

VideoPipe Visualisation Survey

* Vereist

Introduction and Context

Introduction:

VideoPipe is the Artificial Intelligence (AI) product developed by RTL to automatically analyze and process video and audio. In this survey you will answer questions about visualizations, made directly from the output of the VideoPipe AI. Each section contains a different type of visualization, based on varying types of quality of output. You will be asked to evaluate and interpret what is visualized, and how the AI performed on this task.

Context:

I, Cas Kok, developed a visualization tool for VideoPipe, for my Computer Science bachelor thesis at the UvA. By filling in this survey you will help me evaluate this tool. The results of this survey will be used in my thesis and will help with further development of the visualizations, and VideoPipe itself. Filling in this survey takes roughly 10 minutes. Many thanks for taking the time to help with this!

1

What is your job title at RTL? *

2

Have you heard of VideoPipe before? *

- ☐ Yes
- ☐ No

3

Have you used VideoPipe before? *

- ☐ Yes, I use it almost daily
- ☐ Yes, sometimes
- ☐ Maybe once or twice
- ☐ No
- ☐ I am not sure

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How would you rate your understanding of what VideoPipe does? *

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

I have no clue what it does

I understand it completely

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How much do you trust the output of AI systems in general? *

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

I don't trust it

I trust them a lot

Raw VideoPipe Output

The text below is (a small part of) the output of VideoPipe, please answer the questions below about this output. *(This is not considered as a visualization in the rest of the survey)*

```
{
  "dimension_idx": 1231,
  "faces": [
    {
      "face_id": "frame_n_1231_face_n_1",
      "bb_faces": [213, 486, 287, 411],
      "landmarks_faces": {
        "chin": [[416, 228], [415, 238], [416, 247], [417, 256], [420, 265], [424, 273], [430, 279], [436, 284], [444, 286], [451, 285], [458, 281], [465, 276], [470, 268], [474, 260], [477, 251], [478, 241], [478, 232]],
        "left_eyebrow": [[423, 223], [426, 219], [432, 218], [437, 221], [442, 224]],
        "right_eyebrow": [[453, 225], [457, 223], [463, 222], [468, 224], [471, 228]],
        "nose_bridge": [[447, 233], [447, 239], [447, 245], [447, 251]],
        "nose_tip": [[440, 254], [443, 256], [446, 257], [449, 256], [453, 255]],
        "left_eye": [[429, 232], [432, 232], [436, 233], [439, 234], [436, 235], [432, 234]],
        "right_eye": [[455, 235], [458, 235], [462, 235], [465, 236], [462, 237], [458, 237]],
        "top_lip": [[433, 264], [439, 263], [443, 263], [446, 263], [449, 263], [453, 264], [456, 266], [454, 266], [449, 266], [446, 266], [443, 265], [435, 264]],
