Climate Change: Miami Application Manual

doc: 11/1/2011
rev: 11/5/2012
software version: 2.0

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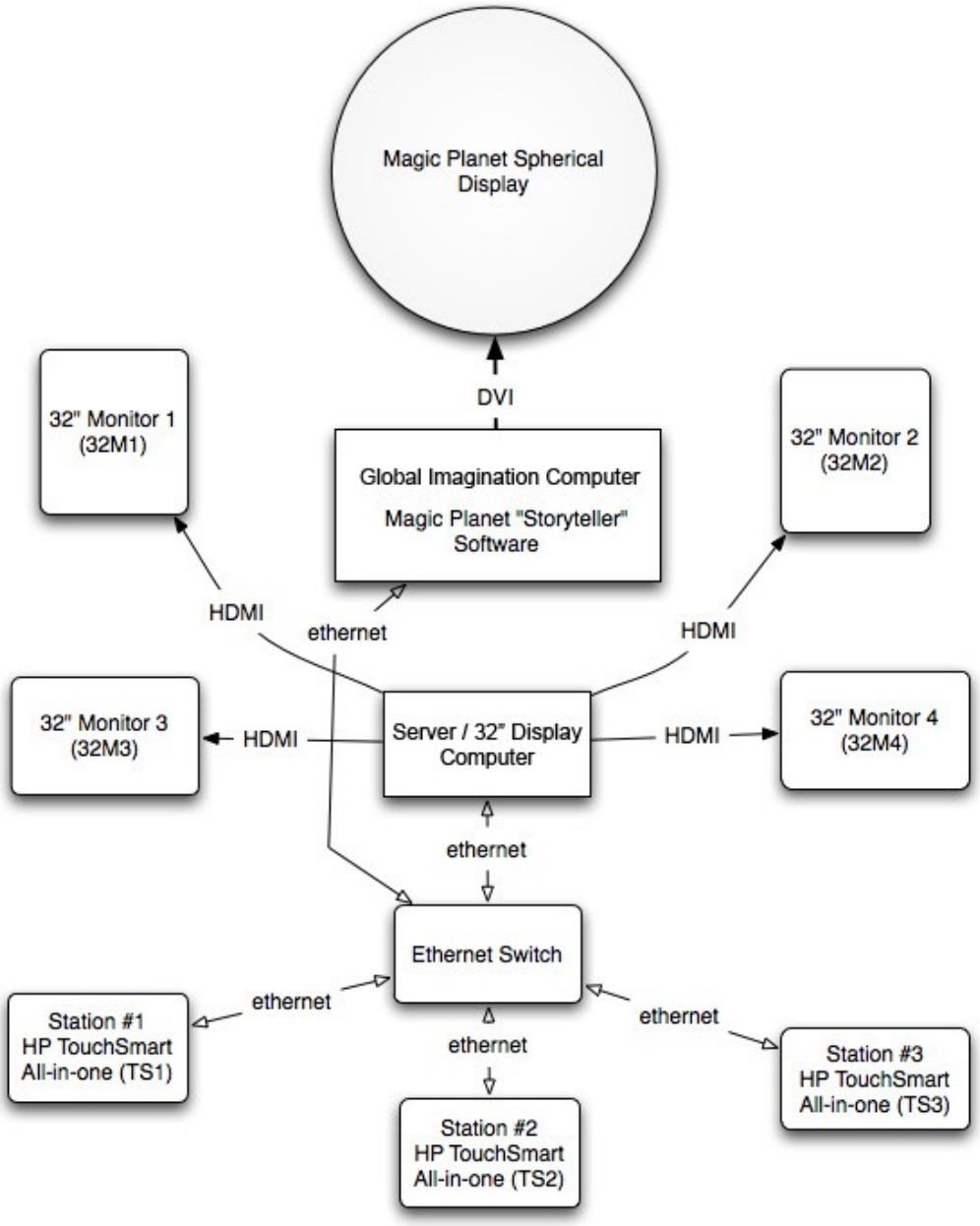
Hardware Overview

Climate Change Miami consist of the following computers:

(3) TouchSmart kiosk computers
(1) Network server and 32" display controller computer
(1) Magic Planet display controller computer

And the following displays:

(4) 32" high-definition monitors
(1) Magic Planet spherical display



Software Overview

Climate Change Miami consist of the following custom software applications:

(3) Identical user interface (kiosk) applications with different network settings
(1) Server / display application
(1) Story Teller controller application

And the following 3rd party software:

(1) Global Imagination Story Teller application

The user interface application allows the visitors to directly interact with the exhibit through the kiosks. The user interface application consists of four screens:

1. ui1: attract screen
2. ui2: menu screen
3. ui3: globe control screen
4. ui4: local content screen

The server / display application passes information to the appropriate computer based on user and system messages and also places the correct media on the 32" display screens.

