to the URL below...

<http://newscast.californiasciencecenter.org/>

(Note: Your account will need to be set up by an administrator and your username and password information sent via e-mail in order to login. Be sure to have this information before proceeding.)

You will see two text fields to the left of your screen.

Enter your username and password in the text fields and press the “**Login**” button below them. You should now be logged into the Newscast Manager.. Now would be a good time to discuss roles, which you can think of as “website responsibilities” for the Newscast Manager.

Roles

Roles are groups of permissions that allow certain users to access specific pages or perform certain functions within a Drupal website. Roles are put in place to safeguard the deletion of data, or to allow certain people to change an aspect of the website (like creating an entirely new Newscast Manager).

There are three roles specific to the Newscast Manager website

Administrator

The administrator has unlimited access to the website, and is able to perform all tasks, manage, add, and remove users, and create, delete, and change any and all content on the website. They are the uber-user.

Publisher

A publisher has the ability to manage the newscasts and newscast manager, they also have the ability to delete any newscast, and change the order of appearance and content of the newscast manager. Publishers also have the ability to update the newscast application on the exhibit floor (more on this later).

Editor

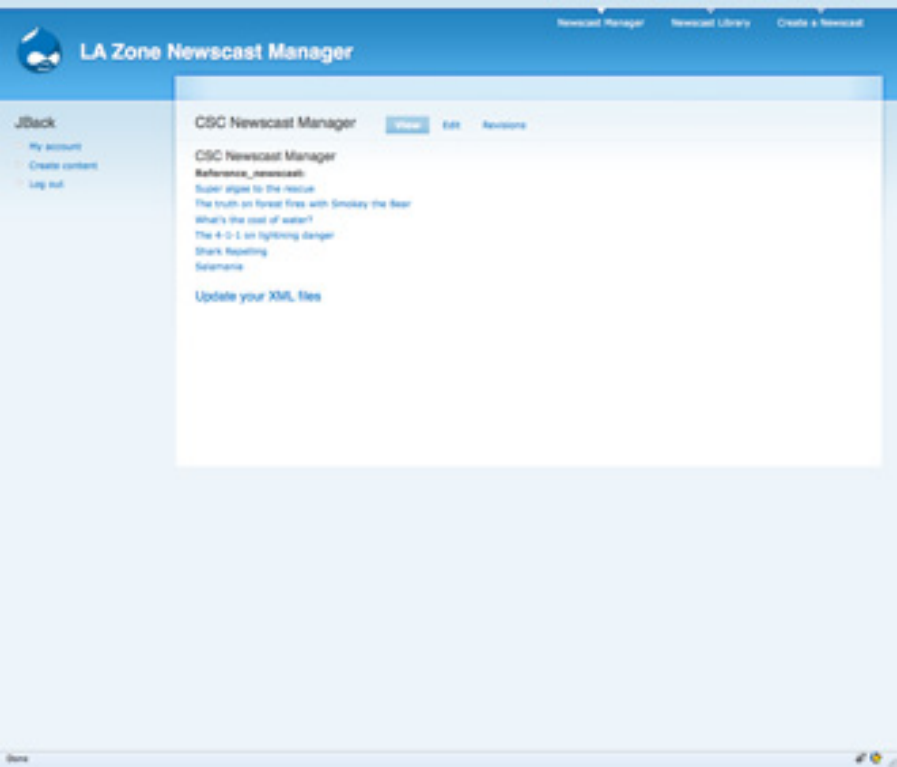
An editor can create and edit newscasts, but cannot add them to the newscast manager, or modify the newscast manager in any way. A publisher must be notified in order for the Newscasts to be updated.

Now that we know a bit more about roles, we will discuss what you see once you log into the website. The main difference is what you have access to. Your nagivation tree, on the left hand side of the web-site will vary depending on what role you have been assigned.

