CENTURY
EMBEDDED TECHNOLOGIES

WebMedia

Introduction and Overview

Welcome to WebMedia!

This self-guided presentation is designed to acquaint you with the WebMedia embedded software solution developed by Century Embedded Technologies. In just a few minutes you'll be familiar with our technology, how it operates, and just how much WebMedia can benefit your next project.

We've included an example, with screen shots, so you can see first-hand what other designers have created with WebMedia ... and how easy it is to work with.

What is WebMedia?

- An interactive, dynamic, screentop environment running under Linux
- An integrated, plugin-based architecture
- Available for almost any hardware platform
- Compatible with wireless technologies
- Simple development – based on HTML
- A complete front-to-back GUI solution

What is WebMedia?

WebMedia is a suite of embedded development tools, SDKs, runtime utilities, and applications that work together to form a very powerful, interactive, graphical user environment.

This "integrated architecture" allows complex user interfaces to be built and deployed in a very short period of time.

The WebMedia Linux suite can be ported to almost any hardware platform. It is ideal for set-top boxes, web pads, handheld devices, touch-screen displays, intelligent appliances, and kiosks ... anywhere a compact and robust user environment is desired.

What is WebMedia?

WebMedia can integrate seamlessly with the latest Wireless technologies, so whether you're developing a new type of PDA or the latest in web pad systems, your customers can always be online ... wherever they are.

Because the graphical environment is designed in HTML, you can quickly develop and then test a variety of GUI versions. Rapid prototyping was never this easy.

Everything is handled: GUI display to managing user input to dispatching commands and launching applications. WebMedia is the complete front-to-back embedded solution.

WebMedia works with:

- ## Linux
  - Open source operating system
  - Freely available distributions
  - Expanding user and development base
  - All versions and Linux distributions can be supported.

- ## Microwindows
  - A modern graphical windowing environment developed for small devices and platforms.
  - Open source graphical environment

- ## X11
  - Universally available graphical environment

What's inside WebMedia:

- WebMedia viewer
- WebMedia plugin manager
- WebMedia applications
- Customer-supplied applications

Each of these components are described in more detail in the following slides

WebMedia Viewer

- **HTML compliant web browser**
  - HTML 3.2, Frames, Forms
  - Optional support through Mozilla for HTML 4.0, CSS2, DHTML, Java, JavaScript, Flash, RealPlayer, Windows Media, etc.

- **Very small application size**
  - Ideal for embedded systems
  - 700 Kbytes total program space required
  - 2 Mbytes total RAM required

- **Expanded HTML Capabilities**
  - New keywords add powerful application execution and control capabilities to the HTML language

WebMedia Plugin Manager

- ■ User Command "Dispatcher"
  - ● Used to issue commands to other utilities, applications, device drivers, third-party libraries, and software APIs
  - ● Can be called from the command line or directly from inside the WebMedia Viewer

- ■ Plugin based
  - ● New features, updates, and bug-fixes can be added by writing and installing plugins

Plugins Enable a Flexible System

- Subscription services can be added simply by installing a plugin

- Updates/bug fixes are accomplished by replacing an old plugin with a new one.

- Plugins can be acquired in many ways
  - Purchase them off-the-shelf (shrink-wrap, retail, dealer)
  - Automatically downloaded (remote system maintenance)
  - Installed onsite by technicians (service call, house call)
  - Downloaded from the Internet (eCommerce)
  - User Requested (pay-per-view, subscriptions)

Current WebMedia Applications

- MP3 Audio Player
- Streaming Media Player
  - MPEG1 & MPEG2 Compatible Software Decoders
- PIM Suite
  - Address book
  - Date book
  - To-do lists
  - Note taking
  - Appointment scheduler
- Custom applications can be written for any device or hardware platform.