        "bottom_lip": [[456, 266], [452, 270], [448, 272], [445, 272], [442, 271], [438, 269], [433, 264], [435, 264], [442, 268], [445, 268], [448, 268], [454, 266]]
      },
      "encoding": [-0.10138192772865295, 0.0700128823518753, -0.01903771422803402, -0.004454487469047308, -0.09713377803564072, -0.10399842262268066, 0.045729637145996094, -0.1322467029094696, 0.10536642372608185, -0.008567014709115028, 0.25537344813346863, -0.057847194373607635, -0.21318207681179047, -0.029449881985783577, -0.04022934287786484, 0.15406934916973114, -0.2704584002494812, -0.0903402641415596, -0.18443429470062256, -0.12448985874652863, 0.03475689888000488, 0.05955393239855766, 0.07008650153875351, 0.02755117416381836, -0.06500032544136047, -0.2701472043991089, -0.07764383405447006, -0.11345772445201874, 0.1354062557220459, -0.035554949194192886, 0.06256997585296631, 0.019615907222032547, -0.17485113441944122, -0.13100294768810272, 0.08412586152553558, -0.02815353125333786, -0.038810234516859055, -0.0783795490860939, 0.20482927560806274, 0.005641704425215721, -0.16910786926746368, 0.016565479338169098, 0.06298667937517166, 0.32396870851516724, 0.1696453094482422, 0.07673992216587067, -0.033387623727321625, -0.08105967193841934, 0.04785311967134476, -0.22901968657970428, 0.044852230697870255, 0.15300141274929047, 0.12000428140163422, 0.0787140503525734, 0.034547511488199234, -0.09952788800001144, 0.06703507900238037, 0.13484247028827667, -0.1941481977701187, 0.025749364867806435, 0.15484830737113953, -0.08616168797016144, 0.031948573887348175, -0.08813662081956863, 0.1739114373922348, 0.03293081372976303, -0.10316476225852966, -0.05989772826433182, 0.10286157578229904, -0.1156972125172615, -0.08621662855148315, -0.006015206221491098, -0.09934991598129272, -0.1718543916940689, -0.28975728154182434, 0.0027691982686519623, 0.42997485399246216, 0.11554288864135742, -0.14610767364501953, -0.025763992220163345, -0.07835033535957336, 0.01848718896508217, 0.08712927997112274, 0.021172892302274704, -0.10866353660821915, -0.06744320690631866, -0.09867000579833984, 0.0009964164346456528, 0.14773041009902954, -0.07499649375677109, -0.05399266630411148, 0.20796418190002441, -0.016606071963906288, -0.09092766791582108, 0.06563854217529297, 0.06546017527580261, -0.08000793308019638, 0.021746814250946045, -0.0792040079832077, 0.02232443541288376, 0.05265377461910248, -0.1475275456905365, 0.02861834689974785, 0.050822362303733826, -0.17342764139175415, 0.12951107323169708, 0.014665602706372738, -0.018357986584305763, 0.008593166247010231, -0.005124686285853386, -0.07826431840658188, -0.03753475099802017, 0.1594892144203186, -0.21998350322246552, 0.2700571119785309, 0.2541915476322174, 0.009020444005727768, 0.017425667494535446, 0.06403996795415878, 0.04128523916006088],
      "image_path": null
    }
  ]
}
```