The Global Imagination Story Teller application controls the Magic Planet spherical display. It is a third party application with it's own user manual.

The Story Teller controller application is a browser-based application that interfaces the Global Imagination Story Teller application with the rest of the exhibit software.

The custom software is driven by an external XML file database system. The database creates and styles the application's display objects including the layout and content (images and text) of the display. Using an external database for these purposes allows one to edit the presentation of the application without re-programming or re-compiling it. The database also controls key settings such as the network ip address and port number.

The XML database or "settings" are divided into two categories: system and user.

System settings are those settings that are the more sensitive of the two categories. The are fundamental to the functionality of the applications. If they are incorrectly set then the application may not work correctly or may not work at all. Thus, they require a better technical understand and are recommended to be set by the computer system administrator. Examples of these settings include display object creation, display object layout, network, and timer intervals.

User settings are less likely to disrupt the overall functionality of the applications. The sole purpose of these settings are to populate the the application with content (text and images).

The settings files are located in the setting folder of the application.

User Interface: System Administrator Settings Files

****Changes to the user interface settings must be made on all of the kiosk computers**

Application.xml
This file contains the Open Exhibits settings. Please refer to the Open Exhibits manual for more information on these settings.

Global.xml
This file contains the global settings for the user interface application.

Element	**Description**	
editMode	assists in screen navigation by extending the user input controls	
Attribute	**Description**	**Default Value**
on	turns edit mode on (true or false)	*false*

Element	**Description**	
network	network settings for each kiosk	
Attribute	**Description**	**Default Value**
username	identifies the computer to server	*Kiosk1*
ip	network address	*127.0.0.1*
port	network port number	*8087*
position	physical location of the kiosk on the exhibit floor (left, center, or right)	*left*

Element	**Description**	
timers	timer settings for each kiosk	
Attribute	**Description**	**Default Value**
caption	caption interval in seconds	*8*
instruction	instruction interval in seconds	*4*
menu	menu timeout length in seconds	*10*
globe	globe control timeout in seconds	*15*
content	interval, in seconds, in which the local content starts cycling, resets when user touches screen	*20*
contentCycle	interval, in seconds, in which the local content cycles	*1*

Element	**Description**	
instructionPulse	ui1 instruction pulse / glow effect settings	
Attribute	**Description**	**Default Value**

on	turns pulse on (true or false)	*true*
interval	pulse interval in seconds	*4*

Element	**Description**	
countdownBlink	ui3 and ui4 countdown timer blink effect	
Attribute	**Description**	**Default Value**
on	turns blinking on (true or false)	*true*
interval	blinking interval in milliseconds	*250*
threshold	time at which interval starts blinking in minutes:seconds	*0*

Element	**Description**	
globeRotation	ui3 globe rotation settings	
Attribute	**Description**	**Default Value**
speed	turns pulse on (true or false)	*60*
increment	pulse interval in seconds	*-0.875*

Ui1.xml
This file creates the display objects and presentation data for the attract screen. See the "Display Object Creation and Presentation Data" section of this manual for more information.

Ui2.xml
This file creates the display objects and presentation data for the menu screen. See the "Display Object Creation and Presentation Data" section of this manual for more information.

Ui3.xml
This file creates the display objects and presentation data for the globe control screen. See the "Display Object Creation and Presentation Data" section of this manual for more information.

Ui4.xml
This file creates the display objects and presentation data for the local content screen. See the "Display Object Creation and Presentation Data" section of this manual for more information.

UiControlBar.xml
This file creates the display objects and presentation data for the ui3 globe control bar. See the "Display Object Creation and Presentation Data" section of this manual for more information.

User Interface: User Settings Files

UserUi1.xml
This file creates the display objects and presentation data for the attract screen. See the "Entering Content Data" section of this manual for more information.

UserUi2.xml
This file creates the display objects and presentation data for the menu screen. See the "Entering Content Data" section of this manual for more information.

UserUi3.xml
This file creates the display objects and presentation data for the globe control screen. See the "Entering Content Data" section of this manual for more information.

UserUi4.xml
This file creates the display objects and presentation data for the local content screen. See the "Entering Content Data" section of this manual for more information.

