April 09, 2018

AUTOMATED DATA TRANSFER BETWEEN TWO

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AUTOMATED DATA TRANSFER BETWEEN TWO TABLES WITHIN A SPREADSHEET PROGRAM

Technical task:
The task of the technical innovation is to enable an automated data transfer between two tables within a spreadsheet program.

Initial situation:
A spreadsheet application (Microsoft Excel, for example) works with two-dimensional tables that consist of rows and columns. Within the tables, data is usually stored in a line-oriented manner. The respective attributes are listed in separate columns and have column headings.
Figure 1 shows a simple example of a data table. The column headers are highlighted in yellow.

For the uniqueness of a data line, a classification criterion is necessary, which occurs only once. In the example given, this would be the attribute „master number".
Now, contents from this data table are to be transferred to another table, see Fig. 2:

The transfer of the data takes place in accordance with the order criterion and the associated column headings.
The spreadsheet program Microsoft „Excel" has no functionality for a corresponding automatic transfer of the data.
The information must be inserted manually. This is complex and error-prone with extensive data.
In practice, the function „VLOOKUP" is often used within „Excel". With this function, according to the order criterion, data can be fetched from another table.
However, this feature expects the order criterion to always appear as the first column in the data source.
Then each cell for which content is to be fetched from another table must be filled as a formula query. However, there may be lines of data in the destination table that do not exist in the source. Thus one must avoid these data lines in the query, in order not to overwrite it.
Filling the cells with the formula query „VLOOKUP" is also expensive.

Solution:
An additional functionality for the spreadsheet program automatically transfers data between two tables. Different setting parameters can control the transmission.
As prerequisite, the source table and destination table are specified.
Example see Fig. 3 (source table on the left, target table on the right).

The technical innovation is a program that, after specifying the source and destination table finds the common column headings and according to a selectable unique order criterion (column heading) performs an automated transfer of data line by line to each correct column.
For example, according to the order criterion „root number", a transfer has taken place in the gray-shaded cells. The data line with the ordering criterion „98001" was not found in the source and therefore remains untouched, see Fig. 4.

1) Optional specification of the columns to be transferred (eg „last name only")
2) Optional: transfer of cell formatting (coloring, font, etc.)
3) Optional: single query per line during transmission. This is at every Transmission requested the consent of the user.
4) Optionally for numerical data: Multiplication of the data with the factor to be specified
5) Optional: Transfer of source data only in case of one in the source present content
6) Optional: No data is transmitted. The cells in the target one content other than the source is marked.
7) Optional: Numerical values of the data source are added or subtracted in the data destination.
8) Optional: Transmitting numeric values are marked with a leading star „*".
9) Optional: A transfer will only take place if the data destination has no content yet.
10) Optional: A transfer will only take place if the data destination has no formula.
11) Optional: The transfer takes place. The previous value in the data destination is stored as a comment **). An existing comment will not be overwritten, but extended. This multiple histories are historically traceable. The commenting can be preceded by a standard text.
**) Comment: In spreadsheet excel this is
Additional information in the form of text in relation to a cell.
12) Optional: The transferred cells are marked in the destination.
13) Optionally: restriction of one or more areas in the data destination where the transfer is to take place,
14) Optionally: specify one or more areas in the data destination where the transfer should not take place,
15) Optional: Specifies whether additional lines should be inserted in the destination table. With this option, the source table can e.g. have multiple data lines with the same order criterion. The data will be in the destination table each additionally inserted as a new line below the existing line.

Option 15 stands out from the other options because it inserts extra lines in the destination table.

The technical implementation of an automated data transfer between a source and target table is exemplified using the tool AXCEL:
- Marking of the source table, see Fig. 5,
- call within tool „AXCEL" with the key combination CTRL + d, see Fig. 6,
- The target table is now selected as destination, see Fig. 7,
- Selection of the order criterion and the columns to be transferred, see Fig. 8,
- definition of the columns to be transferred, see Fig. 9,
- Information on the setting parameters (if applicable), see Fig. 10.

The result is a filled target table.
The transmitted cells are marked according to the setting parameters.
Cells C5 and C6 previously contained different data. These data are now listed in the comment with the given text, see Fig. 11.

For further example see Fig. 12 (source table on the left, destination table on the right).

The transfer takes place in this example with the option „Insert additional lines" (see option no. 15 from „Solution"), see Fig. 13.

As a result, the additional information in the target table is now listed as newly inserted rows, see Fig. 14.

Advantages:

- Significant cost savings.
- Exclusion of error risks associated with manual entries.
- Implementation of a history function.

