



WISE COACH

APPLICATION SERVER



Copyright

© 2007-2009 Wise Technologies Ltd. All rights reserved.

Worldwide Technical Support and Product Information

www.wise-coach.com

Wise Technologies Corporate Headquarters

Wise Technologies Ltd.

Jarska cesta 10a

SI-1000 Ljubljana, Slovenia

Tel: +386 (0)1 541 41 30

Fax: +386 (0)1 541 41 32

Email: info@wise-t.com

www.wise-t.com

Publication date: December 15, 2009

WISE COACH

Application server

Content

Application server: General	iv
System Topology	v
Standard measurement procedure.	vi
Additional measurement procedure	vi
 CHAPTER 1	
Logging into the program	4
 CHAPTER 2	
Organization of the program	8
Program navigation.	8
Main menu	8
Side menu	10
Status bar.	10
Other common elements in the program.	10
 CHAPTER 3	
Managing subjects	14
Adding a new subject.	14
1 of 5: Personal data	14
2 of 5: Body composition	15
3 of 5: Sport path.	16
4 of 5: Primary sport	18
5 of 5: Current injuries	19
Confirming the new subject data.	20
Searching, filtering and viewing subject data.	21
Searching, filtering and viewing subject data	21
Working with the result grid	23
Adding new subject or new visit of an existing subject.	24
Editing an existing subject.	25
Deleting an existing subject/visit	25
Printing the subject/visit data.	25

Managing subject groups	26
Searching for groups	26
Adding, Editing and Deleting groups	26
Adding and removing subjects to/from a group	27
 CHAPTER 4	
Dealing with measurement plans	30
New measurement plan generation	30
Viewing and preparation of measurement plans	31
Import of completed plans	36
Creating from field measures	40
Withdrawal of the currently active plan	48
 CHAPTER 5	
Measurement result management and analysis	52
Viewing results	52
Display of a desired result and its analysis	56
Adding a custom measurement to an existing plan	59
Creating a report	62
Performing a reanalysis of the collected measurement data with LabVIEW modules	64
Creating a new custom measurement template	67
Managing custom measurement templates	68
 CHAPTER 6	
Reports	72
Generating a new report template	72
Managing report templates	73
Viewing the generated reports archive	78
 CHAPTER 7	
Data management	82
Managing primary sport data	82
Input data management	84
 CHAPTER 8	
Connections and transfers	88
Managing applications' TCP and FTP servers	88

CHAPTER 9

Various application settings	92
General settings	92
Report settings	94
User management	95
Viewing the application logs	96

CHAPTER 10

PC/Laptop and PDA stationary client	100
Client plan management and measuring	100
Client settings	106

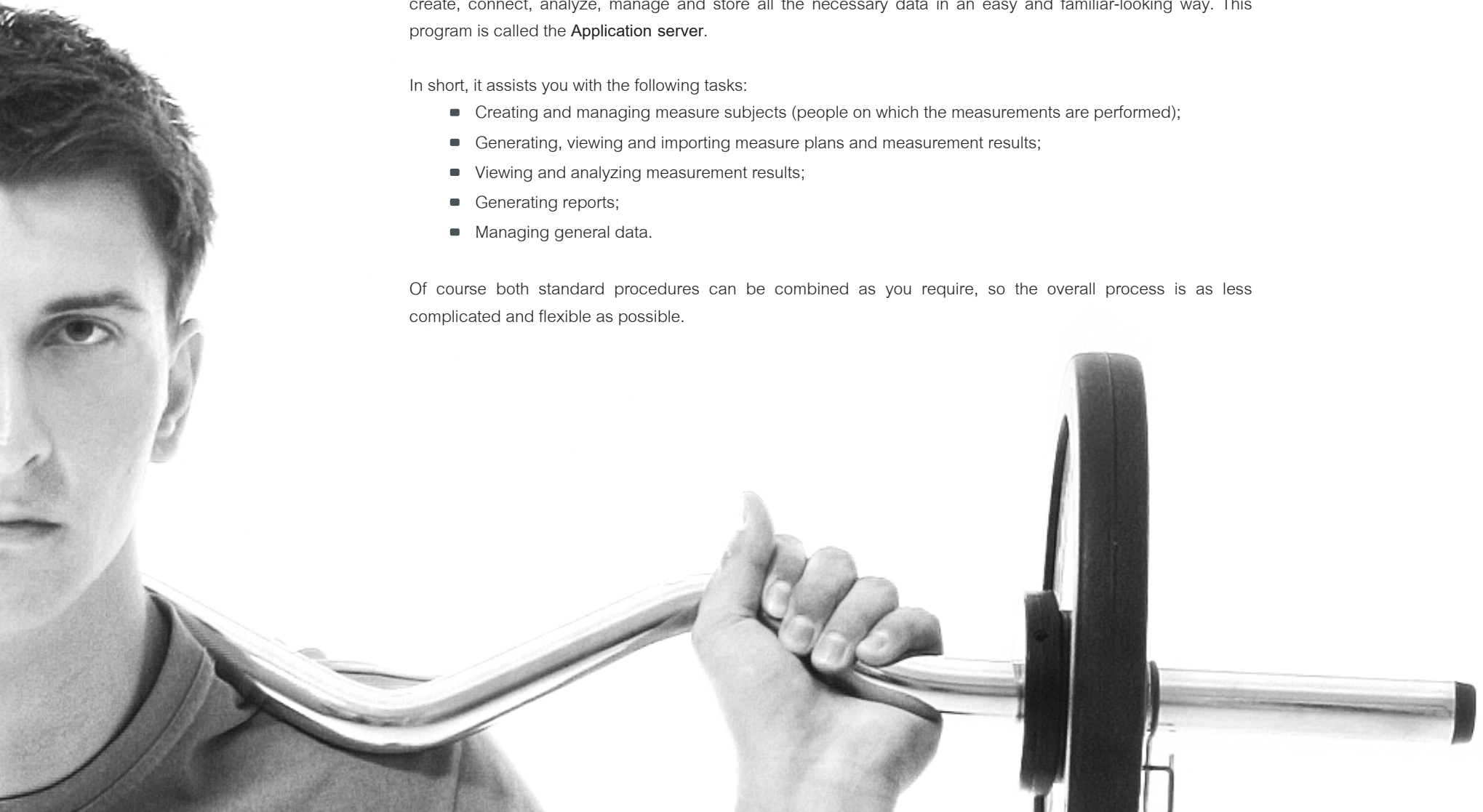
Application server: General

As stated, the **Wise Coach** Solution comprises also of a center data-management application, which helps you create, connect, analyze, manage and store all the necessary data in an easy and familiar-looking way. This program is called the **Application server**.

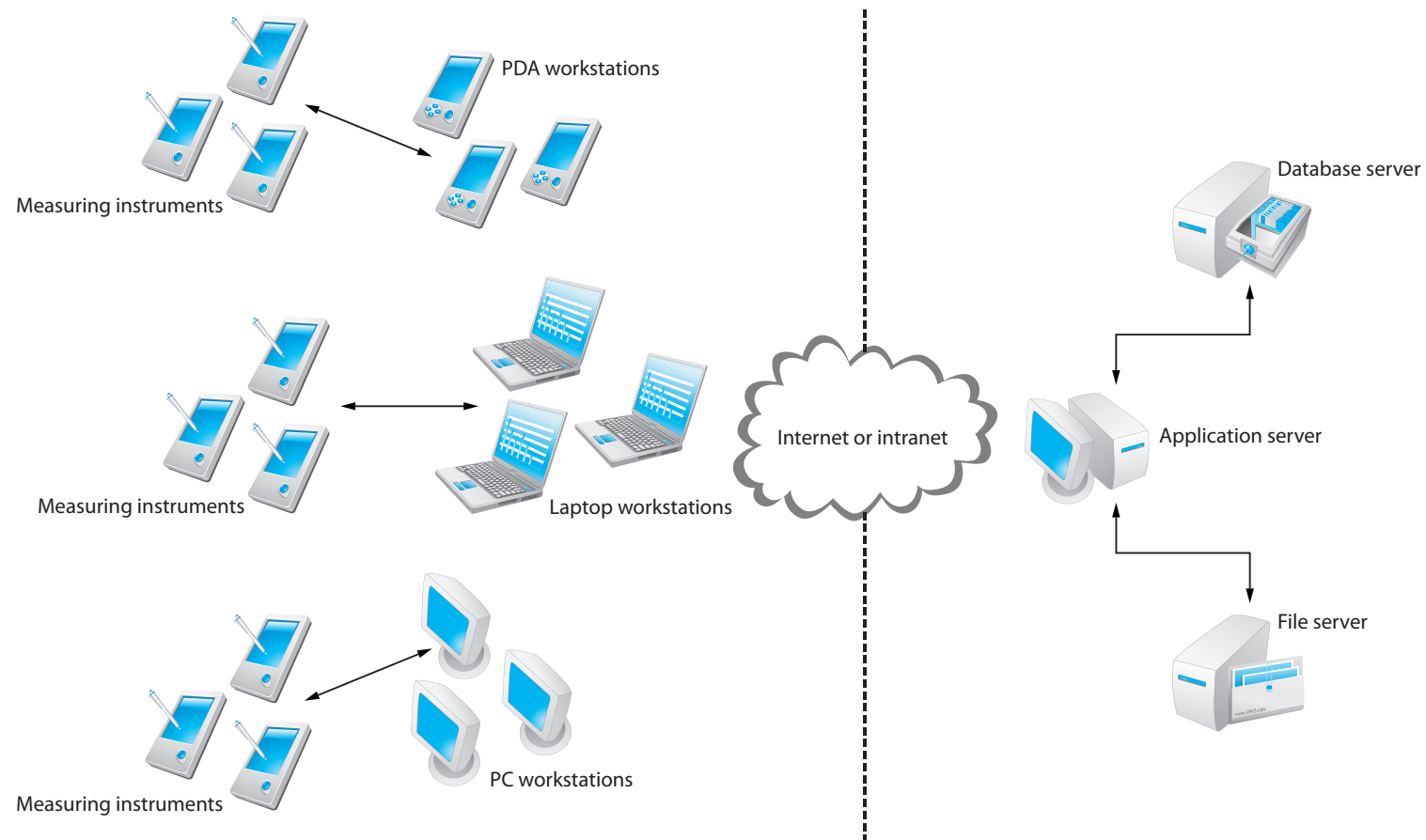
In short, it assists you with the following tasks:

- Creating and managing measure subjects (people on which the measurements are performed);
- Generating, viewing and importing measure plans and measurement results;
- Viewing and analyzing measurement results;
- Generating reports;
- Managing general data.

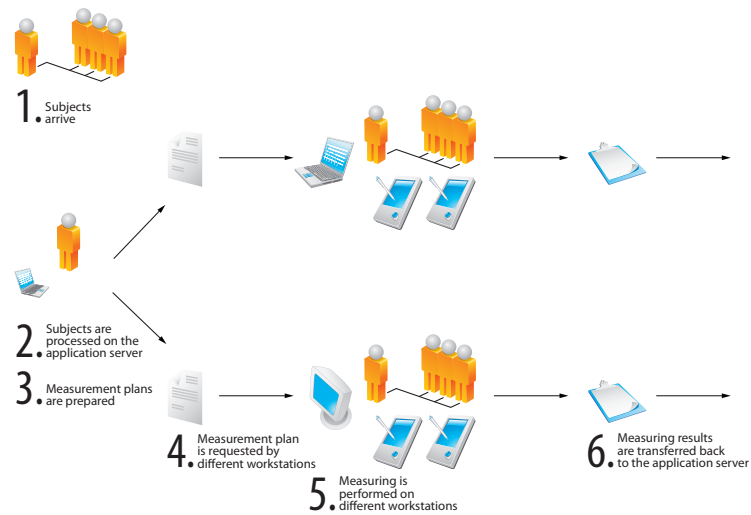
Of course both standard procedures can be combined as you require, so the overall process is as less complicated and flexible as possible.



System Topology

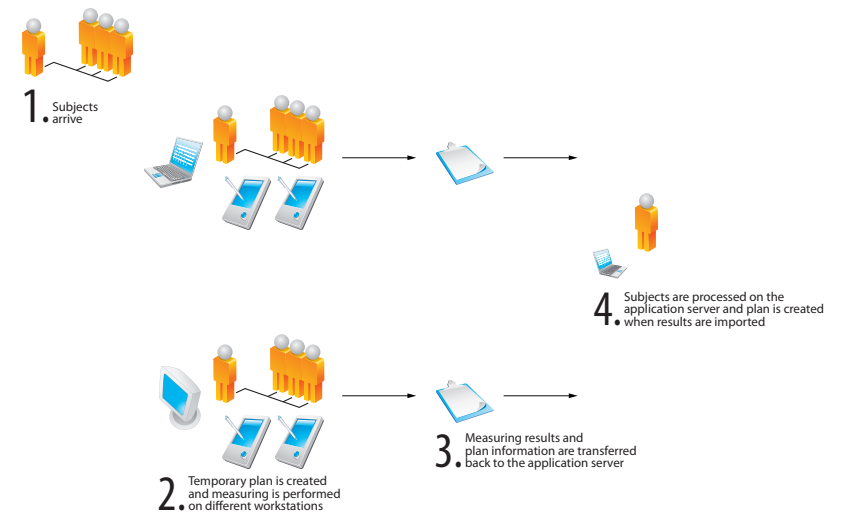


Standard measurement procedure



The overall process of acquiring and transferring a measure is quite simple. The standard measuring procedure is displayed in the graphics below.

Additional measurement procedure



For flexibility reasons, you also have a choice of turning the default procedure upside down, which is displayed in the following graphics below.

Chapter 1

Logging into the program

Logging into the program

A login screen is displayed when the application is opened. To log in simply fill in your credentials, choose the database type and click on the key button in the bottom right corner. To exit the program, click the power button in the bottom left corner.

The default administrator username and password are both 'admin'.

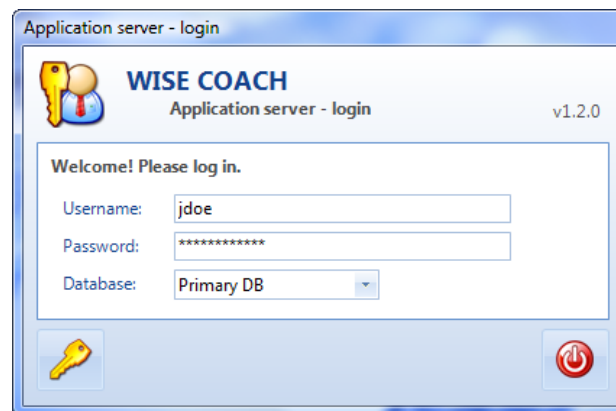


Figure 1:
The default administrator.
username: admin, password: admin

Chapter 2

Organization of the program

Organization of the program

Program navigation

Main menu

The main menu, where programs' modules can be accessed from, is displayed at the top of the screen. It is organized in the following manner:

- **Manage subjects:**
 - Add new;
 - View and Search;
 - Manage User groups.
- **Measure plans:**
 - New;
 - View and Make;
 - Import finished;
 - Remove the currently active.
- **Measure and analysis:**
 - Result View and measure analysis (including the following four modules);
 - Add Custom measures;
 - Create Quick report;
 - Reanalyze;
 - Show Analysis;
 - Create Measure template;
 - Manage Measure templates;
- **Reports:**
 - Create Report Template;
 - Manage Reports;
 - Reports Archive.

- **Data Management:**
 - Manage Primary sport data;
 - Manage other Input-type data;
 - Import Data;
 - Export Data.
- **Connections:**
 - TCP and FTP server;
 - Remote data storage;
 - Submit current state to analysis.
- **System Settings:**
 - Settings;
 - Manage Users;
 - Program logs;
 - Check for updates;
 - About.
- **View:**
 - Side Menu.
- **Logoff/Exit:**
 - Logoff;
 - Exit.

Side menu

The side menu is identical to the main menu. It can be used for navigation through the program. It can be hidden if needed.

Status bar

The status bar displays the server connection status, currently used database, database activity status, current logged-in user and other information.

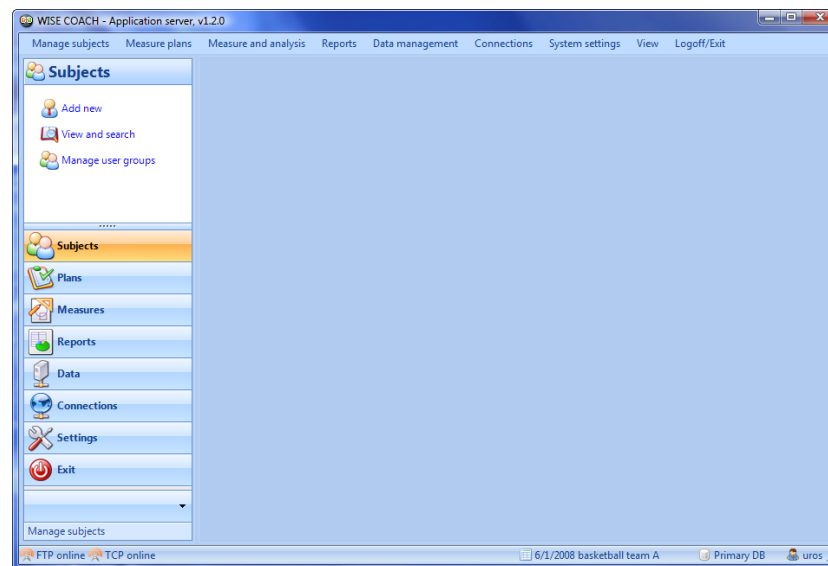


Figure 2: Program organization

Other common elements in the program

- Single click selects an element (where possible);
- Double click confirms the selection (where possible);
- Right-click opens the drop down menu with further actions related to the selected element (where possible);
- The close button of a certain module is located in the bottom right corner of the module;
- The tick icon/button confirms changes;

- The cancel icon/button discards changes;
- The following icons represent the same throughout the program:

	Plan icon – represents the measurement plan.
	Subject icon – represents the subject.
	Measurement icon – represents the measurement.
	Single measurement (repetition) icon – represents a single measurement or a repetition of the same measurement.
	Parameter (single result) icon – represents a measurement parameter or a measurement result.
	Expand icon/button – indicates an expanded view of commands/parameters if available.
	Attach icon/button – represents a selection of a certain element (e.g. subject).
	Add icon/button – adds the selected element.
	Remove icon/button – removes the selected element.
	Search icon/button – initiates search.

Chapter 3

Managing subjects

Managing subjects

Adding a new subject

The subject data input is divided into five categories. The mandatory fields are marked with asterisk (*).

1 of 5: Personal data

At this point the basic subject data has to be inserted. The “Current visit” numerical field cannot be changed as it is automatically incremented with each visit.

