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Florian Hohmann, Alessandro Belli, Andreas Hepp Manual for the sorting software MeSort

Manual MeSort Version 1.1 (3.3.2020)











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MeSort Manuals

Introduction

The purpose of MeSort is to provide researchers with a versatile digital tool to conduct various kinds of sorting methods. At the current state of development, it supports a highly editable sorting scheme we call circle sort, which is often used for researching media repertoires. This sorting is usually done as a part of qualitative interviews, but also suitable for all kinds of sorting tasks.

If you want to get further information about this sorting technology in media repertoire reseach, please consult the following publications:

Hasebrink, Uwe and Hanna Domeyer (2012), 'Media repertoires as patterns of behaviour and as meaningful practices: A multimethod approach to media use in converging media environments', Participations: Journal of Audience & Reception Studies, 9 (2), 757-83.

Hasebrink, Uwe and Andreas Hepp (2017), 'How to research cross-media practices? Investigating media repertoires and media ensembles', Convergence, 23 (4), 362-77.

Merten, Lisa (in press), 'Contextualized Repertoire Maps: Exploring the Role of Social Media in News-Related Media Repertoires', Forum Qualitative Research

In future versions of the program, other modes of sorting will be implemented, like the scheme used for Q-methodology or a sorting scheme we call bar sort, which can be used for research on media ensembles. The development of this research software is part of the DFG funded project "The sustainable provision of software for cross-media practices and digital traces research. A 'co-creation approach' for developing an infrastructure model for the digital diary and sorting apps MeTag and MeSort" (HE 3025/13-1).



This manual refers to version 1.1 of MeSort and is a work in progress, which means that it will be continuously updated as MeSort is developed. Please consult the web page http://www.mesoftware.org/index.php/mesort for updates.

For any comments on this manual or on the software MeSort itself, please contact us via e-mail at mesort@uni-bremen.de.

Working with MeSort

MeSort was tested using the web browsers Chrome, Firefox and Safari and as a webbased App requires a constant internet connection when working with it. When using the MeSort software we propose the following workflow, that will also be represented by the structure of this manual:

- 1. Creating a new study
- 2. Adding sortings to the study during data collection
- 3. Interpreting and/or exporting the collected data

When first visiting our website at https://www.kommunikative-figurationen.de/mesort/login you will find the login screen (see Image 1), where you just enter your login credentials, consisting of an e-mail address and a password. If you are not a registered user yet, you can click on the "Register to use MeSort" link. Upon doing so, you can set an e-mail address and a password to use as your future login credentials.

Alternatively, if you prefer a more personal approach, you can contact us at <a href="meight:

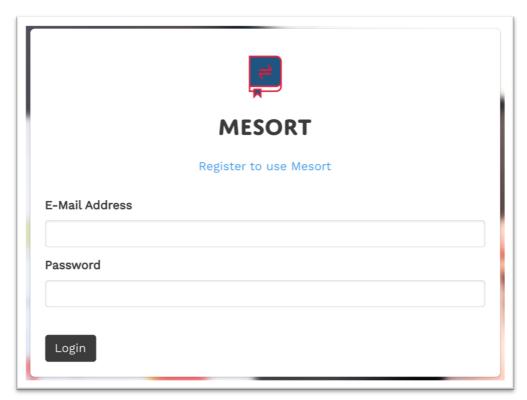


Image 1: Blank login screen of MeSort

1 Creating a new study

Once you successfully logged in, you will see the home screen of MeSort (see Image 2), where you can either left-click on the red "New Study" button at the upper right or left-click the red, round "+ Add New Study" button in the left side of the screen to create a new study.

