

Ausgewählte Projekte der Informatik SoSe23

Datenpunk

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Installation

Requirements

1. Operating System: Windows (Tested for 10&11)
2. Install Java JDK 10 or higher
3. Install PostgreSQL

Remember the Password you have set, you will need it for Datenpunk

Installation

Download the Datenpunk.jar file from the latest release and move the file to the desired destination.

The Program should start when double clicked.

Project Selection

General

In this window you can manage all your projects you want to manage with Datenpunk.

Menu

1. File:
 - a. *Open Project from File*: Here you can open a specific Project from an existing file.
 - b. *New Project*: opens the “New Project” Window.
 - c. *Close*: closes the Program
2. Settings:
 - a. *Delete Saved Passwords*: deletes the saved password for the Database

Table

The table shows all local Projects ordered by most recent use.

You can search for specific Projects with the Search bar on top.

The selected Project can be opened or deleted with their respective buttons.

You can also create new Projects.

Errors

Datenpunk saves most of its data in the Database, however some local files are still necessary.

Datenpunk will show errors when one of the local files is removed or relocated.

In this case you will have three options:

1. Delete the rest of the project
2. Reconstruct the project. (Some data like Presets may be lost)
3. Reconnect the project. For this option you must know where the project file has been relocated to.

New Project

General

Here you can configure the columns of your project table to match your individual project and its requirements.

Four columns are required and cannot be removed, but some settings are still up to the user.

1. **id**: a unique identifier for all managed items in the project. The id of an object cannot be changed and can as a result not be tracked.
2. **Name**: All managed items require a name. Names may change throughout the Project's development and can be tracked if necessary.
3. **Status**: All items have a status of development. It is recommended to track the history of this column.
4. **Date**: The creation and change date of all objects. This column must be tracked.

The default order of the columns is changeable via the numbered fields on the left.

Additional columns can be added as necessary. To create a new columns some settings are required as described below.

Project Settings

These settings are at the very top of the window.

The *Name* of the project must not be empty.

The *Path* determines where in your computer this Project will be saved.

IMPORTANT: the project file does not contain the actual project data. To delete the project, please do so in the project selection window!

[The fields for *Host* and *Port* are currently unused]

Name

The name of a column may not be empty and cannot be the same as another column. The length of the name is limited to 200 characters.

Track History

This checkbox determines whether changes of these column values are tracked in the history of this project.

Required

This checkbox determines whether this column value must be filled out for every item.

Value Type

There are four possible value types that can be selected in the choice box of every column:

1. Text: This value can take any form in text. A character length limit is required for this setting.
2. Integer: only accepts integers as values. Ideal for values like counts.
3. Decimal: only accepts decimal values. Ideal for values like prices.
4. Choice: this value allows the user a choice from predetermined values.

These values are determined by the list below the choice box.

You can give each value its own unique colour if you wish

The order in which the values are sorted is determined by the order in the List

Note: The default columns also have two additional values: *SERIAL* and *DATE*.

These are necessary for the proper functionality of the Software.

In the future the user will also be able to use a date datatype.

Create Project

Once you have made the desired settings simply press the "Crate" button.

If no database password has been saved you will need to enter it now.

Connect To Database

General

In order to create, open or delete projects you must be connected to the database.

For this you need to enter the Database password if it has not been saved already.

If you wish to save the password, you can check the "Remember me" checkbox.

Project Management

General

The main project management window is split into two tabs: *Table* and *Diagrams*.

In the table tab you can get a direct overview for the current status of all individual parts of the project.

Or you could only observe part of the Project by using the *Filters* or *Presets*.

The diagram tab gives you a more general overview of the current state of the entire project and its development over time.

Menu

1. File
 - a. *Project Selection*: opens the "Project Selection" window
 - b. *New Project*: opens the "New Project" window
 - c. *Close*: closes the Program
2. Project
 - a. *New Object*: lets you add a new Item to the Project.
 - b. *Settings*: Opens Settings Window (closely resembles *New Project* window)

3. Show/Hide

This menu allows you to hide or show individual columns of the Table

Filters

The filters are split into three parts: *Date range*, *Whitelist*, *Blacklist*.

This design allows for as flexible filters as possible.

Filters can also be saved and later loaded as *Presets*.

1. Date Range:

This filter is at the very top of the *Table* tab. There are two Date pickers which allow you to view the state of the Project in any given range of time.

Right next to it are the *Presets*, these can also affect the *Whitelist* and *Blacklist*
2. Whitelist/Blacklist

Opening the panes for these filter settings allows you to set what you want or do not want to see for each value in the Table. Filters are case insensitive.