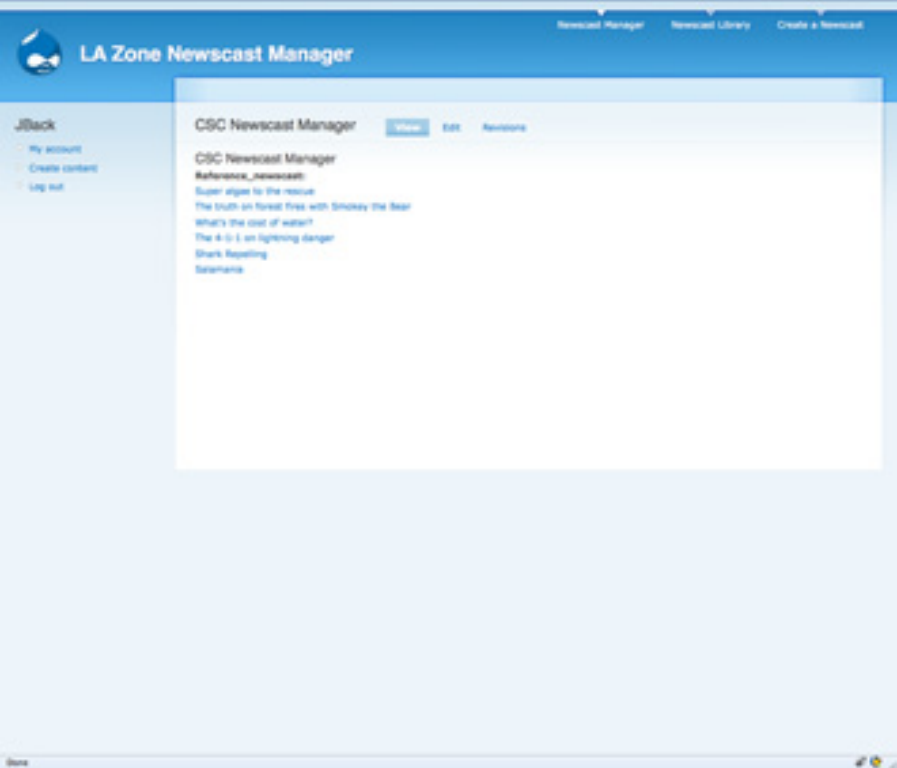
Here is what you would see as an administrator.



Here is what you would see as a publisher.



Here is what you would see as an editor.



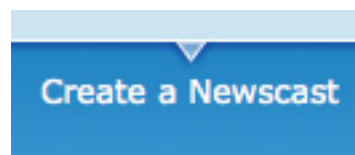
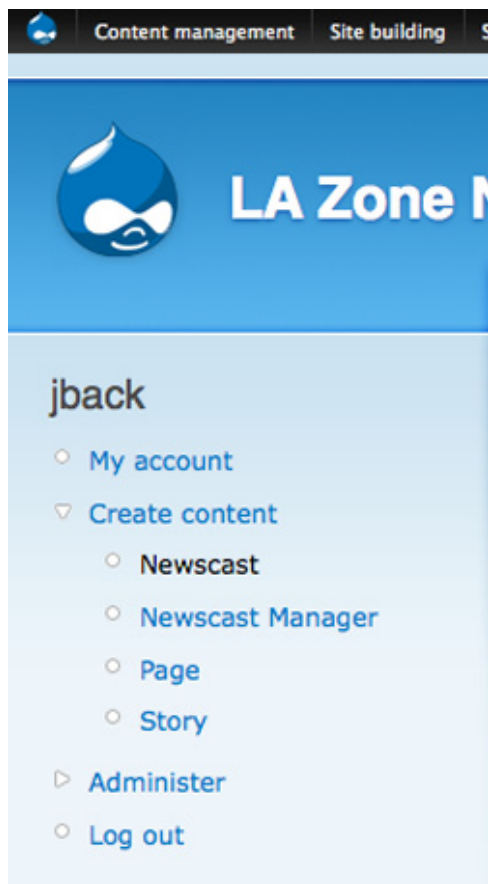
As you can see, what you have access to depends on what role you have been assigned. Be sure to negotiate your roll with your system administrator to determine where in the process your responsibilities lie.

The newscast content type

This is the container that Drupal uses to store the data for the script that will be displayed on the screen of the kiosk computer on the floor. Since this is the base of the data presented in the application, be sure to take care, as a misplaced character can cause the teleprompter to not properly display the script. Now that I have you scared, let's take a look at the parts of the newscast content type.

You can create a new newscast in one of two ways. You will see a link called **“Create content”**. clicking this will open a new tree which has all the content types available for you to create from.

Depending on your role, this list may be different from what you see here, but all roles have the ability to create a new newscast, so click on the Newscast link, within the Create content tree. You can also click the link at the top of your browser window that looks like the image to the right below.



Once you have done this you will see a page with a form that has several fields. This is a blank representation of the newscast content type. Take a minute to look through all of the different fields, there are several that you do not have to change, others are required, and must be filled in to create a new newscast. Let's take a look at the required fields...

Title

Title: *

This is a required field, you need to enter a title that best describes your Newscast.

Body

Body:

[Open summary at cursor](#)

The body is the base of your Newscast, using the delimiter, you separate the “Actor” from the “Passage”, or text that the actor says. This text can be an infinite amount of characters long, and you can name your Actors any label you wish (More on using the delimiter later).

Newscast Taxonomy

Newscast Taxonomy:

Enter words that best describe the newscast.

Use this field to enter words that people can use to search for your newscast. Think of them as “tags” or “buzz words” that aid people in knowing the topic of your newscast.

Activate / Deactivate Newscast

☐ Activate / Deactivate Newscast

☒ Active

Select active for the newscast to be viewed in the kiosk.

This checkbox is used to hide newscasts from the active list in case you wish to archive newscasts that you deem no longer current or you do not wish publishers to access when building the newscast list in the Newscast Manager (more on this later). This is an “archive” button, where you can keep newscasts available without deleting them from the database. For all new newscasts make sure this box is checked or else it will not appear when building your Newscast Manager list.

