Part VII

Recruitment, Text formatting and Multimedia

Recruitment, Text formatting and Multimedia

Recruitment: ORSEE

Text formatting

Plots and vectorial graphics

```
plot box
plot items
plot inputs
```

Multimedia, slide-shows and external programs

External programs

Recruitment: ORSEE

ORSEE is a web-based Online Recruitment System, specifically designed for organizing economic experiments. It's key features are:

- multiple experimenter/laboratory/subject-pool/experiment-classes/language support,
- random recruitment,
- public and internal experiment calendar,
- reputation system,
- automated mailing,
- pdf output,
- experimenter rights management.

ORSEE comes with a complete documentation.

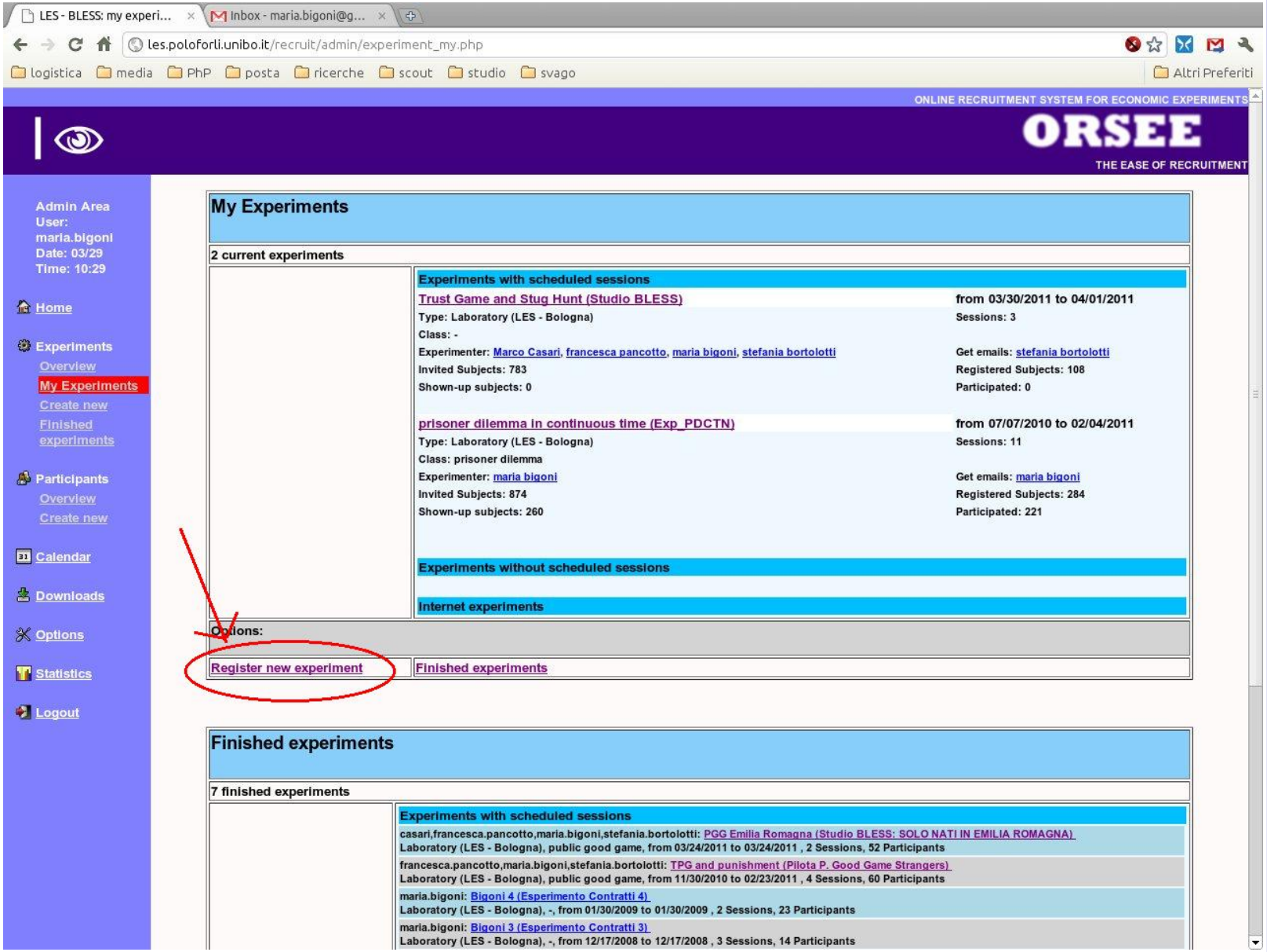
Recruitment with ORSEE - in a nutshell

You need IT support to install ORSEE on your university server.

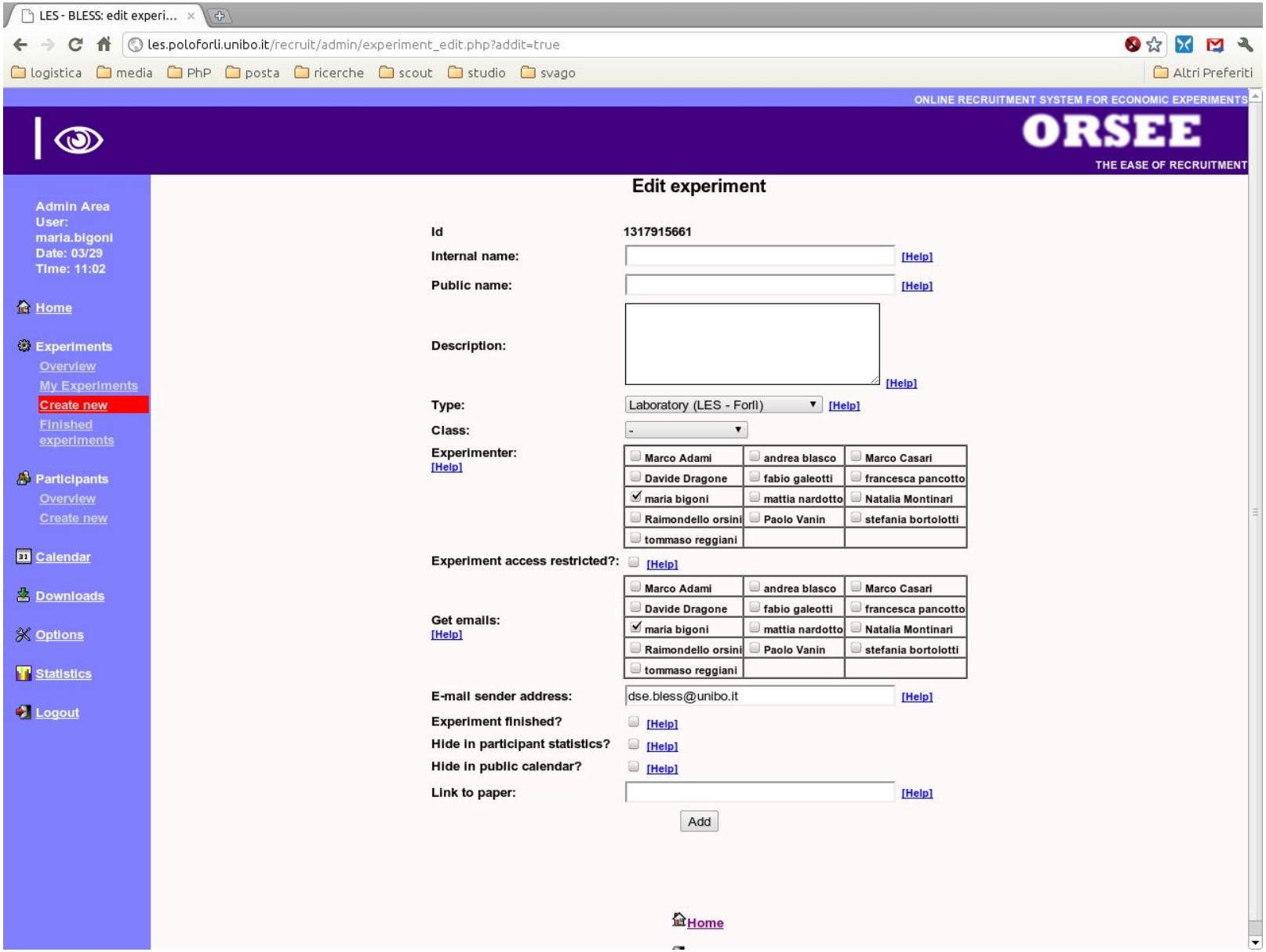
Once ORSEE is installed and you have an account, you can/should:

- create a **new experiment**
- **select subjects** for the experiment
- create **sessions** within an experiment
- send **e-mail invitations** and check who subscribed
- after each session, **record who participated** and close the session
- at the end of the last session, **close the experiment**

