



PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : H04L 12/24		A1	(11) International Publication Number: WO 99/07111
			(43) International Publication Date: 11 February 1999 (11.02.99)
(21) International Application Number: PCT/US98/15645 (22) International Filing Date: 28 July 1998 (28.07.98) (30) Priority Data: 60/054,199 30 July 1997 (30.07.97) US (71) Applicant (for all designated States except US): SONY ELECTRONICS, INC. [US/US]; 1 Sony Drive, MDT 1-1, Park Ridge, NJ 07656 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): LUDTKE, Harold, Aaron [-/US]; 5876 Ettersberg Drive, San Jose, CA 95123 (US). KAWAMURA, Harumi [-/JP]; 2-12-6-101, Okusawa, Setagaya-ku, Tokyo 158 (JP). SHIMA, Hisato [-/US]; 12610 Paseo Flores, Saratoga, CA 95070 (US). (74) Agents: GALLENSON, Mavis, S. et al.; Ladas & Parry, Suite 2100, 5670 Wilshire Boulevard, Los Angeles, CA 90036-5679 (US).			(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>

(54) Title: METHOD FOR DESCRIBING THE HUMAN INTERFACE FEATURES AND FUNCTIONALITY OF AV/C-BASED DEVICES

(57) Abstract

A method and system for providing a user interface for a networked target device using panel subunit descriptor information maintained by the target device. The present invention utilizes a panel subunit to allow any compliant device (e.g., a target device) to describe the appearance of its physical (and logical) controls and displays to another device (e.g., an intelligent controller) and allows the controller to trigger actions on the target as if a user had physically manipulated the controls on the target device directly. The panel subunit uses objects defined with several standard types of controls and displays (e.g., push buttons, sliders, dials, LCD screens, etc.) that are commonly found on consumer electronic devices. The control types have well defined behaviors (e.g., buttons are pushed, dials are moved, values are input, etc.). In addition, the panel subunit defines a set of commands which are to be applied to any of these controls when selected by the user. The commands are defined to be sufficiently generic so that they apply to most types of controls. The panel subunit also defines generic user interaction commands (or user events) which can be applied to the controls (e.g., press, press and hold, release, input value, etc.) by a user. The purpose of these user events is to encapsulate the typical user manipulated action for the controls and to let the target device decide the manner in which to interpret the user actions on its own. A status descriptor keeps the intelligent controller informed of the status of the target device being manipulated.

