

Back to our Example Data



# The example data



	A	B	C	D	E
1	t	ax	ay	az	scr
2	0	0.3931848	-0.1593144	-0.4178079	0
3	0.01	0.3957354	-0.15696	-0.4242825	0
4	0.04	0.4138839	-0.1547037	-0.429678	0
5	0.05	0.4415481	-0.1512702	-0.4325229	0
6	0.06	0.4741173	-0.1488177	-0.434583	0
7	0.08	0.5021739	-0.1521531	-0.4285008	0
8	0.1	0.5247369	-0.1669662	-0.420849	0
9	0.11	0.5421987	-0.1813869	-0.4160421	0
10	0.14	0.5506353	-0.1947285	-0.4094694	0
11	0.15	0.5538726	-0.203067	-0.4057416	0
12	0.16	0.5534802	-0.2035575	-0.4056435	0
13	0.17	0.5527935	-0.1961019	-0.4098618	0
14	0.2	0.558189	-0.1908045	-0.4121181	0
15	0.21	0.5764356	-0.1865862	-0.4162383	0
16	0.22	0.589581	-0.18639	-0.4258521	0
17	0.25	0.6049827	-0.1941399	-0.4243806	0
18	0.26	0.619992	-0.206991	-0.4192794	0
19	0.27	0.6320583	-0.2191554	-0.4092732	0
20	0.3	0.6392196	-0.2279844	-0.3975993	0
21	0.31	0.6465771	-0.2317122	-0.3908304	0
22	0.32	0.6583491	-0.2291616	-0.3950487	0
23	0.34	0.6725736	-0.2220984	-0.4050549	0

# What we know now about all data objects in the collaboration



## Meaning of the variables

	A	B	C	D	E
1	<u>t</u>	<u>ax</u>	<u>ay</u>	<u>az</u>	<u>scr</u>
2	0	0.3931848	-0.1593144	-0.4178079	0
3	0.01	0.3957354	-0.15696	-0.4242825	0
4	0.04	0.4138839	-0.1547037	-0.429678	0
5	0.05	0.4415481	-0.1512702	-0.4325229	0
6	0.06	0.4741173	-0.1488177	-0.434583	0
7	0.08	0.5021739	-0.1521531	-0.4285008	0
8	0.1	0.5247369	-0.1669662	-0.420849	0
9	0.11	0.5421987	-0.1813869	-0.4160421	0
10	0.14	0.5506353	-0.1947285	-0.4094694	0
11	0.15	0.5538726	-0.203067	-0.4057416	0
12	0.16	0.5534802	-0.2035575	-0.4056435	0
13	0.17	0.5527935	-0.1961019	-0.4098618	0
14	0.2	0.558189	-0.1908045	-0.4121181	0
15	0.21	0.5764356	-0.1865862	-0.4162383	0
16	0.22	0.589581	-0.18639	-0.4258521	0
17	0.25	0.6049827	-0.1941399	-0.4243806	0
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19	0.27	0.6320583	-0.2191554	-0.4092732	0
20	0.3	0.6392196	-0.2279844	-0.3975993	0
21	0.31	0.6465771	-0.2317122	-0.3908304	0
22	0.32	0.6583491	-0.2291616	-0.3950487	0
23	0.34	0.6725736	-0.2220984	-0.4050549	0

# What we know now about all data objects in the collaboration



## Meaning of the variables

Who recorded the data  
and when it was  
recorded

```
"date": "2022-02-28",  
"creator": [  
  {  
    "creatorName": "Bruce Wayne",  
    "creatorAffiliation": "Institute for  
      Vigilance and  
      Nightly Motion -  
      Justice League"  
  },  
  {  
    "creatorName": "Selina Kyle",  
    "creatorAffiliation": "Institute for  
      Vigilance and  
      Nightly Motion -  
      Justice League"  
  }  
]
```

	A	B	C	D	E
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11	0.15	0.5538726	-0.203067	-0.4057416	0
12	0.16	0.5534802	-0.2035575	-0.4056435	0
13	0.17	0.5527935	-0.1961019	-0.4098618	0
14	0.2	0.558189	-0.1908045	-0.4121181	0
15	0.21	0.5764356	-0.1865862	-0.4162383	0
16	0.22	0.589581	-0.18639	-0.4258521	0
17	0.25	0.6049827	-0.1941399	-0.4243806	0
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19	0.27	0.6320583	-0.2191554	-0.4092732	0
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23	0.34	0.6725736	-0.2220984	-0.4050549	0

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Who recorded the data and when it was recorded

```
"date": "2022-02-28",
"creator": [
  {
    "creatorName": "Bruce Wayne",
    "creatorAffiliation": "Institute for
      Vigilance and
      Nightly Motion -
      Justice League"
  },
  {
    "creatorName": "Selina Kyle",
    "creatorAffiliation": "Institute for
      Vigilance and
      Nightly Motion -
      Justice League"
  }
]
```