Field description:

Subject Type*:	Chose subject type from the following predefined values: Athlete, Patient or Athlete-Patient;
First Name*:	Insert subject's first name;
Middle Name:	Insert subject's middle name;
Last Name*:	Insert subject's last name;
Gender*:	Choose subject's gender;
Birth Date (day/month/year)*year*:	Choose the date and the month from the drop down menu and insert the year in YYYY format;
City of Residence:	Subject's city of residence can to be inserted;
Citizenship:	Subject's citizenship can to be inserted;
Other Commitments*:	Choose subject's other commitments from the following predefined values: School, Study, Work, Professional athlete or Other;
Group:	A group for the subject can be chosen;
Additional Subject Description:	Additional data of any kind can be inserted;
Training Period*:	Choose subject's training period from the predefined values: Introductory, Preparative – beginning, Preparative – ending, Pre-playing, Playing – beginning, Playing – halfway, Playing – ending, Not active, Rehabilitation;

Current Visit: This field cannot be changed as it is automatically incremented with each visit of the same user.

If you click on the “Input other personal data” button, you can fill in additional fields:

Family: A selection whether the subject has a family or not can be made;

Num. of Children: The number of subject’s children can be inserted;

Divorced: A selection whether the subject is divorced or not can be made;

Num. of Migrations – Other City/ Other State: The number of migrations that the subject had to other cities or states can be inserted;

Family Member Activity/Type of Activity: The family sport activity and its type can be inserted.

WISE COACH - Application server, v1.2.0

Manage subjects | Measure plans | Measure and analysis | Reports | Data management | Connections | System settings | View | Logoff/Exit

Add new subject Adding a new subject/visit

Personal data | Body composition | Sport path | Primary sport | Current injuries

1 of 5: General personal data

Subject Type: * First Name: * Middle Name: Last Name: *

Gender: * Birth Date (day/month/year): *

City of residence: Citizenship: Other commitments: *

Group: Additional subject description:

Training period: * Current visit:

Num. of all subjects in the database: 48

FTP online | TCP online | 6/1/2008 basketball team A | Primary DB | uros

Figure 3: Personal data

2 of 5: Body composition

At this point enter the basic information about the subject’s physical composition.

Field description:

Body Height (mm)*:	Insert subject's body height. The inserted data must be expressed in millimeters;
Body Weight (g)*:	Insert subject's body weight. The inserted data must be expressed in grams;
Dominant Arm*:	Choose the dominant arm from the predefined values: Left, Right and Both;
Dominant Foot*:	Choose the dominant foot from the predefined values: Left, Right and Both;
Body Fat Percentage:	Subject's body fat percentage can be inserted;
Muscle Mass Percentage:	Subject's muscle mass percentage can be inserted;
Body Type:	Subject's body type can be chosen.

WISE COACH - Application server, v1.2.0

Manage subjects | Measure plans | Measure and analysis | Reports | **Data management** | Connections | System settings | View | Logoff/Exit

Add new subject Adding a new subject/visit

Personal data | **Body composition** | Sport path | Primary sport | Current injuries

2 of 5: Body composition data

Body Height (mm): * 1864 186,4 cm Body Weight (g): * 76500 76,5 kg Dominant Arm: * right Dominant Foot: * right

Body fat Percentage: Muscle mass Percentage:

Body Type:

Next

Num. of all subjects in the database: 48

FTP online TCP online 6/1/2008 basketball team A Primary DB uros

Figure 4: Body composition

3 of 5: Sport path

At this point insert data about the subject's sport activity (Figure 5).

Field description:

Num. of Years of Sport Activity:	The number of years of the subject's sport activity can be inserted;
Num. of Years in Active Training:	The number of years of the subject's active training can be inserted;
Num. of Trainings per Week:	The number of trainings that the subject has per week can be inserted;
Parade Sport Level*:	Choose a parade sport level from the predefined values;
Other Sports Practiced:	Any additional sports that the subject practices can be inserted;
Best to Date Results:	A description of the subject's best to date results can be inserted;
Current Trainer:	The name of the subject's current trainer can be inserted;
Num. of Different Trainers to Date:	The number of different trainers the subject has had to date may be inserted;
Num. of Clubs played for:	The number of clubs that the subject has performed for can be inserted;
Longest Cooperation with the Trainer:	The name of the trainer with whom the subject has had the longest cooperation can be inserted;
Time of this Cooperation:	The length of this (longest) cooperation can be inserted;
Shortest Cooperation with the Trainer:	The name of the trainer with whom the subject has had the shortest cooperation can be inserted;
Time of this Cooperation	The length of this (shortest) cooperation can be inserted;
Num. of Rehab Exercises per Week:	The number of rehabilitation exercises that subject has per week can be inserted.

WISE COACH - Application server, v1.2.0

Manage subjects Measure plans Measure and analysis Reports Data management Connections System settings View Logoff/Exit

Add new subject Adding a new subject/visit

Personal data Body composition **Sport path** Primary sport Current injuries

3 of 5: Sport path data:

Num. of years of sport activity: 18 Num. of years in active trainings: 10 Num. of trainings per week: 6 Num. of rehab exercises per week:

Parade sport level: * state level

Other sports practiced: Add

Best to date results:

Current trainer: Num. of different trainers to date: Num. of performances for the representation:

Longest cooperation with the trainer: Time of this cooperation: friendly qualifying european world olympics

Shortest cooperation with the trainer: Time of this cooperation: Num. of clubs played for: 2

Next

Num. of all subjects in the database: 48

FTP online TCP online 6/1/2008 basketball team A Primary DB uros

Figure 5: Sport path

4 of 5: Primary sport

At this point the subject's primary sport or sports are inserted. First, select a category from the "Main Category" and continue downwards (Figure 6). When a selection is made, the options in all the subordinate combo boxes are modified.

Continue by clicking the "Add" button to add the primary sport to the subject's list. The primary sport will appear on the right tree view.

If the removal of the primary sport from the list is required, right-click on the sport in the tree view and choose "Remove".

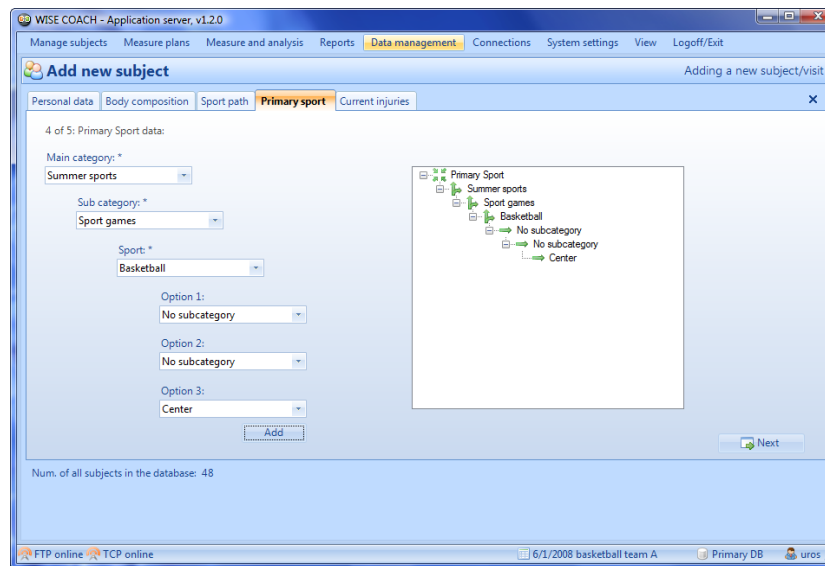


Figure 6: Primary sport

5 of 5: Current injuries

At this point insert data about the subject's injuries (Figure 7).

First enter a short description, then choose the main and sub body part from the drop down menu. Predefined values for the main part are: *Head*, *Joints*, *Muscles* and *Other*. Finally, enter a short diagnose and the course of treatment description, and click the "Add" button.

If a removal of an injury is required, right-click it in the list of injuries and choose "Remove".

The screenshot shows the 'Add new subject' window in the WISE COACH application. The window has a menu bar with options: Manage subjects, Measure plans, Measure and analysis, Reports, Data management, Connections, System settings, View, and Logoff/Exit. The 'Current injuries' tab is selected, showing a form for adding a new injury. The form includes fields for 'Short Description' (containing 'knee joint injury'), 'Main Body part' (a dropdown menu showing 'joints'), and 'Body part' (a dropdown menu showing 'knee joint'). There are also fields for 'Diagnose' (containing 'diagnose description') and 'Course of treatment' (containing 'tretment description'). An 'Add' button is located next to the 'Course of treatment' field. Below these fields is a 'List of injuries' section with a text area. At the bottom of the window, it says 'Num. of all subjects in the database: 48'. The status bar at the bottom shows 'FTP online', 'TCP online', '6/1/2008 basketball team A', 'Primary D8', and 'uros'.

Figure 7: Current injuries

Confirming the new subject data

The confirmation of data on an additional subject can be done by clicking the “Add a new subject button”. All input fields will be rechecked and the subject will be added to the database. If any input-type errors occur, you will be prompted to check and modify the problematic fields.

Searching, filtering and viewing subject data

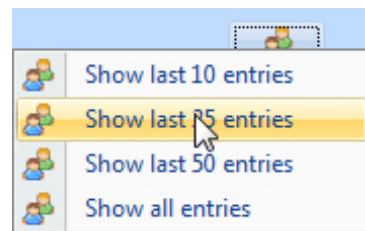
Searching, filtering and viewing subject data

At this point all subjects and their visits to the database can be viewed.

To display all the subjects, click the “Search” button without providing any parameters. The same result can be achieved by clicking the icon on the top right side of the navigation bar:



When clicking this icon, a menu pops up, enabling a display of a predefined last number of entries or all entries:



To narrow the search, group multiple parameters in a parameter list. Grouping additional parameters in the parameter list further narrows the search as all the parameters in the list are applied simultaneously. The data can be provided as input, selection or input with range (positive and negative deviation) criteria, depending on the parameter. If a parameter is to be added to a list, press “Enter” after having entered the parameter data or click the “Thick” icon.

If the parameter list is to be cleared, click the X icon below the “Search” button (*Figure 8*).

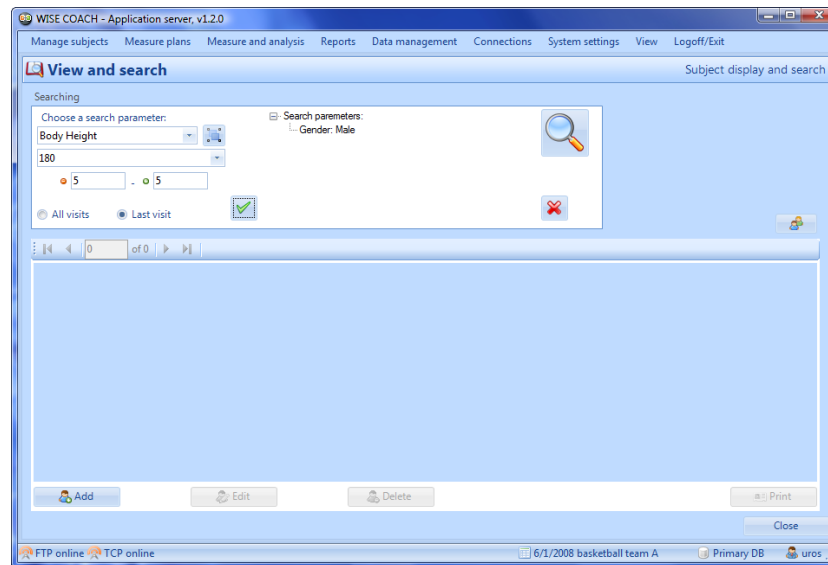


Figure 8:
Searching, filtering and viewing
subject data

You can choose from the next set of parameters:

Personal data:

- First Name (input);
- Last Name (input);
- Gender (selection);
- Birth Date (input + positive and negative range in years);
- Other Commitments (selection);
- Training Period (selection);
- City of Residence (selection);
- Visit Number (input + positive and negative range);
- Group Name (selection).

Body composition:

- Body Height (input + positive and negative range in centimetres);
- Body Weight (input + positive and negative range in grams);
- Body Fat Percentage (input + positive and negative range in percents);

- **Muscle Mass Percentage** (input + positive and negative range in percents);
- **Body Type** (selection);
- **Dominant Arm** (selection);
- **Dominant Foot** (selection).

Sport path:

- **Num. of years of sport activity** (input + positive and negative range in years);
- **Num. of years in active training** (input + positive and negative range in years);
- **Num. of trainings per week** (input + positive and negative range in years);
- **Parade sport level** (selection);
- **Current Trainer** (input);
- **Num. of performances for the representation** (input + positive and negative range in num. of performances).

Primary sport:

- **Primary sport** (Primary sport selection).

Current injuries:

- **Injury – Main part** (selection);
- **Injury – Sub part** (selection).

Working with the result grid

The search results will be displayed in a result grid. Click on a specific subject's line to highlight it for further action. To select multiple subjects, double-click the corresponding lines. The possibility to select one or more subjects depends on the type of input the program requires. At least one subject for further action can be selected (Figure 9).

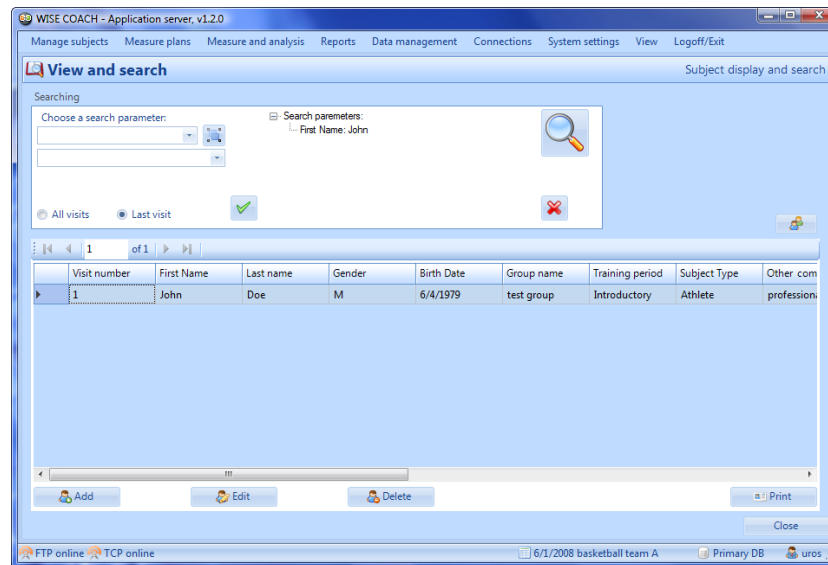


Figure 9: Working with the result grid

A navigation bar helps you to move to top/bottom or next/previous, and to a desired search result.

At this point the column display in the grid can be changed by clicking the “Modify columns” button. To sort the displayed data, click on the desired column to sort data in the ascending order. By clicking the same column again, data will be sorted in the descending order.

Adding new subject or new visit of an existing subject

You can add a new subject by clicking the “Add” button below.

If you want to add a new visit of an existing subject, first find the subject, highlight it in the result grid and then click the “Add” button. You will be presented with the same dialog as for entering a new subject however you will have all existing data prefilled. The visit number will automatically be increased.

At this point any data may be changed/added/removed, and a visit can be added to the database with the “Add a new subject” button on the last tab.

Editing an existing subject

To edit an existing subject, first find the subject, highlight it in the result grid and then click the “Edit” button. The same dialog as for entering a new subject will be displayed; however, all the existing data will be pre-filled.

At this point any data may be changed/added/removed, and then the modifications can be saved by clicking the “Apply the changes” button on the last tab.

Deleting an existing subject/visit

To delete an existing subject/visit, first find it, highlight it in the result grid and then click the “Delete” button. You will be prompted to confirm the action. If the subject has any results associated with it, it cannot be deleted at this point.

Printing the subject/visit data

To print the subject’s data, find it first, highlight it in the result grid and then click the “Print” button. An options and a confirmation of the printing dialogues will be displayed.

Managing subject groups

Searching for groups

To display all the groups, click the “Show all groups” button.

The search can be done by group name or group description by choosing a parameter from the combo box, entering a value and clicking the “Search” button.

To display the subjects in a group, double click it and the subjects will be displayed below.

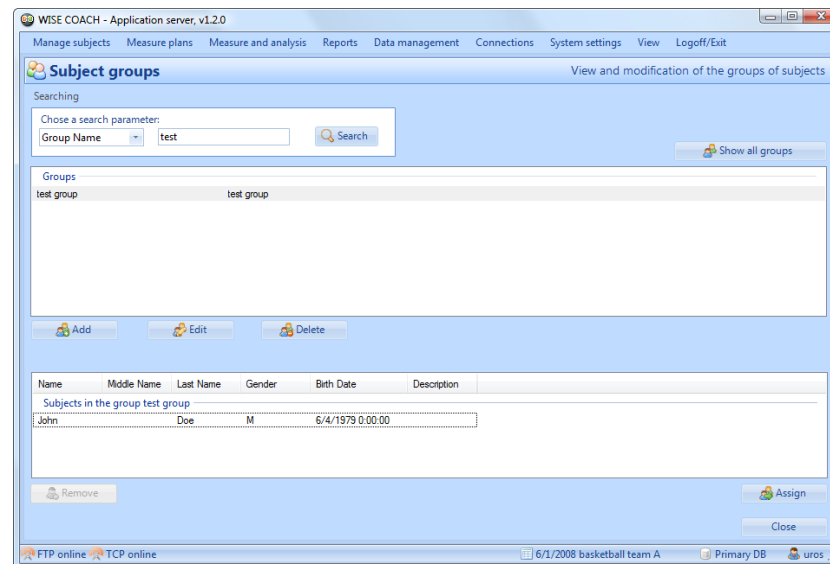


Figure 10: Searching for groups

Adding, Editing and Deleting groups

If a new group is required, click the “Add” button. Fill in the group name, optionally insert a description, and click the “Confirm” button. A new group will be added.

To edit an existing group, highlight it in the “Groups list” and click the “Edit” button. This enables modifications to the group name and description.

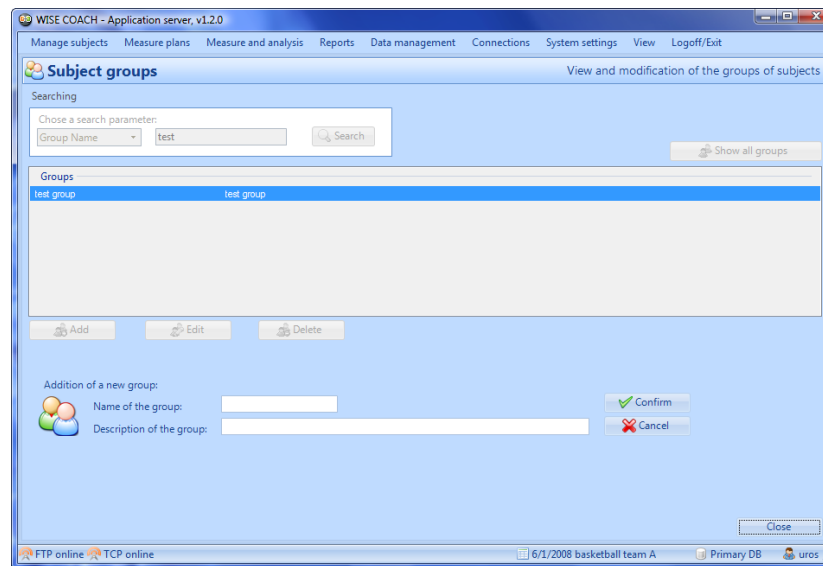


Figure 11:
Adding, Editing and Deleting groups

To delete an existing group, highlight it in the “Groups list” and click the “Delete” button. The group will be deleted after confirmation. A group with assigned subjects cannot be deleted; all the subjects must be moved out of the group first.