Customer Supplied Applications

- Customers can include their own software apps for use in WebMedia

- Applications can be controlled from within the WebMedia Viewer

- Plugins can be included that become part of the WebMedia Control API

WebMedia Block Diagram (*Set Top Box*)
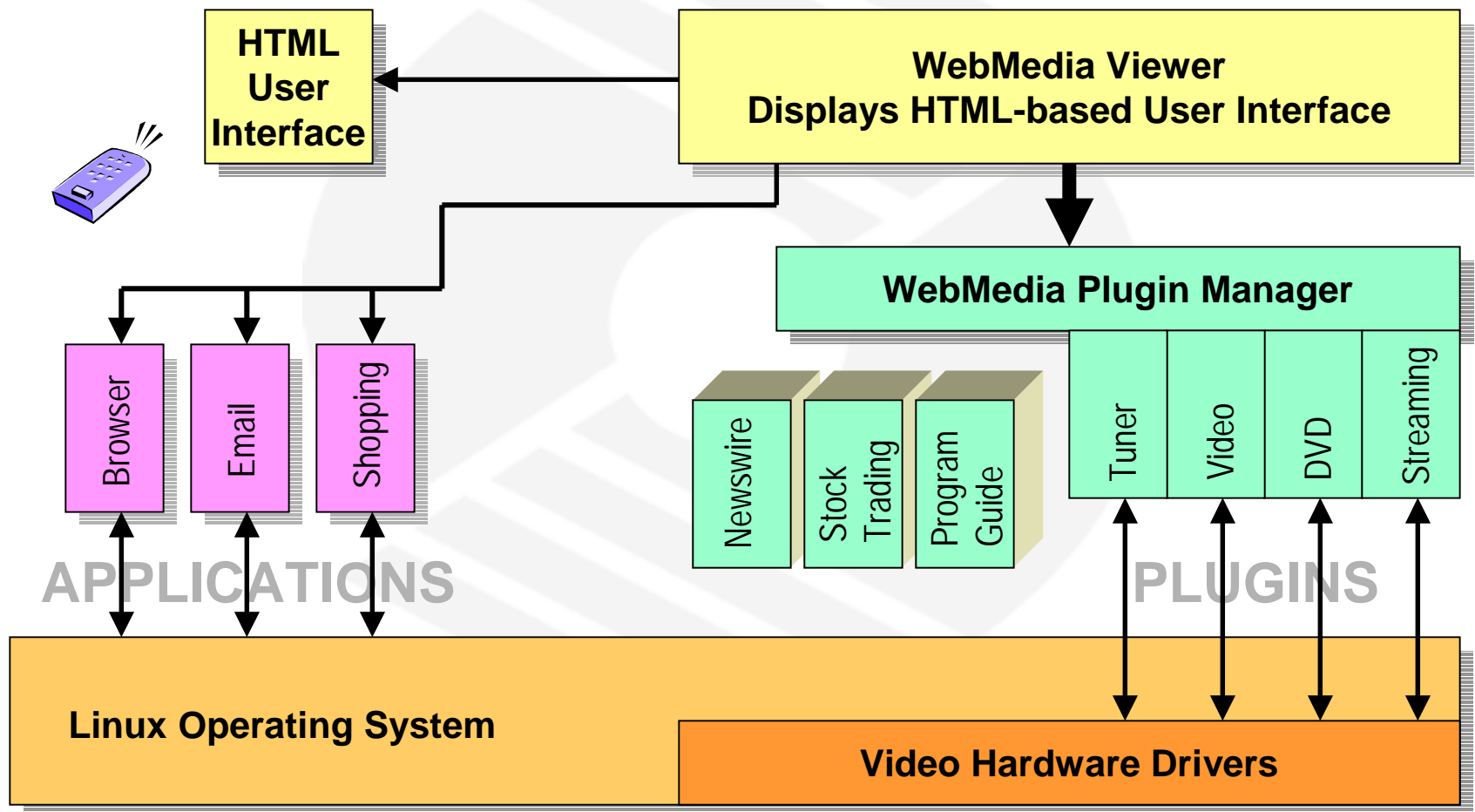
