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|---|-----------------|----------------------------|--------------|-----------------------------|--------------------|
| Program GrowthXP | Version 1.02 | Country/Special Germany | Doc ver 2 | Written by Danuta Herzog | Date 2009-05-21 |
| Specification List of functions included in GrowthXP Viewer 1.02 | | | | | Page 1/4 |

Purpose

This document lists all the functionality included in GrowthXP Viewer version 1.0. It also displays the differences with those in the standard Pro server version.

List of functionality

| | Pro Server version | Pro Viewer version |
|---|--------------------|--------------------|
| GENERAL FUNCTIONALITY | | |
| Search patient -search on patient ID, or from list showing the latest patients selected | Yes | |
| Select patient | Yes | |
| Create new patient | Yes | |
| Delete patient -For the Server version the deleted data is kept in the database (for the Audit Trail) -For the Stand alone version the data is completely removed | Yes | |
| Edit patient details -name, social security number, sex | Yes | |
| Select visit -via timeline, dropdown visitlist or < > buttons | Yes | Yes |
| Create new visit | Yes | |
| Delete visit | Yes | |
| Edit visit date | Yes | |
| Save data | Yes | |
| Cancel changes -when selecting another patient or when logging off, the user is asked to save or cancel the entered data | Yes | |
| DATA ENTRY / VARIABLES INCLUDED The following variables can be entered into the application: | | |
| Variables - once per patient: | | |
| Local ID | Yes | Yes |
| Birth date | Yes | Yes |
| Sex | Yes | Yes |
| First name | Yes | Yes |
| Surname | Yes | Yes |
| Gestational age, completed weeks | Yes | Yes |
| Gestational age, additional days | Yes | Yes |
| Birth weight | Yes | Yes |
| Birth length | Yes | Yes |
| Birth head circumference | Yes | Yes |
| Mother's height | Yes | Yes |
| Mother's weight | Yes | Yes |
| Mother's head circumference | Yes | Yes |
| Father's height | Yes | Yes |
| Father's weight | Yes | Yes |
| Father's head circumference | Yes | Yes |
| Date of menarche (for girls only) -can handle incomplete dates | Yes | Yes |

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| Variables - once per visit: | | |
|---|-----|-----|
| Visit date | Yes | Yes |
| Measured at -free text field | Yes | Yes |
| Height | Yes | Yes |
| Weight | Yes | Yes |
| Head circumference | Yes | Yes |
| Sitting height | Yes | Yes |
| Pubic hair stage -stage 1-5 according to Tanner | Yes | Yes |
| Breast (girls) or genital stage (boys) -stage 1-5 according to Tanner | Yes | Yes |
| Testicular volume left and right (for boys only) | Yes | Yes |
| Add additional comments -for Patient/Birth and Visit sections there is a possibility to enter additional comments if needed | Yes | Yes |
| DATA ENTRY VALIDATION | | |
| Patient ID validation -checks the standard social security number | Yes | |
| Data entry validations -all measurements are checked to see if the values entered are reasonable -there are both hard and soft ranges in the validation, the hard range stops the user from entering a value that is out of range. The soft range gives a warning to the user that the value might not be correct, but the user can ignore the warning. | Yes | |
| CALCULATIONS | | |
| The following calculations are automatically performed in the application when patient and visit data has been completed: | | |
| Calculations made for each patient: | | |
| Age, chronological | Yes | Yes |
| Birth weight SDS | Yes | Yes |
| Birth length SDS | Yes | Yes |
| Birth head circumference SDS | Yes | Yes |
| Target height, cm | Yes | Yes |
| Target height SDS | Yes | Yes |
| Mother's BMI | Yes | Yes |
| Father's BMI | Yes | Yes |
| Calculations made for each visit: | | |
| BMI kg/m ² | Yes | Yes |
| BMI SDS | Yes | Yes |
| Body Surface Area, m ² | Yes | Yes |
| Weight for height, % | Yes | Yes |
| Height SDS | Yes | Yes |
| Weight SDS | Yes | Yes |
| Height SDS, corrected for target height SDS | Yes | Yes |
| Height velocity, cm/year | Yes | Yes |
| Height velocity SDS | Yes | Yes |
| Height velocity Interval | Yes | Yes |
| Height velocity Mean Age | Yes | Yes |
| Sitting height velocity, cm/year | Yes | Yes |
| Leg length | Yes | Yes |
| Leg length velocity, cm/year | Yes | Yes |