Create new revision

☐ Revision information

☒ Create new revision

Log message:

An explanation of the additions or updates being made to help other authors understand your motivations.

As a safeguard to screwing up, always have this box checked. One of the wonderful things of using Drupal as a CMS is you can create versions of your newscast and revert back to a previous version if needed. You can also leave a message describing why you made a revision. Be sure to have this checked when creating a new newscast, it will save your bacon at some point, guaranteed.

Now that we have looked at the parts of the newscast content type, we should take a moment to talk about the delimiter..

Using the delimiter

A delimiter is a sequence of one or more characters used to specify the boundary between separate, independent regions in plain text or other data streams. An example of a delimiter is the comma character, which acts as a field delimiter in a sequence of comma-separated values.

Here is a sample of a newscast using the delimiter.

HOST:

An important thing to notice from the start is the lack of a delimiter (no “:” in this case) before the first actor’s name. This is because there is no data to delineate, therefore it is not needed. Be sure to stick to this format for your newscasts or else it will not display properly. We use the delimiter at the end of the actor label to separate the passage of text from the actor’s name. You could type “**HOST:Welcome to CSC News. I’m _____.**” But for the sake of legibility a line break is more user friendly.

Welcome to CSC News. I’m _____. Recently, we’ve heard some pretty grim news about the health of our oceans and corals around the world. But today, my guest, coral expert Dr. _____, is here to share some promising news.

:EXPERT:

Hi, _____. Well, first of all, you’re right. Out of all of Earth’s ecosystems, coral reefs are thought to be among the most threatened by global warming. But today I have some exciting news to share about algae.

:HOST:

Um... I thought we were talking about corals.

:EXPERT:

Well, _____, algae live in partnership with many corals.

:HOST:

What do you mean “live in partnership”?

:EXPERT:

Corals and algae live in what is called a symbiotic relationship. Corals give algae shelter. In return, algae provide corals with food, which they produce using light from the Sun.

:HOST:

So it’s a win-win situation? Kind of like giving your little brother some candy to clean your room? You don’t have to clean your room, and your brother gets some of your Halloween stash.

:EXPERT:

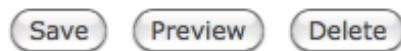
Right! But what we’ve been seeing is that as waters warm, many algae die, leaving behind nothing but white coral skeletons. That’s what we call a bleaching event.

DO NOT use the delimiter within the passage or the script will not display properly.

Your first newscast

Now that we have been through every part of the newscast content type, we are ready to create our newscast. You should already be at a blank newscast based on the instructions above, and ready to fill in the fields on the content type.

1. Enter a title for your newscast.
2. Enter the body or copy for your newscast following the delimiter example described above.
3. Enter some terms that describe your newscast in the taxonomy field.
4. Double-check that the “**Active**” box is checked under Activate/Deactivate Newscast (it should default to active, but always good to be safe)
5. Double-check that the “**Create new revision**” box is checked, and enter a reason for your revision, for instance “First copy” or “Initial draft”.



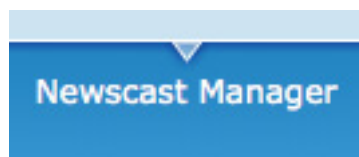
Be sure to click the “**Save**” button once you have entered in all of the data and your Newscast will be ready to add to your Newscast Manager. Congratulations! You have created your first Newscast. Now let’s discuss how to bring the Newscast into the Newscast Manager.

Chapter II: Managing your Newscast Manager

The Newscast Manager content type

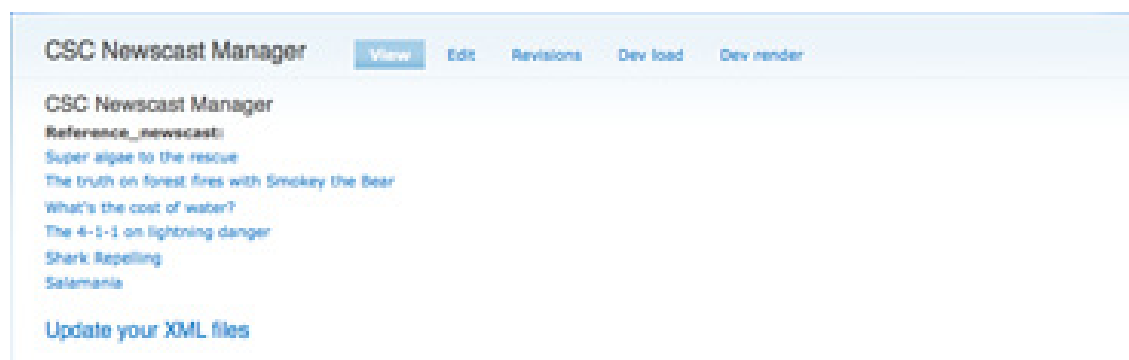
The Newscast Manager is your place to organize your newscasts into a list and organize them in order of appearance. This list is also used to generate the files that are downloaded to the computer on the exhibit floor, so be sure you have them in the order you want before you decide to update them (we will talk about updating your files later in this section).