Possible application:

- Applicable in spreadsheet programs.

Technische Neuerung

	A	B	C	D	E	F	G
1							
2							
3		Strasse	Stammnummer	Geburtsdatum	Wohnort	Vorname	Nachname
4			97416		Wolnzach	Heinrich	Reiter
5		Am Graben	94713	02.01.1965	Eichstätt		Müller
6		Mozartstrasse	94711	15.02.1988	Ingolstadt		Helfrich
7		Frankenweg	Neu_#1		Nürnberg	Sabine	Keller
8			97415	24.10.1977			Pfister
9		Am Eck	94712	26.07.1992	Ingolstadt		Kunz
10							

Abbildung 1

	A	B	C	D	E	F	G
1							
2							
3		Wohnort	Strasse	Hausnummer	Nachname	Stammnummer	Geburtsdatum
4				1		94711	
5				2	Müller	94713	
6				3	Keller	Neu_#1	
7					Pfister	97415	
8					Meister	98001	

Abbildung 2

Technische Neuerung

	A	B	C	D	E	F	G
1	Strasse	Stammnummer	Geburtsdatum	Wohnort	Vorname	Nachname	
2		97416		Wolnzach	Heinrich	Reiter	
3	Am Graben	94713	02.01.1965	Eichstätt		Müller	
4	Mozartstrasse	94711	15.02.1988	Ingolstadt		Helfrich	
5	Frankenweg	Neu_#1		Nürnberg	Sabine	Keller	
6		97415	24.10.1977			Pfister	
7	Am Eck	94712	26.07.1992	Ingolstadt		Kunz	
8							

	A	B	C	D	E	F	G	H
1								
2								
3		Wohnort	Strasse	Hausnummer	Nachname	Stammnummer	Geburtsdatum	
4						94711		
5					Müller	94713		
6					Keller	Neu_#1		
7					Pfister	97415		
8					Meister	98001		

Abbildung 3 (Quelltabelle links; Zieltabelle rechts)

	A	B	C	D	E	F	G	H
1								
2								
3		Wohnort	Strasse	Hausnummer	Nachname	Stammnummer	Geburtsdatum	
4		Ingolstadt	Mozartstrasse	1	Helfrich	94711	15.02.1988	
5		Eichstätt	Am Graben	2	Müller	94713	02.01.1965	
6		Nürnberg	Frankenweg	3	Keller	Neu_#1		
7					Pfister	97415	24.10.1977	
8					Meister	98001		

Abbildung 4

	A	B	C	D	E	F	G
1		Strasse	Stammnummer	Geburtsdatum	Wohnort	Vorname	Nachname
2			97416		Wolnzach	Heinrich	Reiter
3		Am Graben	94713	02.01.1965	Eichstätt		Müller
4		Mozartstrasse	94711	15.02.1988	Ingolstadt		Helfrich
5		Frankenweg	Neu_#1		Nürnberg	Sabine	Keller
6			97415	24.10.1977			Pfister
7		Am Eck	94712	26.07.1992	Ingolstadt		Kunz
8							

