

EVALUATION NO 3 OF THE RECEIVED APP

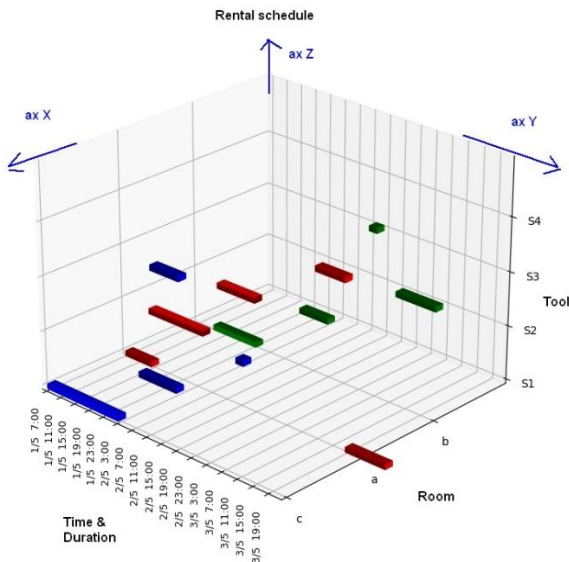
New remarks are in blue-light boxes

Drawing 3d charts – characteristic

General purpose

The program draws 3D graphs based on 4 data for: X, Y-start point, Y-duration, Z

The attached .jpg contains an full view of the chart.



It is better but still some errors with drawing the charts are present.

With the file: 0087_time_collisions.csv the drawing based on duration in seconds doesn't work. Minutes are ok, hours - ok, except bar for last row (it starts at 16:30 and on the chart at 16:00). So - please see this 2 issues:

- drawing for last record which has to start at 16:30. there is a problem while the duration is in hours not in minutes

- conversion of seconds

Drawing works well when the duration is in minutes, for other types of duration (day, hours) the max range of the chart is not shown.

The program is capable of drawing graphs based on numerical data (real numbers) and on time type data.

Environment

Windows (8, 10), 32 and 64-bit processor

If we add or delete some rows or columns, and use the option „Save As”, the program still works on the initially opened file. Try to modify the table, the build a chart. You will be ask to choose between suppressed columns.

Menu 'File' - File manipulation functions :

Open *.xlsx and *.csv file with data
Saving to disk the data in *.csv format

When opened: Displays the file's data in tab

Sample files and an example table layout are

A. I added 1 column Duration(h)

I've put the data.

Then I added next column Duration (sec).

The program added 1 column, but in the same time all data from Duration(h) were lost. Whole column became empty.

So I've input one more time all data to the 2 empty columns and I saved the file by File -> Save.

Then I selected last row, on the bottom of table, and I've added a row through Edit-> Insert, I've input all data. When I have pressed the "Apply" button - I lost one more time the data from 2 newly added columns - it becomes empty.

Fortunately I've opened one more time the file from the disc and the data were there.

Menu 'Edit' - Table editing functions:

Insert, Delete, Clear column

If the user inserts a column - he must give it
The program asks for the title and enters it i

Copy column contents to clipboard, Paste cl
Insert, delete, clear a row

Copy row contents to clipboard, Paste clipbo

Editing cell contents: Clear, Copy, Paste

Example of table (for full view see attached file):

	Event	CAR	Time Start (yyyy-mm-dd hh:mm:ss)	Duration (min)	Time End
1	A	S1	2021-05-01 08:00:00	50	2021-05-01 08:50:00
2	A	S1	2021-05-01 09:00:00	50	2021-05-01 09:50:00
3	A	S1	2021-05-01 10:00:00	110	2021-05-01 11:50:00
4	A	S1	2021-05-01 12:00:00	50	2021-05-01 12:50:00
5	A	S1	2021-05-01 13:00:00	110	2021-05-01 14:50:00
6	B	S1	2021-05-01 15:00:00	50	2021-05-01 15:50:00
7	B	S1	2021-05-01 16:00:00	50	2021-05-01 16:50:00
8	B	S2	2021-05-01 08:00:00	110	2021-05-01 09:50:00
9	B	S2	2021-05-01 10:00:00	50	2021-05-01 10:50:00
10	B	S2	2021-05-01 11:00:00	110	2021-05-01 12:50:00
11	B	S2	2021-05-01 13:00:00	50	2021-05-01 13:50:00
12	C	S2	2021-05-01 14:00:00	50	2021-05-01 14:50:00
13	C	S2	2021-05-01 15:00:00	110	2021-05-01 16:50:00
14	C	S2	2021-05-01 17:00:00	50	2021-05-01 17:50:00
15	C	S1	2021-05-02 08:00:00	110	2021-05-02 09:50:00
16	C	S1	2021-05-02 10:00:00	110	2021-05-02 11:50:00.000000

Procedure of 3D chart data preparation

After loading the data from the file into the table, the program asks the user which 4 columns of data are to be selected for the chart for X,Y-start, Y-duration, Z-axis.