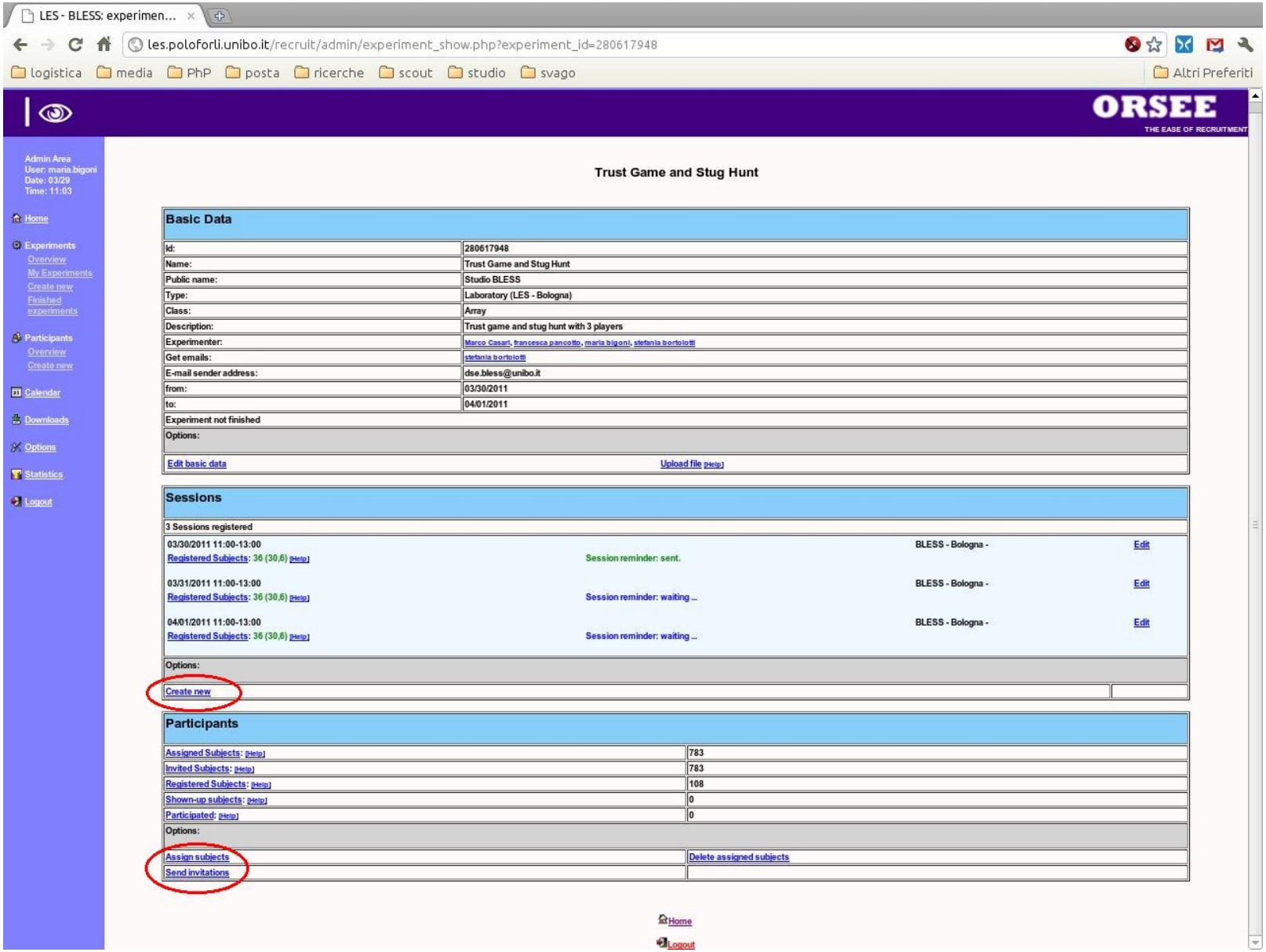
Create a new experiment



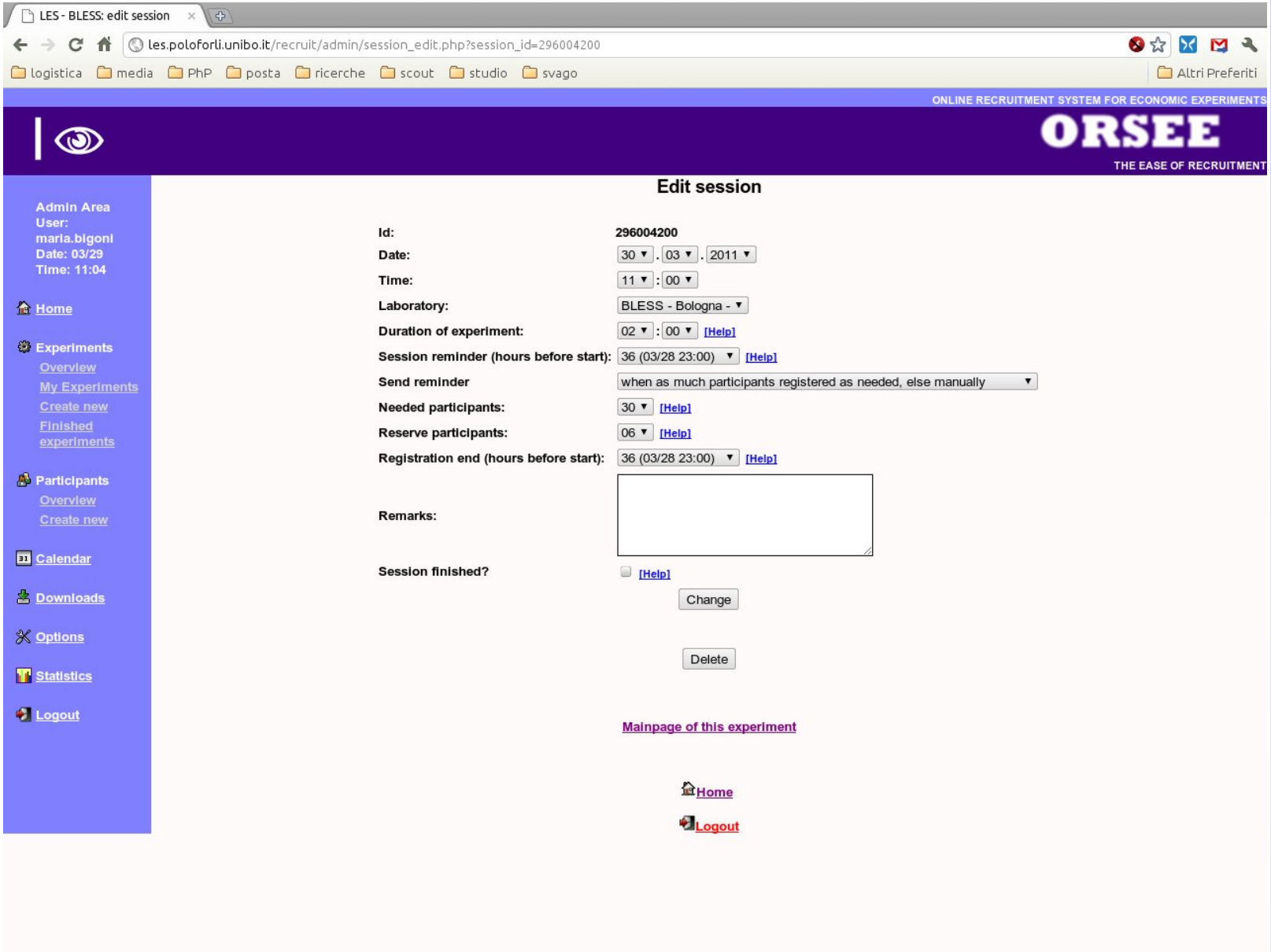
Set the details of the experiment



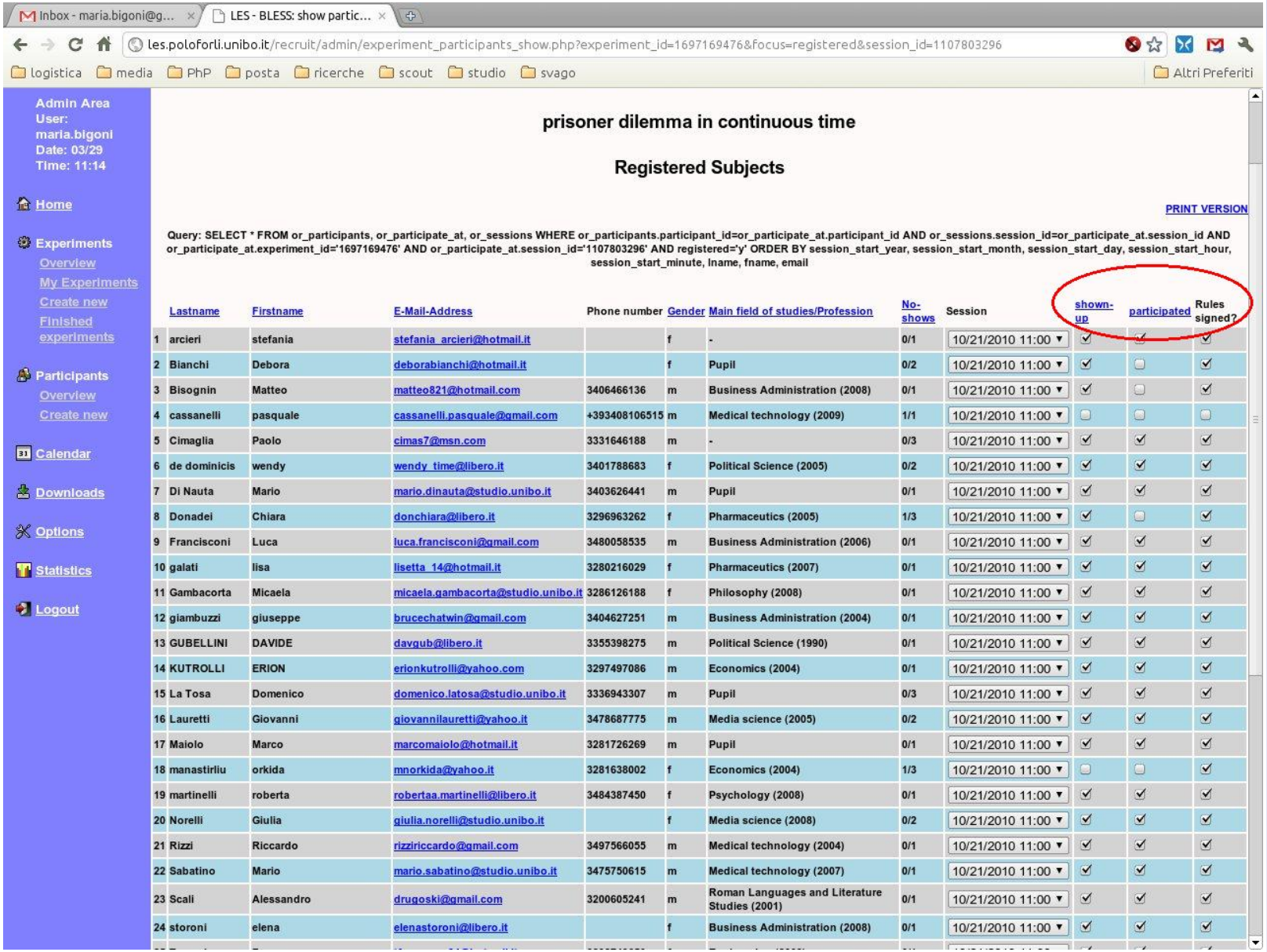
Assign subjects and create sessions



Set the details of the session

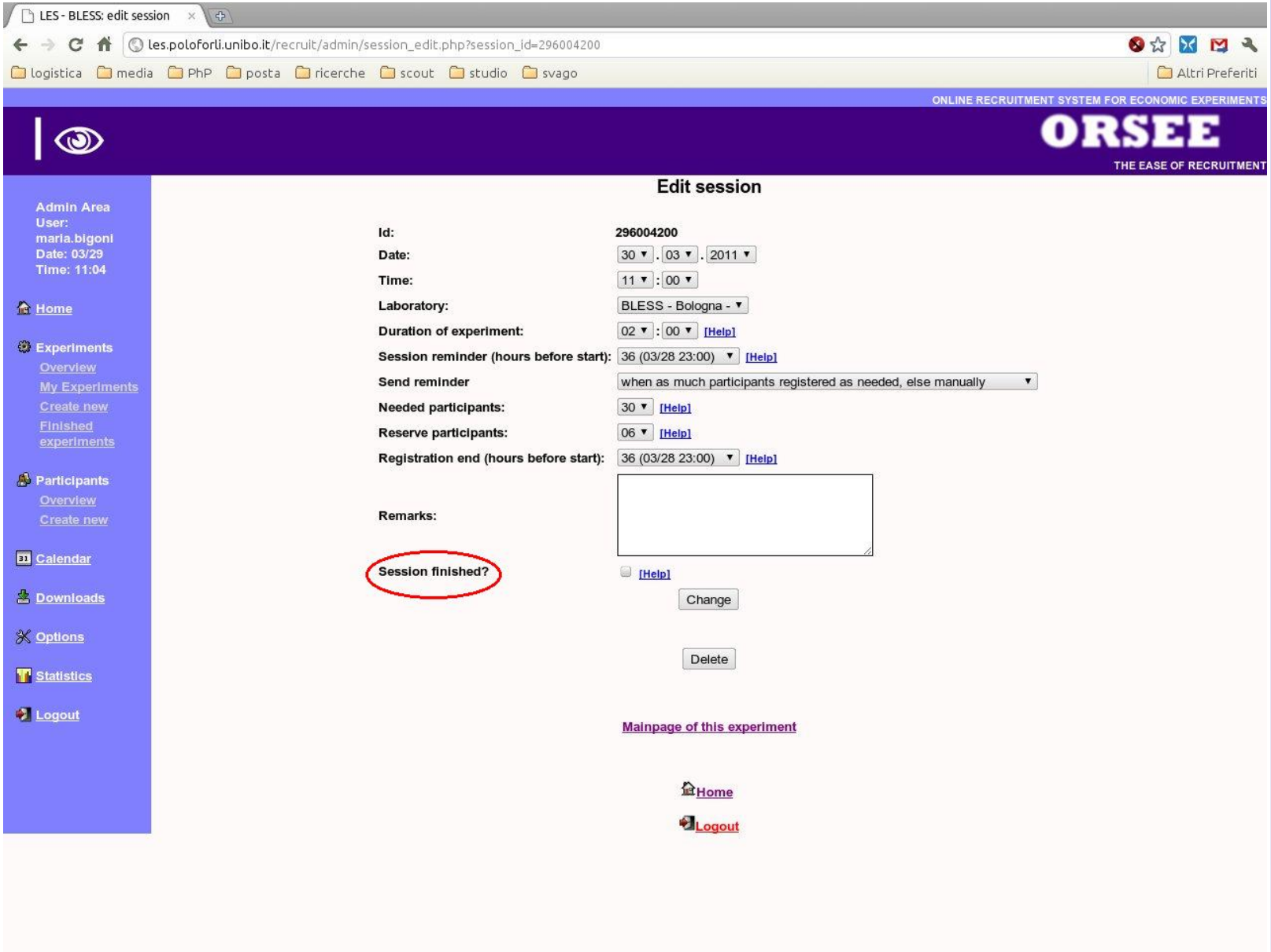


Record subjects' participation

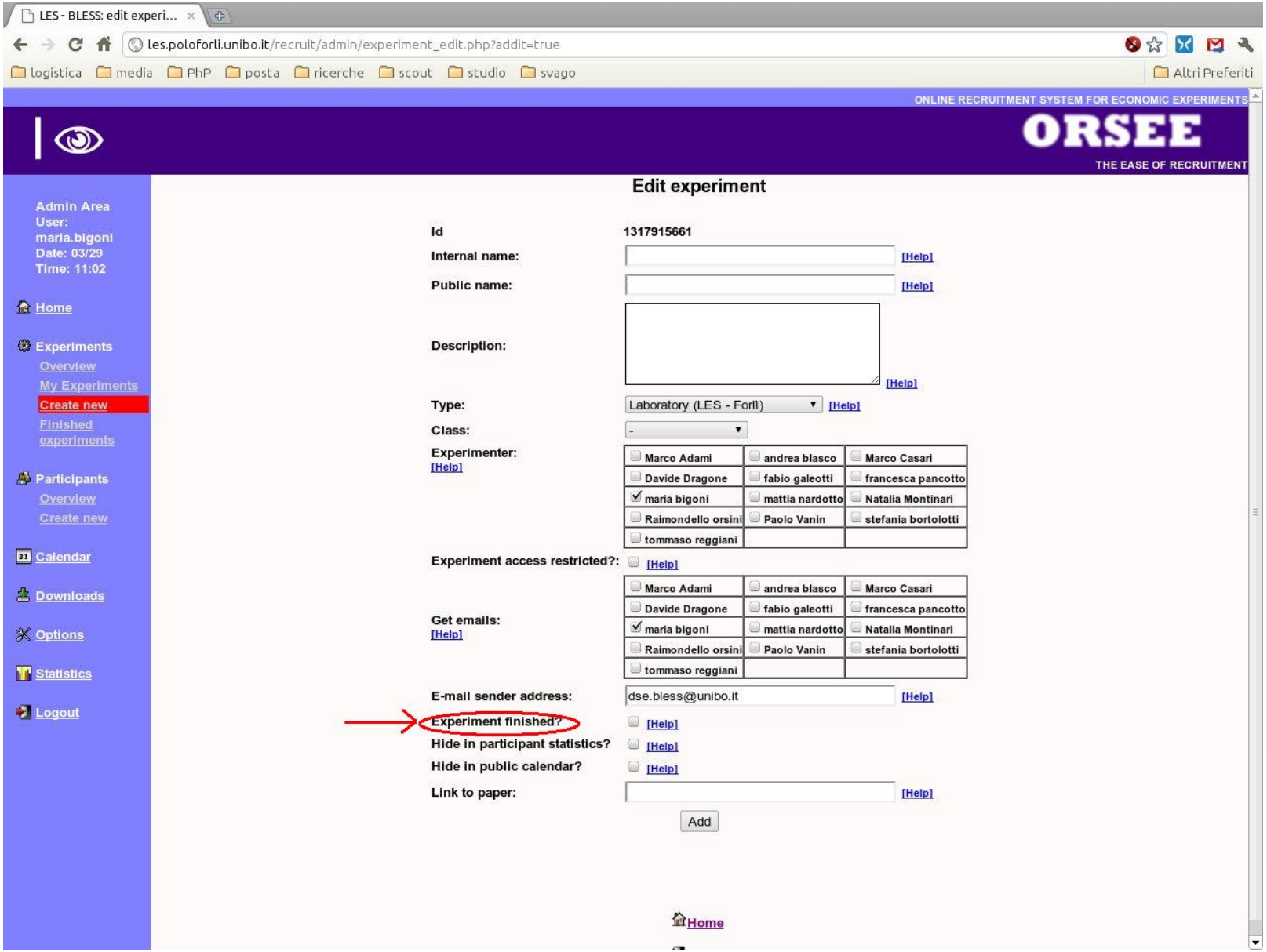


	Lastname	Firstname	E-Mail-Address	Phone number	Gender	Main field of studies/Profession	No-shows	Session	shown-up	participated	Rules signed?
1	arcieri	stefania	stefania_arcieri@hotmail.it		f	-	0/1	10/21/2010 11:00	☑	☑	☑
2	Bianchi	Debora	deborabianchi@hotmail.it		f	Pupil	0/2	10/21/2010 11:00	☑	☐	☑
3	Bisognin	Matteo	matteo821@hotmail.com	3406466136	m	Business Administration (2008)	0/1	10/21/2010 11:00	☑	☐	☑
4	cassanelli	pasquale	cassanelli.pasquale@gmail.com	+393408106515	m	Medical technology (2009)	1/1	10/21/2010 11:00	☐	☐	☐
5	Cimaglia	Paolo	cimas7@msn.com	3331646188	m	-	0/3	10/21/2010 11:00	☑	☑	☑
6	de dominicis	wendy	wendy_time@libero.it	3401788683	f	Political Science (2005)	0/2	10/21/2010 11:00	☑	☑	☑
7	Di Nauta	Mario	mario.dinauta@studio.unibo.it	3403626441	m	Pupil	0/1	10/21/2010 11:00	☑	☑	☑
8	Donadei	Chiara	donchiara@libero.it	3296963262	f	Pharmaceutics (2005)	1/3	10/21/2010 11:00	☑	☐	☑
9	Francisconi	Luca	luca.francisconi@gmail.com	3480058535	m	Business Administration (2006)	0/1	10/21/2010 11:00	☑	☑	☑
10	galati	lisa	lisetta_14@hotmail.it	3280216029	f	Pharmaceutics (2007)	0/1	10/21/2010 11:00	☑	☑	☑
11	Gambacorta	Micaela	micaela.gambacorta@studio.unibo.it	3286126188	f	Philosophy (2008)	0/1	10/21/2010 11:00	☑	☑	☑