The following slides show how the WebMedia suite has been used in a third-generation set-top box application.
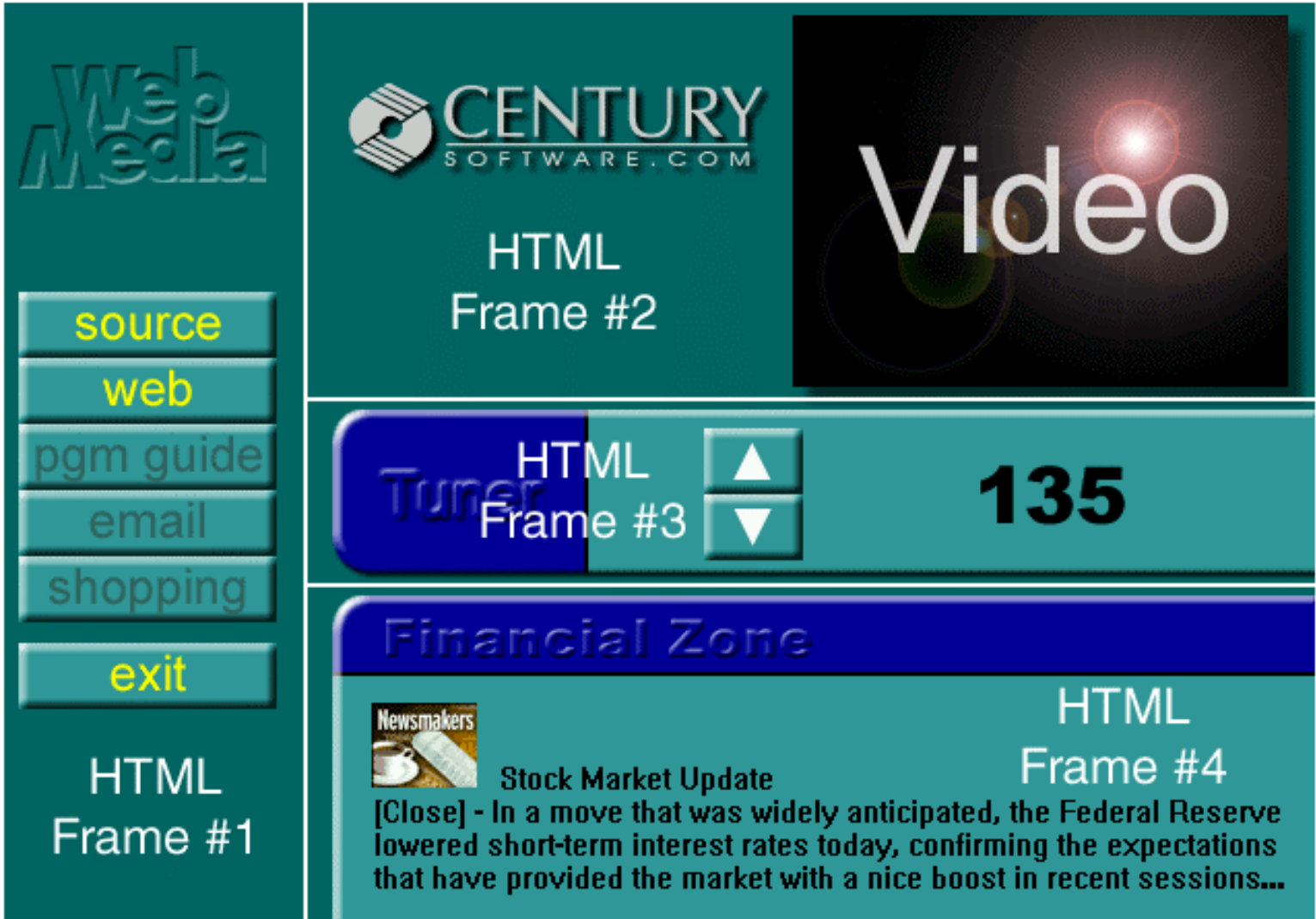
The layout, text, and graphic elements were created using standard off-the-shelf web development tools. The entire GUI is nothing more than a frames-based web page.