The program opens a dialog box - example in the appendix.

In the dialog box the user chooses:

- what columns will be used for the chart - dropboxes with column titles);
- what is the data type for the Y column (choice of 1 from 3 : number, time in the format yyyy-mm-dd hh:mm:ss, time in the format dd/mm/yyyyy hh:mm:ss)
- what is the data type for Y-duration (dropbox, choose 1 of 4: number, week, day, hour, minute, second)
- what data range to draw on the chart (minimum and maximum for each axis)

User confirms the selection and the program memorizes it.

NOTE: The program must remember the column titles, not their number in the table. If the user adds / inserts a column to the table between, for example, the first and the second column taken into the chart - the number of the second column will change. The column title will remain the same.

Setting columns dialog (example):

It' is better, but not 100% ideal.

Min – Max range doesn't works properly every time. Sometime, after choosing a smaller interval, the usere should repeat the choice of maximum possible range, to get the chart for whole data.

Program doesn't ask for the range MIN/MAX data to display

Choice of columns for 3D chart

	Choice of columns	Type of numbers	Show
Axe X	Event		A
Axe Z	CAR		C1
Axe Y Start Point	Time Start	Time (yyyy)	
Axe Y Duration	Duration	Time (d)	

Set the of columns for

MENU IN THE PROGRAM IS NOT AS DESCRIBED HERE

1. Problem of conversions of seconds, described above,
2. Not sure as the algorithm of min/max range works.
Try for the file 0087_time_reversed2.csv
choose as the X axis: „Day start” and for duration „ duration (h)” in hours...

'3D Chart' menu:

'Draw Chart' submenu:

The program draws a chart from cuboids, based on

Submenu 'Select Columns':

The program runs an analogous procedure as described above. The user can change the source columns of the chart and the range of data

Submenu 'Refresh':

When the chart is displayed, changes to the data in the table (editing cells) do not cause the chart to refresh. Only selecting the 'Refresh chart' command causes the chart to be redrawn.

Chart:

User can :

- rotate, zoom in, zoom out the drawn graph, set zoom,
- can export the image to a file;

When you hover the cursor over a plot cuboid, the status bar shows the X,Y-S

It is possible to modify the table data while the chart is enabled. The modified data is not reflected in the chart until the Refresh command is selected.

The program should draw auxiliary lines on the chart. The distance between auxiliary lines (their density) depends on the displayed data range, so that the chart remains legible.

The distance can also be set by the user in the chart options.

The colours of the graph sections are determined by the oX axis data. For the same given oX all segments have the same colour. The program is to have about 50 specific chart colours defined.

It should be assumed that the number of different oX data will be large. If the number of data exceeds the number of defined colours, then after drawing the graph with the last colour from the defined list, the program takes the first colour from the list again for the next data.

Example: 50 colours are defined; the table on the X axis has 90 different data x1, x2, x3 ... x89, x90. Chart x1 is drawn with colour 1, chart x49 with colour 49, chart x50 with colour 50 and chart x51 from the beginning: with colour 1, x52 with colour 2 etc.

The axes are labeled according to the column titles.

Pitch on the Y-axis is calculated and shown proportional to the size and content of the drawing. For example, at high magnification, the pitch is drawn every 1, at medium magnification every 10, at low magnification every 40.

The oX and oZ axes show the labels of all variables in the drawing range.

Application parameters and options

After opening a table file, the top bar of the program window displays the file name.

Idem for chart window

The program saves the selected attributes in a separate file. When the program is opened, the program reads the attributes stored there from the file and applies them for use.

The program has a simple Options menu:

When the Options menu is opened, the user sees a table with columns:

- attribute name
- current value (editable field for the user)
- Column with a hint Minimum value
- Column with hint Maximum value.

Example 1:

The attribute table contains the line Chart background colour.

In the first column is the name: Chart background colour

In the second - the current value, editable : #FFFFFF or white

In the third - as a suggested "minimum" is the colour #000000 or black

In the fourth one as a prompted maximum is the colour #FFFFFF or white

Colour format - to be agreed.

Example2:

Attribute table contains the line Font size Data table.

In the first column there is the name of the attribute (option): Font size Data table.