Adding and removing subjects to/from a group

With a double-click on a group, its subjects are displayed at the bottom in the “Subjects list”.

To remove a subject from a group, select it, and click the “Remove” button.

To add a subject, first click the “Assign” button. A familiar “Search subjects” screen will be displayed. The subjects who are already assigned will be highlighted in the result grid. At this point locate the appropriate users, double click on the desired ones and when the process is finished, click the “Assign button” again. The subjects will be assigned to the group.

Chapter 4

Dealing with measurement plans

Dealing with measurement plans

New measurement plan generation

When selecting to generate a new plan, the “Adding a new plan” screen will be displayed. Enter the plan name and description. Both fields are pre-filled with the current date. A group of the current plan can also be chosen. When the process is finished, confirm the new plan generation by clicking the “Confirm” button or cancel the operation by clicking the “Cancel” button.

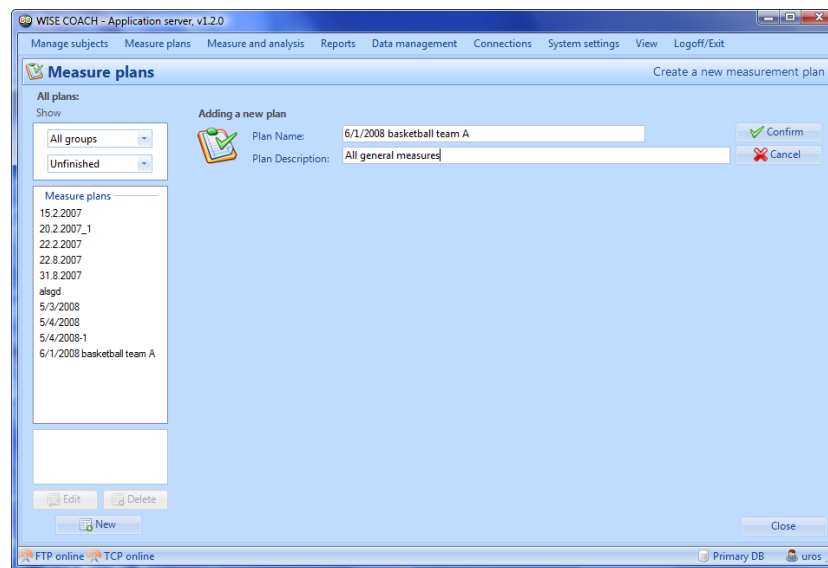


Figure 12:
New measurement plan generation

Once the plan is created, its content can be displayed by clicking on it in the “Measure plans” list on the left, and proceed with subject and measurement assigning.

Viewing and preparation of measurement plans

Viewing/Creating/Editing/Removing a plan

All the plans can be viewed in the “Measure plans” list on the left. The content of the list can be filtered by choosing a group (available groups) or a status (finished, unfinished and all) parameter above the list. The description of the currently selected plan is displayed below the list.

A plan can be created by clicking the “Add” button in the bottom left corner. Fill in the plan name and description, and click “Confirm”.

To edit specific plan properties, select the plan in the “Measure plans” list and click the “Edit” button. The name and the description of the plan can then be changed.

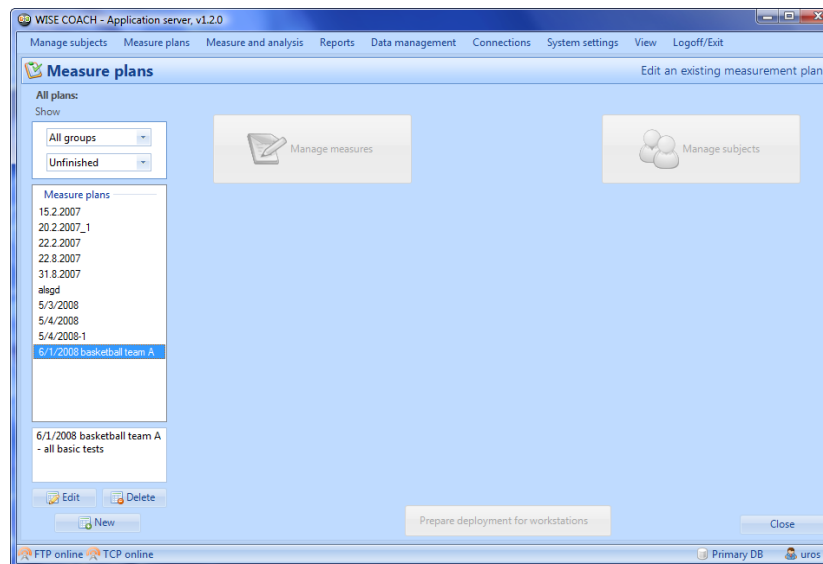


Figure 13: Measurement plan

To delete a plan, select it from the “Measure plans” list and click the “Delete” button. You will be prompted to confirm the action. If the plan has already finished measurements imported, it cannot be deleted at this point.

To edit the plan contents, double click it on the “Measure plans” list.

Preparing the plan

To display the plan contents, double click it on the “Measure plans” list. The list will automatically be hidden. To display it again, click the arrow icon in the bottom left corner.

To display and modify the associated measurements, click the “Manage Measures” button on the left. Click the “Manage Subjects” button on the right to display the associated subjects.

Adding/Removing measurements (Figure 13)

Under “Choose Measures” on the left side, the available set of measurements is displayed. These can be filtered by choosing a workstation from the combo box.

Thick the box next to the measurement that needs to be added, and then click the “Add selected” button. The selected measurements will now move to the right “Added measures” display.

To remove measurements from the plan, put a thick next to the measurement and click the “Remove selected” button.

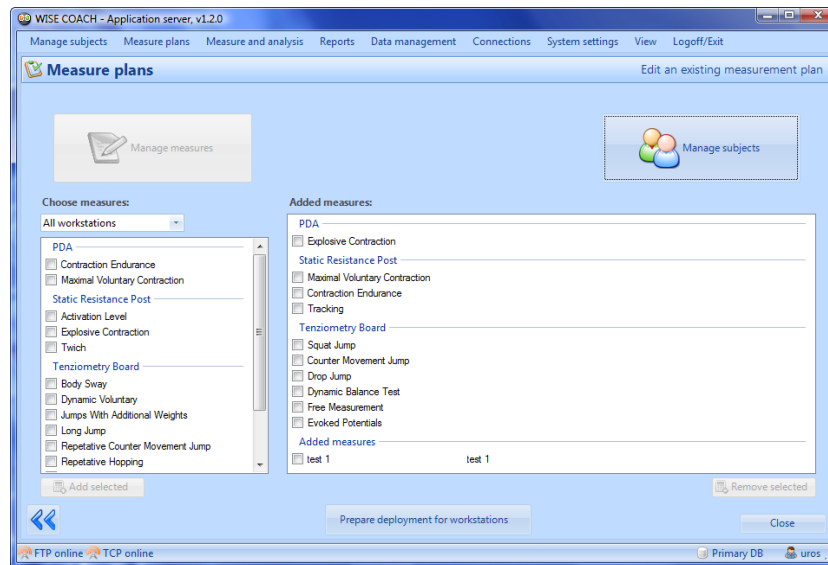


Figure 13:
Adding/Removing measurements

Adding/Removing subjects (Figure 14)

To assign subjects, click the “Assign” button under the “Assigned subjects list”. A familiar *Search subjects* screen will be presented. The subjects, who are already assigned, will be highlighted in the result grid. At this point search for the appropriate users, double click on the desired ones, and when the process is finished, click the “Assign button” again. The subjects will be assigned to the plan.

To assign a whole group of subjects, add a group as a search parameter, click the “Search button”, and then click the “Assign group” button.

To remove the assigned subjects, select the subject in the list and then click the “Remove” button in the bottom right corner.

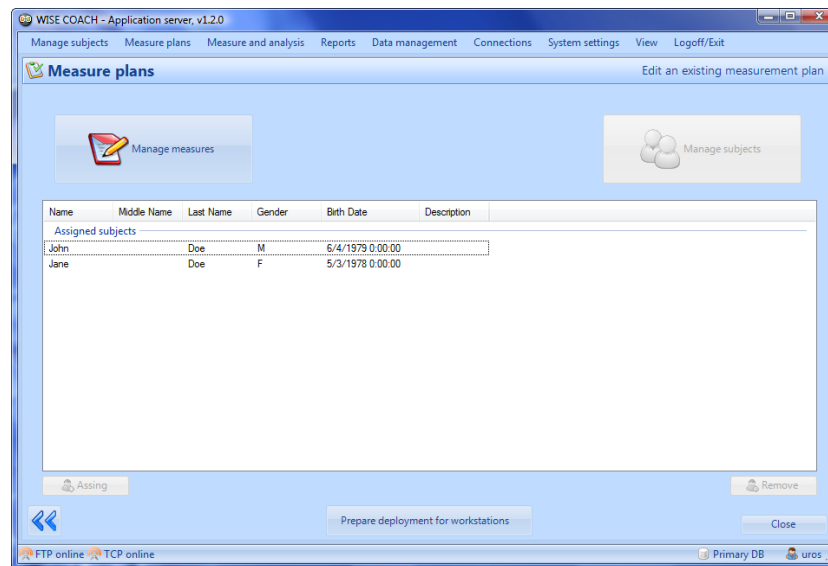


Figure 14: Adding/Removing subjects

Deploying the plan

When the desired measurements and subjects are assigned, click the “Prepare deployment for workstations” button. This plan will become the active plan and this information will also appear in the program status bar.

Modifying the plan after it has been deployed or after results have been imported

It is possible to break off the normal procedure, to re-enable the assignment of measurements/subjects after deployment, and to re-enable the preparation of deployment for measuring stations after (some of) the results have been imported.

This can be enabled by right clicking either in the “Assigned measures” or “Assigned subjects” display list and selecting one of the two options.

Re-enable the assignment of measurements/subjects (after the plan has been prepared for deployment)

Re-assign the measurements/subjects only if the plan has not been in progress on the measuring stations or if the measurements need to be performed again.

Re-enable the preparation of deployment for measuring stations (although some results regarding the plan have already been imported)

Redeploy a plan only when a part of the measurement data import was not successful or some of the measurement data got lost and the plan needs to be performed again.

Import of completed plans

The transferred plans are displayed in the “Complete transferred plans” and “Partially transferred plans” lists. The first one indicates that the plan has been finished and transferred, and the second one that the plan has not been finished yet but it has been transferred for backup purposes.

To display the contents of a transferred plan, double click the desired plan. This enables you to explore what measurement results have been transferred.

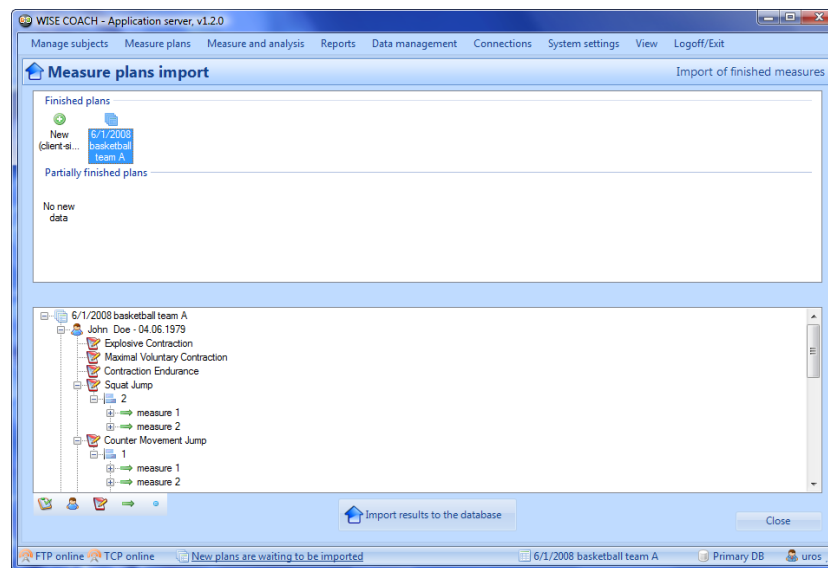


Figure 15: Import of completed plans

If there a certain measurement should not be imported, right-click this measurement and choose “Do not import this measure” from the drop-down menu. An import of a group of measurements or all the measurements assigned to a subject can be blocked by the same procedure, i.e. by right-clicking on the group of measurements, or on the subject instead on the measurement itself (Figure 16).

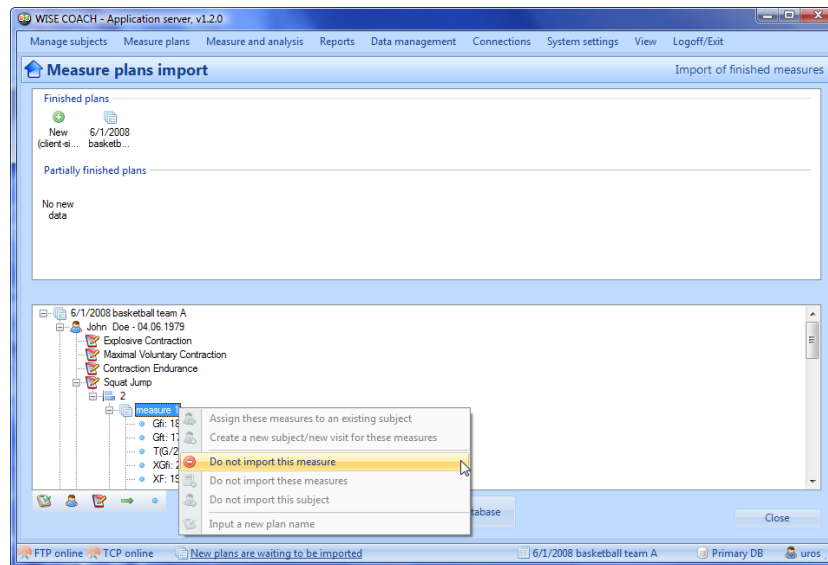


Figure 16: Do not import measure

If a plan has been created directly on a workstation, its name can be modified by right clicking on the plan and choosing "Input a new plan name" from the drop-down menu. Insert new name and confirm it by pressing "Enter" (Figure 17).

If a subject has been created directly on a workstation, its measurements can be assigned to an already existing subject by right-clicking on the subject and choosing "Assign these measurements to an existing subject". Choosing "Create a new subject/new visit for these measures", will create a new subject/visit to which these measurements will be assigned. If measurements are being assigned to an existing subject, a familiar "Search subjects" screen, where an existing subject can be chosen, will be displayed. If the measurements are to be assigned to a new subject/visit, the same screen will be displayed, where a completely new subject or a new visit of an existing subject can be added (Figure 18).

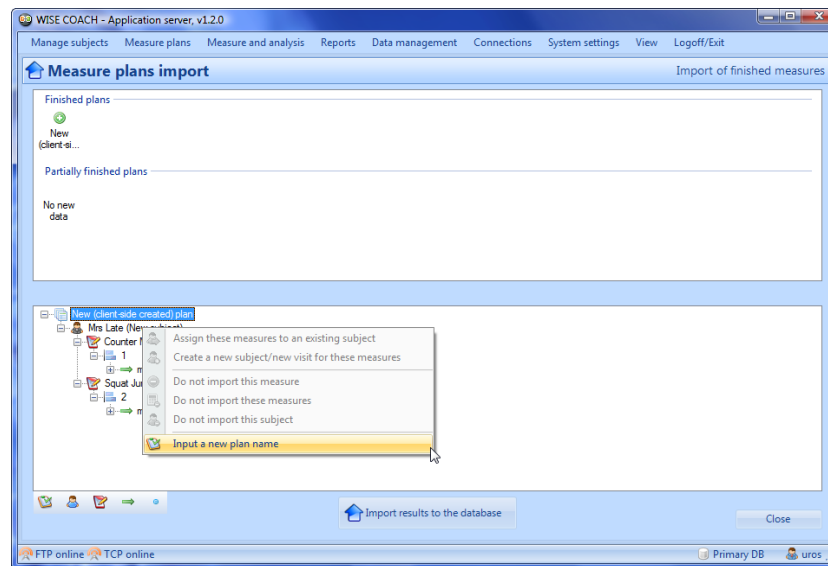


Figure 17: Insert a new plan name

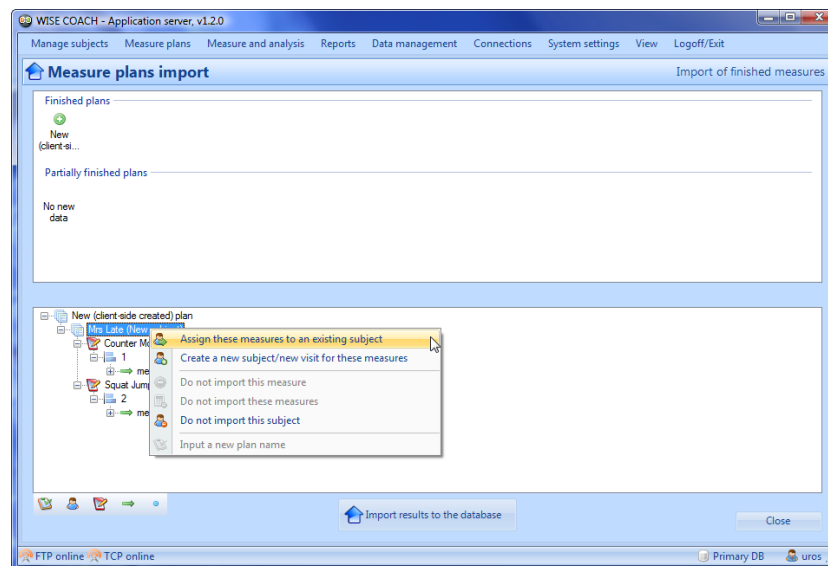


Figure 18: Search subject

Creating from field measures

Here you can create and import a measurement plan from a *tab-delimited .txt* files. This is especially useful when you are performing custom measures on the field.

The process is very straight-forward but it also enables you great flexibility if needed.

- 1) First, you type in a name for the new assembly.
- 2) Second, you choose the delimited files to be parsed.
- 3) You initialize the process by clicking on the “Parse measure data”.

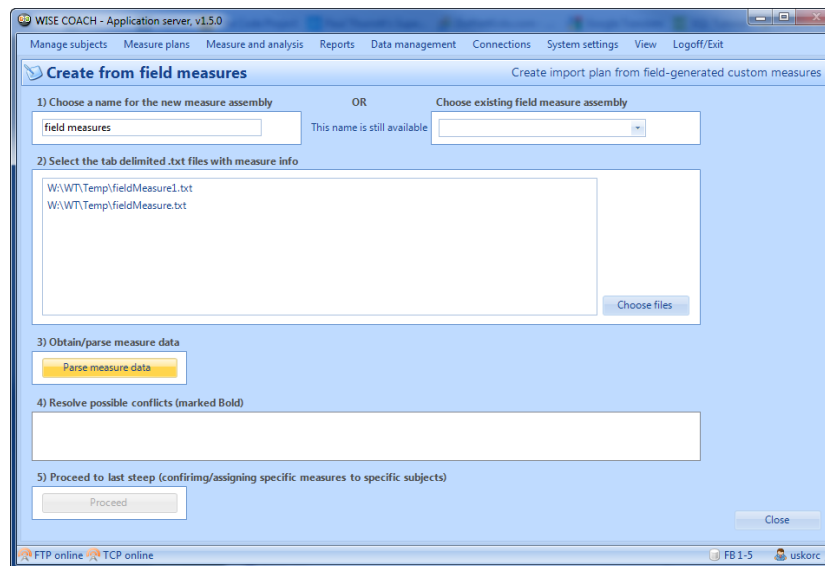


Figure 19: Parse measure data

- 4) Afterwards you will be presented with the subjects and measures found in the files. The ones marked in bold require your attention, as the Subject or the Measure was not automatically assigned to an existing one (Figure 20).