The WebMedia Control API is used to link the various control buttons to software applications or the associated plugin. To select the TV tuner, change channels, or play a DVD, the user simply clicks on the graphical elements...

...and WebMedia does the rest!

Here is how the set-top box menu looks to the user

Here is the HTML page and it's frames organization
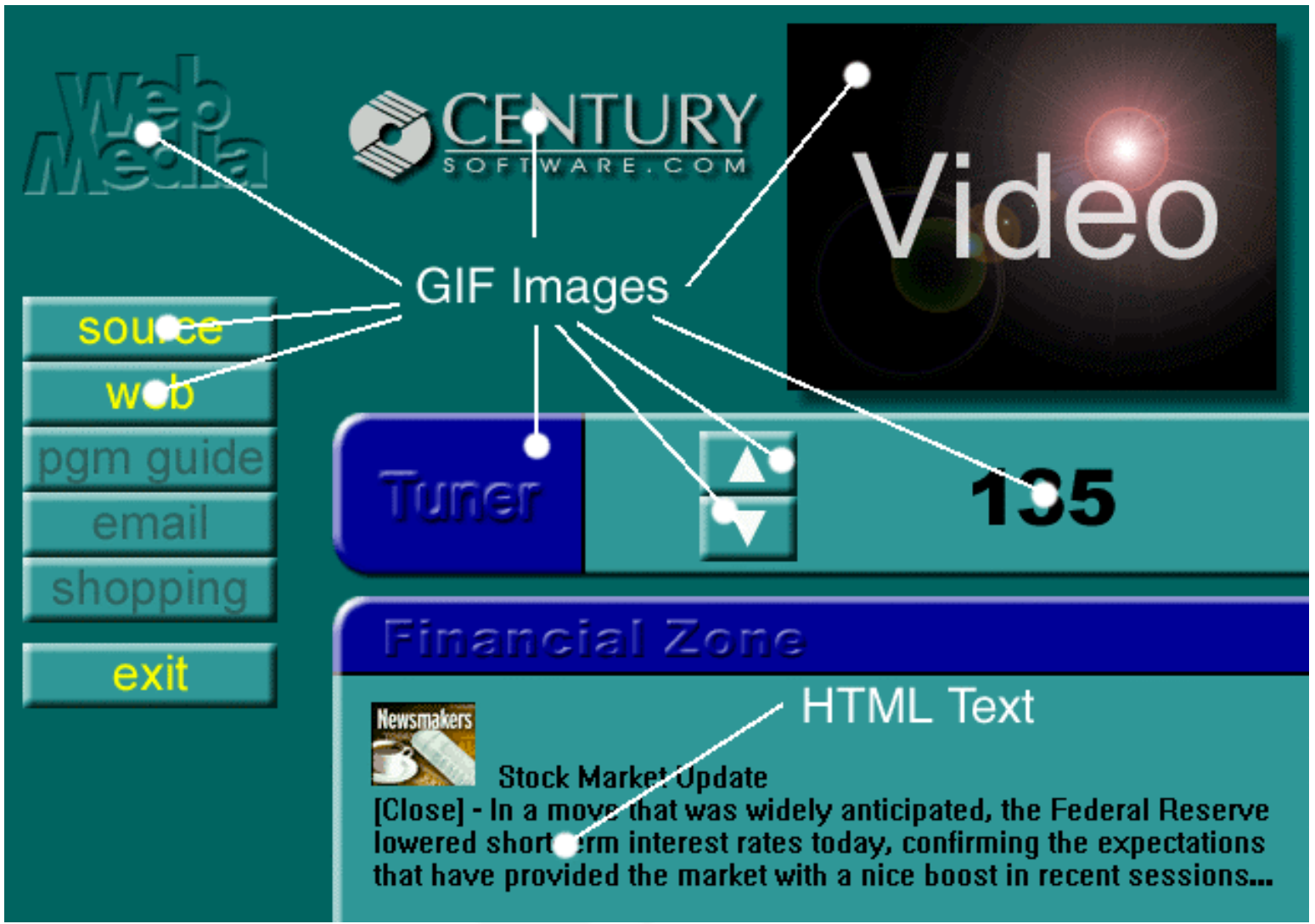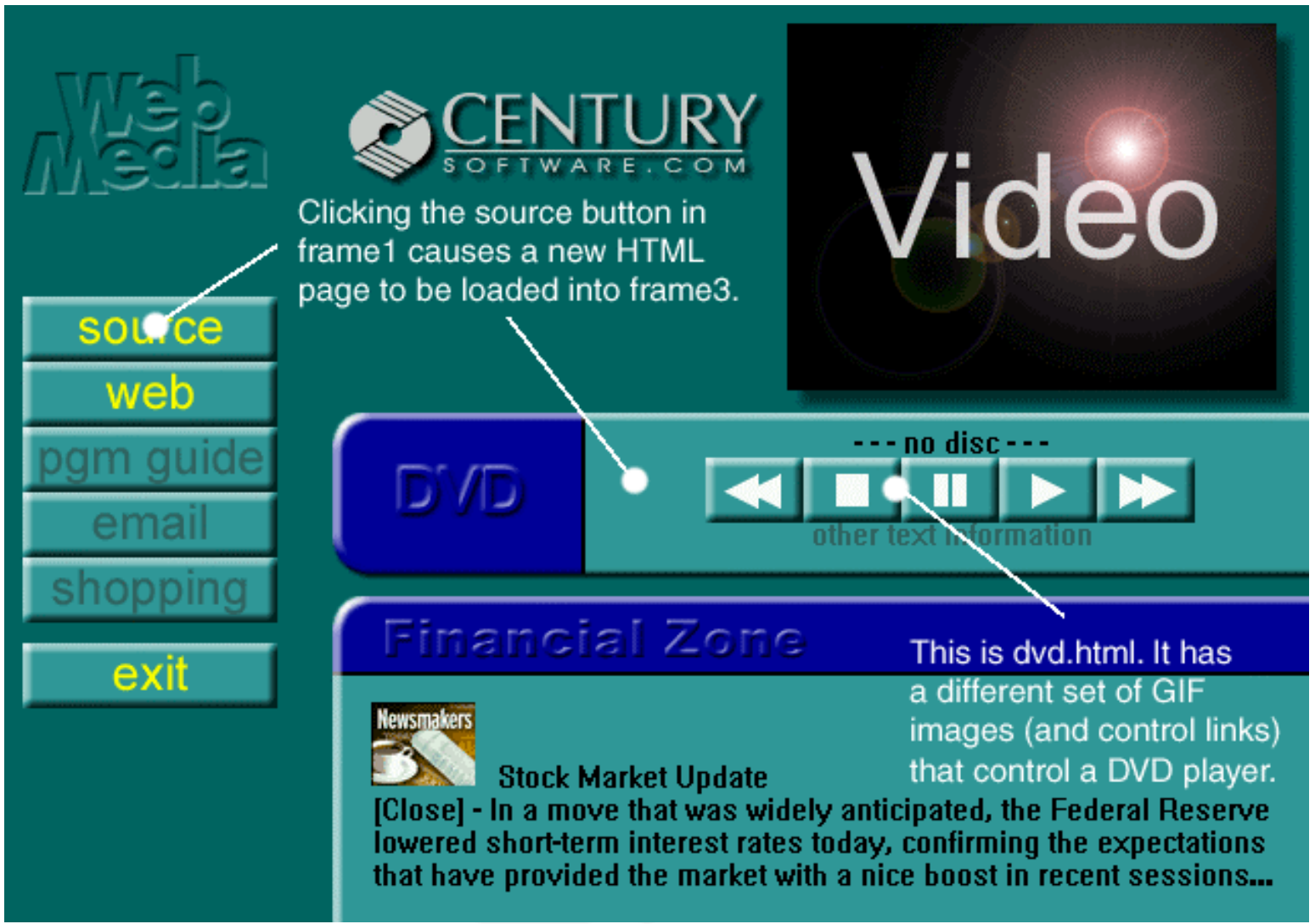
Here are a few of the HTML elements