In the second - the current value to be edited : 11

In the third - as a suggested "minimum" is 8,

In the fourth - as suggested "maximum" is 36 (example)

At the bottom of the table there are 3 buttons :

- Apply and Close : the program applies the attribute options in the current session and closes the dialog box;
- Save and Close : the program saves the new attribute values to a file, applies them to the current session and closes the dialog box;
- Abandon : the program closes the dialog without making any changes.

Examples of parameters/attributes stored in the file

(some may not have min and max values):

a. colors of table window and column selection window:

. color of table background

. color of the table font

b. colors of the graph

Axis are labeled according to column titles

Done

Chart window doesn't display the file name

Done

Only 3 options are made from this list.

No possibility to set colour of the bars

- . the color of the background of the graph
- . color of the secondary lines .
- . color #1 of the data graph
- . color #2 of the data graph
- ...
- . color #49 of the data graph
- . color #50 of the data graph
- . font color of axis labels and chart title
- c. fonts
- . font size of tables
- . font size of chart labels
- d. oZ/oZ chart cubic size / parameters
- e. path to the folder with the last opened or saved file.

On first startup, this may be "C:/"

Sometime doesn't work

The
for

h

Tools

The program has a menu with

1. collision detection commar

When the user activates the C
the program analyzes:

a. if for the same value oY any

b. and vice versa: if for the sa

Let's take an example from th

This is the schedule of people

For Room S1 there is a collision

The program performs an ana

1. Detection collision:

Collisions reports have bad info, when the duration is different than minutes. The program treat days or hours as minutes.

Collisions report gives wrong data. For example for the file 0087_timerversed2.csv, when X is "Day Start" and duration "Day duration" "Person C" is in collision with A & B, and this is not reported.

Second thing - the report doesn't take into consideration collision in vertical, that means 1 specific person is in 2 or more differents rooms in the same moment of time. Only takes the collisions in horisontal, that means 2 persons are in the same room in at specific moment. See the screenshots

2. The "cut" chart view tool.

After choosing the "cut" comm
maximum range of the oY axis

cutting plane

Finally, it applies auxiliary lines
"Cut_the_chart_tool.jpg" show
1/05/2021 15:10.

Example (for the full view see

Not working properly. Try to for 0087_time_reversed2.csv and for X: „Day start” column + duration „Day duration” setting up the Cut option at 2021/05/04 at 00:00. Too many intersectiona are drawn. See „004_Cut_chart1.jpg”

And if you choose the time for cutting at 13:00 for example – nothing is drawn.

For a standard choice (file 0088_time_distance_collisions.csv” when the cut chart is fixed for 8:30 – no intersections are drawn.

No marks when the 'c

No auxiliary lines . See

the
y the

ew to

divers observations:

**1. No scrollbars for some
scrollbar.**

No horizontal scrollbar ?

2. The program doesn't display a chart based on the numbers as per example: Event, Car, Km Start and Distance.

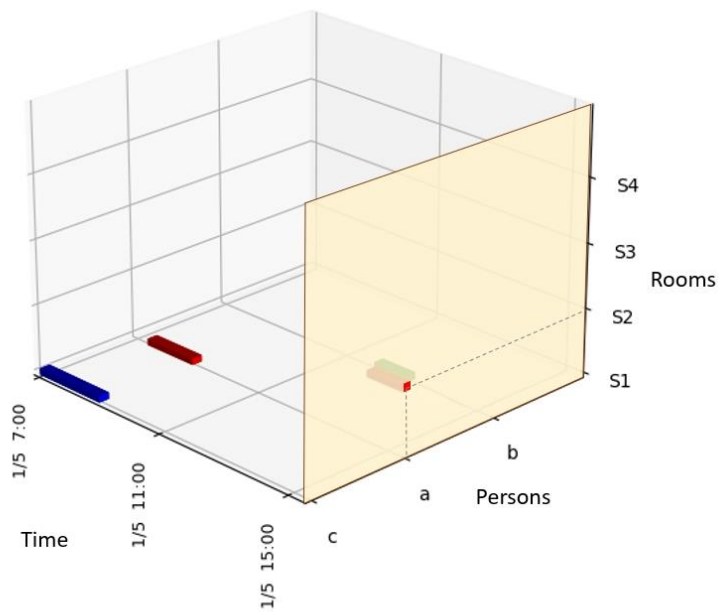
When apply this columns - the program is pending.

See pending1.wmv

While open the application – no possibility to change the size of the screen. See ‘Screen Recording 1 (03.08.2021 18-55-51).wmv’

For the chart 3D – it is not possible to change the size of this chart. This is OK.

table1_short.csv



Cutting point: 1/05/2021 15:10