



# VIDIVU AND VIDIAUTOMATOR OVERVIEW PAPER

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## 1. OVERVIEW

The rapidly increasing choice of over the top (OTT) web video content is bringing a new challenge to users, service providers and content providers — the discovery and management of content.

The choice available through conventional TV systems is already large and many users struggle to navigate their choices using a simple remote control. Adding the massive choice of OTT content to this causes a breakdown in the way content is selected.

Users do not want to have anything more complex than a remote control in their hand when watching TV. The idea of sitting watching TV with a keyboard on their lap for instance, is not a popular one. This rules out the idea of typing in a search query to the TV screen in order to find content.

Navigating multiple layers of UI choice is equally unappealing to both consumers and content providers. The chances of your content being selected when the users have to navigate down five menu layers are slim.

Not only is this poor for content owners, but it is very frustrating for users.

Consumers already search for content by using browsers on PCs, laptops, tablets and smart phones. If they find the content they like on those devices, why do we make them find it all over again when they sit in front of the TV?

Discover with your personal device. Mark, share, manage, sync to TV with VidiVu



Watch web video in a lean-back mode automatically. Simple remote is all you need to pick your selected content and play it



The VidiVu service from Vidiactive allows users to mark, manage and share the content they've found online and synchronize it with their TV for full screen viewing:

- Users find content discovered on PCs, laptops, smart phones and tablets - the way they do it now
- Pressing "VidiVu" on the browser saves the URL to the user's individual VidiVu profile. This profile syncs to the TV box so the content moves to the user's preselected content list on the TV
- Users then simply pick the preselected content on the TV box using a simple remote
- The VidiAutomator then plays the web video page automatically in 'TV mode'

Using the VidiVu system, users get to use their preferred devices to discover and share content – their laptops, tablets and smart phones. They then get to use their preferred screen for viewing – the TV – to watch that content in a lean-back way.



A demo of the system can be seen at [www.vidiactive.com/demovideo](http://www.vidiactive.com/demovideo) .

## 2. THE COMPONENTS OF THE VIDIACTIVE SOLUTION

The Vidiactive solution comprises the following elements:

**VidiVu** is the online system that allows users to mark, manage and share their favorite online videos.

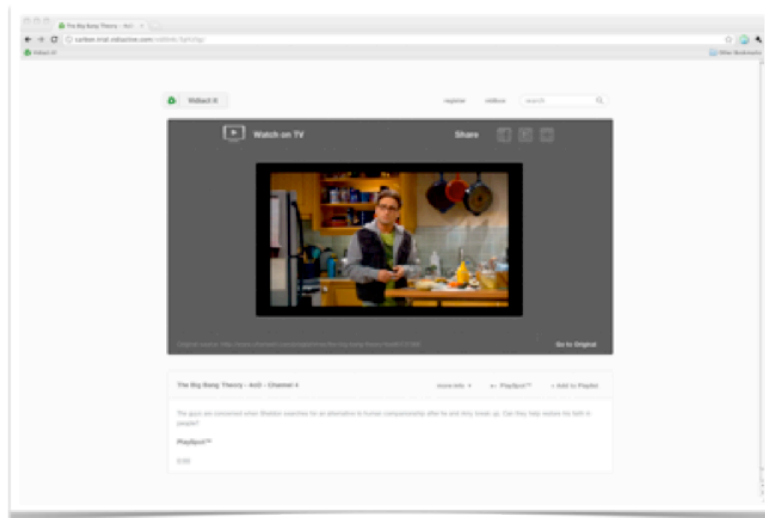
**VidiAutomator** is an optional client technology that automatically transforms websites from lean forward keyboard and mouse experiences, into lean back simple remote control experiences.

## 3. THE VIDI VU SERVICE

The VidiVu service allows consumers to manage and share their web videos from one place.