You can get to your newscast manager by clicking the link on the top of your browser.



This will bring you to your Newscast Manager. Fields should already be filled in. Let us take a minute to go through what each section of the Newscast Manager does before we begin to change anything.

There are several links within this page, but let's start with a general overview.



Along the top of the Newscast Manager are several links (some may not appear based on what role your account is assigned (Don't be afraid, we will only be concentrating on the “**Edit**” link).

View

This link is used to view the page as a visitor would view it, a good way to make sure everything is in order before you allow others to look at it.

Edit

This link is used to make changes to your content. This will also be the link we use to update your Newscasts, think of it as “editing the list”.

Revisions

This link is used to revert your page back to a previous state. If you mess up something, you can use the previous versions of the page to go back to a previous version and start again. Only publishers and administrators will be able to see this link, so be sure to contact one of them if you are only an editor.

Dev load and Dev Render

You should only see these links if you are an administrator on the site. These are used for development of the website and have no impact on administering Newscasts or your Newscast Manager. We will simply ignore them for now.

The Newscast list

The links under “**Reference_newscast**” are used to view the newscasts that exist in the list. You can simply click on one to be brought to the newscast's page. You will see similar links as described above that you can use to edit your Newscast (like we described previously) if you wish.

Update your XML files

While not very clear to the average user, this link is one of the most important of all when managing your Newscasts. This link is what is used to update your Newscasts to be downloaded to the computer on the exhibit floor. (We will discuss updating files later)

Now that we are familiar with what does what on the page, let's click the “**Edit**” button and learn how to change and update your Newscast Manager.

Adding a Newscast to the list

We are now in “edit mode” within the Newscast Manager, let’s take a look around before we go changing anything. Remember, you can always revert to another revision if anything goes wrong, though it is good to take things slow until you get used to knowing your way around.

The screenshot shows the 'CSC Newscast Manager' interface. At the top, there are tabs for 'View', 'Edit' (which is active), 'Revisions', 'Dev load', and 'Dev render'. Below the tabs, there are four numbered instructions: 1) Make sure that the newscasts you wish to use are active or they will not be found by the fields below. 2) Type the name into the text field, the field will try its best to complete the name for you. Once the newscast is found, click the name in the box that appears below the text field. This will place the name, as well as the node ID (nid) into the field. 3) Drag and drop the fields in the order you wish the newscasts to appear. 4) Be sure to save your changes.

The 'Title' field is labeled with a red asterisk and contains the text 'CSC Newscast Manager'.

The 'Reference_newscast:' section contains a list of newscasts, each with a plus icon on the left and a circle icon on the right. The newscasts are: 'Super algae to the rescue! [nid:122]', 'The truth on forest fires with Smokey the Bear [nid:39]', 'What's the cost of water? [nid:113]', 'The 4-1-1 on lightning danger [nid:65]', 'Shark Repelling [nid:93]', 'Salamania [nid:130]', and an empty field.

Below the list is a button labeled 'Add another item'.

The 'Revision information' section is expanded, showing a checkbox for 'Create new revision' which is checked. Below this is a 'Log message:' label and a large text area. Below the text area is a small text that says 'An explanation of the additions or updates being made to help other authors understand your motivations.'

At the bottom, there are three expandable sections: 'Comment settings', 'Authoring information', and 'Publishing options'.

At the very bottom, there are three buttons: 'Save', 'Preview', and 'Delete'.

There are several parts to the Newscast Manager, each of them editable. Let’s start with the easiest field, the title.

Title







This is simply an identifier for your Newscast Manager, it is highly recommended that this never change, and if it does, the title should reflect the location of what kiosk the Newscast is for. Changing the title will not influence or “break” the Newscast Manager in any way, but may cause confusion if named something that doesn’t make sense.

Newscast List

Each field of this list is an “auto-complete field”, what this means is that as long as a Newscast is active, the text field will only need 3-6 characters of the Newscast title to add it to the list.

Notice the “[nid:112]” and the end of the title this is called a “node id” which the Newscast Manager uses to pull the Newscast data and download it to the kiosk.

Reference_newscast: 

+	Super algae to the rescue [nid:132]	
+	The truth on forest fires with Smokey the Bear [nid:39]	
+	What's the cost of water? [nid:112]	
+	The 4-1-1 on lightning danger [nid:65]	
+	Shark Repelling [nid:92]	
+	Salamanca [nid:130]	
+		

[Add another item](#)

The cross symbol on the left side of the text field is used to change the order of the list. (We will discuss this a bit later).

You can add more items to the Newscast list by clicking the “Add another item” button below the list itself, this will add another auto-complete field, giving you the ability to add another Newscast to your Newscast Manager.

The other options are similar to the Newscast content type that we have described earlier. Make sure that the box “**Create new revision**” is checked. Also, type in a description of the revision, you can also leave it blank if you wish.