6

What did the VideoPipe AI detect in this video, according to this output? *

- ☐ Faces
- ☐ Text
- ☐ Video Quality Scores
- ☐ People
- ☐ I don't know

7

How many of these are present in the output? *

- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 4
- ☐ 1231
- ☐ I don't know

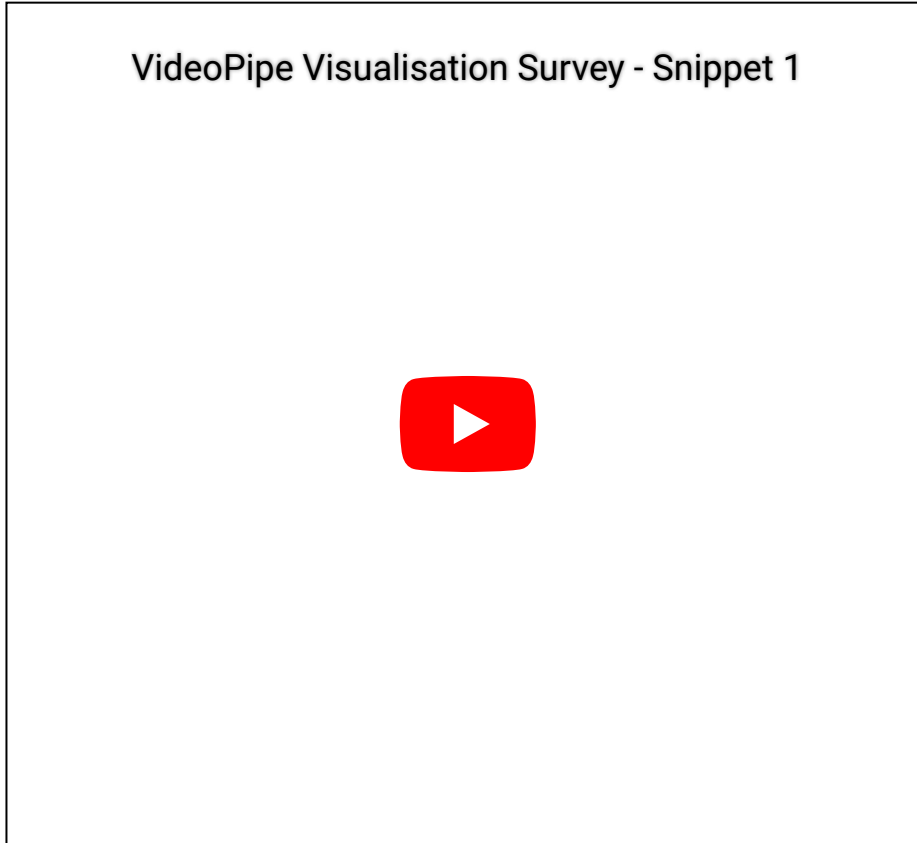
8

How did the output **help you understand** the following aspects of the AI performance *

	Not at all	Did not help	Neutral	Helped a bit	A lot
Consistency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accuracy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What was detected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Visualisation Snippet 1

After watching the VideoPipe Visualisation snippet, please answer the questions below about it.



9

What did the VideoPipe AI detect in this video? *

- ☐ Faces
- ☐ Text
- ☐ Video Quality
- ☐ People
- ☐ I don't know

10

How did the AI perform? *

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

Very badVery well

11

How did the AI perform on the first segment (with the woman in the red jacket)? *

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

Very badVery well

12

How did the AI perform after that segment? *

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

Very badVery well

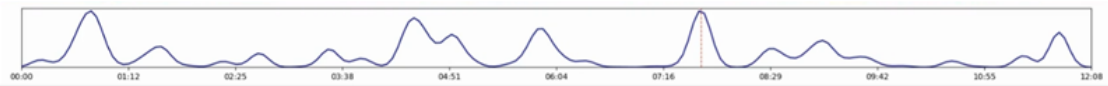
13

How did the visualisation **help you understand** the following aspects of the AI performance ^{*}

	Not at all	Did not help	Neutral	Helped a bit	A lot
Consistency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accuracy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What was detected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Did you notice this graph below the video? ^{*}



- ☐ Yes
- ☐ Yes, the second time
- ☐ No

15

What did this graph represent? *

- ☐ The amount of detected faces
- ☐ Video Quality
- ☐ Voice Activity
- ☐ The amount of people in the shot
- ☐ I don't know