12	giambuzzi	giuseppe	brucechatwin@gmail.com	3404627251	m	Business Administration (2004)	0/1	10/21/2010 11:00	☑	☑	☑
13	GUBELLINI	DAVIDE	davgub@libero.it	3355398275	m	Political Science (1990)	0/1	10/21/2010 11:00	☑	☑	☑
14	KUTROLLI	ERION	erionkutrolli@yahoo.com	3297497086	m	Economics (2004)	0/1	10/21/2010 11:00	☑	☑	☑
15	La Tosa	Domenico	domenico.latosa@studio.unibo.it	3336943307	m	Pupil	0/3	10/21/2010 11:00	☑	☑	☑
16	Lauretti	Giovanni	giovannilauretti@yahoo.it	3478687775	m	Media science (2005)	0/2	10/21/2010 11:00	☑	☑	☑
17	Maiolo	Marco	marcomaiolo@hotmail.it	3281726269	m	Pupil	0/1	10/21/2010 11:00	☑	☑	☑
18	manastirliu	orkida	mnorkida@yahoo.it	3281638002	f	Economics (2004)	1/3	10/21/2010 11:00	☐	☐	☑
19	martinelli	roberta	robertaa.martinelli@libero.it	3484387450	f	Psychology (2008)	0/1	10/21/2010 11:00	☑	☑	☑
20	Norelli	Giulia	giulia.norelli@studio.unibo.it		f	Media science (2008)	0/2	10/21/2010 11:00	☑	☑	☑
21	Rizzi	Riccardo	rizziriccardo@gmail.com	3497566055	m	Medical technology (2004)	0/1	10/21/2010 11:00	☑	☑	☑
22	Sabatino	Mario	mario.sabatino@studio.unibo.it	3475750615	m	Medical technology (2007)	0/1	10/21/2010 11:00	☑	☑	☑
23	Scali	Alessandro	drugoski@gmail.com	3200605241	m	Roman Languages and Literature Studies (2001)	0/1	10/21/2010 11:00	☑	☑	☑
24	storoni	elena	elenastoroni@libero.it		f	Business Administration (2008)	0/1	10/21/2010 11:00	☑	☑	☑

Close the session



Close the experiment



Text formatting - 1

This paragraph is not formatted.

This paragraph is formatted.

This paragraph is separated by tabs.

This paragraph is bold.
This is a new paragraph.
This paragraph is italic.