To add a Newscast to the list, click in a blank field of the newscast list, begin to type in a title of a Newscast. As you type you will see a rotating blue circle to the far right of the text field. The text field is smart and is looking through all of the active Newscasts to find one that matches what you are typing. Once it has found one, it will appear as clickable text below the text field, be sure to click the link, as it will add the “node id” of the Newscast as well as the title to the text field. You have now added a Newscast to the Newscast Manager. Congratulations!

Keep in mind that you can simply delete the text from an existing field and replace it with a new set, so you don’t have to create an entirely new field unless you want to keep the Newscasts that are already in your list.

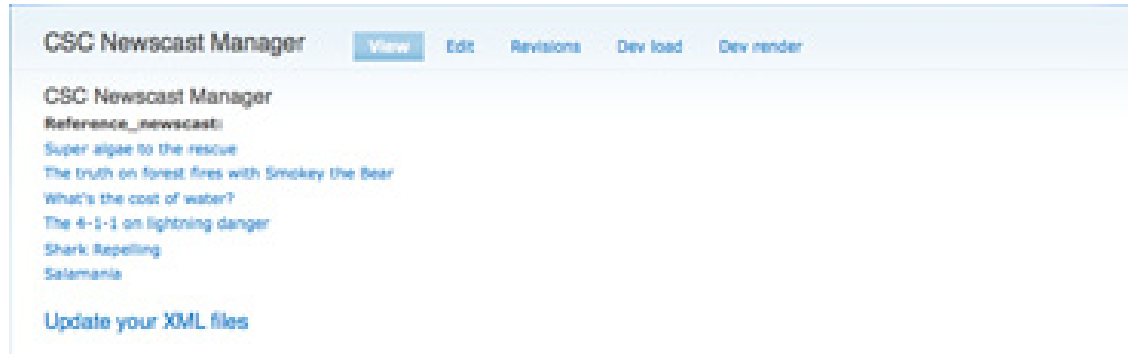
Reordering the list

Now that we are experts in knowing the parts of the Newscast Manager, let’s try reordering the order of appearance of the Newscasts. Simply click on the cross to the left of one of the Newscasts and drag it downward. Release the mouse button and see what happens. Notice that the order has changed to reflect where you have placed the Newscast that you have moved. Pretty slick! Feel free to move several Newscasts until you are happy with the order in which they appear.

Updating the kiosk computer

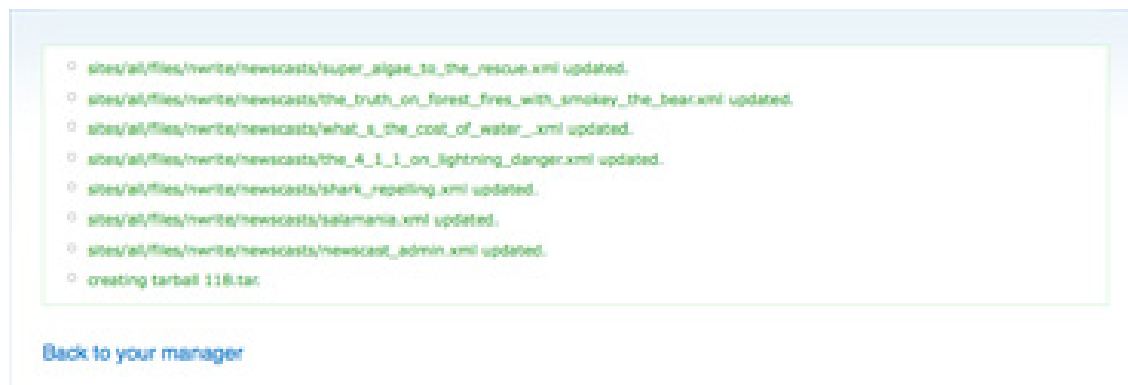
Once you are happy with the Newscasts in the list, and the order in which they appear, it is now time to update the kiosk computer which will display your finely crafted Newscasts to your visitors. First things first, we need to save our changes to the Newscast Manager. Click on the “**Save**” button and you will be sent back to the “View” mode of the Manager.

Once again we find ourselves looking at the Newscast Manager with our updated changes.



If you have been assigned the publisher or administrator role, you should see the link “**Update your XML files**”. Double-check that everything is the way you want it, and click the link. This will update the kiosk computer of the exhibit floor with your new and improved Newscasts.

You will be brought to a new page that gives you feedback on the progress of updating the files.



As long as you see no error messages, everything should be updated and your files downloaded to the kiosk computer. Click on the link to go back to your Newscast Manager. Congratulations! You have successfully updated your Newscasts!

Now, get up grab a cup of coffee and take a break.

Next, we will discuss how to automate the process of the kiosk computer downloading the files that you have just uploaded. This will involve the computer on your exhibit floor, so bring this manual along with you and grab a seat in front of that computer to proceed.