UserUiControlBar.xml
This file creates the display objects and presentation data for the ui3 globe control bar. See the "Entering Content Data" section of this manual for more information.

Server / Display: System Administrator Settings Files

Global.xml
This file contains the global settings for the server/display application.

Element	Description	
network	network settings for the server	
Attribute	**Description**	**Default Value**
ip	network address	*127.0.0.1*
port	network port number	*8087*

Element	Description	
display	appropriates the module to a physical display monitor (0-N)	
Attribute	**Description**	**Default Value**
module1Monitor	sets the english module display to a physical monitor	*0*
module2Monitor	sets the alt module display to a physical monitor	*0*
content1Monitor	sets the left local content display to a physical monitor	*0*
content2Monitor	sets the right local content display to a physical monitor	*0*

Element	Description	
attractMode	attract mode settings	
Attribute	**Description**	**Default Value**
module	sets the attract content: value of 0 = custom attract (planet images) value of 1-12 = sets the module number as the attract value of "cycle" = cycles through the modules (increments the module number when returning to the attract screen)	*0*
contentRandomCycle	randomly cycles through the current attract module's local content	*true*
contentCycleTime	interval, in seconds, in which the attract local content is cycled	*1*

VerticalDisplay.xml
This file creates the display objects and presentation data for the module (vertical) 32" display screens. See the "Display Object Creation and Presentation Data" section of this manual for more information.

HorizontalDisplay.xml
This file creates the display objects and presentation data for the local content (horizontal) 32" display screens. See the "Display Object Creation and Presentation Data" section of this manual for more information.

Server / Display: User Settings Files

VerticalDisplay.xml
This file contains the content data (text and images) for the module (vertical) 32" display screens. See the "Entering Content Data" section of this manual for more information.

HorizontalDisplay.xml
This file contains the content data (text and images) for the local content (horizontal) 32" display screens. See the "Entering Content Data" section of this manual for more information.

Magic Planet Controller: System Administrator Settings Files

Global.xml
This file contains the global settings for the magic planet controller application.

Element	**Description**	
network	network settings for each kiosk	
Attribute	**Description**	**Default Value**
username	identifies the computer to server	*MagicPlanet*
ip	network address	*127.0.0.1*
port	network port number	*8087*
verbose	prints network messages to the browser window (true or false)	*false*

Element	**Description**	
attractMode	attract mode settings	
Attribute	**Description**	**Default Value**
rotationRate	sets the rate of the Magic Planet rotation during attract mode	*2*

Magic Planet Controller: User Settings Files

User.xml
This file contains the user settings for the Magic Planet Controller application. It contains an XML block that corresponds to each of the application's modules such as *Earth's Climate System* or *Human Impacts*. It also contains an additional XML block for *moduleDefault*, which allows you define a custom default module. Below is a table that describes the setting for each module. The default values are specific to each module.

Element	**Description**	
module	network settings for each kiosk	
Attribute	**Description**	**Default Value**
chapter	identifies the computer to server	
page	network address	
defaultFrameRate	speed at which the animation plays when the module loads	
minFrameRate	minimum speed that the animation can play as adjusted by the user	
maxFrameRate	maximum speed that the animation can play as adjusted by the user	

Creating Display Objects and Editing the Layout Style

All of the display objects (with a few exceptions) are created and styled through the XML file database system. These files are located within the system settings folder.

The following display objects are available for the user interface application:

Display Object	Description
ImageElement	creates and styles a single image
ImageElementArray	creates and styles a set of images
TextLayout	creates and styles a single or set of text fields
ShapeElement	creates and styles a single vector shape

The server/display application add the following display objects to the aforementioned list:

Display Object	Description
MediaComponent	creates and styles a set of media files (images and videos)

Entering Content Data

The content of all of the display objects (exception those that are created dynamically) are populated through the XML file database system.

These display objects are accessed through the following element tags:

Display Object	Description
image	populates ImageElement and ImageElementArray display objects
text	populates TextLayout display objects
media	populates MediaComponent display objects

Image element display objects accept attribute values which are image paths relative to the application file.
Those image tags which reference ImageElement display objects accept a single attribute.
Those image tags which reference ImageElementArray display objects accept a set of attribute names for example: "src1", "src2", "src3".

Text elements display objects accept html style markup for example:

```
<p>“Earth...the only home <br />   we’ve ever known.”</p>
<p fontSize="52" textIndent="580" lineHeight="65">Carl Sagan</p>
```

Media elements are similar to those image tags which reference ImageElementArray in that they accept a set of image paths but they also accept video file paths.