Abbildung 5

Technische Neuerung

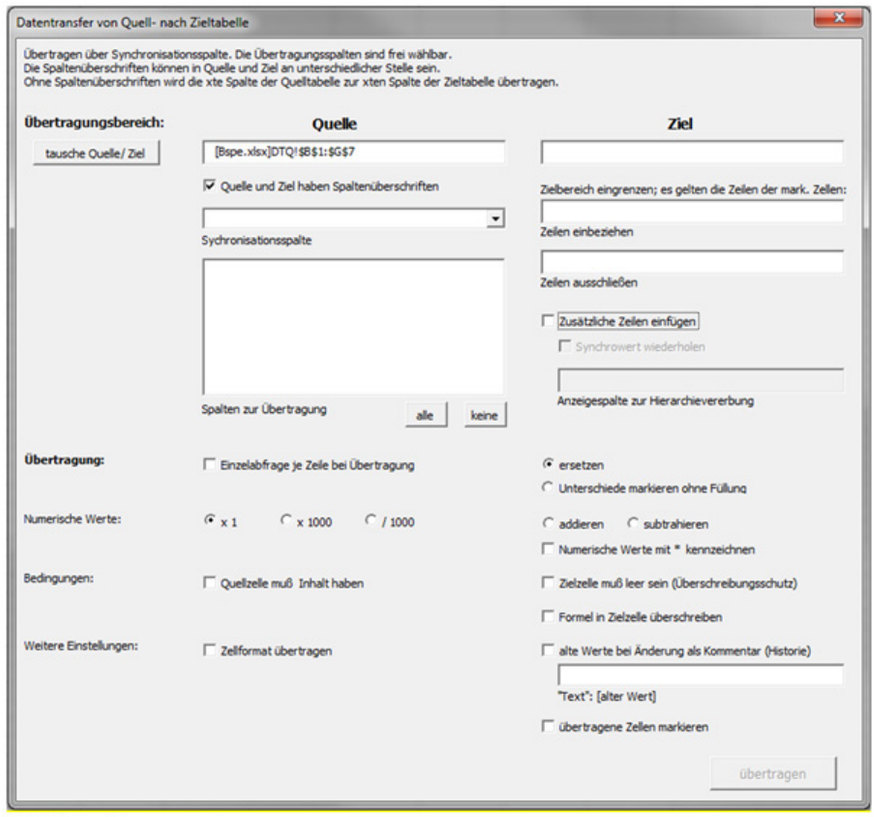

Abbildung 6

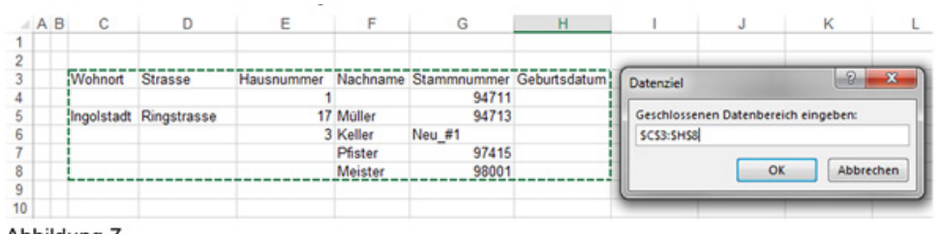

Abbildung 7

Technische Neuerung

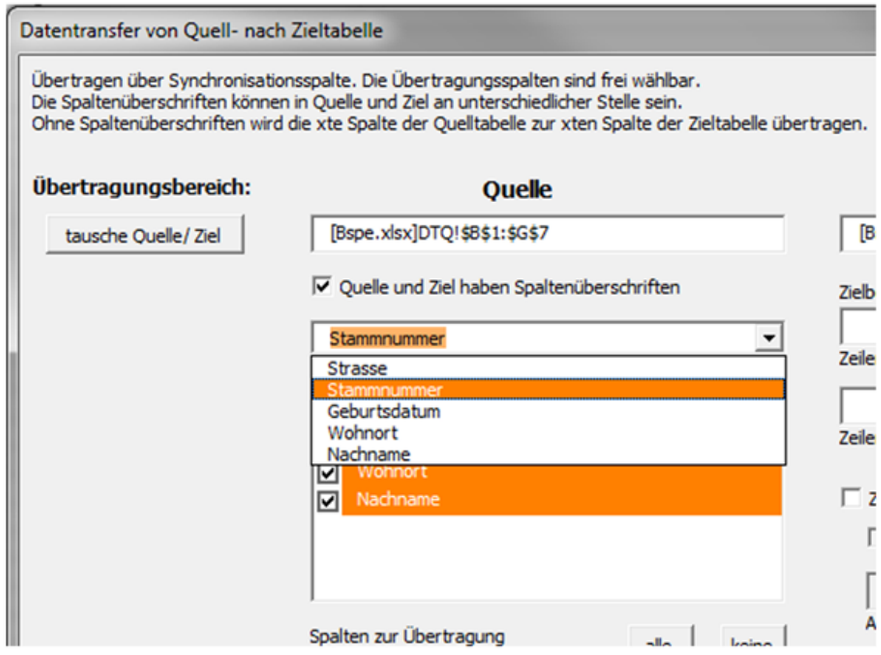

Abbildung 8

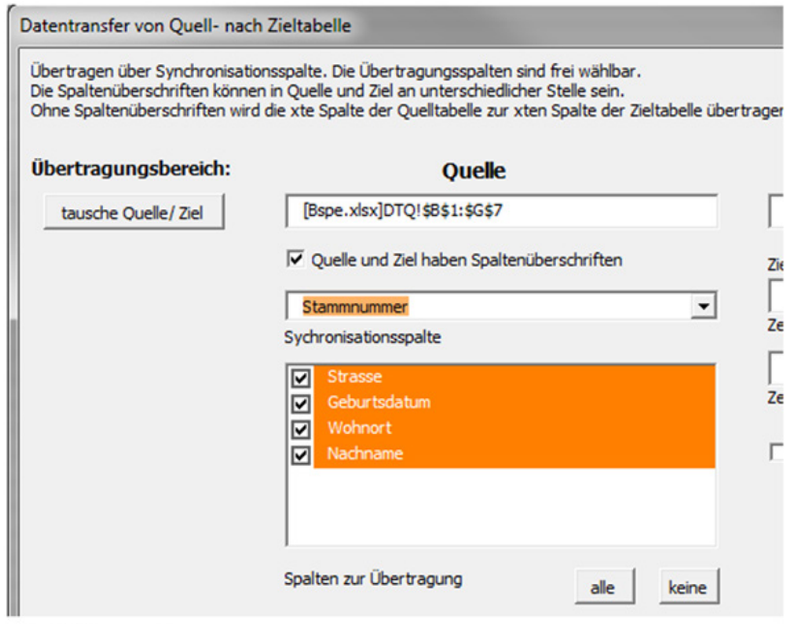

Abbildung 9

Technische Neuerung

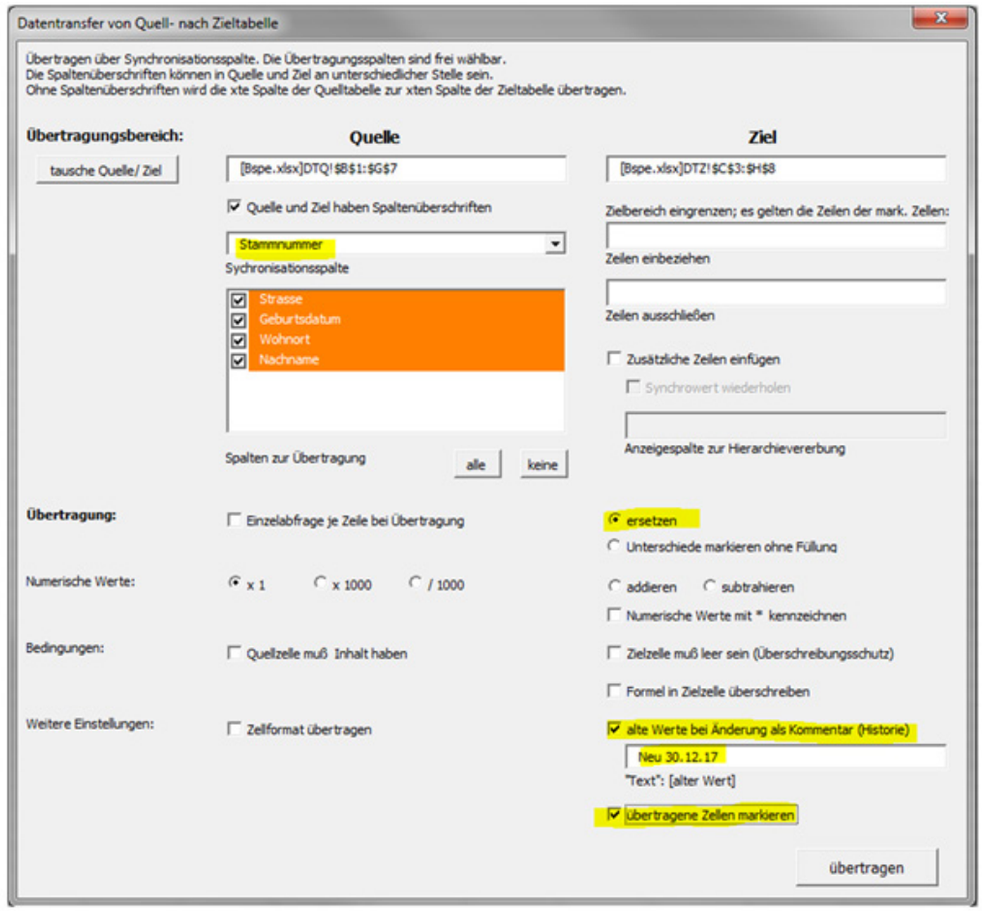

Abbildung 10

