

Program GrowthXP	Version 1.0	Country US / CA	Doc ver 1	Written by Danuta Herzog	Date 07-11-2006
Specification List of functions included in GrowthXP					Page 1/4

Purpose

This document lists all the functionality included in GrowthXP version 1.0. It also displays the differences between the functionality included in the server version and the stand alone version.

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

Variables entered once per visit:		
Visit date	•	•
Height	•	•
Weight	•	•
Head circumference	•	•
Sitting height	•	•
Pubic hair stage -stage 1-5 according to Tanner	•	•
Breast (girls) or genital stage (boys) -stage 1-5 according to Tanner	•	•
Testicular volume left and right (for boys only)	•	•
Add additional comments -for Patient/Birth and Visit sections there is a possibility to enter additional comments if needed	•	•
DATA ENTRY VALIDATION		
Patient ID validation -checks the Swedish standard social security number and also temporary social security numbers	•	•
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, and the soft range gives a warning to the user that the value might not be correct, but the user can ignore the warning.	•	•
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	•	•
Birth weight SDS	•	•
Birth length SDS	•	•
Birth head circumference SDS	•	•
Target height, cm	•	•
Target height SDS	•	•
Mother's BMI	•	•
Father's BMI	•	•
Calculations made for each visit:		
BMI kg/m ²	•	•
BMI SDS	•	•
Body Surface Area, m ²	•	•
Weight for height, %	•	•
Height SDS	•	•
Weight SDS	•	•
Height SDS, corrected for target height	•	•
Height velocity, cm/year	•	•
Height velocity SDS	•	•
Height velocity Interval	•	•
Height velocity Mean Age	•	•
Sitting height velocity, cm/year	•	•
Leg length	•	•
Leg length velocity, cm/year	•	•

GROWTH CHART FEATURES		
Selection/display of the following charts:		
Group CDC-individual: -Length 0-3 years -Weight 0-3 -Head circumference 0-3 years -Weight for length 0-3 years -Stature 2-20 years -Weight 2-20 years -Weight for stature -BMI 2-20 years -Premature	•	•
Group CDC-clinical: -Length and weight 0-3 years -Head circumference and weight for length 0-3 years -Weight and Stature 2-20 years -Weight for stature -BMI 2-20 years -Premature	•	•
Group CDC-WIC: -Stature/length and weight 0-3 years -Stature and weight 2-5 years -Head circumference and weight for length 0-3 years -BMI 2-20 years	•	•
Group Lists/Tables: -3 lists with table views of entered measurements (auxology and puberty, auxology including SDS, and birth data)	•	•
When viewing the charts 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)	•	•
Corrected age curve for premature children (GA <37 weeks) -2 curves are plotted during the child's first two years, one showing the chronological age and the other the corrected (biological) age	•	•
Zoom chart to page height	•	•
Zoom chart to page width	•	•
Zoom to last view	•	•
Zoom chart with Zoom navigation tool	•	•
Zoom chart with Magnifying glass tool	•	•
Copy chart to clipboard - to paste the chart image in another application such as e.g. Word, Power Point etc.	•	•
HELP PAGES Help exists in the application covering the following sections:		
Introduction: About the UI, To get started	•	•
Growth Charts: Growth Charts selection, References	•	•
Patient data: How to add/view	•	•
Visit data: How to add/view Auxology, Puberty, Calculated values	•	•
DATA STORAGE Data is stored within, and retrieved from, a database as follows:		
Microsoft SQL Server database - using the customers existing license, no database license provided.	•	-
Multi-user capabilities allowing data to be shared among users	•	-
Local, proprietary file format for data storage	-	•

SECURITY		
User authentication -unique username and password required for login	•	-
Automatic log off -after 60 minutes	•	-
Encrypted data transfer -when loading and saving data to server	•	-
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 -can be viewed from the user interface	•	-
Activity log -logs all user activity such as log in, unsuccessful attempts to login, viewed patients, added patients, deleted patients and log off	•	-
E-signature -the person responsible for entering the data signs it to assure that the information is correct	•	-
USER ADMINISTRATION		
User registration for external applications -allowing the user to use single-sign on	•	-
Add and delete users -the users will not be deleted from the database, but only deactivated	•	-
Management of user rights -deciding what functionality should be available for a certain group of user	•	-
INSTALLATION / UPGRADES / INTEGRATIONS		
-Client installation program	•	•
Automatic upgrades -upgrading to latest version of the application, for new functionality.	-	•
Integration of the application into external applications	•	-