This paragraph is centered.

This one is aligned to the left.

And this one is aligned to the right.

"\line" starts a new
line.

This is a list:
- first bullet point;
- second bullet point;
- third bullet point;

This is a subscript and this is a superscript.

this is underlined. ~~this is deleted.~~

You can also change the size of the font, making it bigger.

Finally, ou can also change the color of the text, making it RED, GREEN, or BLUE, or highlighting it in YELLOW.

Examples:

- text_formatting.ztt: source code for the above example,
- formatting_exercize.ztt: colored text, dynamically changing size,
- timer.ztt: a big, colorful timer.

Text formatting - 2

see the Reference manual, at page 55.

Text can be formatted in:

- standard boxes
- grid boxes
- contract creation boxes
- contract grid boxes

Text formatting - 2

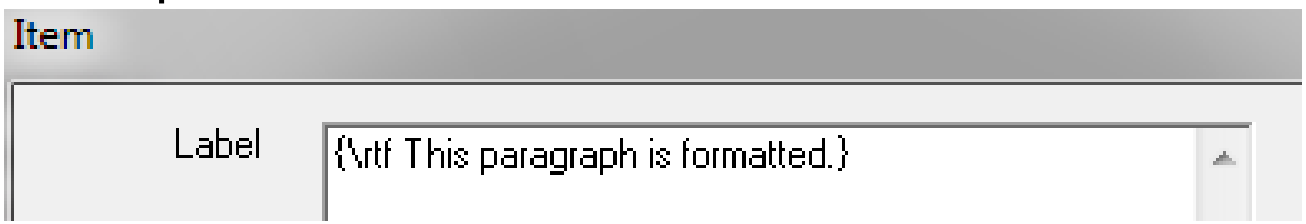
see the Reference manual, at page 55.

Text can be formatted in:

- standard boxes
- grid boxes
- contract creation boxes
- contract grid boxes

The RTF format begins with {\rtf (with a blank space at the end), and ends with }.

Example:



RTF formatting instructions

\tab	tabulator
\line	new line
\ql	aligned to the left
\qc	centred
\qr	aligned to the right
\strike	crossed through
\ul(\ul0)	underlined (not underlined)
\par	new paragraph
\bullet	thick dot (for lists)
\b (\b0)	bold (not bold any more)
\i(\i0)	italics (not italics any more)
\sub	subscript
\super	superscript
\fsn	font size in units of half a dot

Conditional Formatting

The insertion of variables is carried out *before* the interpretation of RTF instructions. This make conditional formatting possible, as in the following example: when the `BOLD` variable is 1, “hallo” should be shown in boldface, otherwise it is shown in plain text.

```
<> {\rtf <BOLD|!text: 0="" ; 1="\b";> hallo}}
```

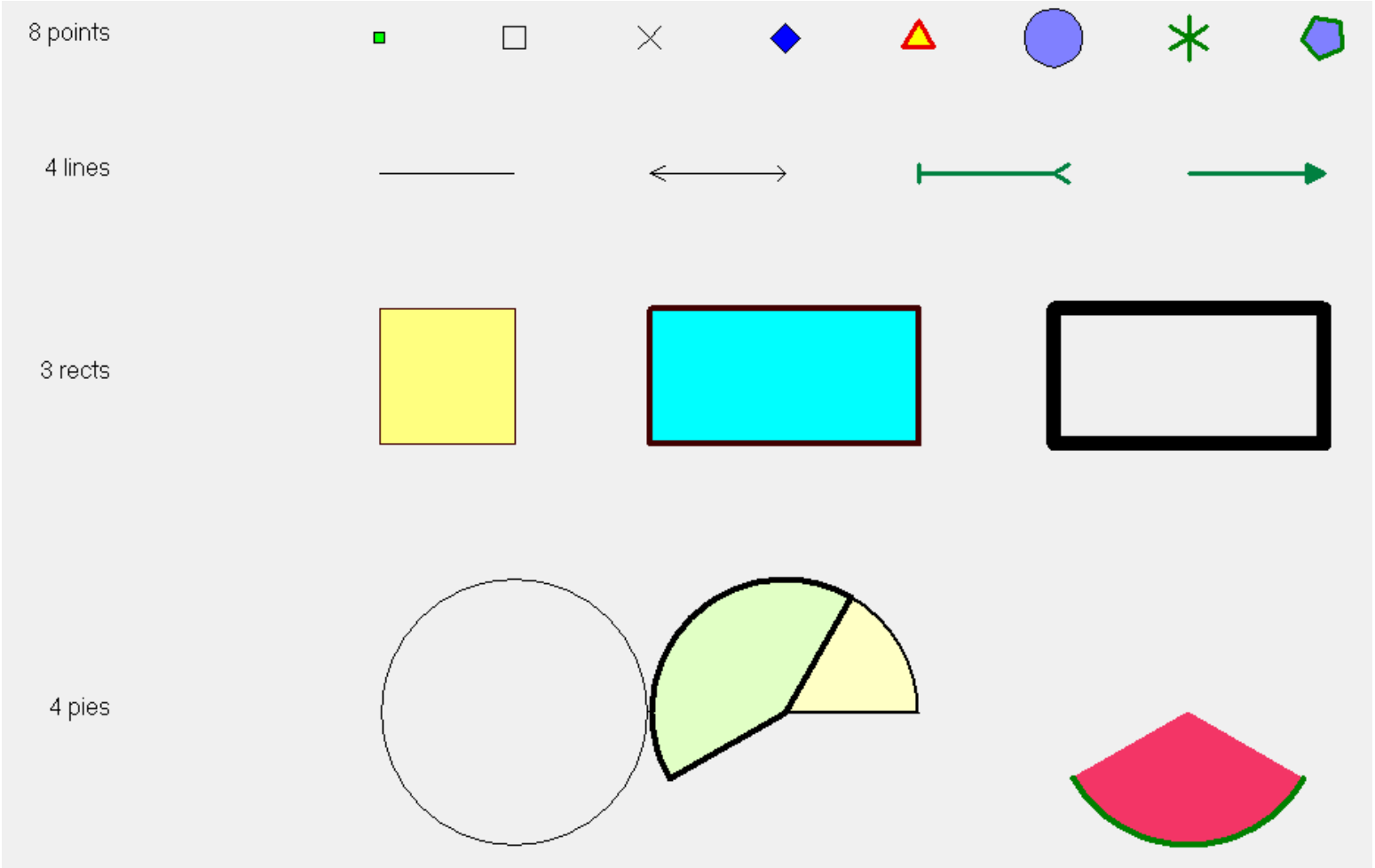
Text Color

With RTF formatting, you have to define first the colors you are going to use, with the instruction `\colortbl`.

```
{\rtf {\colortbl;
  \red0\green0\blue255;
  \red255\green0\blue0;
  \red0\green255\blue0;
  \red255\green255\blue255;
  }
\cf1 this is BLUE
\cf2 this is RED
\cf3 this is GREEN
\cf4 this is WHITE
}
```

Plots and Vectorial Graphics

See the z-Tree wiki



Example: plotitems.ztt

Plot Box - I

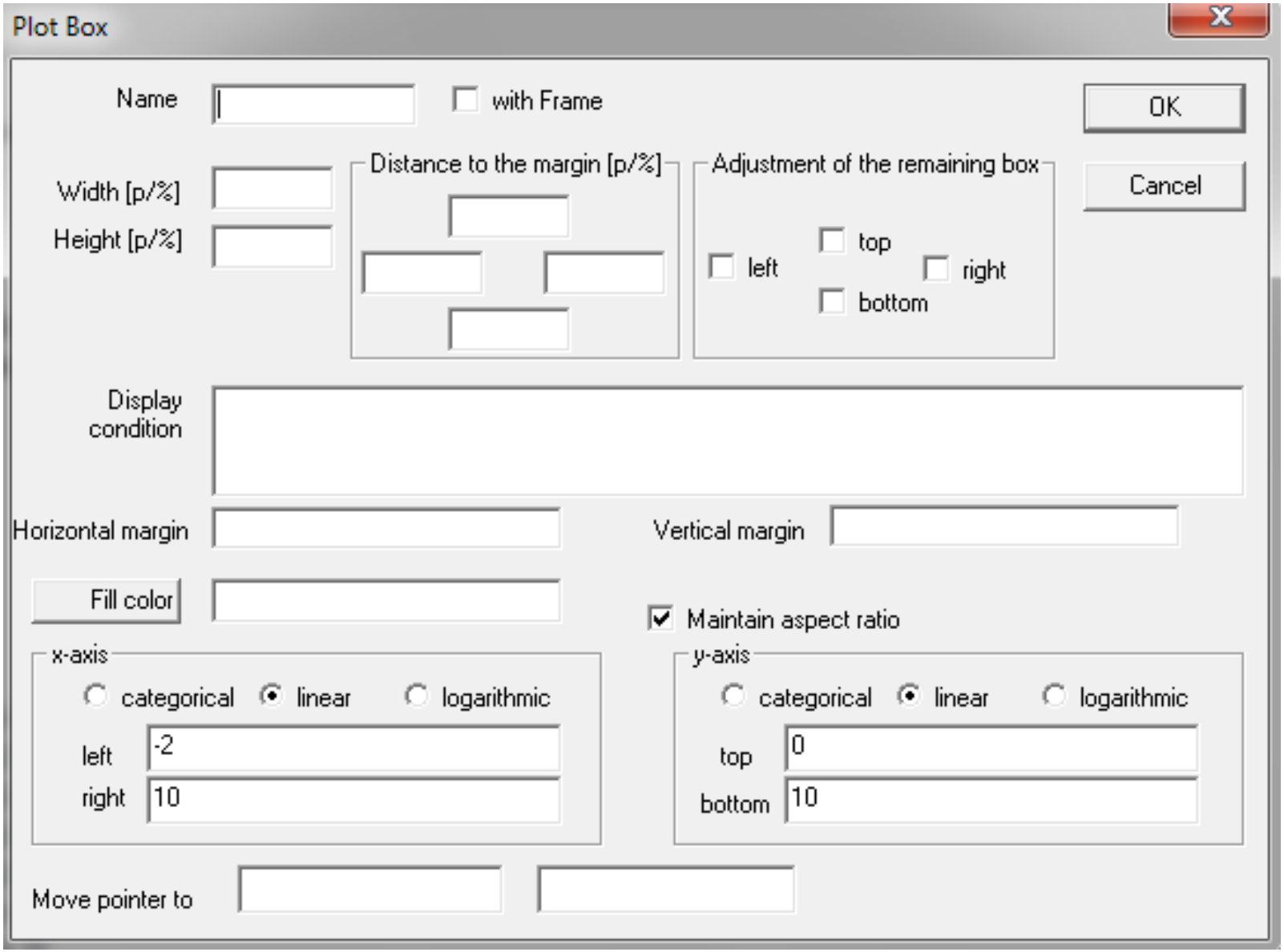
- The `Plot Box` sets up a **coordinate system** and allows to display Plot Items.
- Plot items are drawn **sequentially**. So items more down in the list of items **can cover** items more up in the list.
- The `Plot box` is **opaque**. It covers all boxes below.
- The `Plot box` is a **Box**. It can be contained in Screens and Container Boxes. It can contain Plot Items.