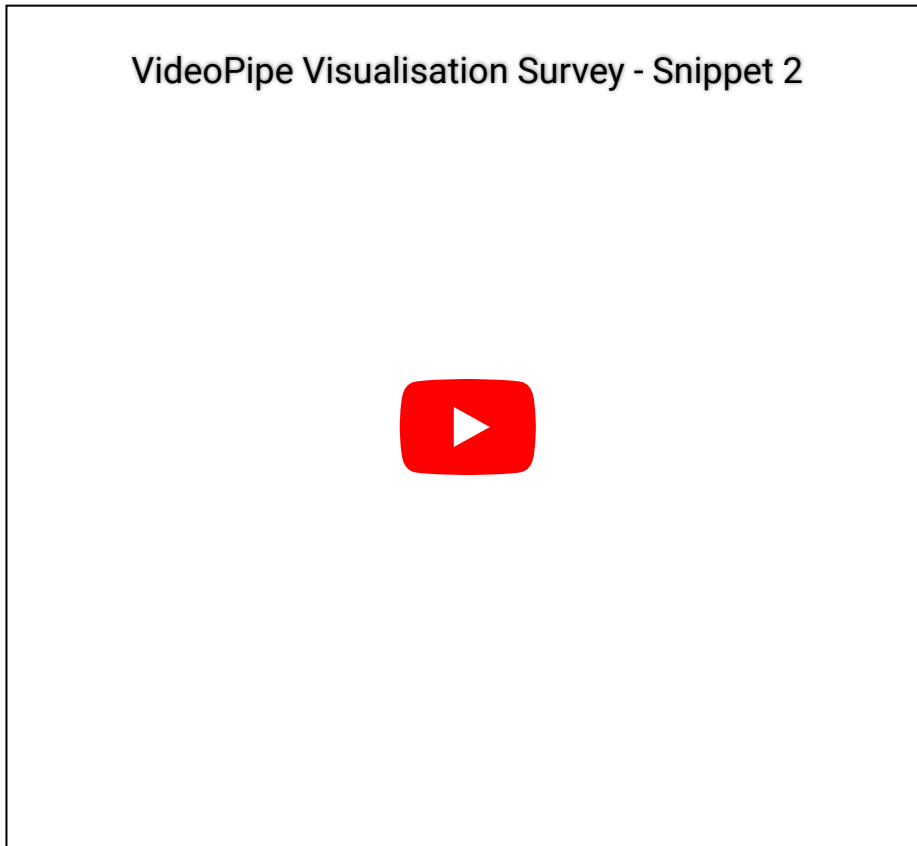
16

What part of the original video was this snippet taken from? *

- ☐ Between 0:00 and 0:32
- ☐ Between 6:04 and 7:16
- ☐ Between 7:28 and 8:00
- ☐ There is no way to know this

Visualisation Snippet 2

After watching the VideoPipe Visualisation snippet, please answer the questions below about it.



17

What type of output did the VideoPipe AI detect in this video? *

- ☐ Colorblindness risk
- ☐ Text
- ☐ Video Imperfections
- ☐ Yellow
- ☐ I don't know

18

What did the AI detect? *

19

How did the AI perform? *

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

Very bad

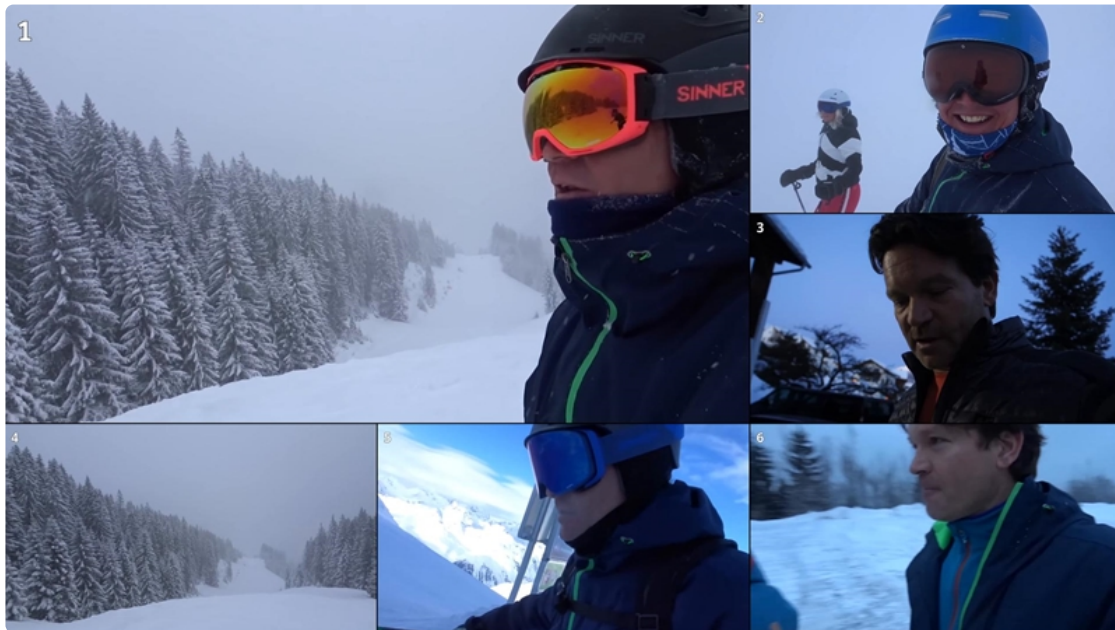
Very well

20

How did the visualisation **help you understand** the following aspects of the AI performance *