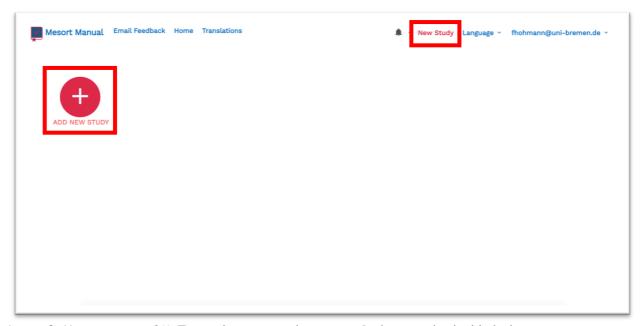


Image 2: Home screen of MeTag with no created projects. Red rectangles highlight buttons to create a new study

The other elements on the top of the home screen as seen in image 2 are, depending on your user rights, from left to right:

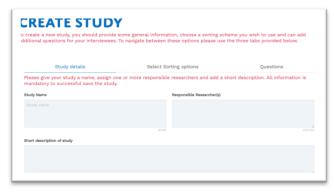
- "Mesort Manual" A link to an online version of this manual you are reading right now.
- "E-mail Feedback" A button to write us an e-mail, should you encounter any errors or bugs.
- "Home" A button to always bring you back to this home screen.
- "Translations" The possibility to edit or add display languages to MeSort. This only applies to the menus and system texts and the option is only visible to system administrators. The texts which are displayed to your participants will always be in whatever language you wrote them in.
- "Bell symbol" Here you can view system messages of the developers, e.g. to call attention to new functions or server downtimes.
- "New Study" Add a new study as described above.
- "Language" Change the display language of MeSort.
- "Your login" Displays the e-mail address your logged into the system with, allows you to logout.

When you press the "+ Add New Study" button, your screen will change and you will be prompted with an empty form to fill out (see Image 3). Colored in red you will see some tutorial notes that should help you in the creation process.



The study creation is structured into three different tabs as you can see on the top of the screen. You can switch between them as you like, but we would recommend working on them from left to right. This way, you first set your "Study details", then "Select Sorting options" and lastly can add "Questions" to your study.

1.1 Adding a description to your study



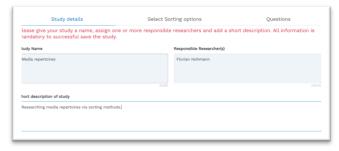


Image 3: Empty form when creating a new study

Image 4: Filled out form

The field "Study Name" can contain the name or an identifier of your study as it will later appear on your home screen. It's limited to 80 characters. In the field "Responsible Researchers" you can enter your name and/or the names of whoever is responsible for this study. Here you have a character limit of 250. Lastly, the "Short description of study"-field should provide a brief summary of your project (max. 250 characters). For an example, see Image 4. All inputs will be displayed as part of the study description on your home screen.



As an example project for this manual, we created a fictional study titled "Media repertoires" and specified "Florian Hohmann" as the responsible researcher. Furthermore, we entered the following description: "Researching media repertoires via sorting methods." (see Image 4).

1.2 Adding sorting options to your study

The second tab entitled "Select Sorting Options" lets you edit the most important options of your study. Namely, what kind of sorting you want your participants to perform and what exactly they are supposed to be sorting.

As seen in image 5, the first input is a text field which lets you enter instructions for your participants, for example on how to sort the items. As this will be displayed to them, this text should be written according to the expected participants, i.e. in their language and in a style they are familiar with. The text field has space for 250 characters.

Below the text box for the instructions on the left side you can choose a sorting scheme by clicking on the little arrows besides the preview image.



Attention! As already described above, the current version of MeSort only includes one option for the sorting scheme: circle sort. This displays a number of concentric circles on the screen into which participants are supposed to sort a number of given

or created tokens. The centre of the circles usually represents the greatest importance which diminishes towards the outsides - but of course this can be assigned differently in the sorting instructions given to the participants.

The number of circles can be set below the selection of the sorting scheme and can be anywhere between 2 and 8 (see image 5, left red rectangle).