Plot Box - I

- The `Plot Box` sets up a **coordinate system** and allows to display Plot Items.
- Plot items are drawn **sequentially**. So items more down in the list of items **can cover** items more up in the list.
- The `Plot box` is **opaque**. It covers all boxes below.
- The `Plot box` is a **Box**. It can be contained in Screens and Container Boxes. It can contain Plot Items.

To create a new Plot Box, select `Treatment`→`New Box`→ `New Plot Box`

Plot Box - II

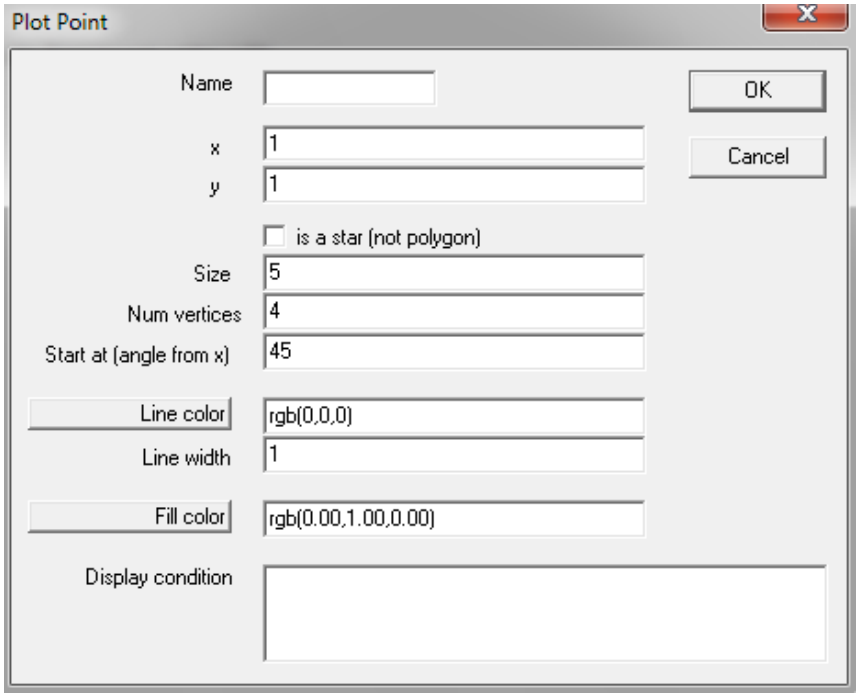

Plot Box
Name
with Frame
OK
Cancel
Width [p/%]
Height [p/%]
Distance to the margin [p/%]
Adjustment of the remaining box
left
top
right
bottom
Display condition
Horizontal margin
Vertical margin
Fill color
Maintain aspect ratio
x-axis
categorical
linear
logarithmic
left
-2
right
10
y-axis
categorical
linear
logarithmic
top
0
bottom
10
Move pointer to

Plot items

- In a plot box different types of graphical elements (points, lines, rectangles,...) can be displayed. These elements are called **plot items**.
- They can be placed into the **coordinate system** that is set up in the plot box.
- The **position** of the plot items is thus defined with reference to this coordinate system.
- Furthermore, these elements have **features**, for instance the lines can be thicker or thinner and drawn in different colors.
- The size used to describe these features is always in screen **pixels**.

Points

To add a Point, select `Treatment`→`Graphics`→ `New Point`. This displays a point either as a regular polygon or as a star consisting of line elements.



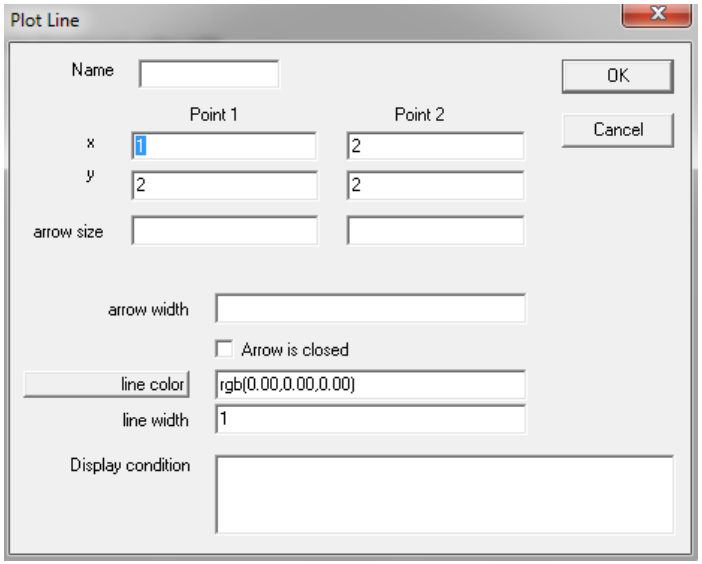
`Plot points are plot items. They can be` **contained**

- in `plot boxes`
- and in `plot graphs`.

`Start at (angle from x):` Angle where the first point is drawn. The angle is measured from the x-axis in counter clockwise direction.

Lines

To add a Line, select `Treatment`→`Graphics`→ `New Line`. This displays a **connection** between two points.



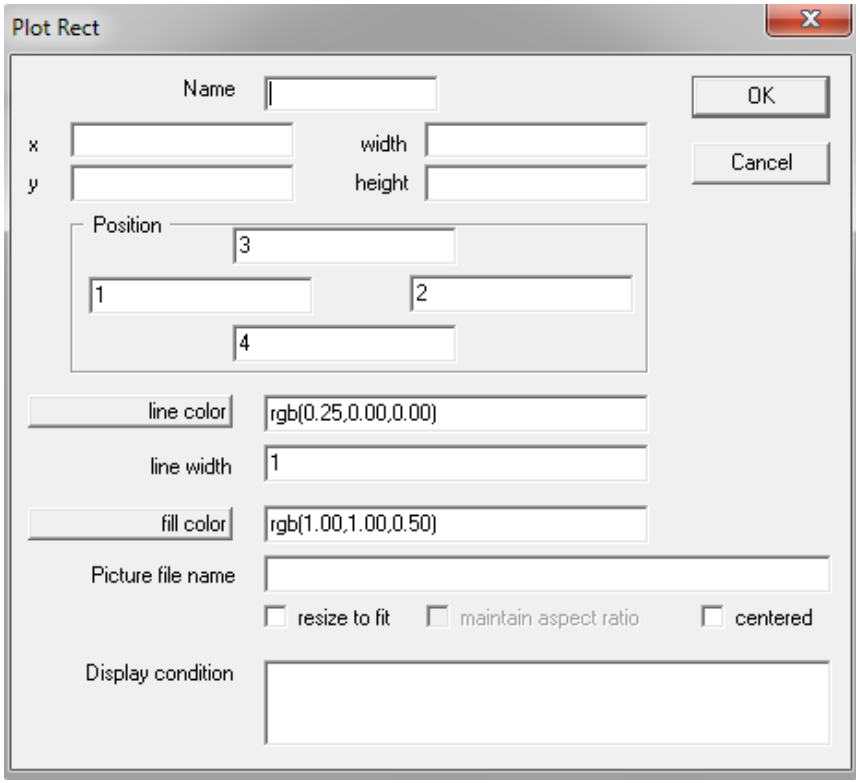
It can be a straight line or an one-sided or two-sided arrow. `Plot lines` are `plot items`. They can be **contained**

- in `plot boxes`
- and in `plot graphs`.

`Arrow size:` Size of the arrow in the direction of the line. The arrow size can be negative, in which case the arrow points from the outside to the line.
`Arrow width:` Total size of the arrow orthogonal to direction of the line.
`Arrow is closed:` If not checked: arrow consists of two lines. If checked, the arrow is a filled triangle.

Rectangles

To add a Rectangle, select `Treatment`→`Graphics`→ `New Rectangle`.



`Plot rectangles` are `plot items`. They can be **contained**

- in `plot boxes`
- and in `plot graphs`.

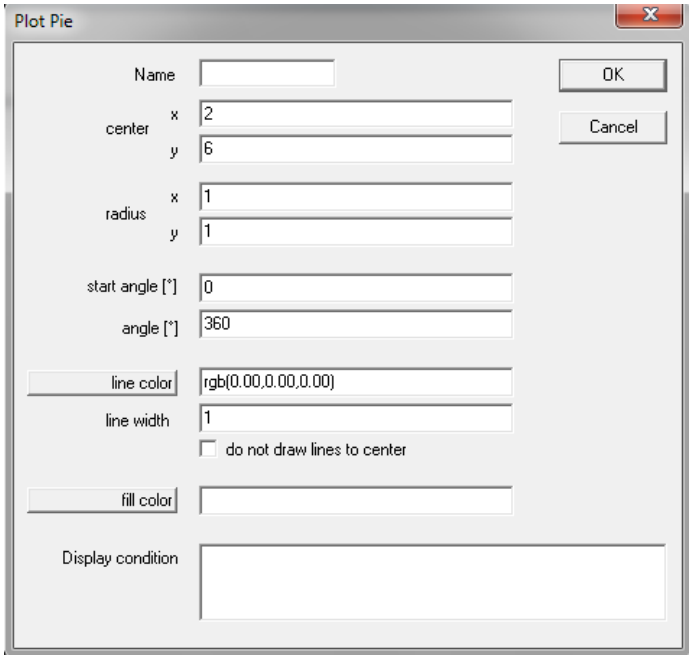
`x/y:` coordinates of the center of the rectangle.

`width/height and position:` defined with respect to the coordinate system that is set up in the plot box.

Pies

To add a Pie, select `Treatment`→`Graphics`→ `New Pie`. `Plot pies` are `plot items`. They can be **contained**

- in `plot boxes`
- and in `plot graphs`.



