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Electronic program guide (epg) for media center

Electronic programming guide interface on MythTV. Electronic programming guides (EPGs) and interactive programming guides (IPGs) are menu-based systems that provide users of television, radio, and other media applications with continuously updated menus that display scheduling information for current and upcoming programming (most commonly, TV lists). Some tabs also feature back-to-back scrolling to promote your catch up content. They are commonly known as guides or TV guides. Non-interactive electronic programming guides (sometimes known as navigation software) are typically available for television and radio, and consist of a digitally displayed, non-interactive menu of programming information displayed by a cable or satellite television provider to its viewers on a dedicated channel. EPGs are transmitted by specialized video character generation (CG) equipment housed within each provider's central headend facility. When tuning into an EPG channel, a menu is displayed that lists current and future television shows on all available channels. A more modern form of EPG, associated with both television and radio broadcasting, is the interactive [electronic] programming guide (IPG, although often referred to as EPG). [1] An IPG allows television viewers and radio listeners to navigate by programming information menus interactively, selecting and discovering programming by time, title, channel, or genre using an input device, such as keyboard keyboard, computer keyboard or television remote control. Your interactive menus are generated entirely within local receiving or display equipment using raw scheduling data sent by individual or centralized centralized broadcast stations information providers. A typical IPG provides information that covers a period of seven or 14 days. The data used to fill in an interactive EPG can be distributed over the Internet, either at a cost or free of charge, and implemented on equipment connected directly or through a computer to the Internet. [2] TELEVISION-based IPGs in conjunction with Programme Delivery Control (PDC) technology can also facilitate the selection of TV programmes for recording with digital video recorders (DVRs), also known as personal video recorders (PVRs). History Key events The EPG Channel, an electronic program guide (EPG) from 1987. In 1981, United Video Satellite Group launched the first EPG service in North America, a cable channel known simply as the Electronic Program Guide. It allowed cable tv systems in the United States and Canada to provide on-screen ads to their subscribers 24 hours a day (displaying programming information up to 90 minutes in advance) on a dedicated cable channel. Raw listing data for the service was provided via satellite to participating cable systems, each of which installed a computer within its headend facility to present this data to subscribers in a custom format for unique programming of system channels. The EPG Channel would later be renamed The Prevue Guide and would serve as the de facto EPG service for North American cable systems during the remainder of the 1980s, the entirety of the 1990s, and – as TV Guide Network or TV Guide Channel – for the first decade of the 21st century. SuperGuide 1986 In 1986 at a trade show in Nashville,[3] STV/Onsat, a publisher of print programming guides, introduced SuperGuide, an interactive electronic programming guide for viewers of domestic satellite dishes. The system was the focus of a 1987 article in STV Magazine. [4] The original system had a black and white screen, and locally stored programming information for about a week at the time. A remote control was used to interact with the drive. When the user found a show they wanted to watch, he would have to turn off the guide and then tune the satellite receiver to the correct service. The system was developed by Chris Schultheiss of STV/OnSat and engineer Peter Hallenbeck. The guide information was distributed by satellite using the home owner's dish as a receiver. The information was stored locally so that the user could use the guide without having to be on a particular satellite or service. 2nd generation SuperGuide screen, 1990. In March 1990, a second generation SuperGuide system was introduced that was integrated into the Uniden 4800 receiver. [5] This had a color screen and the hardware was based on a custom chip; was also able to disseminate up to two weeks of programming information. When the user found the show of interest, they pressed a button on the remote control and the receiver tuned to the show that they they To watch. This unit also had a single function of recording buttons, and controlled cvrs through an infrared output (see US 5293357). Available in North America, it was the first commercially available unit for home use that had a locally stored guide integrated with the receiver for viewing and recording a single button. A presentation on the system was given at the 1990 IEEE consumer electronics symposium in Chicago. In June 1988, U.S. 4751578 was awarded to Eli Reiter, Michael H. Zemering, and Frank Shannon. This patent concerned the implementation of a searchable electronic program guide – an interactive program guide (IPG). TV Guide Magazine and Liberty Media established a joint venture in 1992 known as TV Guide On Screen to develop an EPG. The JV was led by video game veteran Bruce Davis. [7] Major competitors to the on-screen TV Guide included Prevue Guide and Starsight Telecast. The joint venture introduced the first interactive program guide to the market in late 1995 in the General Instrument CFT2200 assembly cable box. [8] Telecommunications Inc, owner of Liberty Media, acquired United Video Satellite Group, which owns Prevue Guide, in 1995. The on-screen TV Guide and the Prevue Guide were later merged. TV Guide On Screen for digital cable set top boxes debuted in general instrument's DigiCable series of set top boxes shortly after. See wiki in TV Guide for subsequent developments. [9] [circular reference] Western Europe In Western Europe, 59 million television households were equipped with EPGs at the end of 2008, a penetration of 36% of all television households. The situation varies from country to country, depending on the status of the scan and the role of pay-TV and IPTV in each market. With Sky as an early change and the BBC's iPlayer and Virgin Media as ambitious followers, the UK is the most developed and innovative EPG market to date, with 96% of viewers having often used an EPG in 2010. [10] Inview Technology is one of the uk's largest and oldest EPG producers, dating back to 1996 and currently in partnership with Humax and Skyworth. Scandinavia is also a highly innovative EPG market. Even in Italy, EPG penetration is relatively high, at 38%. In France, IPTV is the main driver of EPG developments. Unlike many other European countries, Germany is left behind due to a relatively slow digitisation process and the smaller role of pay TV in that country. [11] Current applications Interactive program guides are almost ubiquitous on most streaming media today. EPGs can be made available via television (in set-top boxes and all current digital TV receivers), mobile phones through smartphone applications) and on the Internet. Online TV guides are becoming more ubiquitous, with over 7 million searches for the TV Guide being recorded every month on Google. [12] For television, IPG support is on almost all modern receivers for digital cable, digital satellite and digital air transmission. They are also commonly featured in digital video recorders like TiVo and MythTV. More high-end receivers for digital broadcast radio and digital satellite radio usually feature embedded IPGs as well. The demand for non-