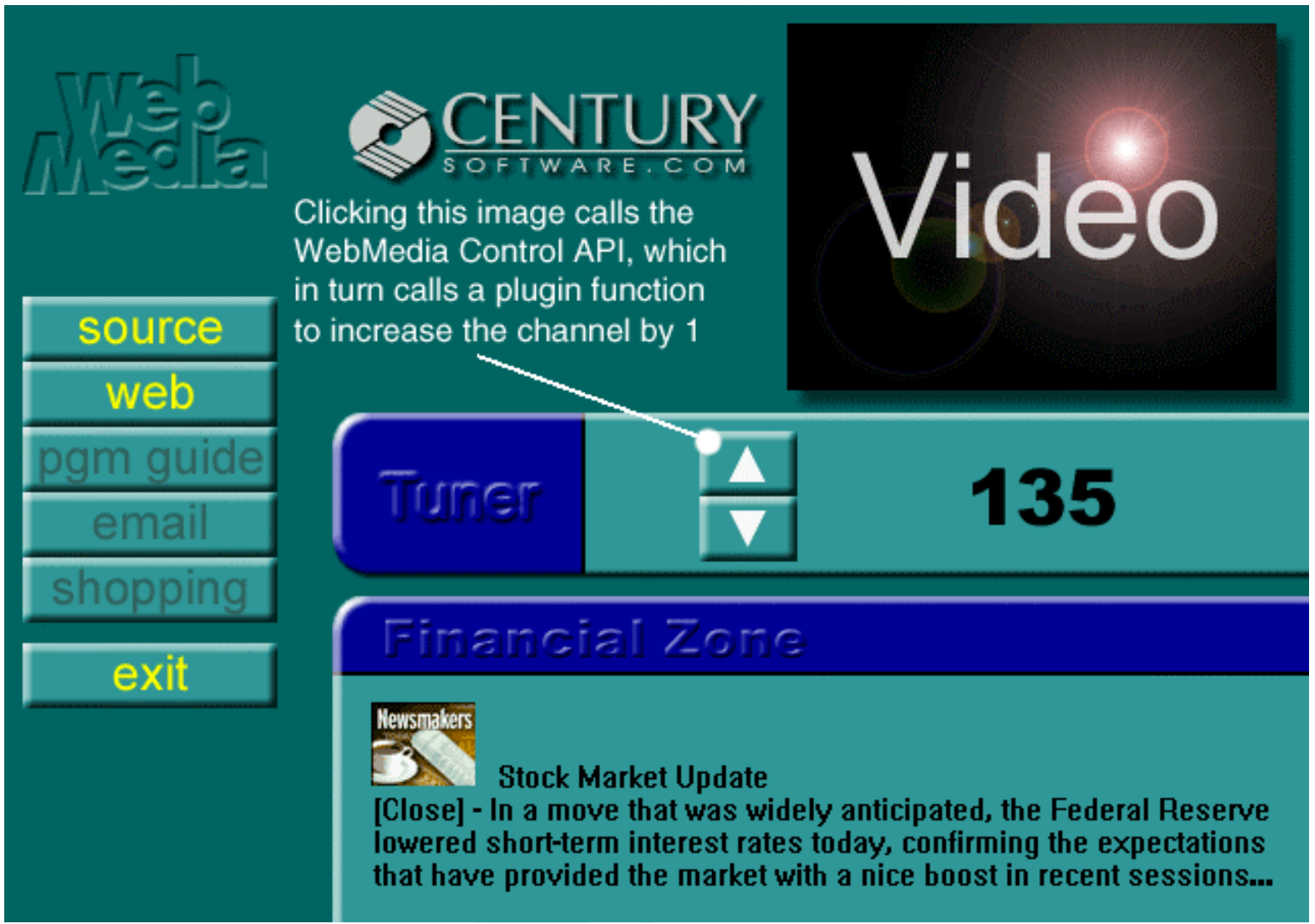
This describes the Viewer and Control API link

This describes the HTML frames interaction

As you can see, it's easy to create complex graphical interfaces for a wide variety of products.

The tools needed to build these user interfaces are simple to use and don't require any programming skills. Anyone who can create a web page can be developing user interfaces in just a few minutes.

Century Embedded Technologies has a wide range of off-the-shelf utilities and applications that can be added to your designs. We can also work with you to create custom plugins that can control any type of hardware ... on any type of system!

WebMedia Summary

- Ideal for embedded applications
- Based on open source projects
- Fast and simple GUI development
- Plugins make WebMedia easily extensible
- WebMedia is a total front-to-back solution

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