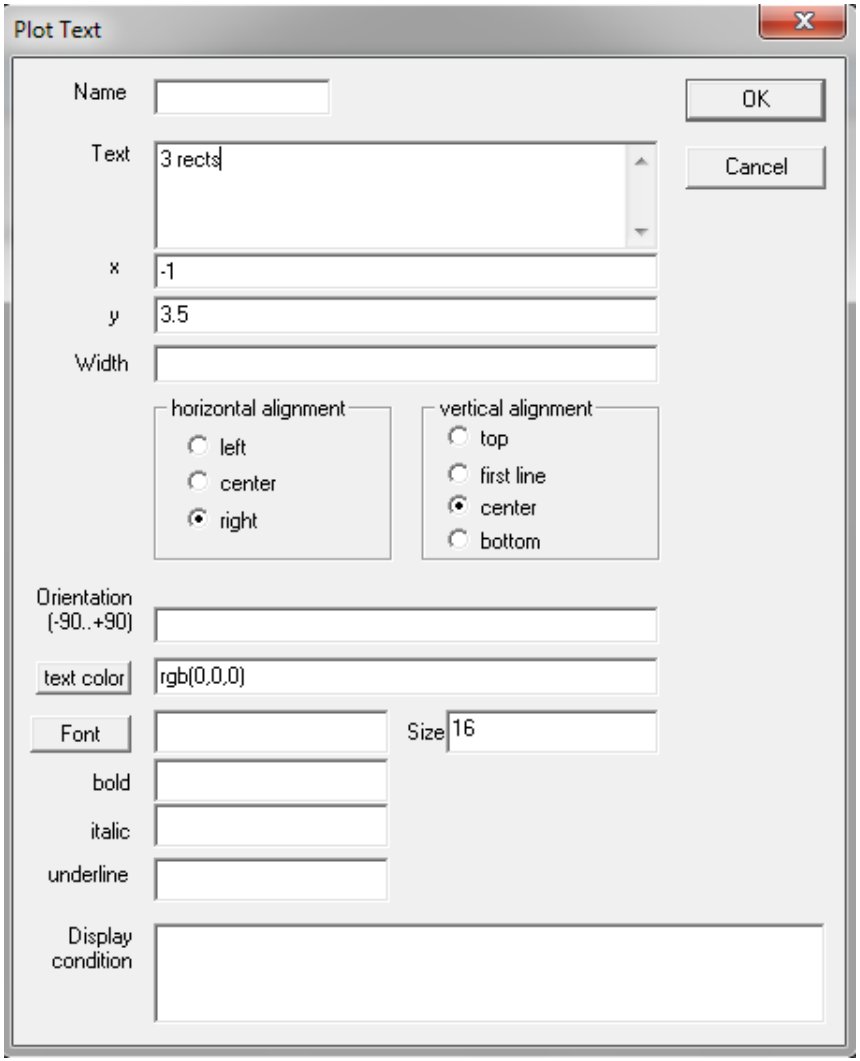
`start angle`: Angle where the segment starts, measured in degrees (the full circle has 360). The angle is measured from the x-axis in counter clockwise direction.

`angle`: Size of the segment in degrees. For a full circle, you enter 360. The segment goes in counter clockwise direction from the start angle.

Example: spin_the_wheel.ztt: a rotating pie, representing the outcome of a lottery.

Text

To add a text to a plot, select Treatment→Graphics→ New Text.



Plot texts are plot items. They can be **contained**

- in plot boxes
- and in plot graphs.

x/y: position of the text.

Horizontal/vertical alignment: Defines which border of the text is determined by the text position.

Orientation: Does not yet work.

Graphs

To add a text to a plot, select
`Treatment`→`Graphics`→ `New Plot Graph`.

- The `plot graph` is used to display **polygons or series of data**.
- The `plot graph` displays series of **records in a table**. Plot items that are placed into the plot graph are drawn **for every record** and the variables used in these items are evaluated in this record.

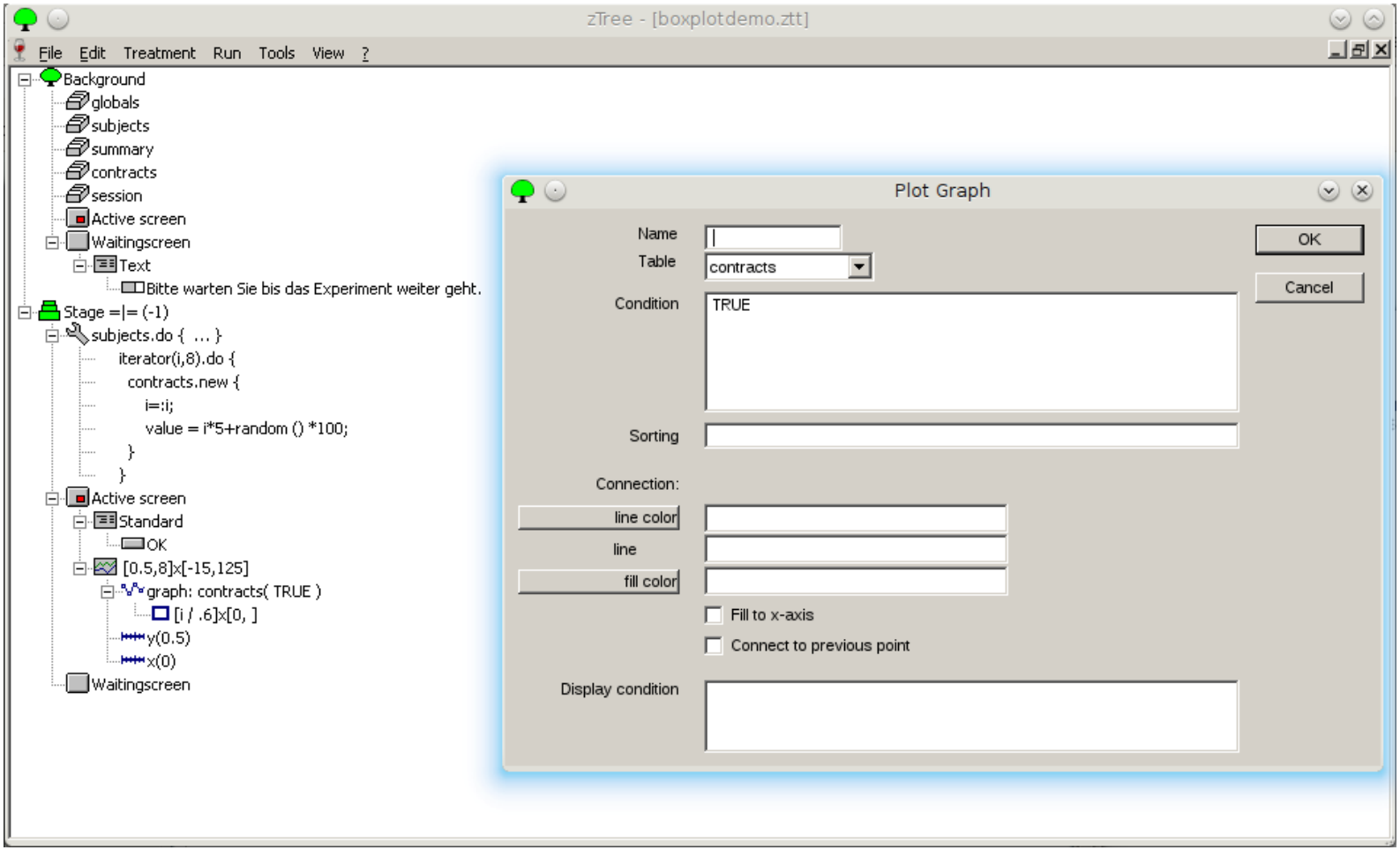
Graphs

To add a text to a plot, select
`Treatment`→`Graphics`→ `New Plot Graph`.

- The `plot graph` is used to display **polygons or series of data**.
- The `plot graph` displays series of **records in a table**. Plot items that are placed into the plot graph are drawn **for every record** and the variables used in these items are evaluated in this record.
- `Plot graphs` **can be nested**, i.e., placed into each other. If they are nested the data from different records can be accessed with the scope operator.
- `Plot graphs` are `plot items`: they can be contained in `plot boxes` and in `plot graphs`.
- They can contain `plot items`.

Example: boxplotdemo.ztt

Graphs: example



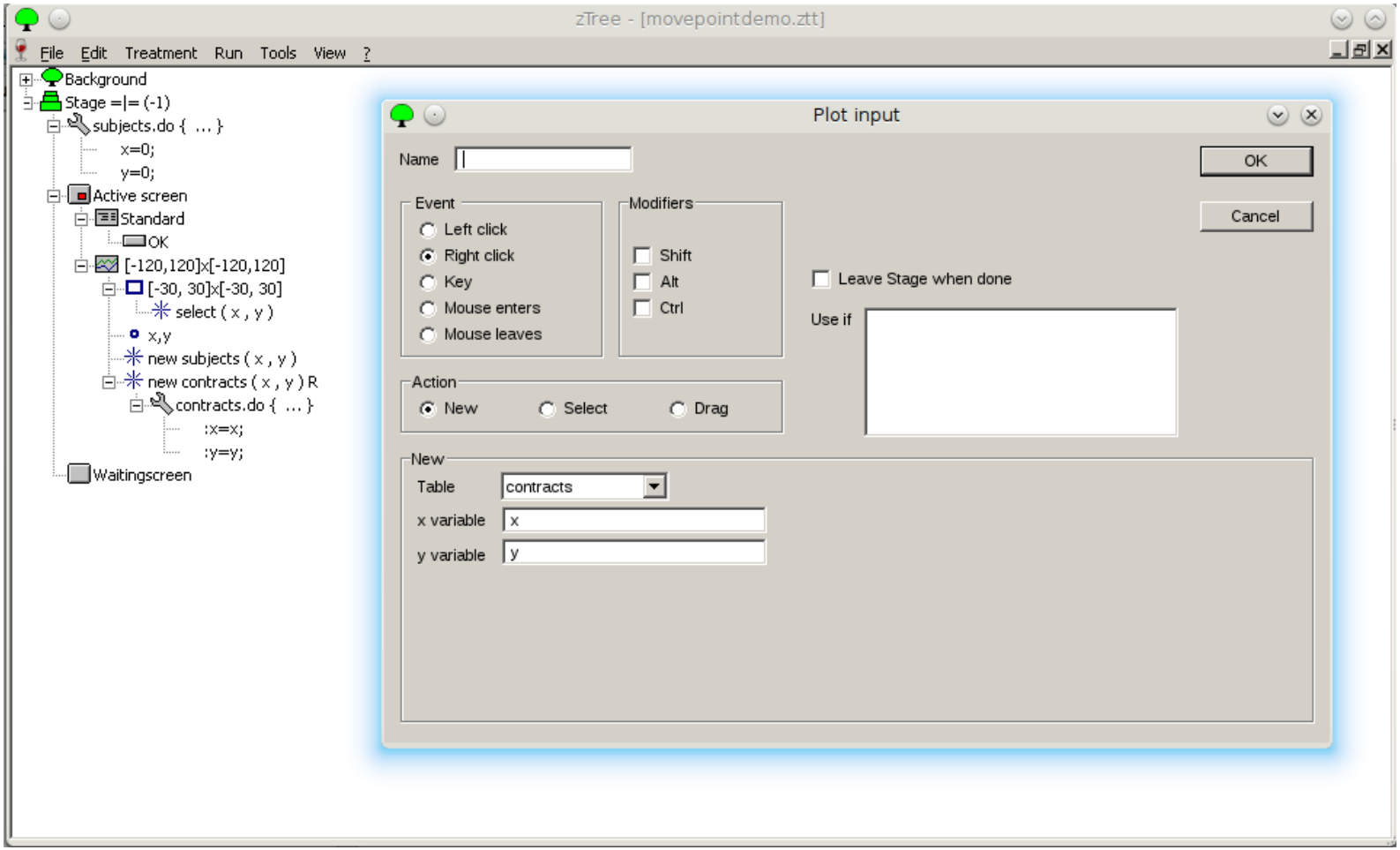
Plot inputs

To add a text to a plot, select
`Treatment`→`Graphics`→ `New Plot Input`.

