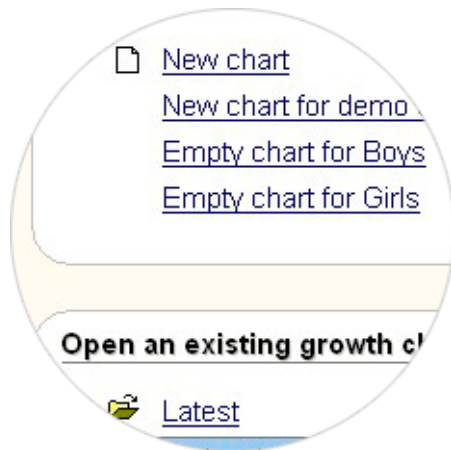


PC PAL presents GrowthXP, a comprehensive new tool for monitoring the growth and pubertal development of children and teenagers.

GrowthXP

GrowthXP is a complete tool for the management of growth and puberty data, suitable for monitoring every child from birth to adulthood.

The software can display and print all standard U.S. charts. With SQL-based data storage, GrowthXP constitutes a complete



electronic diary that can be used as a complement to pre-existing systems.

Our experience

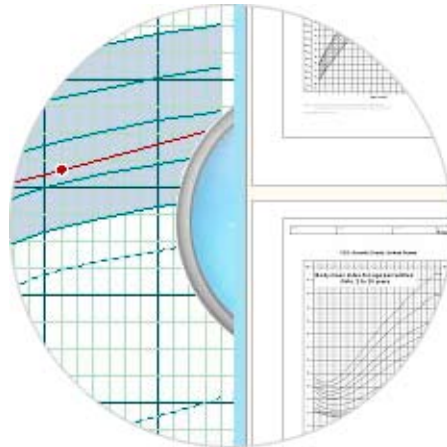
Drawing on PC PAL's extensive experience programming growth charts for Swedish county schools, GrowthXP plots all standard U.S. charts accurately and efficiently.

Complete growth data

The software provides for simple, intuitive input of all variables to be plotted. All data is automatically checked for typing errors.

Calculated variables

Some variables are calculated automatically from the data entered, providing additional growth information. Several variables can also be plotted in comparison with normal values.



Interactive charts

All data entries immediately update related charts, giving instant feedback on growth status. Charts are always displayed in relation to the child's current age.

Advanced zooming

Two unique functions facilitate easy adjustment of the zoom factor and focus.

High resolution

Thanks to our advanced graphics technology, growth charts are amazingly sharp on screen. Three settings let you optimize output quality on your printer.

Logging

The system automatically stores the full history of data entries, as well as certain pre-defined activities.

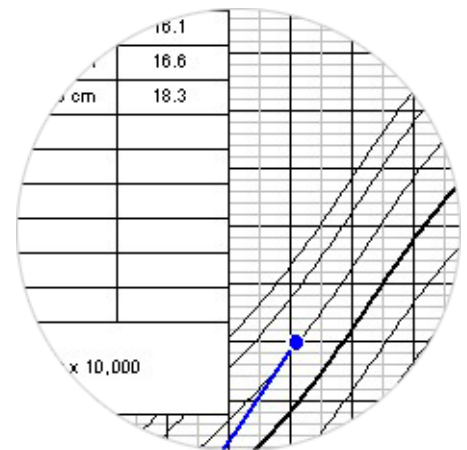
Every system log-in and log-out is tracked and stored in a separate log for easy retrieval.

Multi-tier technology

The system is built around multi-tier technology and uses "smart" clients. The client side has no database connection. Instead, it sends re-

quests to the database on the application server for operations like storing and retrieving data.

The application server checks both user and session authorizations. It also supervises encrypted data transmission between the client and the database.



On the database server, Microsoft SQL Server manages data transmission, data retrieval, and activity logs. The multi-tier technology makes the system fast, efficient, and scalable.

Smart clients

GrowthXP combines advanced Internet technology with the best standalone client applications.

The software is extremely fast. Verifications, calculations and chart-updates are instantaneous. Data is transmitted between the server and the client via an advanced Internet technology, using optimized programming to reduce bandwidth and accelerate response time.