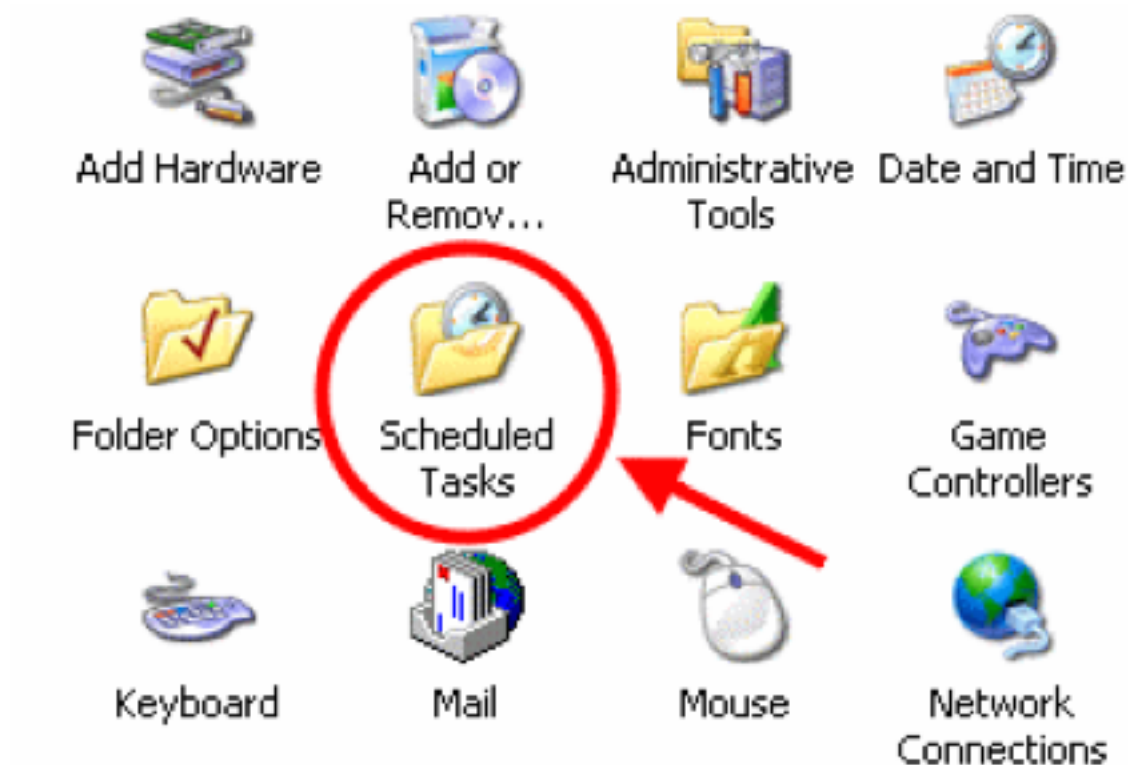
Put on your geeky hat, and let's begin...

Chapter III: Creating a scheduled task

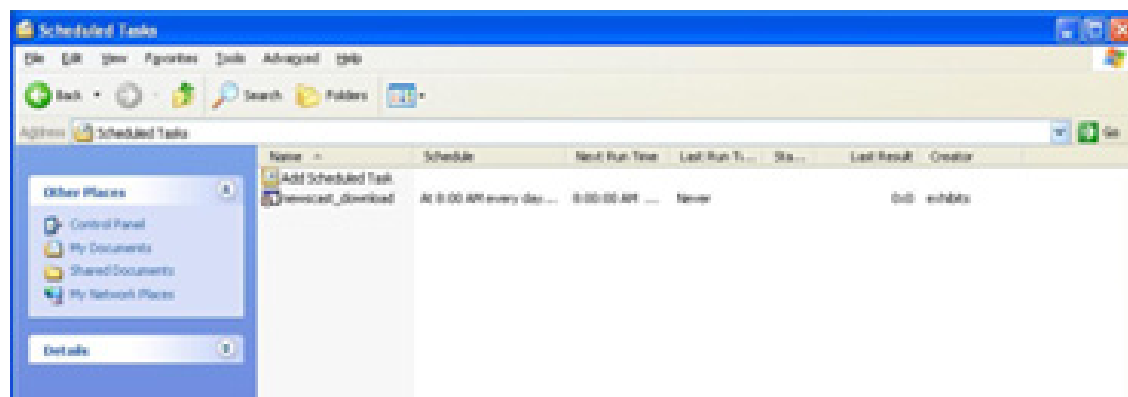
Scheduling the Newscast Download Script

First, what the heck is a script? I thought a script was what we used in the Newscast? Well, you're right. But a script is also a list of instructions for a computer to perform an automated task (that is one that doesn't require a human sitting in front of it). Now that we have that cleared up, let's set up a time for this script to be executed (that means run in geek speak).

To open Scheduled Tasks, click “**Start**”, click “**All Programs**”, point to “**Accessories**”, point to “**System Tools**”, and then click “**Scheduled Tasks**”.