	Not at all	Did not help	Neutral	Helped a bit	A lot
Consistency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accuracy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What was detected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Visualisation Image



21

What did the VideoPipe AI detect in this video? *

- ☐ Frames with a lot of snow
- ☐ Faces
- ☐ Possible Thumbnails
- ☐ It gave a summary of the video
- ☐ I don't know

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Is there an ordering in the depicted frames? *

- ☐ Yes, a ranking
- ☐ Yes, chronological
- ☐ No
- ☐ I don't know

23

How did the AI perform? *

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

Very bad

Very well

24

How would you rank these frames as thumbnails? *

Frame 2 (top right)

Frame 5 (bottom mid)

Frame 6 (bottom right)

Frame 1 (top left)

Frame 4 (bottom left)

Frame 3 (mid right)

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How did the visualisation **help you understand** the following aspects of the AI performance *

	Not at all	Did not help	Neutral	Helped a bit	A lot
Ordering	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What was detected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Visualisation Snippet 3

After watching the VideoPipe Visualisation snippet, please answer the questions below about it.



26

What did the VideoPipe AI detect in this video? *

- ☐ Shot Boundaries
- ☐ Faces
- ☐ Video Quality
- ☐ Scenes
- ☐ I don't know

27

How did the AI perform? *

0	1	2	3	4	5	6	7	8	9	10
Very bad					Very well					

28

How did the visualisation **help you understand** the following aspects of the AI performance *

	Not at all	Did not help	Neutral	Helped a bit	A lot
Consistency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accuracy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What was detected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Visualisation Image II



29

What did the VideoPipe AI detect in this video? *

- ☐ Faces
- ☐ A place for subtitles
- ☐ Text
- ☐ A place for the midroll
- ☐ I don't know

30

How did the AI perform? *

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

Very bad

Very well

How did the visualisation **help you understand** the following aspects of the AI performance *

	Not at all	Did not help	Neutral	Helped a bit	A lot
Consistency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accuracy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What was detected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Concluding

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How would you rate your understanding of what VideoPipe can do? *

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

I do not understand it at all

I understand it completely

33

How difficult was it to evaluate the performance of the AI, based on these visualizations? *

0	1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	---	----

I was very difficult

It was very easy

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Would the timeline help you to navigate the visualization more efficiently? *

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Face Detection (Snippet 1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Text Detection (Snippet 2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shot Boundaries (Snippet 3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

35

Did the timeline help you to gain information about the video outside of the shown snippet? *

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Face Detection (Snippet 1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Text Detection (Snippet 2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shot Boundaries (Snippet 3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Was the timeline a usefull addition to the video? *

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Face Detection (Snippet 1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Text Detection (Snippet 2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shot Boundaries (Snippet 3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

37

How much do you trust the output of the VideoPipe AI *

0	1	2	3	4	5	6	7	8	9	10	
Not at all											A lot

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Would you incorporate VideoPipe more in your workflow after seeing these visualisations? *

- ☐ Yes
- ☐ Yes, but only certain types of detections
- ☐ Maybe I should give it a try
- ☐ I will not use it more than I already do
- ☐ No, it is not relevant for my workflow
- ☐ No

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Do you have any feedback?

Deze inhoud is niet door Microsoft gemaakt noch goedgekeurd. De gegevens die u verzendt, zal worden gestuurd naar de eigenaar van het formulier.



Microsoft Forms