The software also offers an auto-update function that can check for and auto-install newer versions.



Specifications

<p>EASY TO USE WITH A MODERN DESIGN GrowthXP has a modern look and an intuitive user interface that provides for web-like navigation. Some shortcuts are pre-defined.</p>	<p>TIMELINE GrowthXP displays a timeline tracking visit dates and age, which also acts as a navigator to scroll through visits.</p>
<p>STANDARD U.S. CHARTS The software includes the standard U.S. charts developed by the Center for Disease Control and Prevention, covering growth from birth to age 20.</p>	<p>AUTO-UPDATE An auto-update function checks for and, if you choose, auto-installs newer versions.</p>
<p>DISEASE CHARTS The standard charts for Turner and Downs syndromes are under development and will be released in Q4-2005.</p>	<p>CONTROLLED UPDATES The auto-update function can also run from your own server, giving your organisation the full control on the distributed versions.</p>
<p>BIRTH DATA Includes pregnancy data as well as birth height, weight and head circumference.</p>	<p>INTERNET TECHNOLOGY The most advanced Internet technology handles data transport and remote data management.</p>
<p>GROWTH DATA Height, weight, head circumference, and leg length.</p>	<p>MULTI-TIER TECHNOLOGY Smart client, application server, and database server are separated for maximum efficiency.</p>
<p>PUBERTAL DATA Pubertal pilosity, testicular volume, genitalia development, mammary development and date of first period.</p>	<p>EASY CLIENT-SIDE INSTALLATION Our smart clients keep installation simple. No complex database drivers installed on the client side.</p>
<p>CALCULATED BIRTH DATA Birth size in standard deviation is automatically calculated as a function of pregnancy duration and birth height, weight and head circumference.</p>	<p>ENCRYPTED DATA TRANSFERS For added security, GrowthXP uses SSL (Secure Socket Layer) to encrypt both data transfers and data packets.</p>
<p>CALCULATED ADULT HEIGHT Adult height is automatically estimated on the basis of the parents' heights.</p>	<p>USER MANAGEMENT User management and control is internal to the application, but the system can be adapted to an external authorization service.</p>
<p>CALCULATED VARIABLES PER VISIT For each visit, several growth variables are automatically calculated, including BMI, height SDS, and growth velocity.</p>	<p>ADMINISTRATOR LOGIN The administrator logs in to a separate application with no access to personal data.</p>
<p>AUTOMATIC CHECKS Data entries are automatically checked for inconsistencies in comparison to norms, given soft and hard limits.</p>	<p>CLINIC MANAGEMENT Data storage is highly flexible. Patient data can be grouped across multiple clinics if needed.</p>
<p>INTERACTIVE CHARTS All data entries immediately update related charts. Chart displays are zoomed to the typed value.</p>	<p>FULL AUDIT TRAIL All data changes are logged with date, time and user stamps. Previous values are stored for reference.</p>
<p>HIGH RESOLUTION Thanks to our advanced graphics technology, growth charts are amazingly sharp on screen.</p>	<p>ACTIVITY LOG The log stores user actions (login, logout, open file, etc.) with date, time and user stamp.</p>
<p>ADVANCED ZOOMING Two unique functions facilitate easy adjustment of the zoom factor and focus.</p>	<p>SQL DATABASE SERVER The database management system is Microsoft SQL Server. Standard SQL commands are used.</p>

GrowthXP was developed with Borland Delphi 2005 and uses Microsoft-recommended multi-tier technology.

Hardware and software requirements

Smart clients:

Microsoft Windows 98, NT4, 2000, XP
Screen resolution at least 800 x 600. 1024 x 768 or higher recommended
Mouse, keyboard
15 MB hard disk space
No complex database drivers installed.

Application and database server:

Windows 2000 Service Pack 4
Windows Server 2003 Service Pack 1
Windows Server 2003 Service Pack 2
Windows XP Service Pack 2



PC PAL has more than 15 years experience in developing software and databases for growth data, growth charts and growth related calculations.

Growth Charts from PC PAL are often included in electronic medical record software from other suppliers and are available to more than 50.000 users world wide.

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