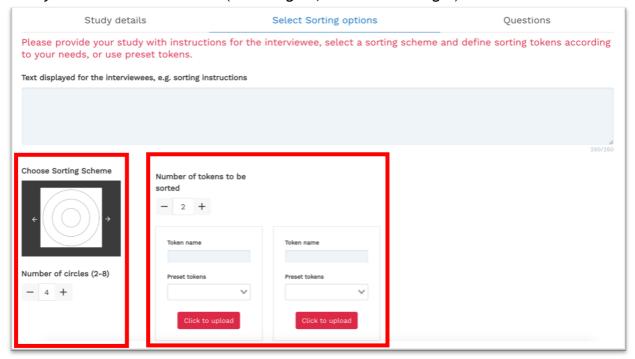


Image 5: Adding instructions and preparing the sorting of a study

In a second step after choosing an option of how to sort tokens, specifications on what tokens should to be sorted are necessary (see image 5, right red rectangle). For this, you can create a certain number of tokens, name them and assign an image to them. Tokens created this way will appear at any sorting task added to the study. Additionally, participants have the option to add individually created tokens at the time of the sorting.

To choose the number of tokens, simply set the "Number of tokens to be sorted" at the top of the section for token creation accordingly. Afterwards you can choose to create tokens yourself, providing a custom "Token name" and image to upload from your hard drive via the corresponding red "Click to upload" button, or choose one of the presets already included in MeSort. If you do or can not set an image, the token will be provided with a default image: a simple black square.



The tokens always have a size of 100x100 pixels. That means any image you upload from your hard drive should either already have the respective format or MeSort will cut and resize it accordingly. All common image files are supported, e.g. jpg, png or gif.



For our "Media repertoires" example we created earlier, we add the following sorting instructions for our participants - in German, because we expect our interviewees to be native German speakers: "Bitte sortieren Sie die Medienangebote entsprechend deren Wichtigkeit - je wichtiger,

desto zentraler angeordnet"¹. Furthermore, we set the number of concentric circles to four because that's sufficiently detailed for our purposes and also create four tokens to be sorted in every sorting of our study (see image 6).

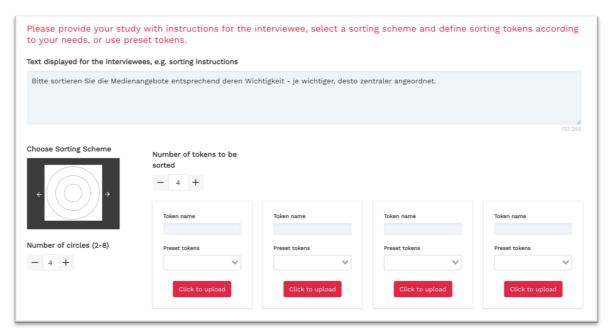


Image 6: Add sorting instructions and a number of tokens to be sorted

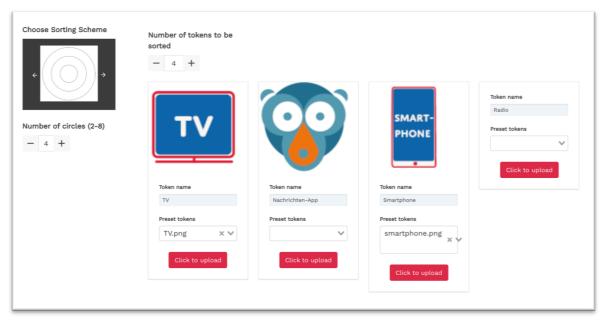


Image 7: Different settings for sorting tokens



After setting the number of tokens that are going to be the same for every sorting task of our study, we have to name them and can also provide an image file for them. To do so, we can choose one of the system presets

¹ Translated into English: "Please sort the media offers according to their importance - the more important, the more centrally located".

already provided by MeSort. The first and the third token shown in image 7, showing 'TV' and 'Smartphone', were created this way. Simply click the desired token from the "Preset tokens" drop-down menu.

In addition, we can provide our own "Token name" and upload an image by clicking the red "Click to upload" button. The second token named 'Nachrichten-App' (German for 'news app') was created this way. Lastly, we can simply create tokens without any image at all by just entering the name of the token. The fourth token 'Radio' is created without an image and will later appear with the default image, which is just a simple black square. This can be helpful if for example images would distract from the sorting task, are irrelevant or the sorting tokens consist of terms or concepts that are hard to illustrate with an image.