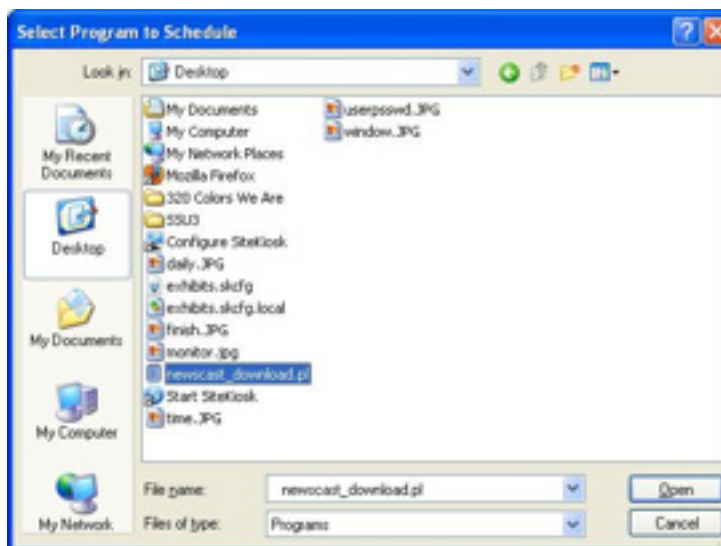
- Double-click “**Add Scheduled Task**” to start the Scheduled Task Wizard, and then click Next in the first dialog box.



- The next dialog box displays a list of programs that are installed on your computer.



- Click “**Browse...**”, click the pull down box below the file field, and select All Files.
- Navigate to the desktop, and select Newscast_Download.pl.
- The window should look like the image located below.



- Type a name for the task, and then choose the option “**Daily**” for performing the task. This means that the script will be run once a day.



- Click Next, enter the time that you want the script to execute. Usually you want this time to be AFTER the power is turned on on the exhibit floor. Also, make sure that the radio button “**Every Day**” is checked and the start date is Today.



- Type the name and password of the user who is associated with this task. By default, the wizard selects the name of the user who is currently logged on. Unless this is changed, the user name is “**exhibits**”, and the password is “**lloyd**”



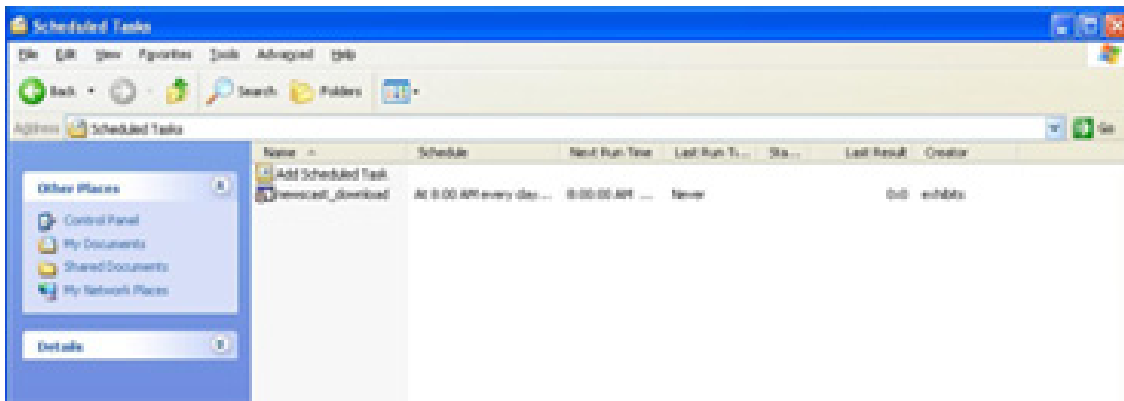
The screenshot shows the 'Scheduled Task Wizard' dialog box. On the left is a graphic of a clock face and a pen. The main text reads: 'Enter the name and password of a user. The task will run as if it were started by that user.' Below this are three input fields: 'Enter the user name:' with the text 'exhibits', 'Enter the password:' with seven dots, and 'Confirm password:' with seven dots. A note states: 'If a password is not entered, scheduled tasks might not run.' At the bottom are three buttons: '< Back', 'Next >', and 'Cancel'.

- Click Next, and then click Finish after you verify the choices that you have made. Be sure that the “**Open advanced properties...**” box is unchecked as we will not need to look at them for any task we are creating.



The screenshot shows the 'Scheduled Task Wizard' dialog box at the confirmation step. On the left is the same clock and pen graphic. The main text reads: 'You have successfully scheduled the following task: newscast_download'. Below this, it says: 'Windows will perform this task: At 8:00 AM every day, starting 3/9/2010'. There is a checkbox labeled 'Open advanced properties for this task when I click Finish.' which is currently unchecked. A note at the bottom says: 'Click Finish to add this task to your Windows schedule.' At the bottom are three buttons: '< Back', 'Finish', and 'Cancel'.

- You should now see your task added to the task scheduler window.