Figure 20

By right-clicking on the **subject**, you have the following options:

- You always have the option of creating a new measure or assigning the measure to an existing one;
- If the measure is found in the DB, you can select it (this action will be performed by default if you proceed with the process);

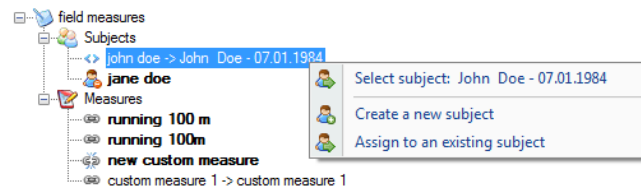


Figure 21

- If more than one matching measures are found in the DB, this selection is presented to you and you can select one of the measures;
- If the measure is not found in the DB, you can create one expressly, by clicking the appropriate option. A subject will be created with the basic data (Name, Last Name, Gender, Birth Date).

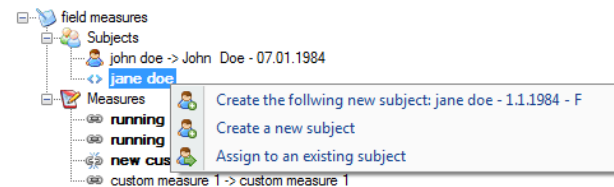


Figure 22

By right-clicking on the **measure**, you have the following options:

- You always have the option of creating a new measure or assigning the measure to an existing one;
- If the measure is found in the DB, you can select it (this action will be performed by default if you proceed with the process);
- If more than one matching measures are found in the DB, this selection is presented to you and you can select one of the measures;

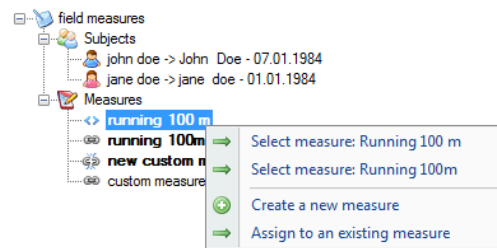


Figure 23

- If the measure is not found in the DB, you can create one expressly, by clicking the appropriate option. The measure will be created with its appropriate parameters.

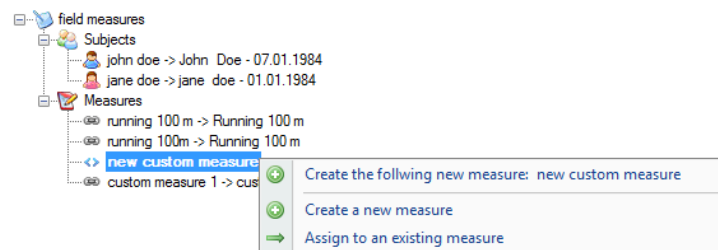


Figure 24

- 5) After all the conflicts have been resolved, you can continue by clicking on the “Proceed” button. You will be asked again, to confirm the default actions upon conflicts (default selection of found subject and measure) (Figure 25).

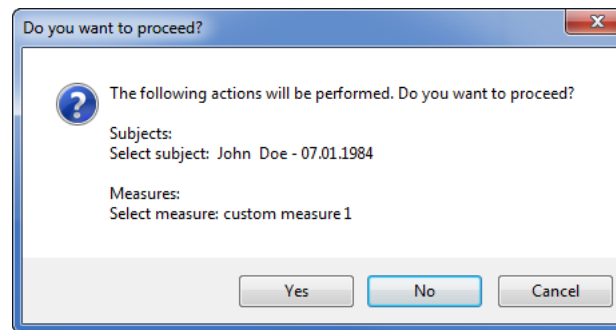


Figure 25

6) Afterwards you are presented with the specific measures for specific subjects.

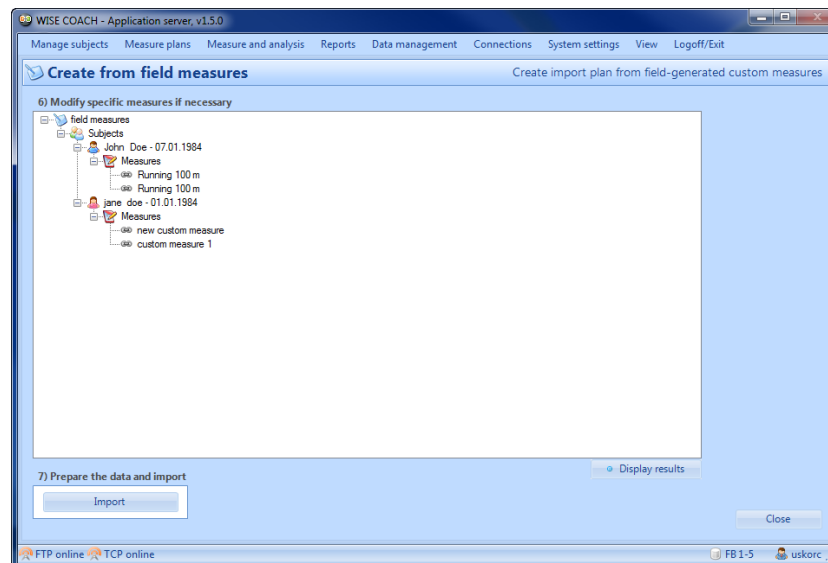


Figure 26

By clicking on the “Display results” button, the specific results will be shown for each measure. You have the following options:

- You can re-assign a certain measure to a different subject;

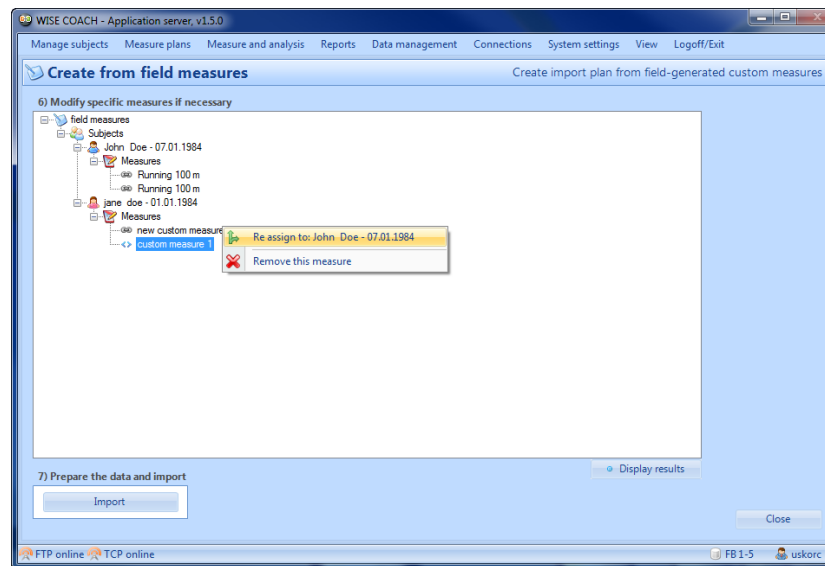


Figure 27

- You can remove a measure thus preventing it from being imported;

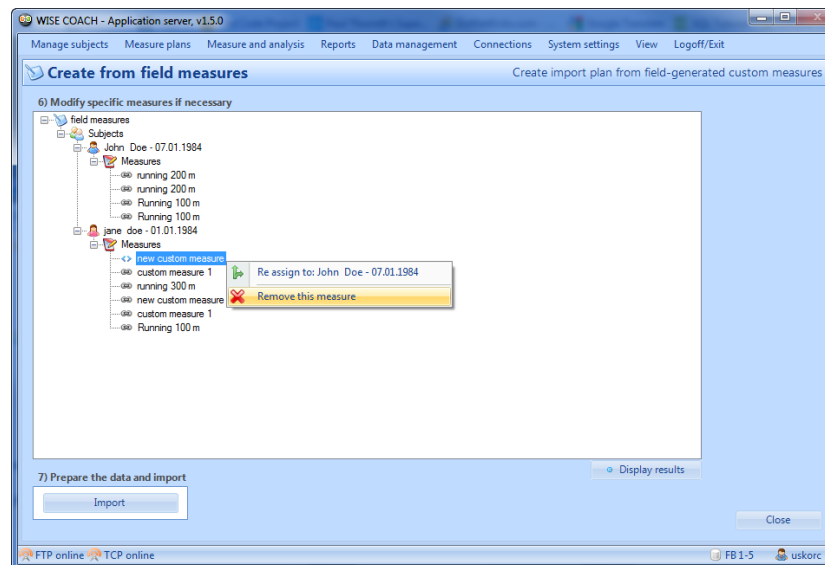


Figure 28

- You can block a specific parameter from being imported;

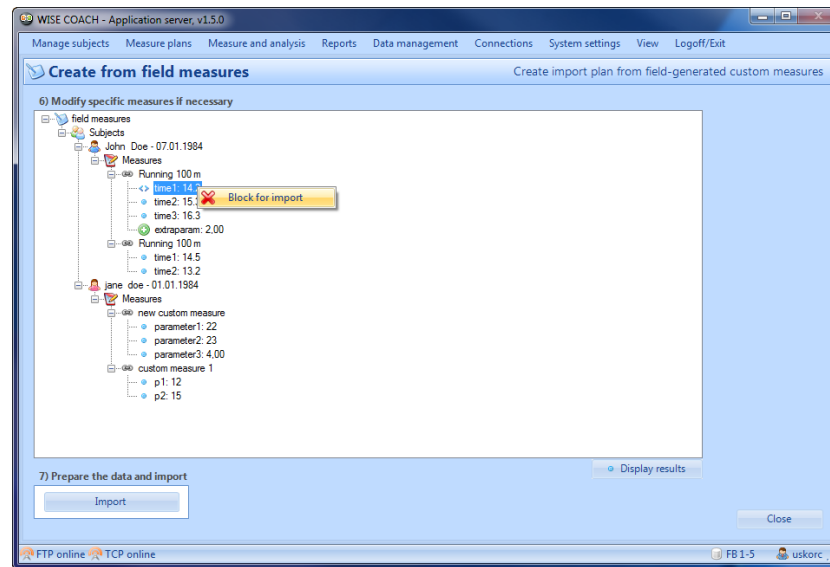


Figure 29

- If a new parameter is not mapped to the measure parameter automatically (mistake while manually creating the measure), you can assign the measure parameter to an existing one (Figure 30);

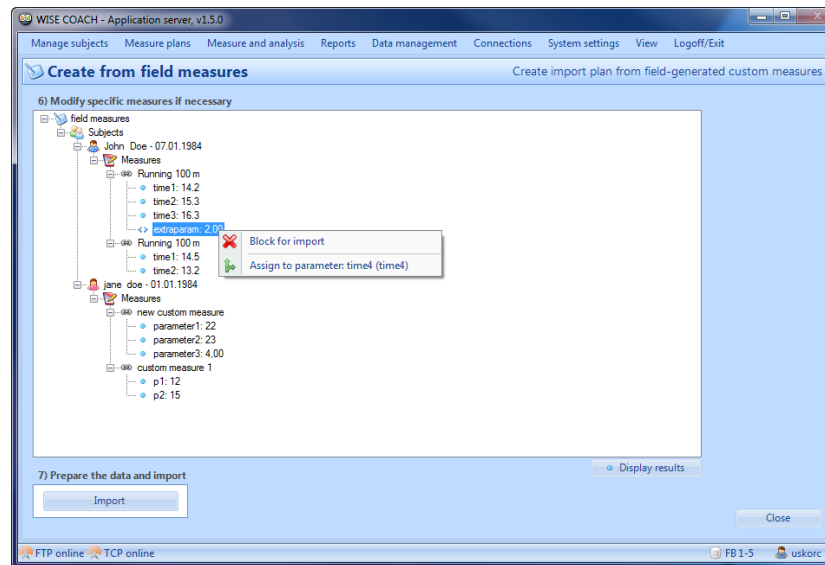


Figure 30

- If there are new parameters associated with a certain measure, they will be created upon import.

7) By clicking on the import button, the assembled measure plan with corresponding subjects and measures is imported into the DB. You can view the results under the **Measure and analysis > Results and analysis** like any other plan.

If you do not complete the process you can obtain the assembled measures and subjects, by choosing an assembly from the drop-down at **point 1)**.

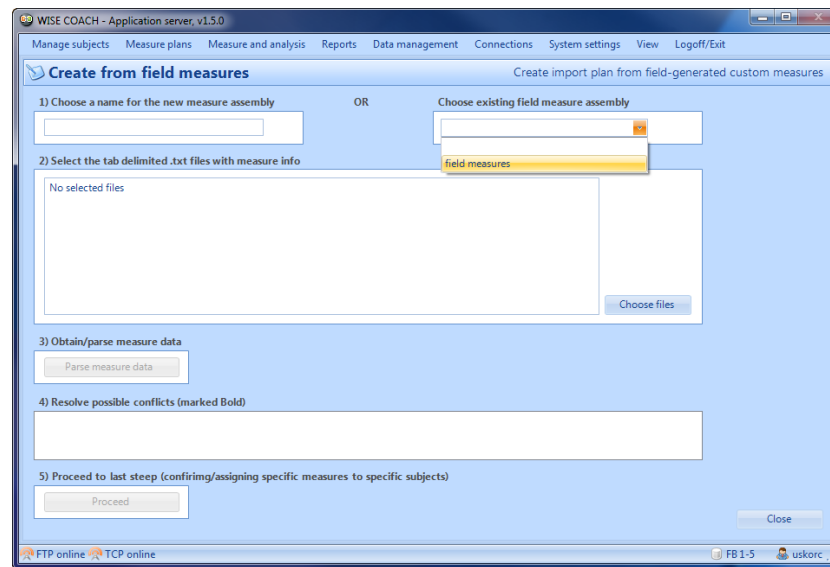


Figure 31

Withdrawal of the currently active plan

With this command the currently active plan, which has been prepared for deployment, will be removed. The notification in the status bar will also disappear. If a workstation is connected to the application server, it will be notified that there are no currently active plans, and no plan data will be retrieved by the workstation.

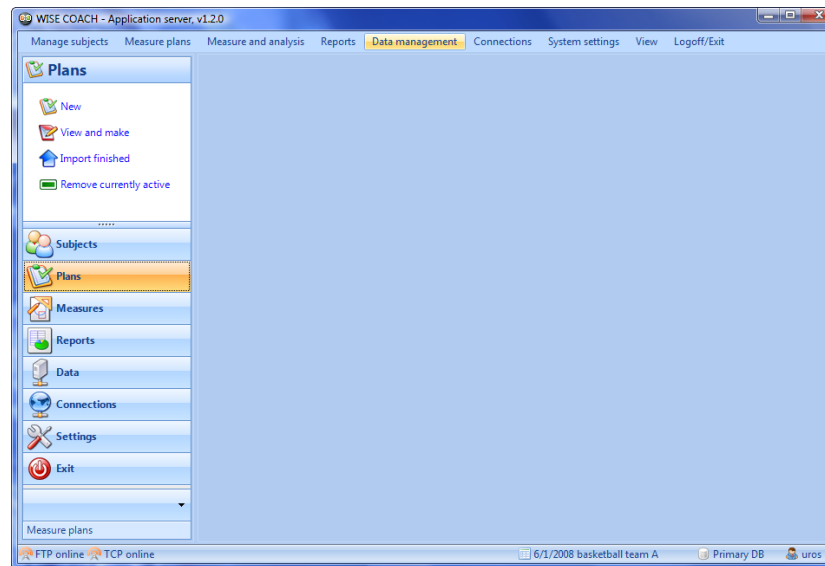


Figure 32:
Withdrawal of the currently active plan

Chapter 5

Measurement result management and analysis

Measurement result management and analysis

Viewing results

Viewing a plan

Existing results can be viewed either by choosing a subject and then displaying its plans and results, or by choosing a plan and displaying its results.

Choosing a subject

Choose a subject by clicking the “Attach” icon in the bottom of subject data display area. A familiar “Subject display” screen is displayed, enabling a search for the desired subject. When the desired subject is selected in the result grid, click the “Choose” button in the bottom left corner.

All plans associated with this subject will be displayed in a chronological order by visits. Double click on the plan to display its data.

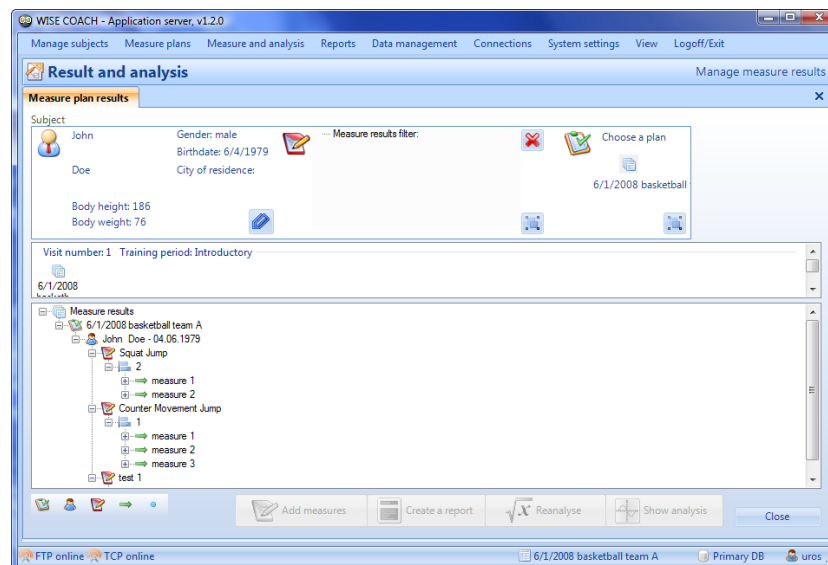


Figure 33: Choosing a subject

Choosing a plan

A specific plan can be chosen to see its entire contents. This can be done by clicking the “Expand” icon in the bottom of plan data display area. The plan criteria will be displayed where today's plans, last week's plans, last month's plans, last three month's plans, last year's plans, or all plans can be chosen. By choosing one of these, the plans for the corresponding timeline are shown. Double click on the plan to display its data.