The VidiVu URL server is the heart of the system: it provides a database that stores URLs of video web pages (i.e. the URLs of web pages at YouTube, iPlayer, SeeSaw etc.). The database also stores user-generated metadata associated with the URL (including title, description and keywords).

The VidiVu portal presents a given video URL from the database along with its metadata on a web page with a unique short URL. This URL is designed for sharing via social networks and acts as a landing page for users to manipulate the video. An example is given below:



The short URL in the example (<http://vidi.vu/231vb5>) is called a VidiLink. It is short enough to be used in services like Twitter as well as other social networks, email and IM.

The portal displays the metadata (including an embedded video if permitted) in one part of the VidiLink page. In another part of the page there are functions for manipulating a VidiLink, as follows:

## Sharing into social networks

Vidiactive leverages other social networks to help users share their favorites and their playlists. Users can do this manually by sharing among themselves. Vidiactive is also developing a Facebook application that will automatically allow updates and playlists to be shared with their network.

## Adding to a playlist

The playlist is a key concept with the VidiVu system. A playlist is simply a collection of VidiLinks, which are in turn described as a VidiLink. For example, a user may want to organize a particular show series into a playlist. That playlist is then given a unique VidiLink.

Other types of playlists that may be created are 'tonight's viewing', 'best goals of the world cup' and so on. When other users click on the playlist VidiLink the entire series of videos plays one after another, either in the user's browser or on the TV screen.

## Sending directly to paired devices that are integrated with the VidiVu system

A device such as a connected TV, set top box or game console can be paired with a user's account. This allows users to send VidiLinks directly to their TV screens for viewing. The connected device (for example a connected TV with a browser) can be integrated with the VidiVu system, or Vidiactive can provide their VidiAutomator client technology to enable the automatic full screen playback of open web video.

A VidiLink is created via two mechanisms:

- From a device running the VidiVu API (the sharing function of the device creates a VidiLink to wrap a normal web video URL prior to sharing so that the recipient lands on the VidiVu portal rather than the end target).
- From a user with a browser button: the 'VidiVu' button.

The browser button is implemented with a 'bookmarklet' that can be installed instantly in any browser by dragging a button to the bookmark bar. Every VidiVu page has this button.



Simply clicking the VidiVu button on the browser when viewing a web video page creates a VidiLink. The button brings up a simple toolbar that pre-populates metadata fields (title, description and a piece of metadata called a PlaySpot — a particular point within the video). Hitting 'Create' on the toolbar saves the new VidiLink.

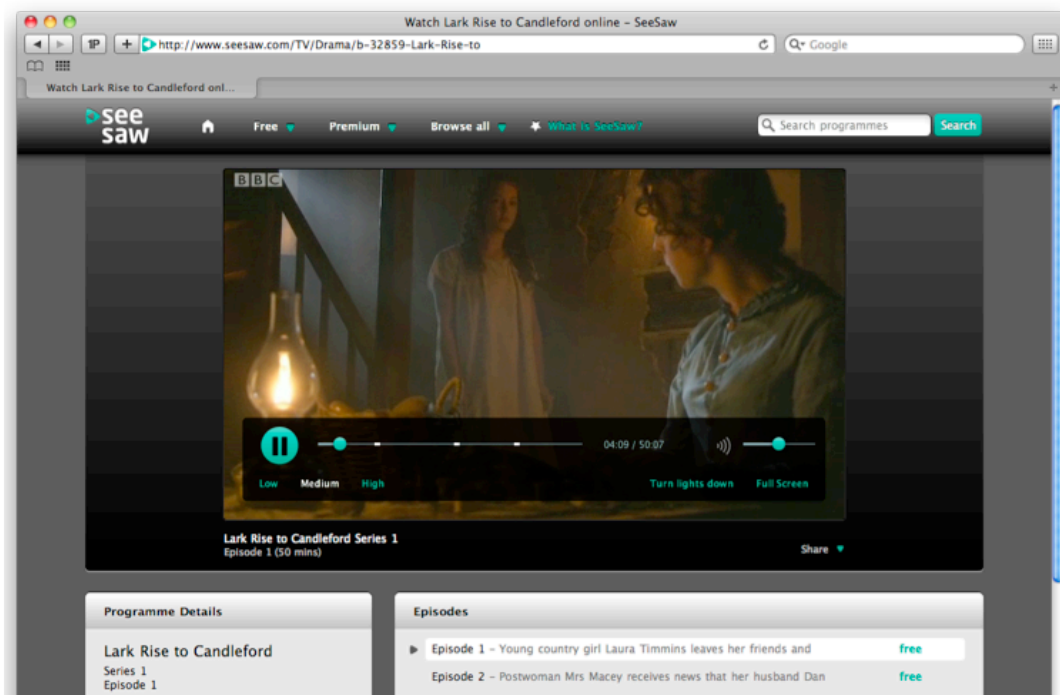
The bookmarklet, social network sharing and the VidiVu landing page can be seen in a demonstration video at:

[www.vidiactive.com/portalpreview](http://www.vidiactive.com/portalpreview)

#### 4. VIDIAUTOMATOR

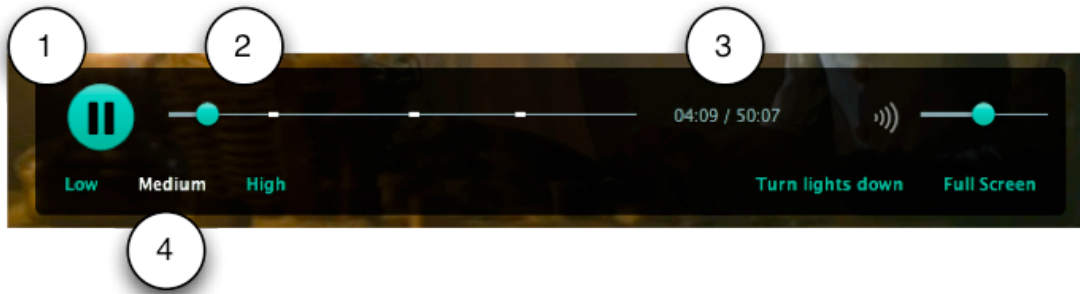
The VidiAutomator is an extension to a WebKit browser. Its purpose is to enable automatic full screen playback of web video, and have that web video selected and controlled with a simple remote.

To illustrate how web video playback works consider the example below of a TV video shown on the web site of SeeSaw, the UK catchup TV aggregator:



The video image and controls on the web page are implemented by SeeSaw in Flash and are rendered by the Adobe Flash 10.1 plug-in that interfaces to the browser.

The VidiAutomator identifies the controls on the page. In the example these are a pause/play button (1), a seek bar (2), the time code of the video (3), and quality controls (4):



The automation system sends to the UI details of what is happening on the web page: whether the video is paused or not, what the current time code is (in the above example, 4 minutes 9 seconds into a 50 minute 7 second video), and what the current quality is. It obtains this information by looking at the web page (using the Webkit DOM) and the rendered image (normally this appears from the Adobe Flash browser plug-in). The VidiAutomator uses image recognition techniques to recognize the controls and their settings. For example, it sees that the video is playing because the control image (1) shows a pause button image.

The system is designed so that any user interface could be used, allowing a hybrid device OEM to (for example) provide web video as 'virtual recordings' and using a single common user interface concept. Vidiactive has also developed its own user interface.

The VidiAutomator takes commands from the UI to control the video. These are mapped into mouse and keyboard events and injected into the browser. In the example, a seek request from the UI is translated into a click-drag mouse sequence that moves the playback button (2) to the correct place.

The zoom information is then sent to the display compositor indicating how the browser page should be displayed on the TV screen. The example is zoomed as follows:



The compositor in a device provides for hardware scaling to the resolution of the TV output (typically 1080 or 720 HD displays).