- `Plot inputs` can be placed into `plot boxes` and `plot items`.
- They can contain `checkers` and `programs`.
- With `plot input` item, you define how **subjects interact** in a `plot box`;
- Subjects can **click** at a new position, they can **select** one of several objects on the screen, and they can even **drag** objects around.

Example: movepointdemo.ztt

Plot inputs: example



Multimedia - I

See the z-Tree wiki. The multimedia box can contain **images**, **movies** or **sounds**.

- The content, i.e. the image, movie or sound of the multimedia box is stored in an **external file**.
- This file must be accessible at the client's computer.
- The best way to achieve this is to put the files **on a server share** and map this share to the same drive letter on each of the client computers.
- Movies and sound are played as long as the box is visible. This allows to **turn them on and off**.

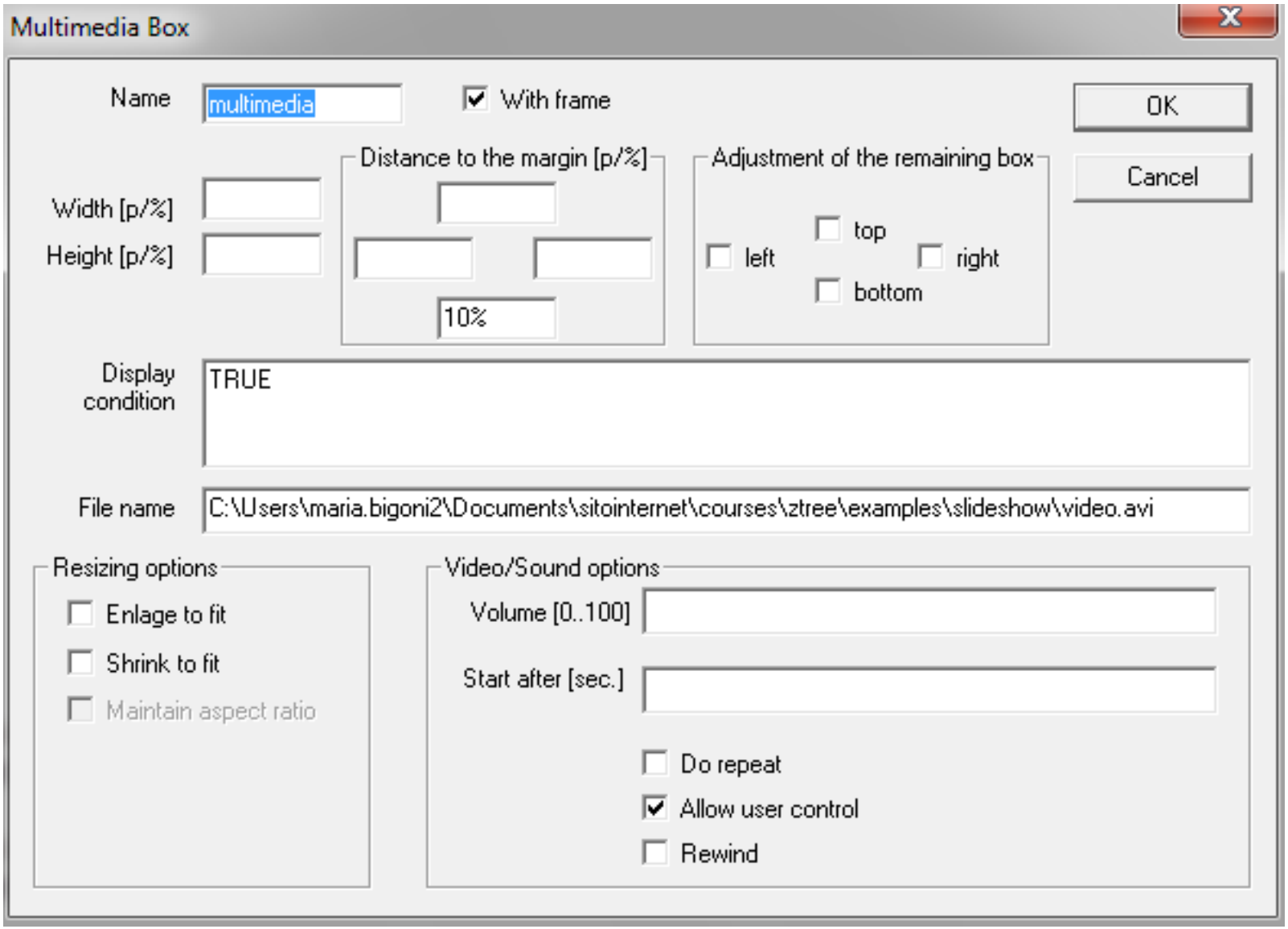
Multimedia - II

The following **formats** should work on a standard installation:

- Image: jpg, gif, png, bmp.
- Movie: mpg, avi.
- Sound: wav, mp3.

The `multimedia box` is a Box. It can be contained in `Screens` and `Container Boxes`. It cannot contain other elements.

Multimedia Box



Slide-show - I

From z-Tree version 3.3.0 it is possible to include in the treatment a slide-show, i.e. a **set of pictures displayed in sequence**.

Example: slideshow.ztt

Slide-show - I

From z-Tree version 3.3.0 it is possible to include in the treatment a slide-show, i.e. a **set of pictures displayed in sequence**.

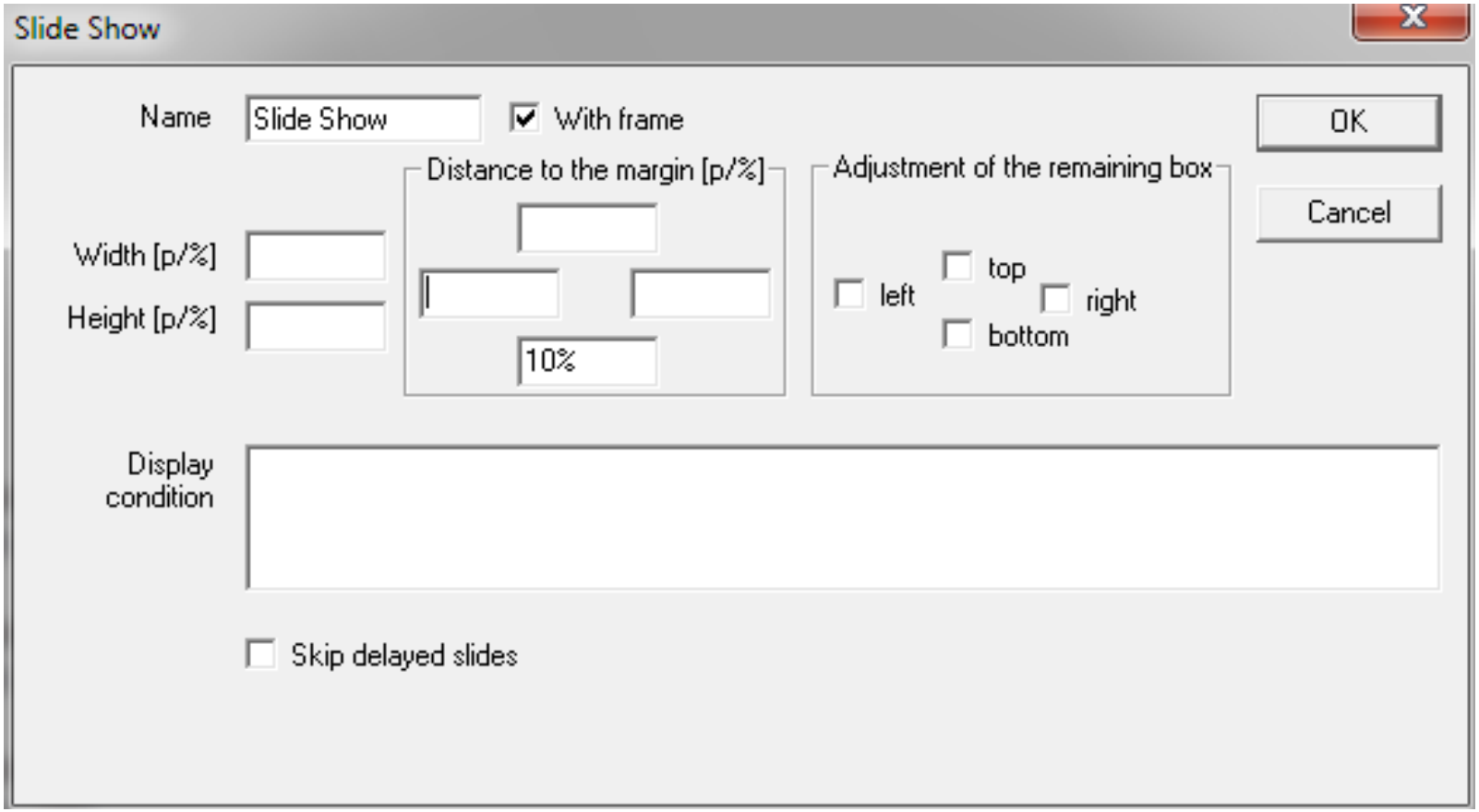
Example: slideshow.ztt

To create a slide-show, the following **procedure** should be followed:

1. in the `Background`, create a new `Table` and name it "slides" (or as you like)
2. in the `Background`, create a new `Program`, running on the globals table.
   - In this program, write:
     `slides.new{}`
   - this simply generates a new empty record in the table "slides".