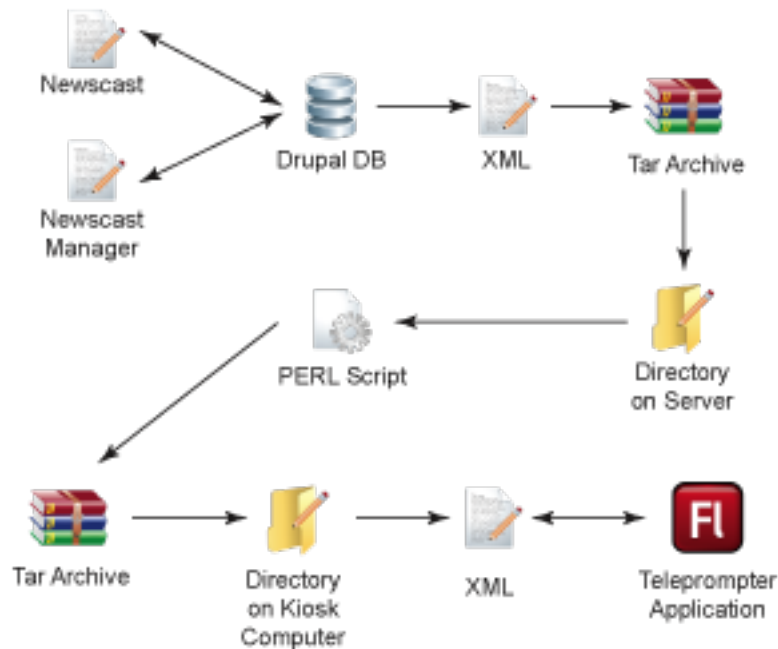


That's it! You have now scheduled the kiosk computer to download the files and update the Newscast teleprompter application. Take a deep breath and relax, you're done.

Chapter IV:

Technical Reference

The application pipeline



The pipeline starts at the Drupal content types Newscast and Newscast Manager. These are updated and stored via the Drupal database, which contains all data pertaining to the Newscast Administration website (Users, Configurations, Roles, etc).

Once the “Update your XML files” link is pressed a custom module takes the data from the Newscasts stored in the list of the Newscast Manager and creates XML flat files which are then compressed into a *.tar archive which is then named the node id of the Newscast Manager. This unique node id is what the PERL script uses to distinguish one Teleprompter Application from another. Once the *.tar file is created, the process waits until the scheduled task on the kiosk computer is executed.

Upon the execution of the PERL script, the *.tar file is downloaded from the server, unpacked, placed in the directory on the kiosk computer specified by the PERL script, and any existing files within that directory are moved to the “**Trash**” folder.

The XML files are brought into and displayed in the Teleprompter Application once the application is run. The files XML files are checked at the end of every newscast.

Installing the teleprompter environment

This section is provided as a reference to you in case the kiosk computer's data becomes corrupted or the hard drive fails. You will need to locate the backup disk that has these files contained on it. Follow the steps below to set up the local environment for the kiosk.

1. Unzip "**ActivePerl_QAdmin Build.zip**" archive to C:\
2. Install "**putty-0.60-installer.exe**".
3. Run putty, and connect to your server that houses the Newscast Admin Website to generate an SSH host key using the established user name and password. You simply need to log in, once the connection has been established you can log out again.
4. Set up a scheduled task as described in this document.
5. Copy the "**teleprompter.exe**" file to the desktop of the computer
6. Copy the "**newscast_download.pl**" file to the desktop of the kiosk computer.
7. Create a "**Newscasts**" directory on the desktop.
8. Create a "**Trash**" directory inside of the folder "**Newscasts**".
9. Edit the file "**newscast_download.pl**" file to reflect the local paths to the directories "**Newscasts**" and "**Trash**", save your changes.
10. Run "**qadmin_download.pl**".
11. Run "**teleprompter.exe**".

PERL Script documentation

This section is provided as a reference for diagnosing issues with configuring the PERL script. It lists all variables used within the PERL script. The script also generates a log and emits print statements if something goes wrong.

\$batchFile

Log of the access to the sftp server.

\$psftp

Path to the PUTTY install package (necessary for the PERL environment on the PC)

\$host

This is the url (without the "http://") where your *.tar file resides. DO NOT put the directory path in this variable.

\$username

Username to access \$host

\$password

Password to access \$host

\$remotePath

The path on the host to the *.tar file.

\$starPath

The path on the host to the *.tar file. (Should be the same as \$remotePath)

\$remoteFile

The name of the *.tar file (be sure to add the *.tar extension to the file name)

\$localPath

The local path on the kiosk computer where you want the *.tar file unpacked TO.

\$localFile

The name of the local *.tar file. (will be the same as \$remoteFile)

\$trashPath

This is the path to the directory where the "old" question sets will be sent to (this is a form of backup in case something goes wrong with the download and unpacking)

\$logFile

This is the path to the log file, where you can check on the progress and success or failure of the download.