The UI is rendered over the top of the video when needed (the Vidiactive UI uses controls on a playback bar, but a hybrid device may use a completely different UI paradigm, perhaps a physical remote control with many buttons or even advanced interaction approaches such as gesture recognition).

The automation of a web page and the zooming in and out of the video is illustrated in a demonstration video at:

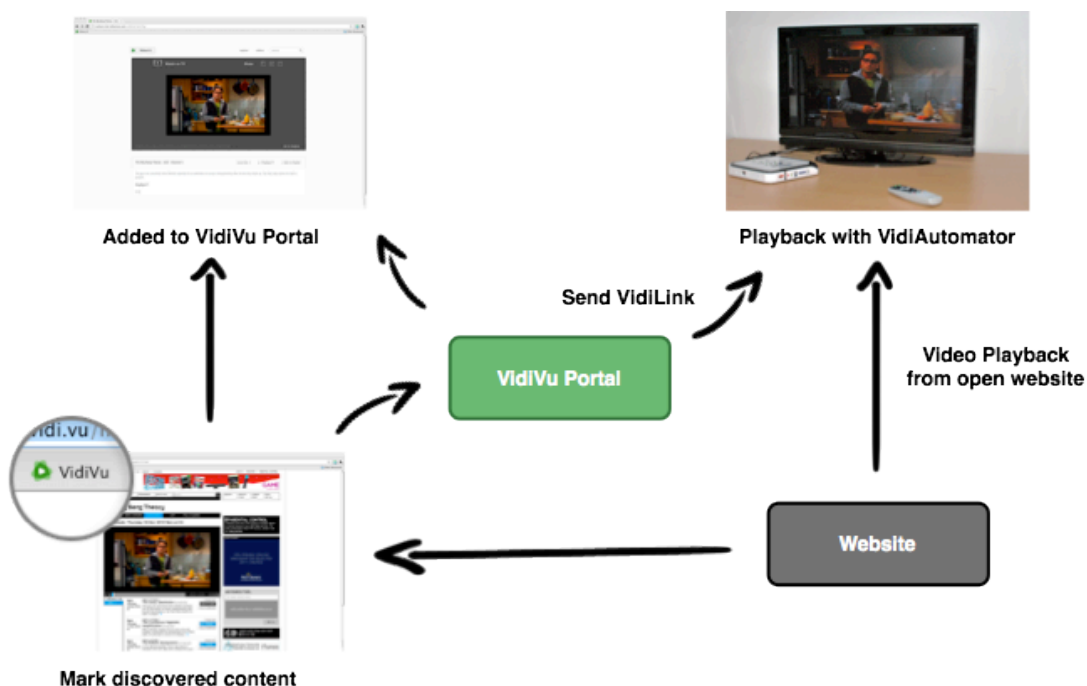
[www.vidiactive.com/browserautomation](http://www.vidiactive.com/browserautomation)

## 5. DEPLOYMENT OPTIONS

The Vidiactive system can be deployed in two ways:

1. The full system using the VidiVu system and the VidiAutomator to mark and view open web content.

In the full deployment of the Vidiactive system, open web video is able to be selected using personal devices and then transformed into TV experiences. This provides users with maximum choice of content as the open web is offered for viewing. The VidiAutomator enables this by transforming content from lean forward websites into full screen lean back TV experiences automatically.





## 6. SUMMARY

The Vidiactive system provides clear benefits for users and industry players:

### **Users**

.. find more of the content they like faster. They have more flexibility in how they manage their viewing and they get great recommendations from their friends.

### **Content owners**

.. get their content discovered much more easily than with a remote control. They also benefit from users sharing links to content with their network.

### **Service providers**

.. provide an easy to use system to consumers and add social TV to their capability.

### **Hardware manufacturers**

.. make their devices far easier to use and remove the requirement for cumbersome keyboard-and-mouse solutions.