After creating all the tokens needed to conduct the sorting task of the study, there is the additional option to add a set of attributes, below the token creation. In the current state of MeSort, there is only one set of attributes that can function as qualifiers for the sorting tokens (see image 8). Participants can use them to provide additional information or another layer of data collection. They simply click or tap the desired qualifier and then the token they want to attribute it to.



Image 8: Adding attributes to tokens

1.3 Adding questions to your study

Having provided basic information about your study in the first tab and set up everything needed for the sorting task itself in the second tab, the last tab of the study creation can be used to add questions. A distinction is made between pre-sort questions and post-sort questions. The former are displayed before the sorting task, the latter afterwards. You can use these questions to collect some more data or to contextualize the sorting, but you can also just choose to not pose any questions and leave all the fields empty.

To create questions, simply choose how many pre- or post-sort questions you would like to add, type the question itself into the according text field and choose a format for the question. You can choose one of the following:

- Multiple choice: from a set of given answers you can provide below, participants can choose several.
- Open answer: a free text field in which participants can openly answer.
- One choice: from a set of given answers you can provide below, participants can choose exactly one.
- Scale values: a scale from a given starting point to a given end point can be created, the default is 0 to 100; additionally you can provide them with a label

After having set possible questions, you can finish study creation by clicking the green "Create new study" button at the lower right corner (see image 9).

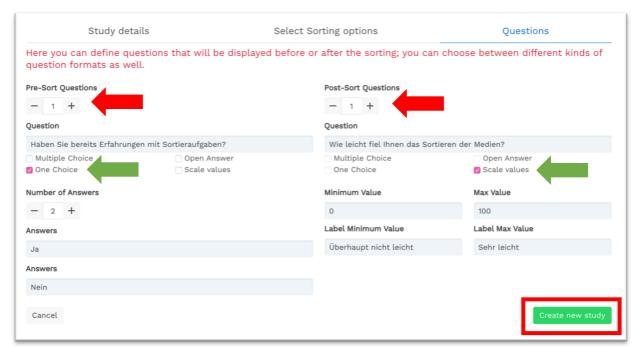


Image 9: Adding questions to your study



For our example study on media repertoires, we want to add one question that is going to be displayed before the sorting task, and one that will be shown afterwards. So accordingly, we set one pre-sort question and one post-sort question at the top left and top right of the screen (see the arrows in image 9).

Then we enter the questions themselves - since we expect our participants to be Germans, the questions are in German. The pre-sort question serves to provide some context and translated into English means "Do you have any prior experience with sorting tasks?" Because we just need a simple yes or no answer, we choose the 'one choice' option (see green arrow on the left side in image 9) and provide the anwers "Yes" and "No" below.

The post-sort question asks "How easy was it for you to sort the media?" on a scale from 0 to 100, the former meaning "Not easy at all" and the latter "Very easy".

Now that we provided our study with all the information we think it needs, we can save it by clicking the "Create new study" button. We could also cancel everything we previously did by clicking the "Cancel" button in the lower left corner of the screen. Be aware that in that case, we would cancel the whole process of creating a new study. All the information we set up will not be saved.

2 Adding sortings to the study during data collection

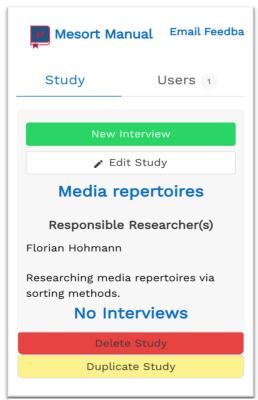


Image 10: Study (without data) summary

After saving the study, MeSort redirects you to the home screen, where you will now find an overview of your newly created study, as shown in image 10.

It shows the information you provided at study creation and a variety of options. These are from the top to the bottom:

- "New Interview": Add an interview to your study, including the sorting task and questions set at study creation.
- <u>"Edit Study"</u>: If there is no interview data added to the study yet, it can still be edited, i.e. more tokens can be created or questions added or deleted.
- "Delete Study": Deletes the study and all data connected to it, but not before displaying a warning message.
- "Duplicate Study": Duplicates the study itself (sorting settings and questions), but not any data that might already be collected. This can be useful in case you have several very similar studies planned.