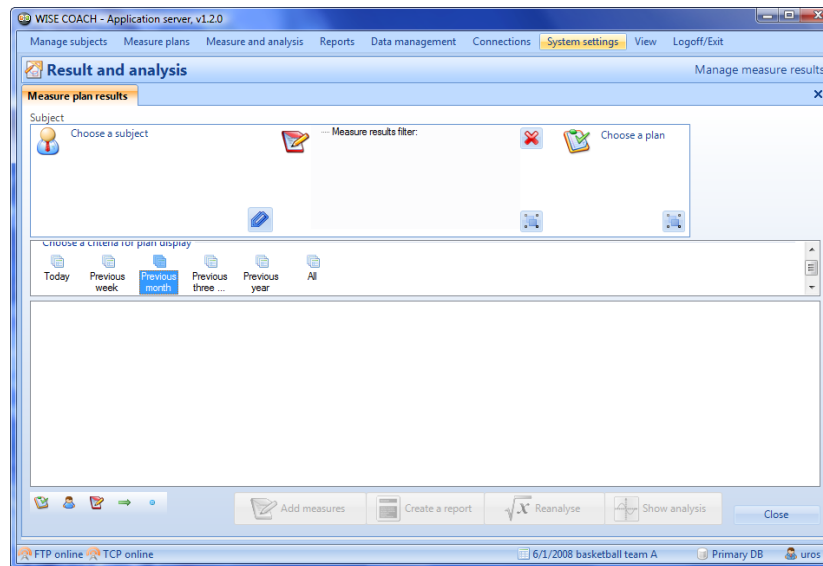


Figure 34: Choosing a plan

Viewing the results of a plan

By double-clicking a plan, its content is hierarchically displayed in a tree view. It is organized in the following manner:

- > Plan
 - > Subject
 - > Measure
 - > Types of measure
 - > Single measure (repetition)
 - > Result

The tree can be expanded/collapsed to a certain level by using the 5 icons in the bottom left corner.

Each icon represents a level in the measurement display from plan to result.

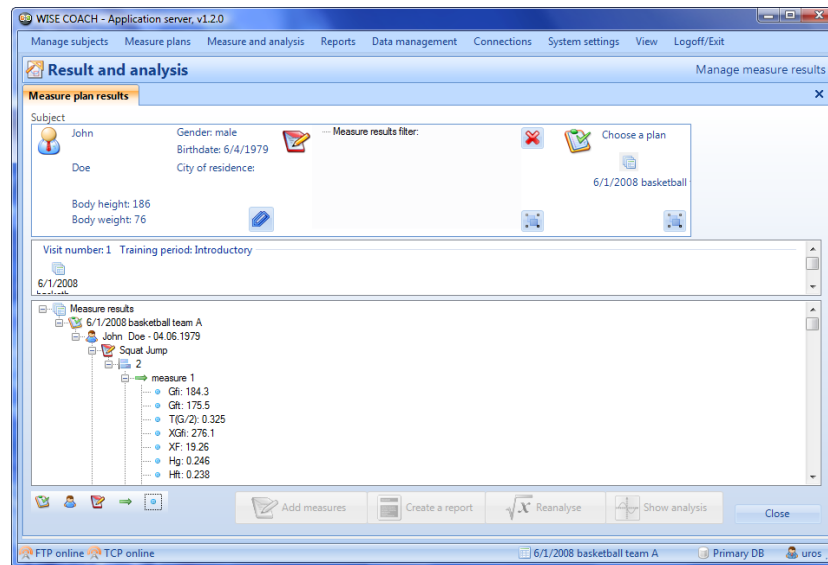


Figure 35: Viewing the results of a plan

Measurement filtering

The display can also be filtered by providing a measurement or a single result criterion in the measurement filter display area. By clicking the “Expand” icon in the bottom, a whole measurement or just a single result can be selected. They can also be grouped together (Figure 36).

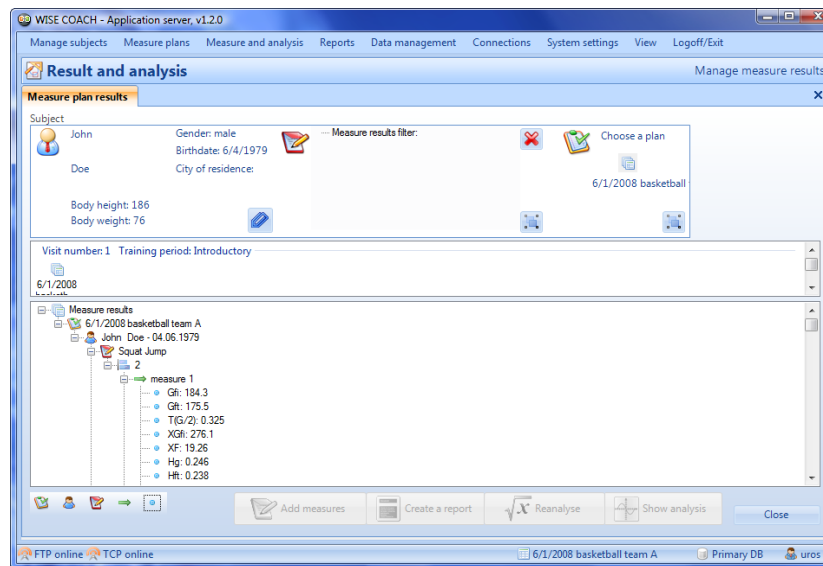


Figure 36: Measurement filtering

Further actions

By clicking the four buttons in the bottom right corner, additional operations can be performed from this point:

- Add a custom measurement to an existing plan;
- Create a quick report;
- Perform re-analysis;
- Show the current result and analyze it.

Display of a desired result and its analysis

Initiating the process

While viewing the results of a plan, highlight a single measurement parameter and click the “Show analysis” button in the bottom right corner, or right-click a single measurement parameter and chose “Show analysis” from the dropdown menu.

Managing the display and viewing the analysis

The parameter analysis screen is displayed when choosing “Show analysis”. The result is displayed graphically, if the “Refresh button” is clicked immediately. Any results from the previous visit will also be displayed on the graph (*Figures 37, 38 39*).

The display parameters can be additionally modified:

- **Form of display** (how the data is presented on a graph):
 - Bars;
 - Lines.
- **Standard deviation display** (will the deviation be presented collectively in one result or individually per visit):
 - Collectively;
 - Individually per visit.
- **A range of considered results** (will the considered results for a specific subject consist of the results prior to the measurement or of all the results in the database):
 - Until the measure date;
 - All data in the database.
- **Visit range** (how many previous visits are to be displayed).

By clicking the “Attach” icon in the bottom right corner of the “Subject and the comparison population” area, a comparison population for comparing results will be added. The familiar “Search subjects” screen will appear. The subjects, who are already assigned, will be highlighted in the result grid. At this point search for the appropriate users, double click on the desired ones and when the process is finished, click the “Assign” button.

The graph can also be printed or copied to the clipboard by right-clicking it and choosing the appropriate action.

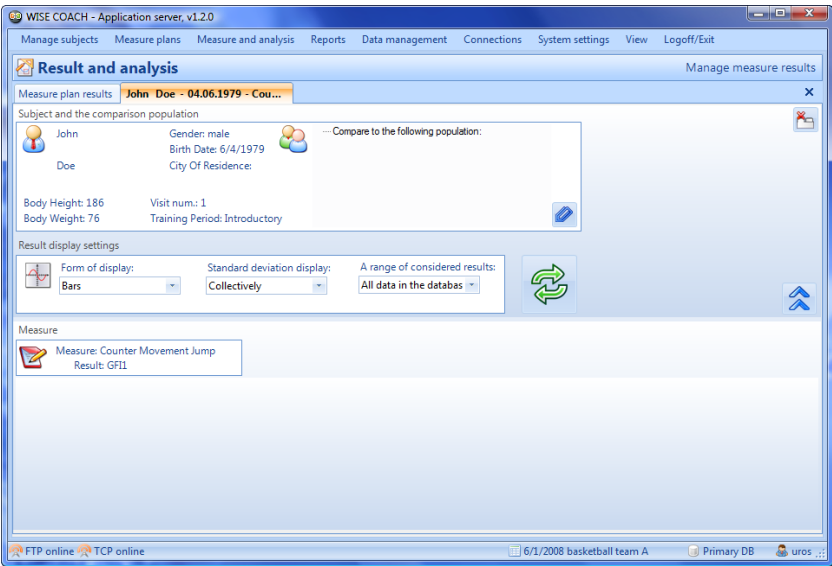


Figure 37

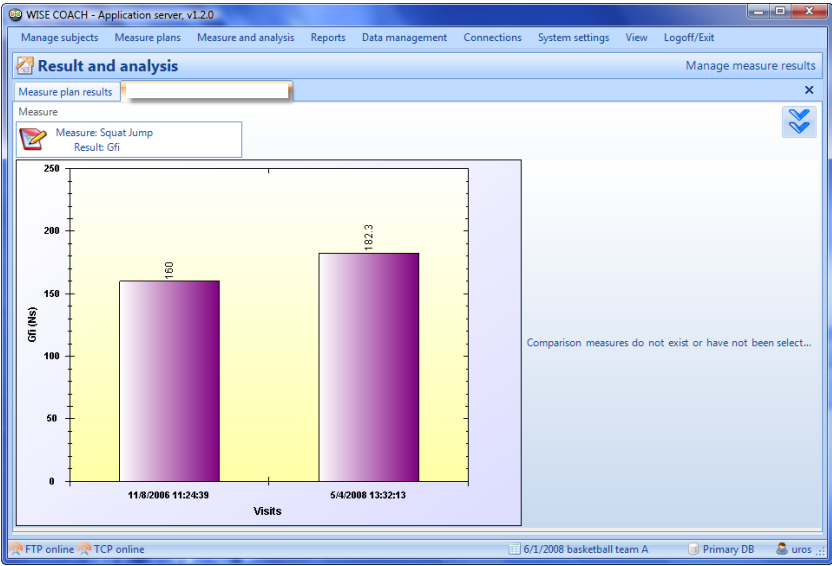


Figure 38

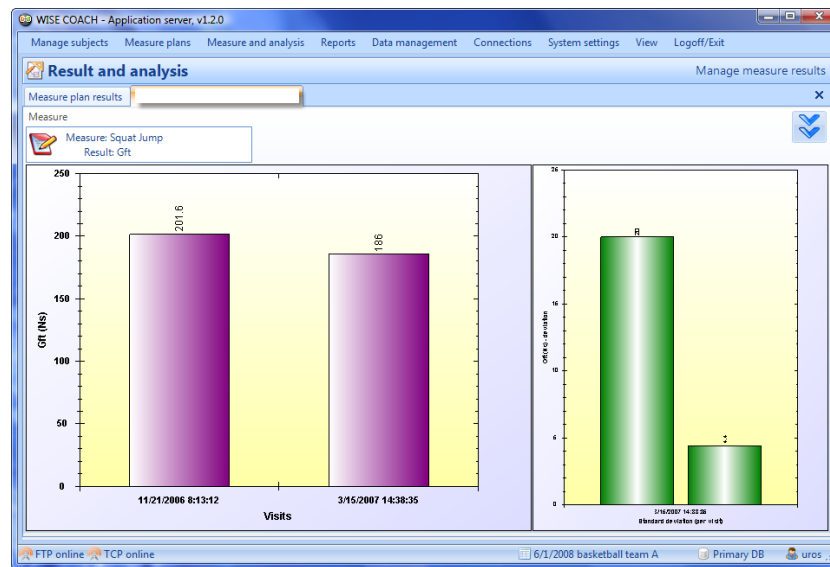


Figure 39

Adding a custom measurement to an existing plan

Initiating the process

While viewing the results of a plan, highlight a plan and click the “Add Measures” button in the bottom right corner or right-click on a plan and chose “Input additional measure results” from the drop-down menu.

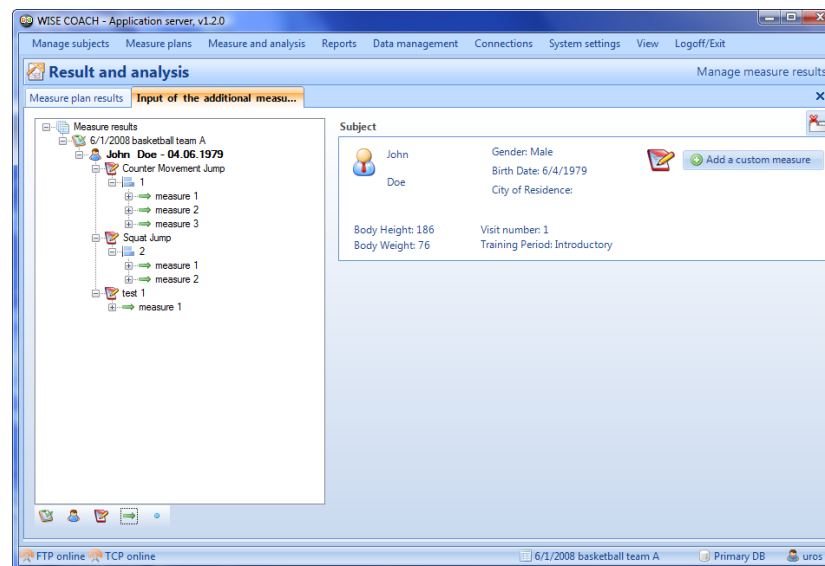


Figure 40: Initiating the process

Adding a custom measurement

To add a custom measurement, click the “Add a custom measure” button next to the subject information display. The custom measurements will appear in a tree view on the left side. Double-click the measure that should be added (Figure 41).

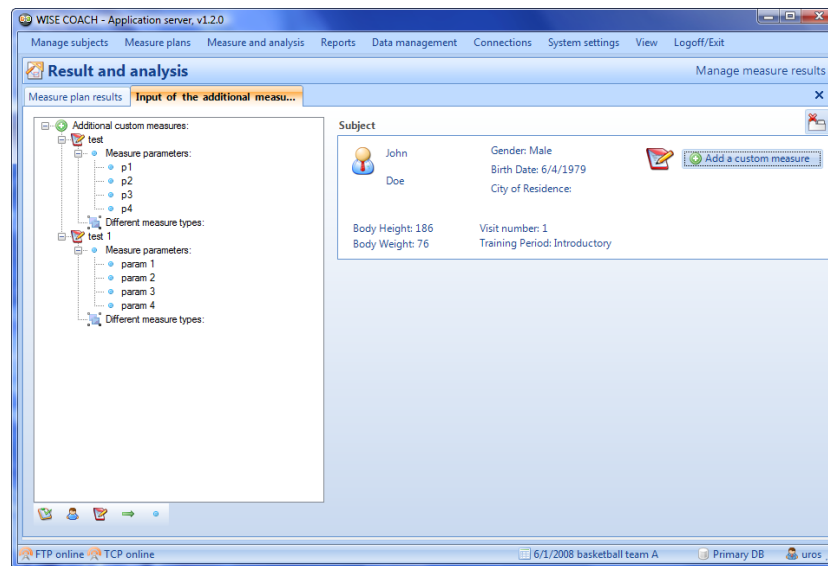


Figure 41:
Adding a custom measurement

The parameter name combo box and the parameter value input box will appear on the right. At this point insert the value and simply press "Enter". A new value can be confirmed by clicking the "Tick" icon. You will be asked to insert all the remaining parameter values. To display a desired parameter, select it from the combo box (Figure 42).

When all the parameter values are inserted, a confirmation screen will be displayed. At this point the data can be reviewed and confirmed or declined and the desired parameters can be modified again.

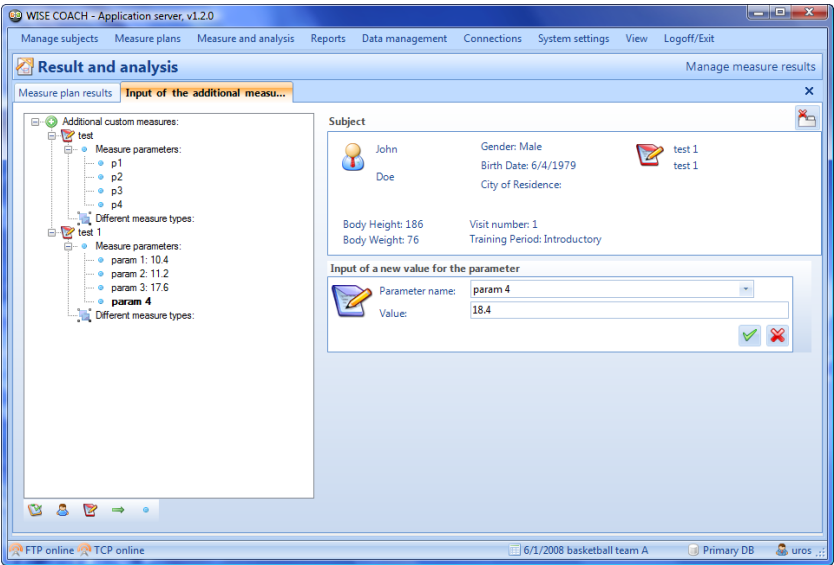


Figure 42:

Creating a report

While viewing the results of a plan, highlight a subject and click the “Create a report” button in the bottom right corner, or right-click on a subject and chose “Create a report” from the drop-down menu.

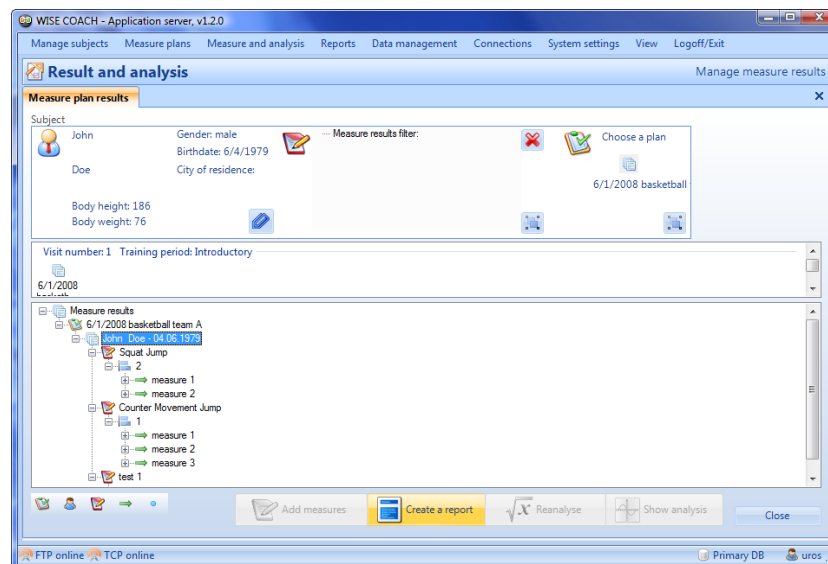


Figure 43: Create a report

A screen where you choose a report template will be displayed. In this step the template can be altered before applying it to the previously selected subject (Figure 44).

After clicking “Confirm” the report is automatically generated (Figure 45).