interactive electronic program guides – television channels that display listings for future viewing and programming today – has been almost eliminated by the wide availability of interactive television program guides; The TV Guide Network, the largest of these services, eventually abandoned its original purpose as a non-interactive EPG service and became a traditional general entertainment channel, eventually rebranding as Pop in January 2015. Television-based IPGs provide the same information as EPGs, but faster and often in much more detail. When television IPGs are supported by PVRs, they allow viewers to plan viewing and recording by selecting broadcasts directly from the EPG, rather than setting timers. The aspect of an IPG most noticed by users is its graphical user interface (GUI), typically a grid or table listing channel names and program titles and schedules: Web-based and television-based IPG interfaces allow the user to highlight any given listing and call for additional information about it provided by the EPG provider. Programs offered from subchannels can also be listed. Typical IpGs also allow users the option to search by genre, as well as instant one-touch access or recording of a selected program. Reminders and parental control functions are also often included. IPGs within some DirecTV IRDs can control a VCR using a connected infrared emitter that emulates your remote control. The latest development in IPGs is customization through a recommendation mechanism or semantics. Semantics are used to allow interest-based suggestions for one or more viewers about what to watch or record based on past patterns. One of these IPG, iFanzy, allows users to customize their appearance. Standards for delivering scheduling information to television-based IPGs vary from application to application and country. Older television ipGs, such as Guide Plus+, had analog technology (such as the vertical blank range of analog television video signals) to distribute listing data to IPG-enabled consumer receiving equipment. In Europe, the European Telecommunications Standards Institute (ETSI) has published the ETS 300 707 standard to standardize the delivery of IPG data through television broadcast signals Data from IPGs listings integrated into today's current day digital terrestrial television and radio receivers is typically sent within the MPEG transport stream of each station, or next to it in a special data stream. The ATSC standard for digital terrestrial television, for example, uses tables in the PSIP of each station. These tables are intended to contain program start times and titles, along with additional descriptive program metadata. Current time signals are also included for on-screen display purposes, and they are also used to set timers on recording devices. Devices embedded in modern digital TV receivers and satellites, on the other hand, usually rely on metadata aggregators from third-party lists to provide them with their on-screen listing data. Such companies include Tribune TV Data, Gemstar-TV Guide (now TiVo Corporation), FYI Television, Inc. in the United States and Europe; TV media in the United States and Canada; Dataservices broadcasts in Europe and Dayscript in Latin America; and what is in India Media Pvt. Ltd in India, Sri Lanka, Indonesia, Middle East and Asia. Some IPG systems embedded in older set-top boxes designed to receive terrestrial digital signals and televisions with embedded digital tuners may have a lower degree of interactive features compared to those included in cable, satellite and IPTV converters; Technical limitations on these models may prevent users from accessing program listings in addition to (no more) 16 hours in advance and complete program synopses, and the IPG's inability to analyze synopses for certain Programs of the MPEG stream or display listings the next day by 12:00 .m local time. IPGs built into newer TELEVISION (including Smart TV), digital terrestrial set-top box and antenna-ready DVR models feature on-screen displays and interactive guide features more comparable to their pay-TV sets, including the ability to display grids and, in the case of dvrs intended for terrestrial use, the ability – with an Internet connection – to access over-the-top service listings and content. A growing trend is for manufacturers like Elgato and Topfield and software developers like Microsoft in their Windows Media Center to use an Internet connection to acquire data for their embedded IPGs. This allows for greater interactivity with IPG, such as media downloads, series recording, and recording programming for IPG remotely; for example, IceTV in Australia allows TiVo-like services for competing DVR/PVR manufacturers and software companies. In IPG software development, manufacturers must include functions to handle the increasing volumes of increasingly complex data associated with programming. This data includes program descriptions, schedules, and parental television ratings, along with flags for technical and access features such as display formats, closed captions, and Descriptive Video Service. They should also include configuration information from the such as favorite channel lists and multimedia content. To meet this need, some set-top box software designs incorporate a database layer that uses any functions or a built-in database business system for sorting, storing, and retrieving programming data. [14] See also digital video recorders NexTView Teletext TV Genius Video on demand MythTV Agenda direct references ^ A typical pvr site that makes no references to IPG, instead using EPG for the interactive electronic programming guide, as can be confirmed with a search on the site. O Toppy. ^ An example of a computer program for exporting data derived from the Internet from an EPG (DigiGuide) to set timers on a PVR (Topfield). Lineone.net. ^ 1986 List of Exhibitors STTI, p. 33 ^ STV Magazine. May 1987 p. 14 ^ Onsat Magazine. 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