You can also invite other people to work on your study by clicking the "Users" tab at the top of the study summary and entering their e-mail-address. They will then be invited to join your study.

Since sorting tasks usually are part of qualitative interviews, to now add data during the interview process, simply click the green "New Interview" button. Upon doing so, you will be asked to provide a name or identifier for the interview partner. This will only be used to differentiate between several interviews and can be anything you want. Should you have provided questions to be displayed prior to the sorting task, they will be shown to the interviewee now. After answering them, the sorting screen will appear (see image 11).

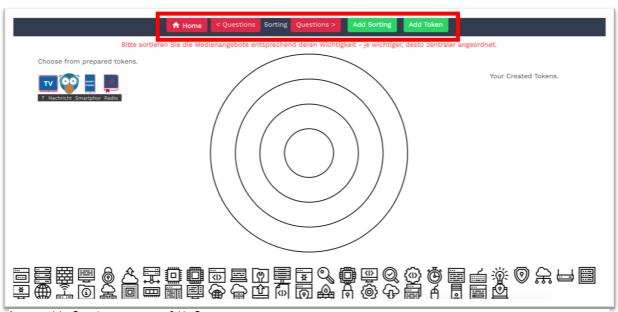


Image 11: Sorting screen of MeSort



Our example study on media repertoires had one pre-sort question about the sorting experience of the interview partner. After he or she answers this question, the actual sorting task can begin. This works, depending on the device it is executed on, by either dragging the pre-defined tokens shown on the left side with the left mouse-button held down onto the circles in the middle of the screen. Or, if you are on a device with a touch screen (like an iPad or another tablet), by simply tapping and dragging them.

Besides the sorting, the most important part of this screen is the menu bar at the top (see red rectangle in image 11). It provides several options, the red buttons for navigational purposes, the green buttons to provide more sorting options:

- "Home": By clicking this, you will be redirected to your home screen, the sorting will not be saved.
- "< Questions": Similar to a "Back" button in an internet browser, clicking this button brings you back to your pre-sort questions, should you have included them in your study.
- "Questions >": Similar to the previous button, a click on this button saves the sorting and continues to the post-sort question(s).
- "Add Sorting": If your sorting task contains more than one sorting, you can click this button to create another sorting screen similar to the first one. On doing so, the "Questions >" button changes to a "Next Sorting >" button and takes you to another sorting screen accordingly.
- "Add Token": In case you want your participants to not only sort the tokens you provided when creating the study but to also create their own, individualized tokens, you can use this button. Upon clicking, a menu will appear similar to the one when creating the tokens for a study. Than the interviewee can choose a name and an image. Unlike the pre-created tokens, the added ones can also be deleted by clicking on the tiny red

cross that appears when moving them. They will not be copied when adding another sorting as well.



- MeSort Hack found by one of our users: if you want to name your different sortings (an option not currently implemented in MeSort), you can do so by creating a token and just using that token as sorting title above the sorting circles, so the sorting is identifiable afterwards.

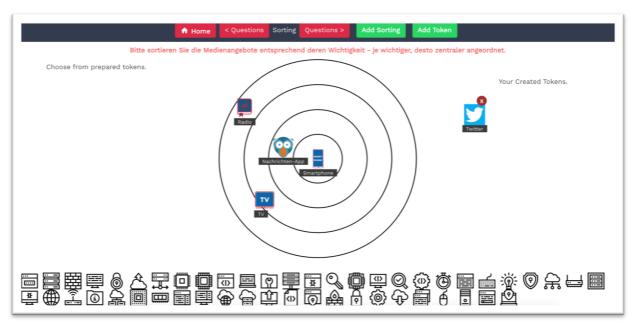
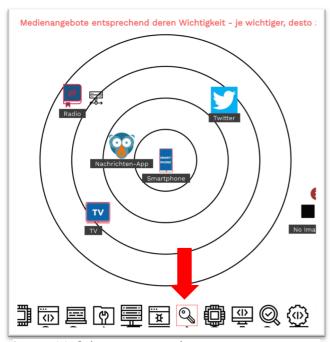


Image 12: Sorting in process.