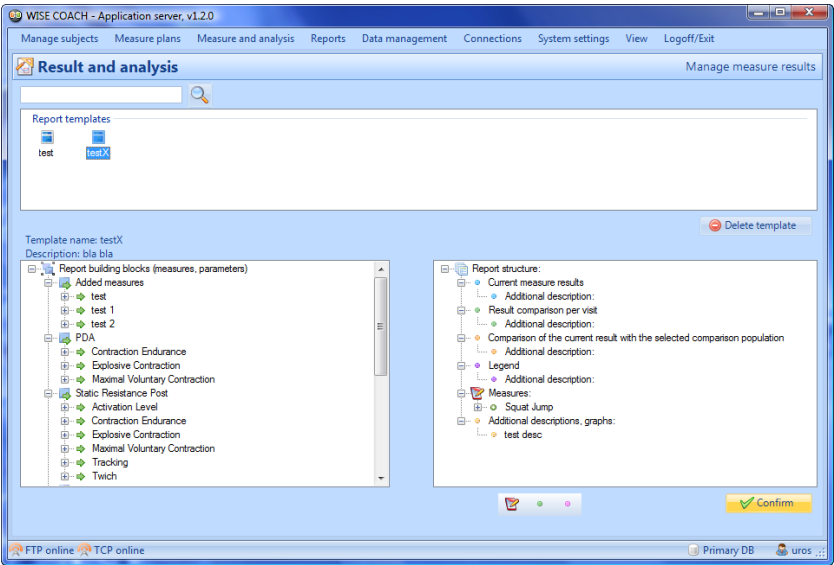


Figure 44

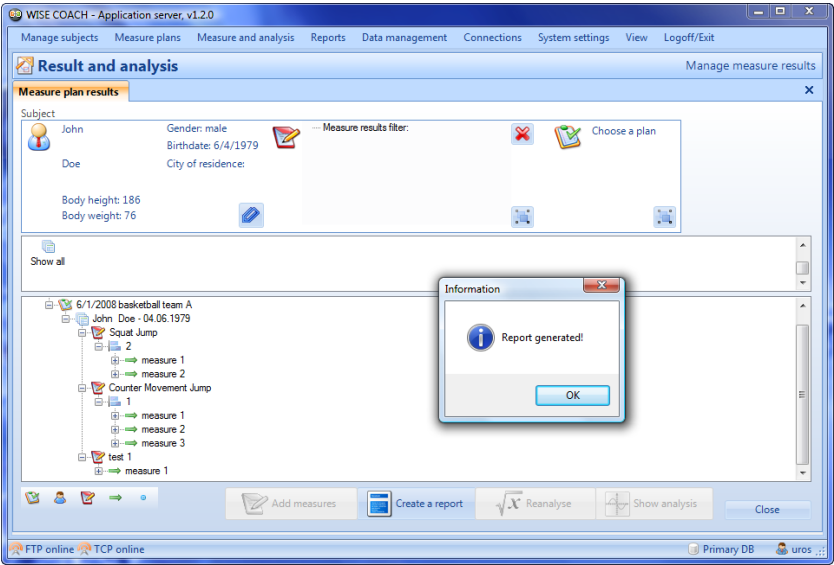


Figure 45

Performing a reanalysis of the collected measurement data with LabVIEW modules

Initiating the process

While viewing the results of a plan, highlight a measurement or a single measurement and click the “Reanalyse” button in the bottom right corner, or right-click on a measurement or a single measurement and chose “Reanalyse measure” from the drop-down menu.

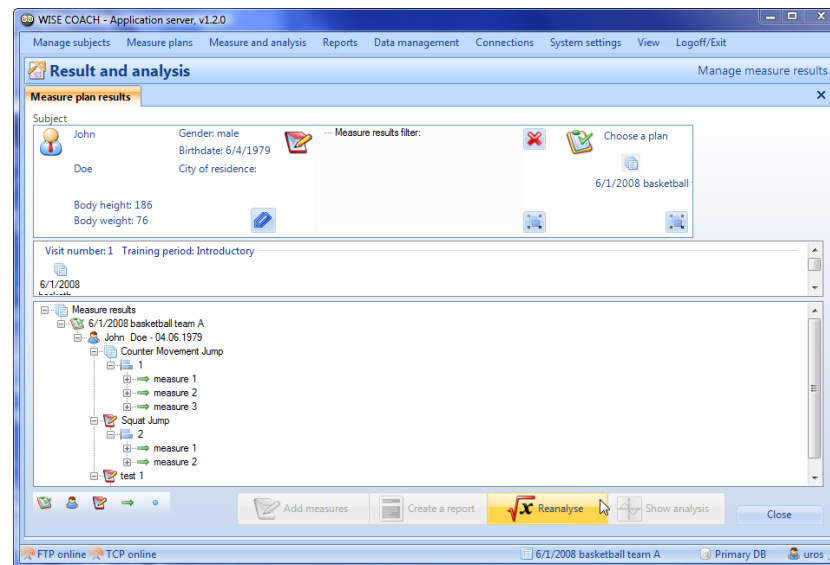


Figure 46: Initiating the process

Performing the re-analysis

When choosing measurement reanalysis, the reanalysis screen with subject and the current measurement results information is displayed in a familiar tree view.

Running the module

To start the reanalysis process, click the “Run reanalysis” button in the bottom right corner (Figure 47).



Figure 47: Running the module

Performing re-analysis

An appropriate LabVIEW module will open with all the current data. At this point the desired reanalysis steps or changes can be performed. (See: *LabVIEW section*). To return to the application, close the LabVIEW module.

Confirming the changes

If any changes have been made, they will be displayed in the tree view under the appropriate parameters in bold. To confirm the changes, click the "Confirm changes" button in the bottom right corner (Figure 48).

All the changes will be displayed again in the tree view and you will be prompted to reconfirm the changes again. At this point the information on the files affected after reconfirmation will be provided. When the changes are reconfirmed, the new data is stored to the database and the new files are uploaded to the remote file storage (Figure 49).

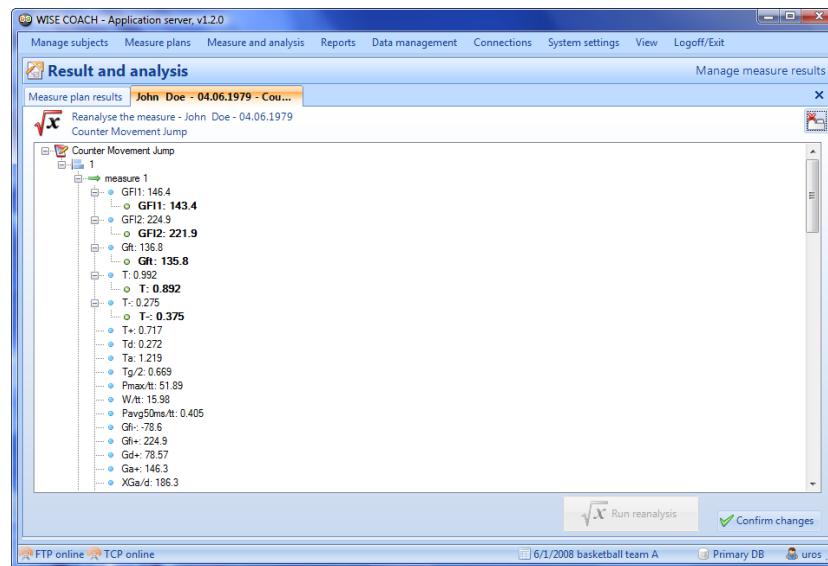


Figure 48: Confirming the changes

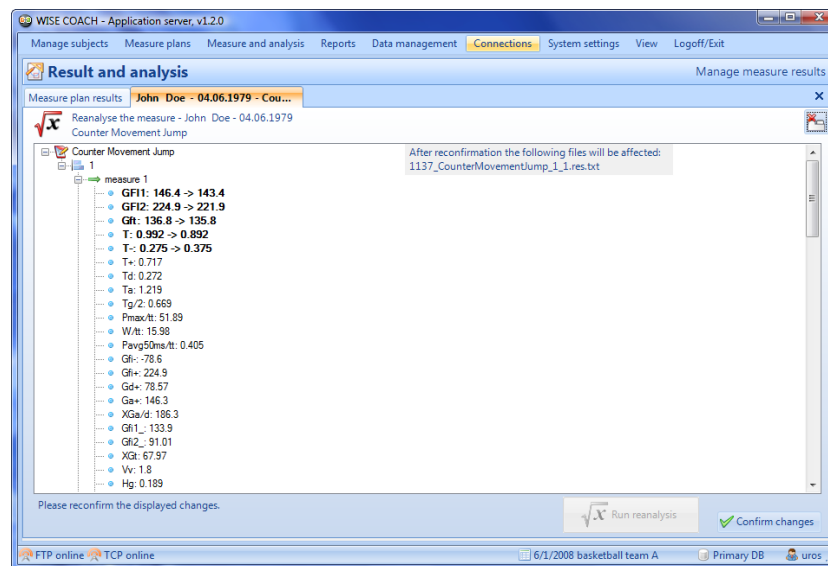


Figure 49: Confirming the changes

Creating a new custom measurement template

Initiating the process

The custom measurement template can be used to add additional custom measurements, which are not a part of the program, to a certain subject. To add a custom measurement template, select “Measure and analysis” and then “Create new measure template” in the main menu or via the side menu.

Creating a new template

When choosing the “Create new measure template”, a screen is displayed where the custom measurement name and description can be inserted. By clicking the “Tick” icon on the bottom left of the input area, the generation is confirmed.

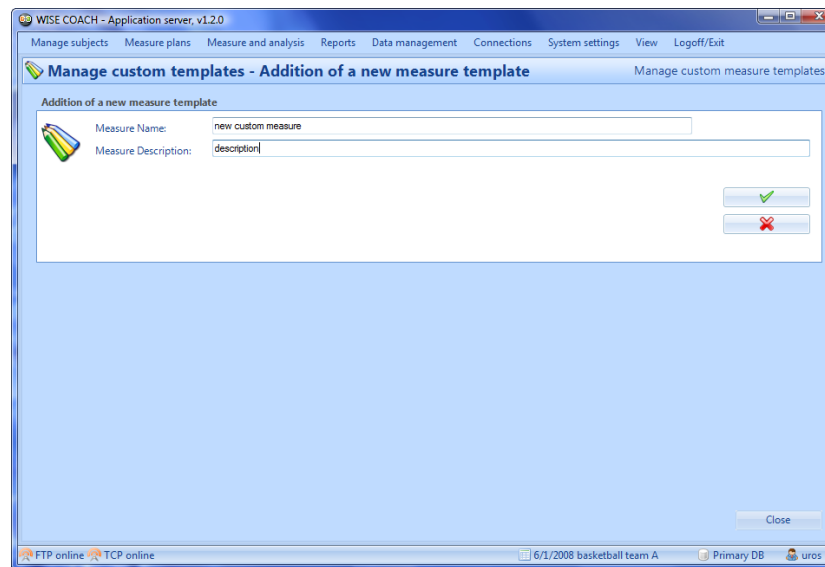


Figure 50:
Creating a new custom measurement
template

You are then redirected to the “Manage custom measure templates” screen.

Managing custom measurement templates

Initiating the process

The custom measurement template can be used to add additional custom measurements, which are not a part of the program, to a certain subject. To manage custom measurement templates, select “Measure and analysis” and then “Manage custom measure templates” in the main menu or via the side menu.

Managing the templates

When choosing the “Manage custom measure templates”, a screen where a search amongst the templates can be done will be displayed. Their parameters can also be modified at this point.

Searching amongst the templates

To search amongst the existing templates, enter the name or a part of the name in the search box and press “Enter” or click the “Search” icon next to it. The results will then be presented in the list below.

Displaying the measurement template parameters (Figure 51)

The measurement parameters can be displayed by double-clicking the desired one in the display list. The parameters will then be shown below in a familiar tree view structure.

Modifying the measurement template parameters (Figure 52)

To add a parameter, click the “Add parameter” button in the bottom left corner. Then insert the parameter name, description and choose its type. It can be a numeric parameter (Decimal type) or a text parameter (Text type). The parameter is then confirmed by clicking the “Confirm” button or pressing “Enter”. You are then prompted to add a new one or return to the measurement template.

To remove a parameter, choose the desired one from the tree view and click the “Remove the parameter” button in the bottom left corner.

Attention: it is not possible to delete or add parameters to an existing measurement template if the template has already been used to add data to an existing subject.

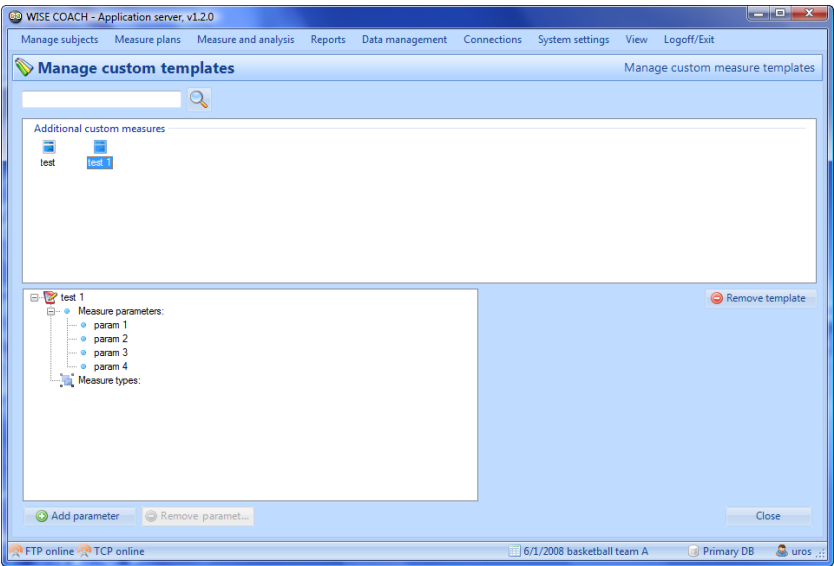


Figure 51:
Displaying the measurement template
parameters

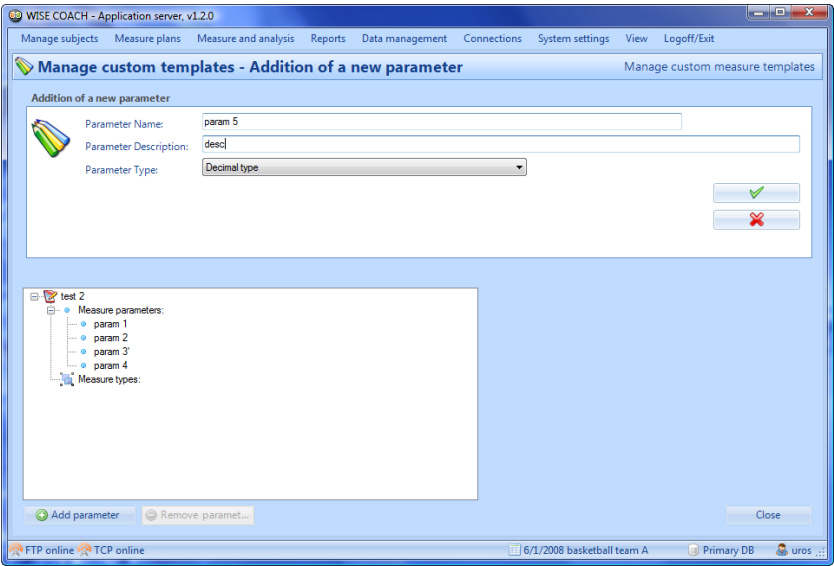


Figure 52:
Modifying the measurement template
parameters

Chapter 6

Reports

Reports

Generating a new report template

Initiating the process

To add a new report template, select “Reports” and then “Create new report template” in the main menu or via the side menu.

Creating a report template

When choosing the “Create new report template”, a screen where the report template name and description can be inserted will be displayed. It is also possible to select an existing report as a base for a new report. The new report will contain all the building blocks of the initial report. The generation is confirmed by clicking the “Tick” icon on the bottom left of the input area. You are then redirected to the “Manage report templates” screen.

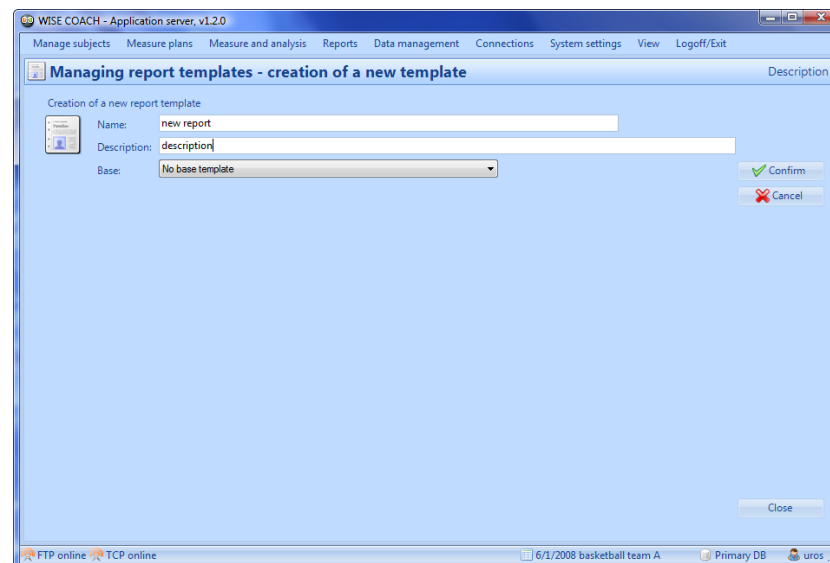


Figure 53:
Generating a new report template

Managing report templates

Initiating the process

To manage report templates, select “Reports” and then “Manage report templates” in the main menu or via the side menu.

Managing the templates

When choosing the “Manage report templates”, a screen where a search amongst the templates is enabled will be displayed. The template building blocks can be modified at this point.

Searching amongst the templates

A search amongst the existing templates can be carried out by entering the name or a part of the name in the search box and pressing “Enter” or clicking the “Search” icon next to it. The results will then be presented in the list below.

Displaying the report template building blocks

The report template building blocks can be displayed by double-clicking the desired one in the display list. The available building blocks will be displayed on the left side and the added building blocks on the right side, both in a familiar tree view structure.

Structure of the report template

A report template is structured in the following manner:

- **Current measure results** (results of the selected measurements are displayed in a table);
 - Additional description (optional additional description is shown below the building block);
- **Result comparison per visit** (results of the selected measurement are compared with the results of previous visits of a specific subject, and the results of the comparison and the deviations are displayed in a table);
 - Additional description (optional additional description is shown below the building block);
- **Comparison of the current result with a selected comparison population** (the results of the selected measurements are compared with the comparison population, and the results of the comparison and the deviations are displayed in a table);
 - Additional description (optional additional description is shown below the building block)

- **Legend** (a legend is shown with all the measurement parameters and parameter descriptions);
 - Additional description (optional additional description is shown below the building block);
- **Measures** (the measurements and their parameters which are included in the report);
- **Additional descriptions, graphs** (additional custom text and graphs obtained from the result analysis).

