

CLAIMS

What is claimed is:

1. A method for visually presenting channel changes on a display, comprising:
displaying a first program in a first window at a first position on the display;
receiving a first channel change command;
changing, in response to the first channel change command, a first visual characteristic of the first window, thereby exposing a portion of a background layer of the display;
displaying at least a portion of a second program in the exposed portion of the display in a second window that is positioned in a vertical direction with respect to the first window;
automatically scrolling the first window and the second window across the display in the vertical direction, such that the first window begins to move out of the display while the second window begins to move in a direction of the first position;
changing, after the second window is at the first position on the display, a second visual characteristic of the second window such that the second window occupies the display, with the first window disappearing from the display.
2. The method of claim 1, further comprising:
displaying, during the scrolling operation, an additional content element ("ACE") on the background layer such that at least a portion of the ACE that is non-overlapping with the first window and the second window is visible.
3. The method of claim 2, wherein the ACE comprises an advertisement.
4. The method of claim 1, wherein the first visual characteristic comprises a first display area of the first window and the second visual characteristic comprises a second display area of the second window.
5. The method of claim 51, wherein changing the first visual characteristic of the first window comprises:
rescaling the first program to fit within the first window.
6. The method of claim 1, further comprising:
providing a visual cue identifying the first position on the display.

7. The method of claim 1, wherein the first channel change command includes a channel-up command and wherein the automatically scrolling in the vertical direction includes moving the first window and the second window in a vertically downward direction.

8. The method of claim 1, wherein the first channel change command includes a channel-down command and wherein the automatically scrolling in the vertical direction includes moving the first window and the second window in a vertically downward direction.

9. The method of claim 1, further comprising:
receiving a second channel change command prior to the changing the second visual characteristic of the second window; and
replacing the second program with a third program.

10. An apparatus for providing visually continuous channel changes on a display having a display area, comprising:
a display module that displays a current program on substantially all of the display area;
a command reception module that receives a command for viewing a next program;
a first rescaler module that rescales, in response to the command, in a visually continuous manner, the current program to fit within a first window in the display occupying an original position on the display;
a presentation module that presents, at least a part of the next program, in a second window that is positioned in a second portion of the display that is non-overlapping with the first portion;
a window transition module that transitions out, in a visually continuous manner, the first window from the display area while transitioning in the second window to the original position previously occupied by the first window; and
a second rescaler module that expands the second window, after the second window is at the original position, to occupy substantially all of the display area.

11. The apparatus of claim 10, further including:
a secondary program display module that displays a secondary program on the display such that the secondary program is visible in an area of display not occupied by the first window and the second window.

12. The apparatus of claim 11, further including:
an analysis module that determines a key portion of the secondary program; and
a window positioning module that positions, based on the key portion of the secondary program, a position for the first window in the display.

13. The apparatus of claim 11 further comprising:
an ad selection module that selects the secondary program based on at least one of the current program and the next program.
14. The apparatus of claim 10, wherein the window transition module transitions out the first window from a top edge or a bottom edge of the display by linearly shifting the first window over a period of time.
15. The apparatus of claim 14, further comprising:
a program decoder module that receives, during the period of time, additional video data for the next program, decodes the additional video data and makes the decoded additional video data available to the presentation module; and wherein
the presentation module refreshes the second window to render the decoded additional video data upon availability thereof.
16. A method for controlling a display to provide an enhanced channel change experience, comprising:
displaying a first channel;
receiving a first command to view a second channel;
initiating a channel change from the first channel to the second channel, in which the channel change includes reducing a display size of the first channel, progressively displaying video from the second channel as more and more data for the second channel is received, scrolling out the first channel such that the first channel gradually disappears from the display, correspondingly scrolling the second channel to take an on-screen position of the first channel, and expanding the second channel to a full size after sufficient data for the second channel is available;
receiving, amid the channel change and prior to the expanding the second channel to the full size, a second command to view a third channel, and in response to the second command; and
progressively displaying video from the third channel as more and more data for the third channel is received, scrolling out the first channel and the second channel such that the first channel and the second channel gradually disappear from the display, correspondingly scrolling the third channel to take a position of the first channel, and expanding the third channel to a full size after sufficient data for the third channel is available.
17. The method of claim 16, wherein the scrolling ~~is~~ not in a vertical direction.
18. The method of claim 17, further comprising:
displaying at least a portion of video from the first channel and the second channel while progressively displaying video from the third channel.

19. The method of claim 17, further including:
tuning, in response to receiving the first command to view the second channel, a radio frequency tuner to a different frequency.

20. The method of claim 17, wherein the progressively displaying video from the second channel includes:
initially decoding and displaying intra coded blocks of the video from the second channel; and
further decoding and displaying inter coded blocks of the video from the second channel upon availability of reference blocks for the inter code blocks.

21. The method of claim 17, further including:
selectively reducing on-screen display sizes of the first channel and the second channel based on a screen area available for displaying the third channel.

~~22. An apparatus for displaying multiple video programs simultaneously, comprising:
a first display module to display a first video program in a first program window;
a second display module to display a second video program in a second program window;
a display window management module to control sizes and positions of the first program window and the second program window such that the second program window is non-overlapping with and positioned directly adjacent to the first program window;
a command module that receives a first command to change channel from the first program to a second program;
a transition module that causes, responsive to the first command, the first program window and the second program window to transition from an initial state in which the first program window is completely visible and at a first position on the screen and a final state in which the first program window is completely invisible and the second program window is at the first position;
a first rescaler module that rescales the first program window from a first full-screen mode in which the first program window occupies an entire screen display area to a first window mode in which the first program window occupies less than the entire screen display area; and
a second rescaler module that rescales the second program window from a second window mode in which the second program window occupies less than the entire screen display area and a second full-screen mode in which the second program window occupies the entire screen display area.~~

~~23. The apparatus of claim 22, wherein the display window management module initially positions the second window to be directly above the first window.~~

~~24. The apparatus of claim 22, further including:~~

— a secondary program display module that displays a secondary program to be visible in an area of display not occupied by the first program window and the second program window.

25. — The apparatus of claim 22, wherein the transition module controls transition from the initial state to the final state in an amount of time during which image information for an entire picture of the second program is received.

26. — The apparatus of claim 22, wherein the transition module controls the transition from the initial state to the final state by scrolling the first program window and the second program window in a vertical direction such that any portion of the first program window and the second program window that falls outside the screen is not displayed.