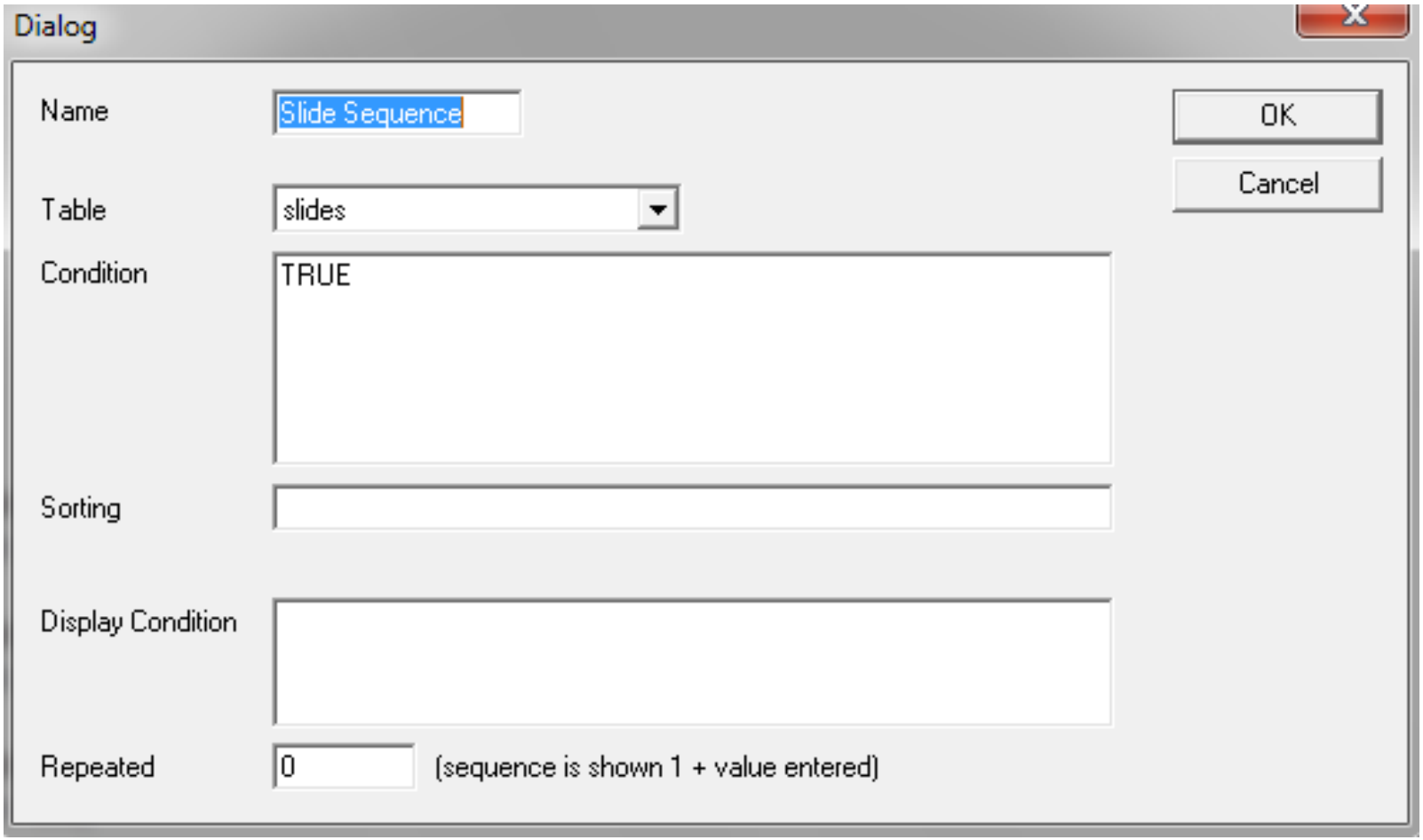
Slide-show - II

3. in the `Active Screen` of a stage, click on `Treatment` $\rightarrow$ `New Box` $\rightarrow$ `New Slide Show`.



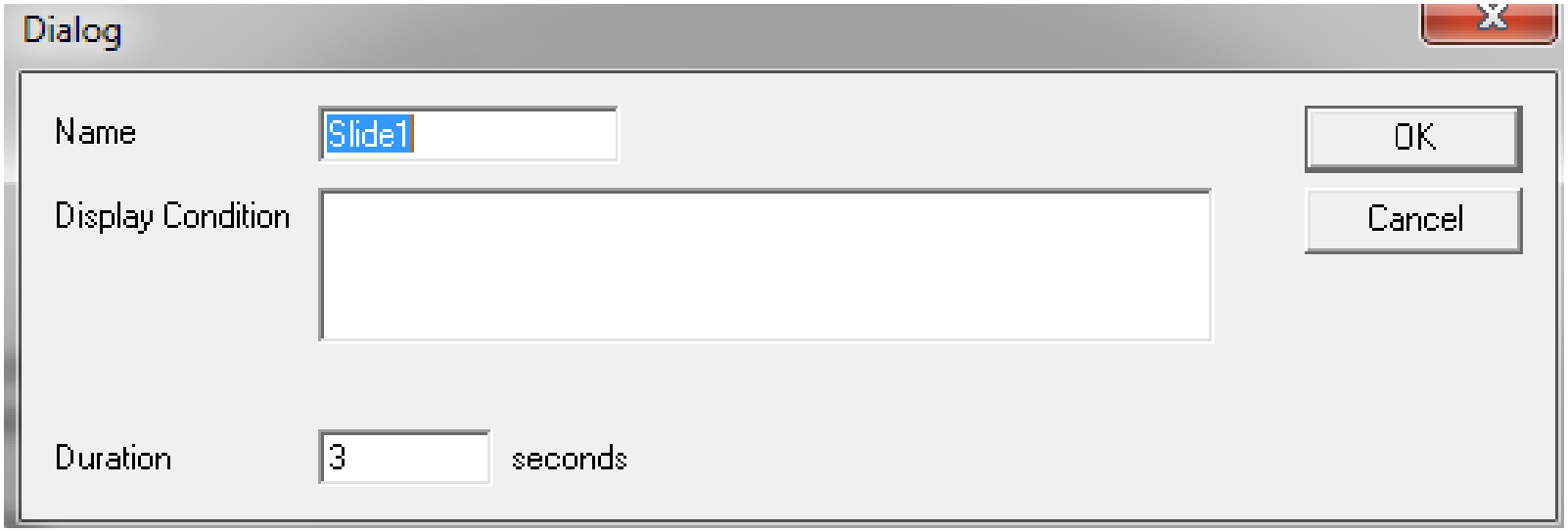
Slide-show - III

4. Within the slide-show, click on `Treatment` → `Slide show` → `New Slide Sequence`.

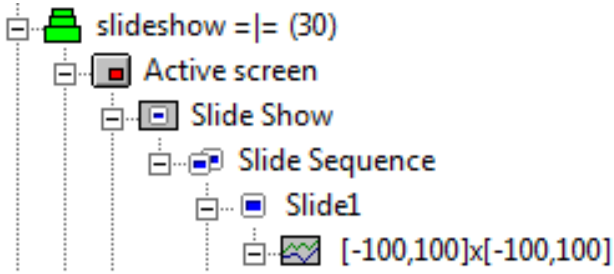


Slide-show - IV

5. Within the slide sequence, click on `Treatment` → `Slide show` → `New Slide`.

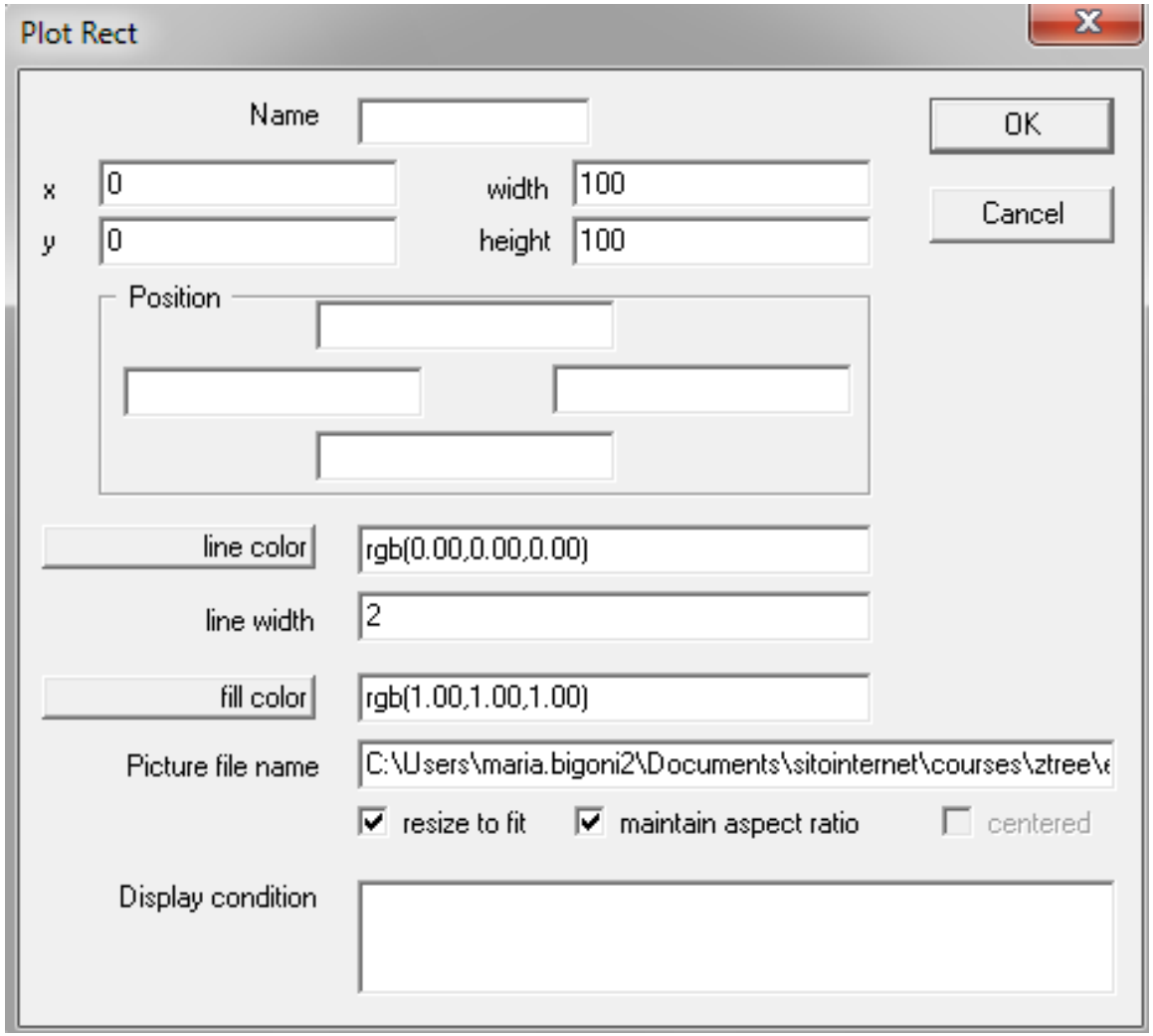


6. Within the slide, click on `Treatment` → `New box` → `New plot box`.



Slide-show - V

7. Within the plot-box, click on `Treatment` → `Graphics` → `New rect`.



External programs

From z-Tree version 3.3.0 it is possible to call external programs, from z-Tree or from z-Leaf.

In the Background, or within a stage, click on `Treatment` → `New External Program`