In our "Media repertoires" example in image 12, the interviewee has already sorted all the tokens we set up when creating the study. The smartphone seems to be a very important medium, maybe for using news apps. TV and radio tend to be less important. But our interviewee might have mentioned during the interview that he/she uses twitter a lot. A medium we did not include in our initial study creation. To still include that in our sorting, we click the green "Add Token" button at the top right of the screen and create a token for "Twitter" (see image 12) that can then be sorted just like the other tokens.





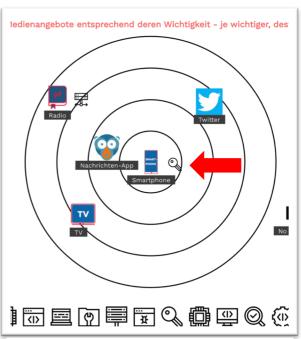


Image 13: Assigning an attribute



We also added the possibility to assign attributes to the tokens of our study. At the current state of development, the attribute pictograms are only placeholders, but they already function correctly. You assign them to a token simply by clicking or tapping on the attribute (see image 14) and then click or tap the token you want to assign it to (see image 13). You can also assign more than one attribute to a token.

Let's say our interviewee qualifies his/her smartphone as the key medium of his/her media repertoire. Then we could ask him/her to assign the key pictogram to the corresponding token. This way the sorting becomes more meaningful and can provide a richer data basis.

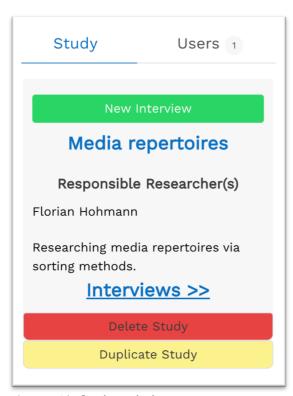


Image 15: Post-sort question.

After having finished all the sortings we needed, the last step is to answer any post-sorting questions, should they be part of the study. In our case, it's a rating of how easy it was for our interviewee to conduct the sorting. Then, after all is said and done, it's time to end the sorting process and saving everything by clicking the "End Interview" button at the top of the screen (see red rectangle in image 15).

After creating a study and having conducted one or more interviews including sorting tasks or, depending on your research design, just conducting some sortings, you can use MeSort to interpret and/or export the collected data.

3 Interpreting and/or exporting the collected data



Once you collected data, the appearance of the summary of the study on your home screen changes a little bit (see image 16 and compare it to image 10). The option to edit the study has disappeared, since it is not possible to commit changes to a study where data collection has already begun. That is to ensure comparability of the data.

More importantly, you can now click on the new "Interviews >>" button. Upon doing so, a new screen will open to give you an overview over the collected data for this study (see image 17).

All the other options and functionalities stayed the same.

Image 16: Study with data, summary

The 'Interviews' screen consists of a table that displays some information about the interviews and several options for data management. In detail, these are (columns from left to right):

- "ID": The system ID of the case, basically a unique identifier for each case.
- "Author": The mail address of the person who conducted the data collection, i.e. who was logged into MeSort and added the corresponding interview.
- "Interviewee": Name of the participant you provided when creating his/her as interviewee.
- "Start": Starting time of the data collection.
- "End": Ending time of the data collection.
- "Actions": For each entry, you have three possible actions you can perform on them:
 - "View": Opens a new tab with a summary of all data collected for this participant. This includes screenshots of all conducted sortings, possible individually created tokens and the answers to the pre-sort and post-sort questions. To view or export just the image of the sorting result, simply click on it and choose the "Export PDF" option.
 - "Export": Creates an xlsx file with all the sorting data, which consists of the names of the tokens, the number of the circle they are sorted into (1 being the most central), the distance of the token's

centre from the centre of the circles, their absolute and relative position in ${\bf x}$ and ${\bf y}$ coordinates and possibly assigned classifiers.