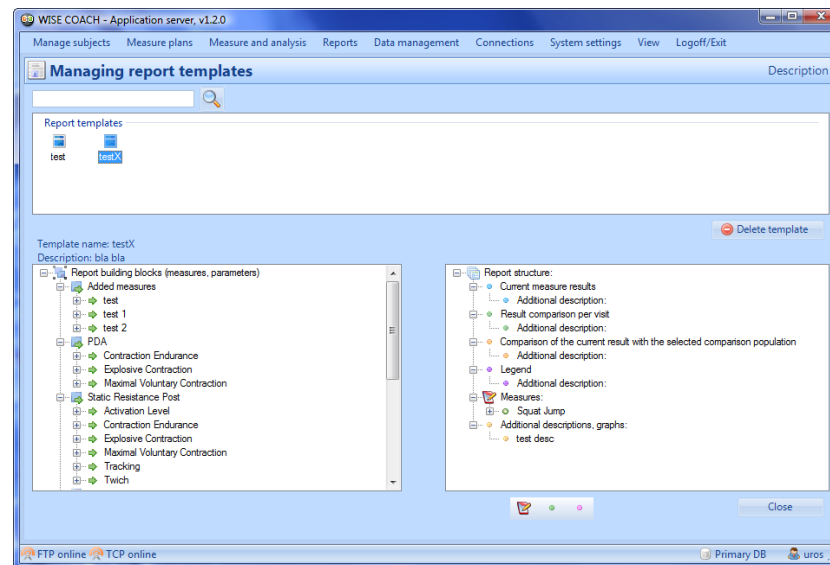


Figure 54:
Structure of the report template

Enabling/disabling mayor building blocks (Figure 55)

An individual report building block can be enabled by right-clicking it and choosing “Enable this block” from the dropdown menu. To disable one, follow the same procedure but select “Disable this block” from the dropdown menu. If the building block is disabled, it will appear as a strikethrough text in the tree view.

Adding measurements and measurement parameters to the report template (Figure 56)

Select the desired measurements and measurement parameters in the left tree view, and add them by right-clicking and choosing “Add this measure” or “Add this parameter” in the drop down menu.

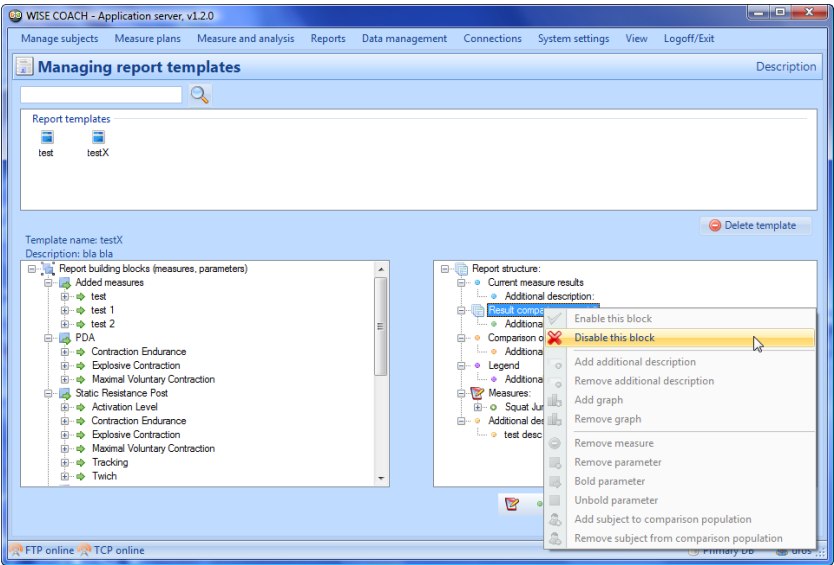


Figure 55:
Enabling/disabling mayor building
blocks

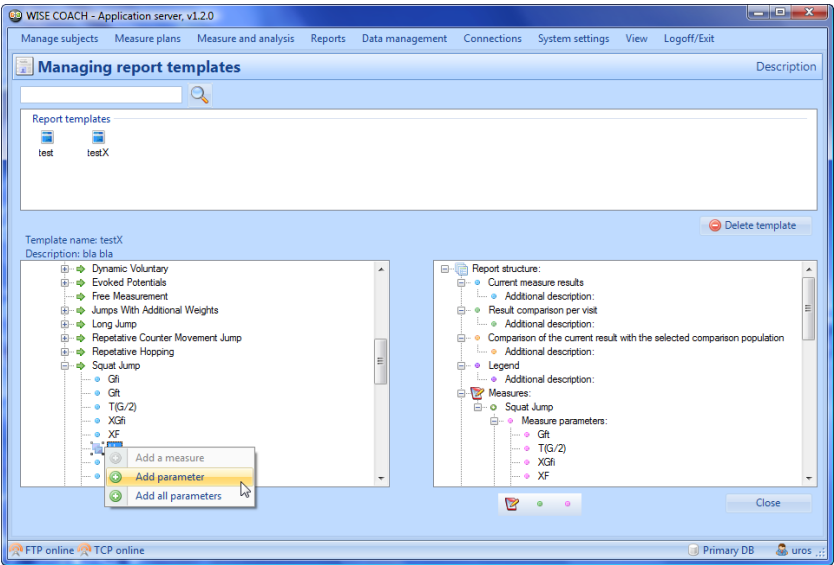


Figure 56:
Adding measurements and
measurement parameters

Adding a comparison population

A comparison population can be added to the report by right-clicking the “Comparison population” entry under the desired measurement in the report template tree view, and choosing either “Add a subject to comparison population” or “Add a criteria to a comparison population”.

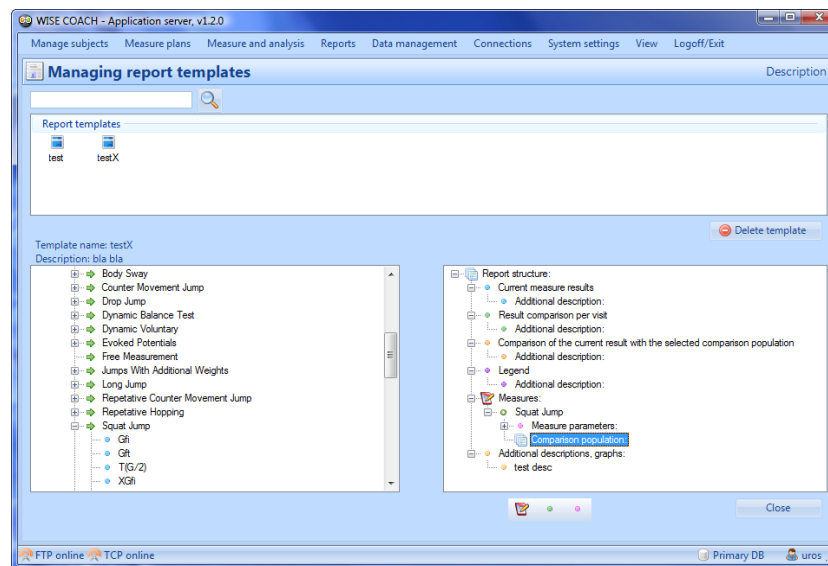


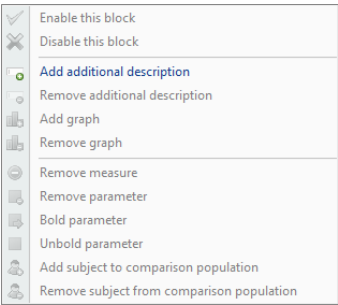
Figure 57:
Adding comparison population

The first command assigns specific subjects to the comparison population. If an additional subject is chosen, parameters designating the comparison population in the generated report can be added. For example, add the parameters *Gender: male* and *Primary Sport: Basketball*.

Adding additional descriptions and graphs (Figure 58)

Additional descriptions and previously saved graphs can be added at the end of the report by right clicking “Additional description, graphs” and choosing “Add an additional description” or “Add a graph” from the dropdown menu.

Figure 58:
Adding additional descriptions and
graphs



Viewing the generated reports archive

All the generated reports can be viewed via the “Reports Archive” section. There are two possibilities to view the reports:

- A specific subject, by clicking the “Attach” icon and choosing a subject;
- Date range, by choosing a date range and clicking the “Search” icon.

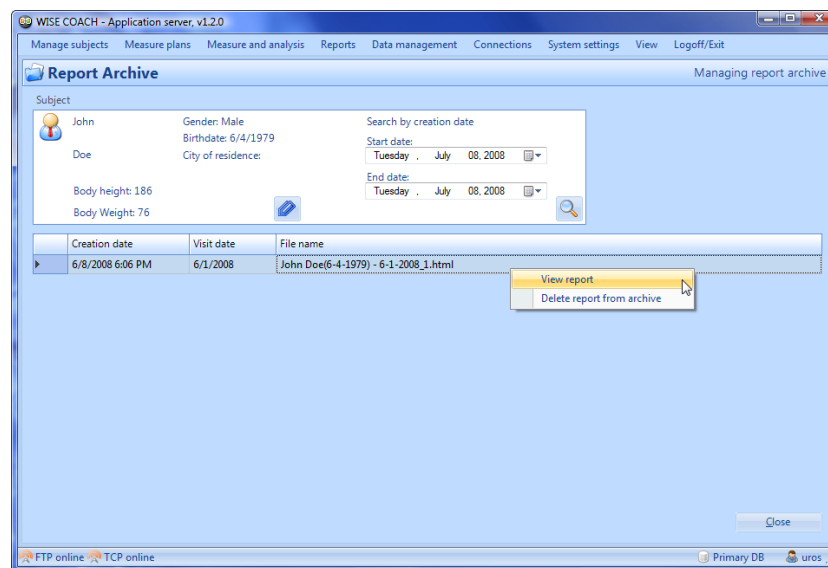


Figure 59:
Viewing the generated reports archive

The results are then displayed in a grid. By double-clicking on a specific report, it will open in the browser. You can also right-click on the report and delete it from the archive if necessary.

Chapter 7

Data management

Data management

Managing primary sport data

The module can be opened by selecting “Data Management” and then “Manage primary sport data” in the main menu or via the side menu. The primary sport data, which can be selected when entering a new subject, can be managed at this point.

The primary sport data is organized in the following hierarchical manner:

- > **Main category**
 - > Subcategory
 - > **Sport**
 - > Option 1
 - > Option 2
 - > **Play spot**

Main category, Sport and Play spot are mandatory parameters, others are optional.

For Example:

- > **Summer sports (“Main category”)**
 - > Sport games (“Subcategory”)
 - > **Basketball (Sport);**
 - > No subcategory (“Option 1”)
 - > No subcategory (“Option 2”)
 - > Centre (“Play spot”)

Navigating through the hierarchy

To navigate through the primary sport data, choose the desired elements from the top down and modify them if needed. The visual presentation of the hierarchy is displayed on the right which enables easier navigation.

Searching for an element

To search for an element, insert the desired text in the “Search” box and press “Enter” or click the “Search” icon. Navigate through the results by clicking the “Next” or the “Previous” button.

Adding an element

To add an element, navigate to the appropriate position in the hierarchy, and then either choose an element from the combo or insert one. To add it, click the “Add” icon on the right. Elements must be entered from the top down in the hierarchy.

Removing an element

To remove an element, navigate to the appropriate position in the hierarchy, and then click the “Remove” icon on the left. Elements must be removed from the bottom up in the hierarchy.

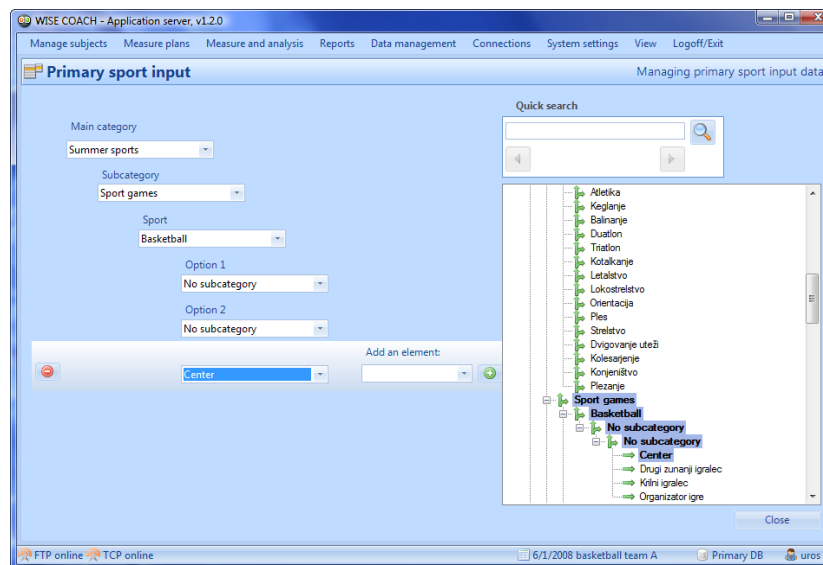


Figure 60: Managing primary sport data

Input data management

All the input data, which can be selected through the application, can be edited. Most input data is selected when adding a new subject.

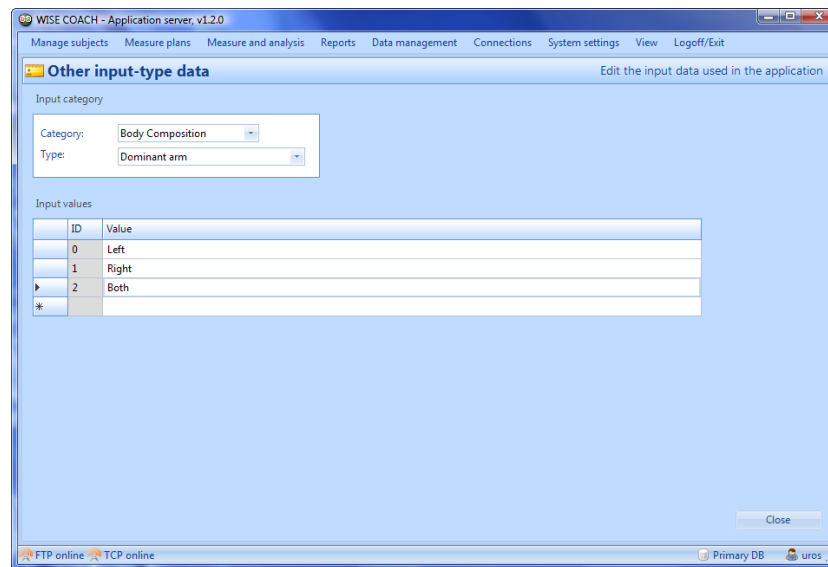


Figure 61: Input data management

The process is very simple. Select the “Input category” and “Type”. The values are displayed in the grid below. The existing values can be edited and a new value which appears in the input box in a specific part of the application can be added to the grid. If the value is not assigned to any subject, it can also be deleted.

Chapter 8

Connections and transfers

Connections and transfers

Managing applications' TCP and FTP servers

The *Application server* has the TCP and FTP servers installed for communication with remote clients (PC, laptop, PDA). The module can be opened by selecting “Connections” and then “TCP and FTP server” in the main menu or via the side menu.

At this point all the FTP and TCP server activities can be viewed. Click the “Stop” button to stop the servers. To start them again, click the “Run” button.

The status of these two servers is also displayed in the status bar of the program in the bottom right corner. Both should always be online. If one is offline, consult the program administrator.

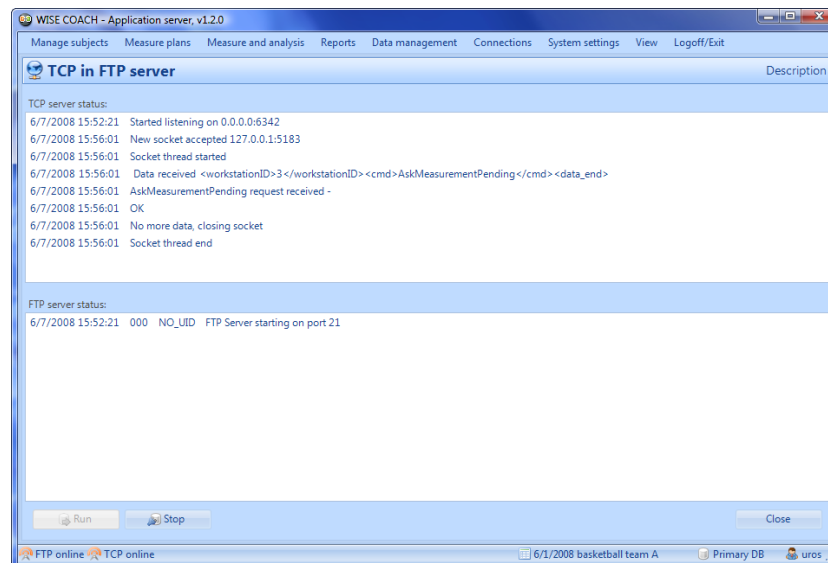


Figure 62:
Application's TCP and FTP servers

Chapter 9

Various application settings

Various application settings

General settings

The following general settings for the Wise Coach application can be changed at this point:

- **User interface localization:**
 - Language (UI language).
- **DB connection settings:**
 - IP address (IP address of the machine with the DB installed);
 - Port (Port of the DB connection).
- **TCP server settings:**
 - IP address (the machine's local IP address);
 - Port (the port on which the TCP communication takes place).
- **FTP server settings:**
 - IP address (the machine's local IP address);
 - Port (the port on which the FTP communication takes place).
- **Measurement settings:**
 - Backup all measure files locally (should all the measures be backed up locally).
- **Measurement analysis settings:**
 - Stationary analysis VI path (the path which contains reanalysis Lab View modules);
 - Stationary analysis VI data path (the path in which the temporary data files for re-analysis are stored);
 - Stationary analysis VI timeout (timeout for the reanalysis process).
- **Subject input settings:**
 - Mandatory input data level – The amount of data, which is mandatory when inputting a subject's data
 - *Minimum* (First Name, Last Name, Gender, Birth Date);
 - *Standard* (Subject type, First Name, Last Name, Gender, Birth Date, Training period, Body height, Body weight, Dominant arm, Dominant foot, Parade sport level, Primary sport).

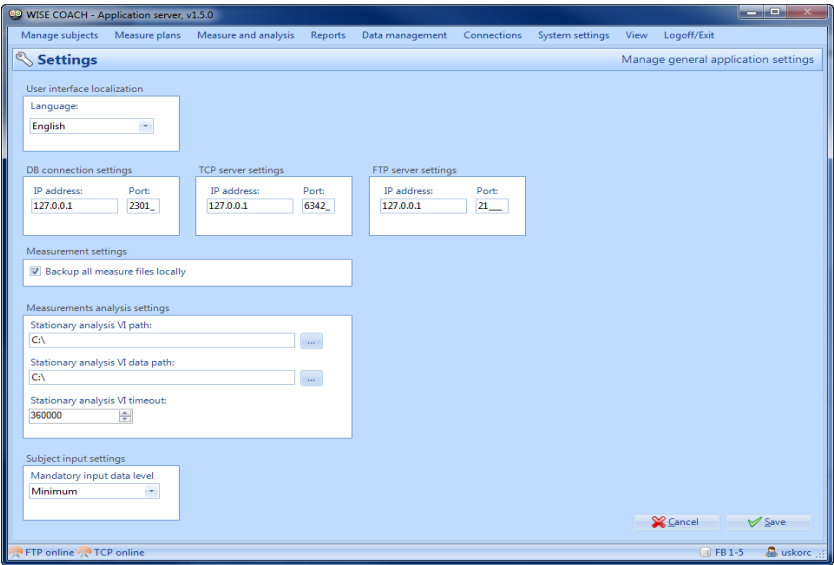


Figure 63: General settings

Report settings

The following report settings for the Wise Coach application can be changed at this point:

- **Logo settings:**
 - Image path (the path to the image which is displayed in the report);
 - Company name, Address, etc (additional information which is shown in the report header).
- **Miscellaneous settings:**
 - Save generated reports to the archive (stores the generated reports to the DB);
 - Show report preview on generation (shows the report upon generation).