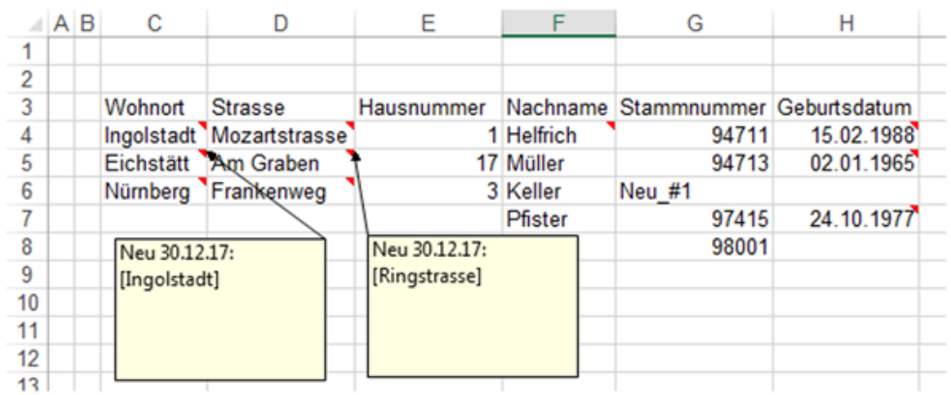

Abbildung 11

Technische Neuerung

Abbildung 12 (Quelltabelle links; Zieltabelle rechts)

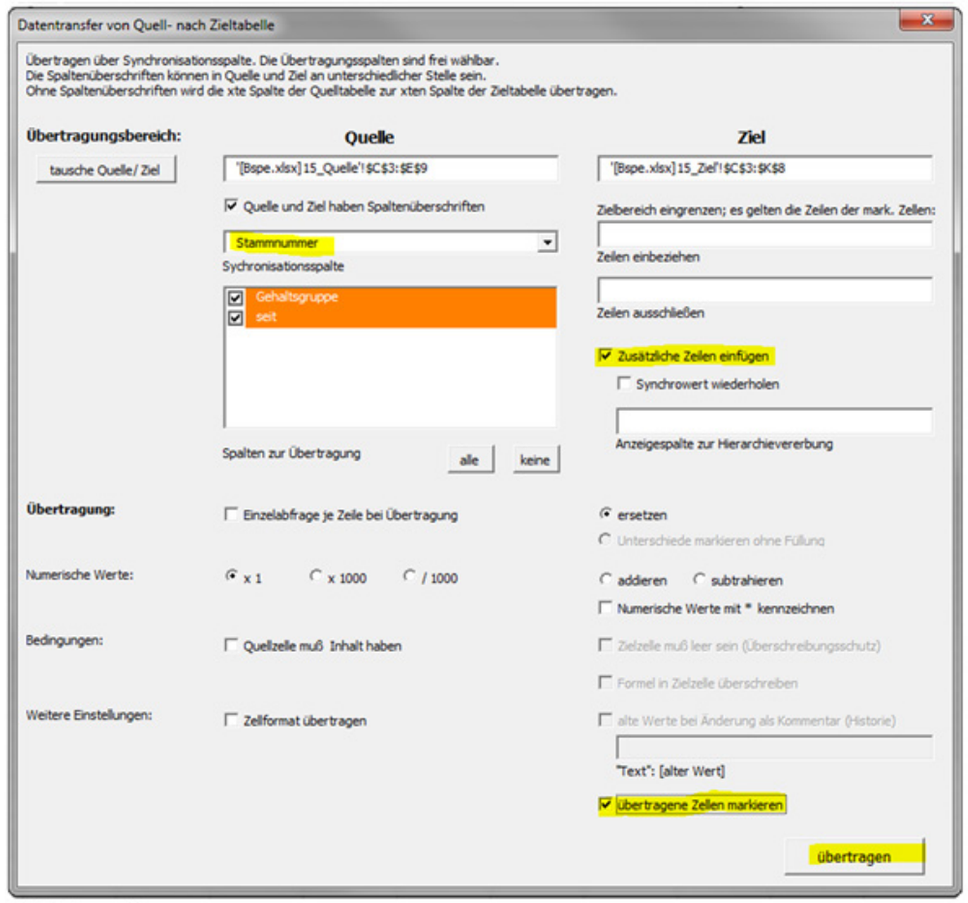

Abbildung 13

Technische Neuerung

	A	B	C	D	E	F	G	H	I	J
1										
2										
3			Wohnort	Strasse	Hausnummer	Nachname	Gehaltsgruppe	seit	Stammnummer	Geburtsdatum
4			Ingolstadt	Mozartstrasse	1	Helfrich			94711	15.02.1988
5							B	01.01.2007		
6							C	01.01.2011		
7							D	01.01.2013		
8			Eichstätt	Am Graben	17	Müller			94713	02.01.1965
9							A	01.07.2015		
10							B	01.01.2016		
11			Nürnberg	Frankenweg	3	Keller			Neu_#1	
12						Pfister			97415	24.10.1977
13						Meister			98001	
14							E	01.01.2017		
15										

Abbildung 14