"Delete": Deletes all the data of the corresponding case.

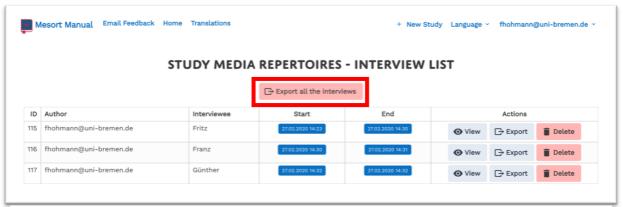


Image 17: Interview list



In our example study researching media repertoires, we already conducted three interviews; with Fritz, Franz and Günther (see image 18). We could now view each case and interpret the collected data, or compare for example Fritz and Franz.

	Α	В	С	D	E	F	G	Н	I
1	#	token name c	ircle	distance fro s	orting nur	position (p	% percenta	classifiers	
2	Fritz								
3	729	TV	3	160,459	1	x: 567.984	x: 39.443 y	:55.172	
4	730	Nachrichte	2	86,707	1	x: 612.613	x: 42.543 y	:37.118	
5	731	Smartphon	1	1,091	1	x: 695.957	x: 48.330 y	015-key.pn	g -
6	732	Radio	4	213,022	1	x: 520.031	x: 36.113 y	007-server.	png-
7	813	Twitter	3	158,176	1	x: 804.996	x: 55.903 y	:24.746	
8	814	No Image		283,942	1	x: 962.199	x: 66.819 y	:54.808	
9	729	TV	1	1,975	2	x: 695.320	x: 48.286 y	:40.783	
10	730	Nachrichte	3	155,724	2	x: 541.765	x: 37.623 y	:45.149	
11	731	Smartphon	3	147,132	2	x: 758.695	x: 52.687 y	:22.013	
12	732	Radio	2	111,195	2	x: 781.437	x: 54.266 y	:51.086	
13	729	TV	4	193,148	3	x: 508.113	x: 35.286 y	:33.978	
14	730	Nachrichte	4	179,838	3	x: 823.640	x: 57.197 y	:23.023	
15	731	Smartphon	3	123,146	3	x: 770.839	x: 53.531 y	:27.134	
16	732	Radio	1	5,759	3	x: 691.050	x: 47.990 y	:40.440	
17	815	Podcasts	1	45,215	3	x: 737.226	x: 51.196 y	:43.331	
18	Franz								
19	729	TV	3	176,759	1	x: 754.406	x: 52.389 y	:17.147	
20	730	Nachrichte	3	124,715	1	x: 599.371	x: 41.623 y	:52.585	
21	731	Smartphon	2	63,02	1	x: 757.804	x: 52.625 y	:41.523	
22	732	Radio	3	152,327	1	x: 585.183	x: 40.638 y	:25.872	
23	Günther								
24	729	TV	1	23,652	1	x: 705.535	x: 48.995 y	:38.026	
25	730	Nachrichten-App		259,336	1	x: 457.359	x: 31.761 y	:26.097	
26	731	Smartphon	1	32,301	1	x: 662.589	x: 46.013 y	:40.881	
27	732	Radio	4	187,703	1	x: 694.871	x: 48.255 y	:68.028	

Image 18: Excel table of exported data

We could also either export data of chosen cases or, by clicking the "Export all the interviews" button, export all collected data (see image 17).

To sum up, you should now be able to create a study in MeSort (section 1), add cases to a study and conduct sorting tasks (section 2) and finally view the collected data and/or export it for further use (section 3).

Should you encounter any bugs or problems when using MeSort, feel free to contact us via e-mail to mesort@uni-bremen.de. Further information about upcoming versions of this software or our other Software MeTag/MeTag Analyze and, in the future, more tutorial material can be found on our website http://mesoftware.org/.

References

Light bulb icon made by "Freepik", online available at https://www.flati-con.com/authors/freepik" [17.03.2020].