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| GROWTH CHART FEATURES | | |
|--|-----|-----|
| Selection/display of the following charts: | | |
| Group German: -Height and Weight chart 0-20 yrs -Head circumference 0-6 yrs -BMI 0-18 yrs | Yes | Yes |
| Group Turner: -Turner syndrom chart Height 0-21 yrs -Turner syndrome chart Height Velocity 0-21 yrs | Yes | Yes |
| Group Turkish: -Turkish children raised in Germany Height and weight 0-20 yrs -Turkish children raised in Germany BMI 0-18 yrs | Yes | Yes |
| Group Premature: -Premature height, weight and head circumference 24-42 weeks | Yes | Yes |
| Group Lists: -3 lists with table views of entered or calculated measurements (auxology and puberty, auxology including SDS and birth data) | Yes | Yes |
| Mini charts at data entry time: -mini-charts are displayed on data entry screens, featuring dynamic and instant plotting of the entered value on the chart. -the mini charts are displayed for the following sections: Birth, Auxology and Puberty for the variables length/height, weight, head circumference, sitting height, BMI and puberty. | Yes | Yes |
| When viewing the charts the following features are available: | | |
| All charts are printable, including the mini charts on the data entry screens -print function activated when selected a specific chart, or standing on a specific data entry screen (Birth, Auxology or Puberty) | Yes | Yes |
| Corrected age curve for premature children (GA <37 weeks) -2 curves are plotted during the child's first two years, one showing the biological age and the other the corrected age | Yes | |
| Zoom chart to page height | Yes | Yes |
| Zoom chart to page width | Yes | Yes |
| Zoom to last view | Yes | Yes |
| Zoom chart with Zoom navigation tool | Yes | Yes |
| Zoom chart with Magnifying glass tool | Yes | Yes |
| Copy chart to clipboard - to paste the chart image in another application such as e.g. Word, PowerPoint etc. | Yes | Yes |
| HELP PAGES | | |
| Help exists in the application covering the following sections: | | |
| Introduction: About the UI, Getting started | Yes | Yes |
| Growth Charts: Growth Charts selection, References | Yes | Yes |
| Patient data: How to add/view | Yes | Yes |
| Visit data: How to add/view Auxology, Puberty, Calculated values | Yes | Yes |
| DATA STORAGE | | |
| Data is stored within, and retrieved from, a database as follows: | | |
| Microsoft SQL Server database - using the customers existing license, no license to database provided. | Yes | |
| Multi-user capabilities allowing data to be shared among users | Yes | |
| Local, proprietary file format for data storage | | |

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| SECURITY | | |
|---|-----|-----|
| User authentication -unique username and password required for login | Yes | |
| Automatic log off -after 60 minutes, without preserving unsaved data | Yes | Yes |
| Encrypted data transfer -when loading and saving data to server | Yes | |
| Audit Trail -log of all changes of the data entered in the application such as changes done by whom, old value, new value, when and why | Yes | |
| Activity log -logs all user activity such as log in, unsuccessful attempts to login, viewed patients, added patients, deleted patients and log off | Yes | |
| E-signature -the person responsible for entering the data signs it to assure that the information is correct | Yes | |
| USER ADMINISTRATION | | |
| Add and delete users -deleted users are not be deleted from the database, but deactivated | Yes | |
| Automatic user registration when used with external application -allowing the user to use single-sign on | Yes | |
| INSTALLATION / UPGRADES / INTEGRATIONS | | |
| Client installation program | Yes | Yes |
| Possibility to call the application with certain parameters to allow integration with external applications. | Yes | |
| XML file import | | Yes |
| XML file export | | Yes |

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