Note: Filters for numerical values can be used to set a range of values (e.g.: >3 & <5).
If you want to exclude a range, please use the blacklist with the same syntax.
Using the whitelist to filter ≤ 3 & ≥ 5 only includes values which fulfil both requirements, which will always be none.

Presets

Existing presets can be selected from the choice box.

To create a new Preset simply make the desired filter settings and then press the “+” button. Give the Preset a unique name and chose which *Filters* you want to save in your Preset.

To delete a Preset press the “-“button and confirm the action.

The *Reset* button clears all current Filters.

Table

Here you can see all the Items and their values as dictated by the *Filters*.

You can sort by each row and change their width as you wish.

Double clicking an Item opens the *Detail View*.

Above the Table there are two buttons to refresh the Table contents and to add a new Item to the table.

Diagrams

The *Diagrams* tab is one large list of diagrams that are determined by their current *Diagram Preset*.

The *Diagram Presets* work just like their table counterparts.

To add a new diagram to the list, click the “Add Diagram” Button and make the desired setting in the *Create Diagram* window.

Detail Window

General

In this window you can see and change all the current and tracked values of the selected Item.

Settings

Each changeable Value has an Option field here where you can make any changes.

Clicking the “Update” Button will make the changes final.

Table

This Table shows the history of all tracked values of the current Item.

Just like the main table you can sort it by any column and change their widths.

Create Diagram

General

This window gives the user all kinds of settings in order to create almost any diagram they desire.

It is split into six parts: Diagram Selection, Date-range options, x-Options, y-Options, Series-Options, and a Preview Diagram.

To add the diagram to the *Diagrams tab*, press the “Create” button on the bottom right. Otherwise press the “Cancel” button to close the window.

Diagram Selection

These settings are to the very left of the window.

Here you can select the desired Diagram: Line-, Area-, Stacked Area-, Bar-, Stacked Bar, or Pie chart.

Date-range Options

These settings are directly over the *Preview Diagram* and allow to chose in which date range data is being used for the diagram.

Leaving both date pickers empty means there are no limitations in this regard.

Above the date pickers there is also a text field for the title of the diagram.

x-Options

These settings are directly under the *Preview Diagram* and dictate the behaviour of the x-Axis.

What is available will depend on the chart chosen in the *Diagram Selection*:

- Pie charts have no x-Options
- Line charts only have x-Options for numeric values.
- Bar charts have all possible x-Options.

Numeric values also require a range value in which each x-Value is valid.

e.g.: a range of 1 for a date means that a x-Value shows y-Values from Items changed throughout the entire day. A value of 7 would show y-Values for the entire week.

If a diagram spans a long range, it is recommended not to use a small range, as that puts an unnecessary strain on your device without any gain in readability.

y-Options

These settings are left of the *Preview Diagram* and right of the *Diagram Selection* and dictate the behaviour of the y-Axis.

The choice box determines what value is being visualised.

The “Show Points” option displays the data points on the charts.

The “Relative” option makes the y-Values relative to the rest.

Series Options

These settings are directly right to the Preview Diagram and determine what numeric values of the selected y-Option are used.

What choices are available in the choice box is dependent on the y-Options.

1. If the selected value is discrete like a Text or Choice you can add series for:
 - Count of items with such a value
 - Count of items of a specific value
2. If the selected value is numeric, you can add series for:
 - Average value of items with such a value
 - Sum of values of items with such a value
 - Count of items with value greater or equal to *Comparator* value
 - Count of items with value greater to *Comparator* value
 - Count of items with value less or equal to *Comparator* value
 - Count of items with value less than *Comparator* value
 - Count of items with value equal to *Comparator* value

The text field above the choice box determines the Name of the series, if this value is empty the name will be automatically generated.

The text field below the choice box determines the *Comparator* value.

The colour Picker below the series list determines the colour of the series.

To add a series to the chart, click the “Add” button.

To remove a series select it in the *series list* and click the “Remove” button.

The “Add all” button adds all available series except for:

- Count of all
- Average
- Sum

Colours and Names are automatically generated in this case, comparator value is zero or the entered value.

The *series list* shows the name, type, and colour of each series in the following format:

Name:Type (Colour)

All these values can be changes with the “Set-” buttons below the list.

Preview Diagram

This Diagram shows what the final diagram will look like in the list of the *Diagrams tab* and sits in the middle of the window.

You can also change the names and limits of each axis here.

If the x-Axis is using dates the format for the limits must be: “YYYY-MM-DD”