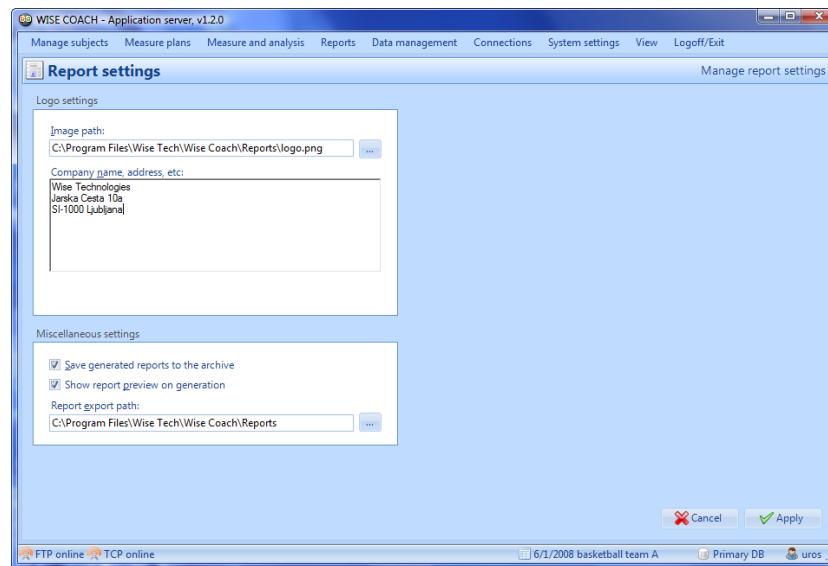


Figure 64: Report settings

User management

At this point, the application's users can be managed.

A user with limited privileges is only able to change their own password, while a user with administrative privileges can manage all other users: i.e. add a new user, remove an existing one, reset other user's password to default in case of a forgotten password, and set other user's access level either to "Administrative" or "Limited".

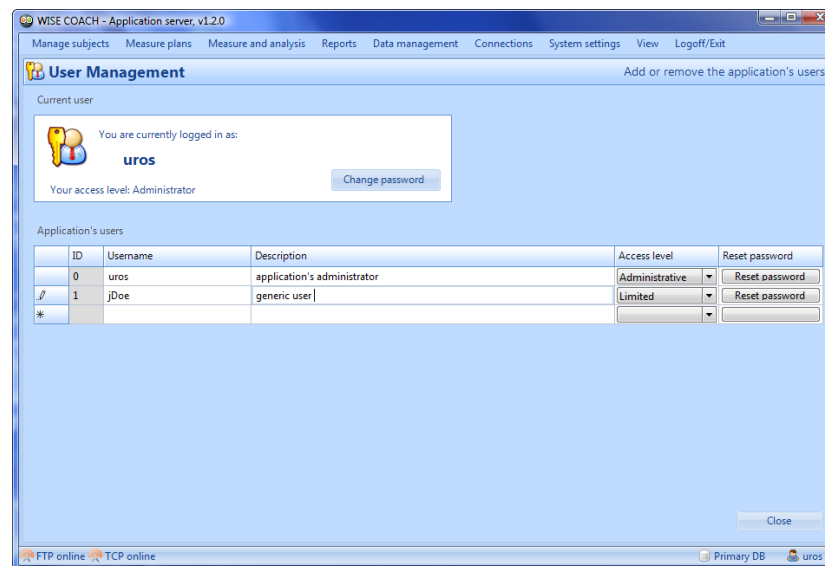


Figure 65: User management

Viewing the application logs

For easier troubleshooting, all the activities and possible errors are logged by the application. They can be viewed by choosing a specific log from the drop-down menu and clicking the “Display” button.

There is the possibility to view the following logs:

- Application log (log of the application activity);
- Error log (log of any possible errors);
- Error log (log of any possible errors);
- TCP connection log (log of TCP/IP transfer);
- TCP connection log (log of TCP/IP transfer);

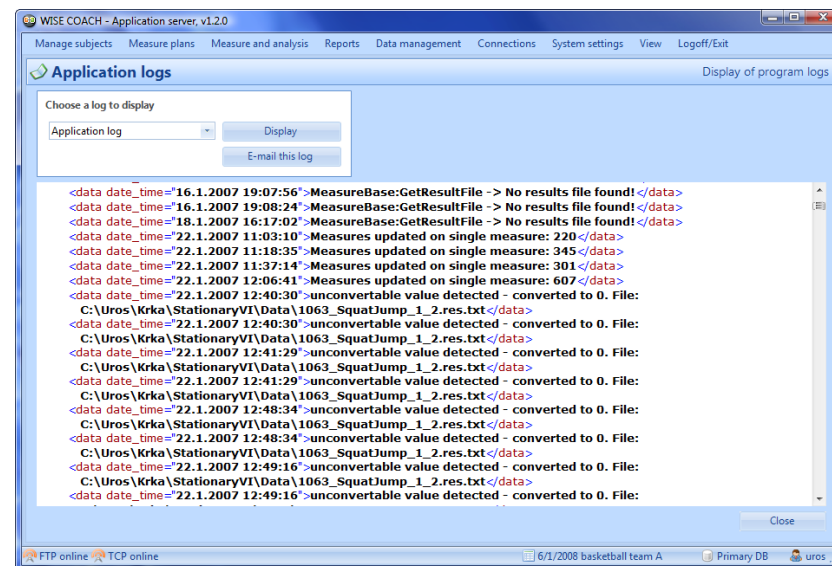


Figure 66: Viewing the application logs

A specific log can be sent directly to an e-mail address by clicking the “E-mail this log” button.

Chapter 10

PC/Laptop and PDA stationary client

PC/Laptop and PDA stationary client

Client plan management and measuring

The actual measuring process is executed on the client workstations, connected to a PC, laptop or a PDA. The **Stationary client** is the interface for plan management and data transfer.

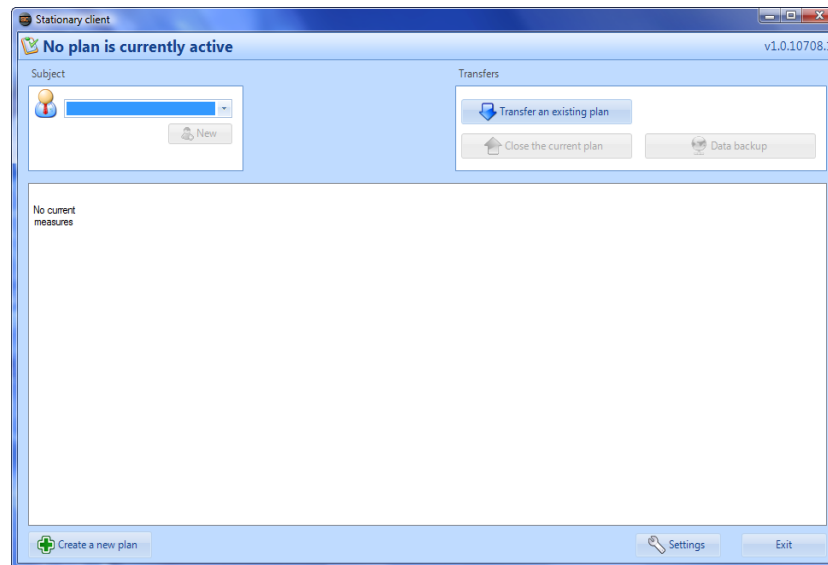


Figure 67: Viewing the application logs

Download an existing plan

When a plan is prepared on the Application server, it has to be downloaded to the target *Stationary client*. This can be done by clicking the “Download an existing plan” button. A connection window opens, where the process is initiated by clicking the “Begin” button. The plan configuration file is downloaded and the transfer window automatically closes. The plan information is displayed on the target “Stationary client” (Figure 68).

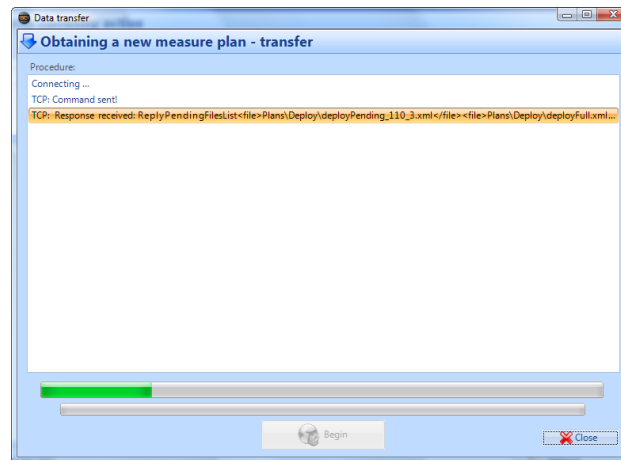


Figure 68: Download an existing plan

Execute the plan

The planned measurements begin to be executed by first choosing the appropriate subject in the drop down menu, and then double clicking on the desired measure. An appropriate LabVIEW module where the actual measurement is conducted opens (Figure 69).

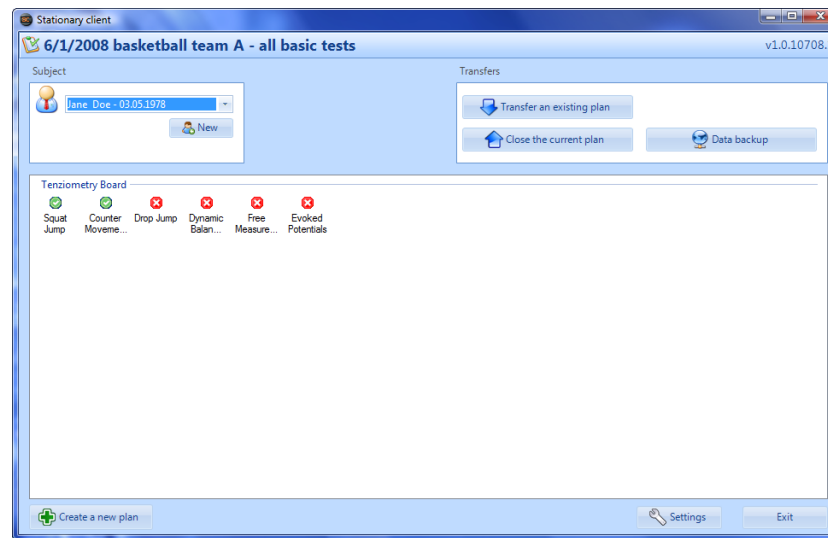


Figure 69: Execute the plan

Closing the plan

When the actual measurements are taken, finish the plan by clicking the “Close the current plan” button. A connection window opens, where the process initiates by clicking the “Begin” button. When all the files are transferred, the connection window closes.

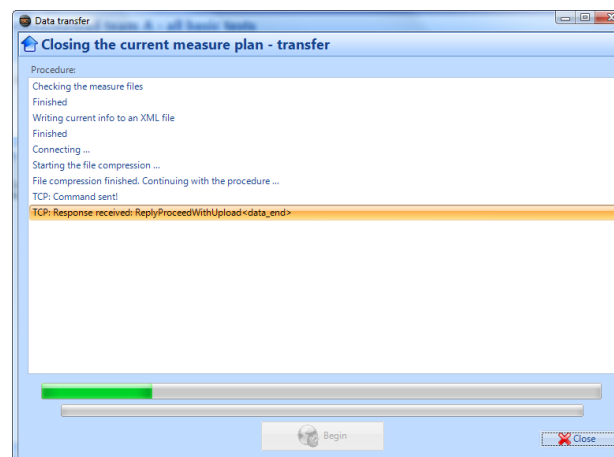


Figure 70: Closing the plan

Create a new plan

A new plan can also be created and imported on the application server. Clicking the “Create a new plan” button displays all measurements available for execution.

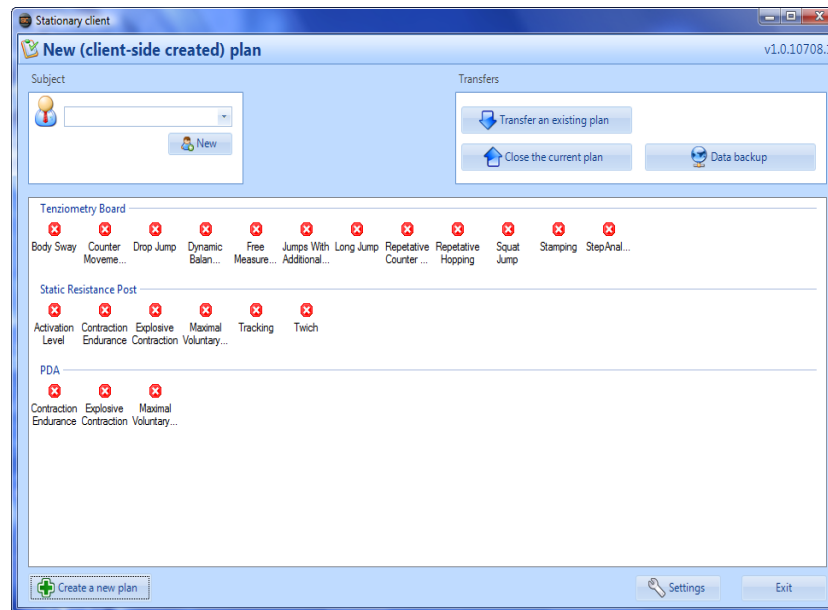


Figure 71: Create a new plan

Add a new subject

To create a new or add a new subject to an existing plan, click the “New” button in the “Subject section”. First insert the subject description and weight, and confirm the new subject by clicking the “Confirm” button. This subject can now be chosen and measurements can be taken. Finally, create a new subject entry in the database with all the required data on the application server (Figure 72).

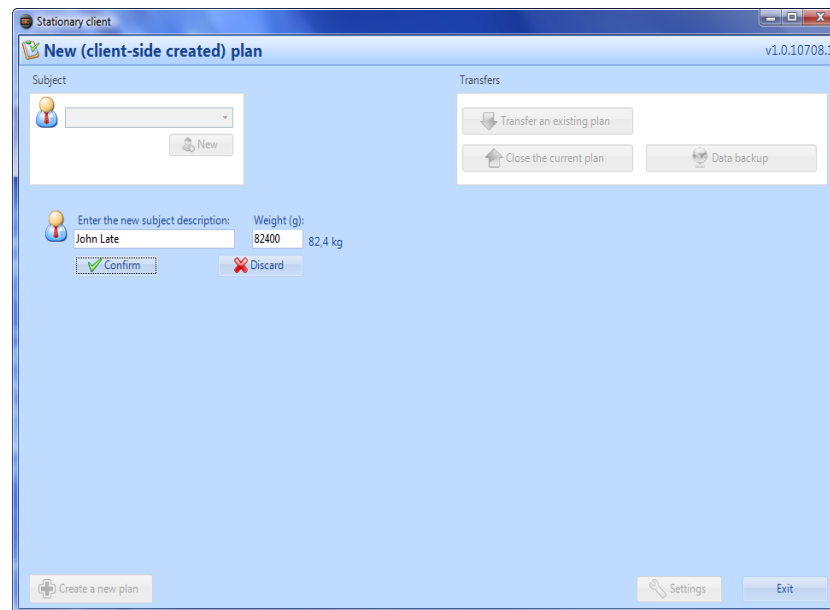


Figure 72: Add a new subject

Make backup of the current data

If the plan is temporarily suspended during the execution, it is advisable to make a backup of the measurements already taken. For creating a backup click the “Data backup” button. A connection window opens, where the process is initiated by clicking the “Begin” button. When all files are transferred, the connection window closes (Figure 73).

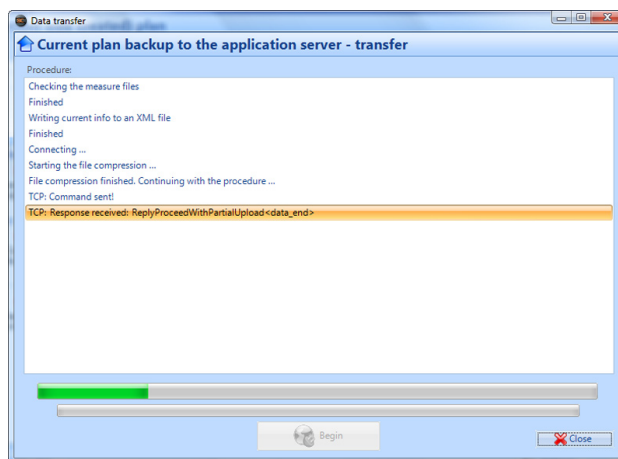


Figure 73:
Make backup of the current data

Client settings

The settings dialog opens when clicking the “Settings” button. The settings are arranged into three tabs (*Figure 74*):

- 1) Connection:
 - a. TCP IP address: IP address of the application server;
 - b. TCP Port: port of the applications' server TCP server;
 - c. FTP Username: username of the application server's FTP server;
 - d. FTP Password: password of the application server's FTP server;
 - e. FTP Port: port of the application server's FTP server.
- 2) General:
 - a. Device ID: ID of the device;
 - b. Workstation ID: ID of the workstation;
 - c. Display error level: displaying error level;
 - d. Transfer logs button: transfer the client program logs to the application server.
- 3) Measures:
 - a. Measure files path: path to the raw LabVIEW measurement files;
 - b. LabVIEW parameter files path: path to the LabVIEW parameter files;
 - c. LabVIEW executable files path: path to the LabVIEW executable files.

The changes are confirmed by clicking the “Confirm” button or discarded by clicking the “Discard” button.

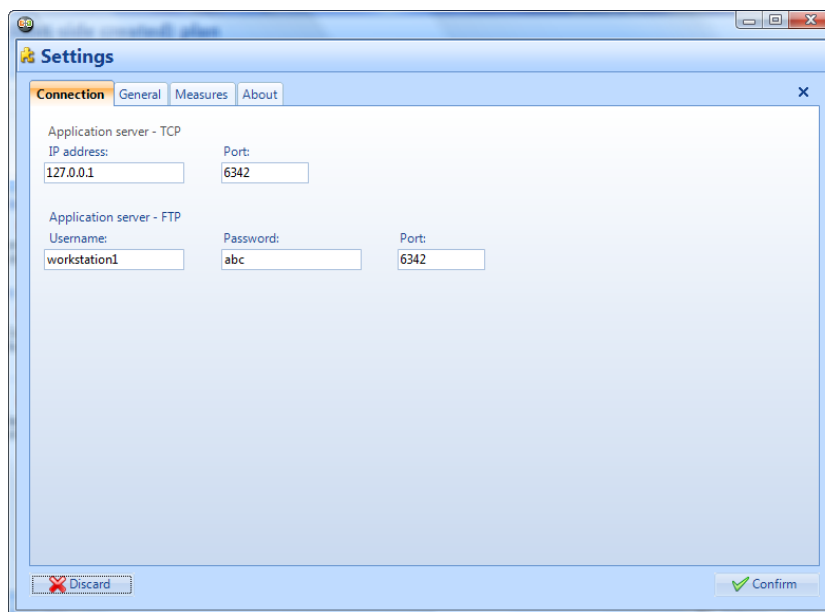


Figure 74: How to submit data