How the data was recorded

```
"experimentalParameters": {
  "testRide": {
    "rideName": "Flight of the Bat",
    "location": "Gotham City, New Jersey",
    "rideType": "roller coaster"
  },
  "testPerson": {
    "sex": "male",
    "height": 180
  },
  "recording": {
    "testDevice": "iPhone X",
    "testDeviceFixture": "left upper arm",
    "testApp": "Physics Toolbox Suite by
      Vieyra Software"
  }
}
```

# Find information



	A	B	C	D	E
1	t	ax	ay	az	scr
2	0	0.3931848	-0.1593144	-0.4178079	0
3	0.01	0.3957354	-0.15696	-0.4242825	0
4	0.04	0.4138839	-0.1547037	-0.429678	0
5	0.05	0.4415481	-0.1512702	-0.4325229	0
6	0.06	0.4741173	-0.1488177	-0.434583	0
7	0.08	0.5021739	-0.1521531	-0.4285008	0
8	0.1	0.5247369	-0.1669662	-0.420849	0
9	0.11	0.5421987	-0.1813869	-0.4160421	0
10	0.14	0.5506353	-0.1947285	-0.4094694	0
11	0.15	0.5538726	-0.203067	-0.4057416	0
12	0.16	0.5534802	-0.2035575	-0.4056435	0
13	0.17	0.5527935	-0.1961019	-0.4098618	0
14	0.2	0.558189	-0.1908045	-0.4121181	0
15	0.21	0.5764356	-0.1865862	-0.4162383	0
16	0.22	0.589581	-0.18639	-0.4258521	0
17	0.25	0.6049827	-0.1941399	-0.4243806	0
18	0.26	0.619992	-0.206991	-0.4192794	0
19	0.27	0.6320583	-0.2191554	-0.4092732	0
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21	0.31	0.6465771	-0.2317122	-0.3908304	0
22	0.32	0.6583491	-0.2291616	-0.3950487	0
23	0.34	0.6725736	-0.2220984	-0.4050549	0

# Find information – Machine readability - Interoperability



	A	B	C
1	t	ax	ay
2	0	0.2021949	0.1502
3	0.01		
4	0.04		
5	0.05		
6	0.06		
7	0.08		
8	0.1		
9	0.11		
10	0.14		
11	0.15		
12	0.16		
13	0.17		
14	0.2		
15	0.21		
16	0.22		
17	0.25		
18	0.26		
19	0.27		
20	0.3		
21	0.31		
22	0.32		
23	0.34		

	A	B	C
1	t	ax	ay
2	0	0.2021949	0.1502
3	0.01		
4	0.04		
5	0.05		
6	0.06		
7	0.08		
8	0.1		
9	0.11		
10	0.14		
11	0.15		
12	0.16		
13	0.17		
14	0.2		
15	0.21		
16	0.22		
17	0.25		
18	0.26		
19	0.27		
20	0.3		
21	0.31		
22	0.32		
23	0.34		

	A	B	C
1	t	ax	ay
2	0	0.3931848	
3	0.01	0.3957354	
4	0.04	0.4138839	
5	0.05	0.4415481	
6	0.06	0.4741173	
7	0.08	0.5021739	
8	0.1	0.5247369	
9	0.11	0.5421987	
10	0.14	0.5506353	
11	0.15	0.5538726	
12	0.16	0.5534802	
13	0.17	0.5527935	
14	0.2	0.558189	
15	0.21	0.5764356	
16	0.22	0.589581	
17	0.25	0.6049827	
18	0.26	0.619992	
19	0.27	0.6320583	
20	0.3	0.6392196	
21	0.31	0.6465771	
22	0.32	0.6583491	
23	0.34	0.6725736	

```
{
  "fileName": "trainingObject.csv",
  "abstract": "The data describes the biomechanical acceleration and screams data",
  "format": "text/csv",
  "date": "2022-02-28",
  "creator": [
    {
      "creatorName": "Bruce Wayne",
      "creatorAffiliation": "Institute for Vigilance and Nightly Motion - Justice"
    },
    {
      "creatorName": "Selina Kyle",
      "creatorAffiliation": "Institute for Vigilance and Nightly Motion - Justice"
    }
  ],
  "experimentalParameters": {
    "testRide": {
      "rideName": "Flight of the Bat",
      "location": "Gotham City, New Jersey",
      "rideType": "roller coaster"
    },
    "testPerson": {
      "sex": "male",
      "height": 180
    },
    "recording": {
      "rideName": "Flight of the Bat",
      "location": "Gotham City, New Jersey",
      "rideType": "roller coaster"
    }
  }
}
```

```
{
  "fileName": "trainingObject.csv",
  "abstract": "The data describes the biomechanical acceleration and screams data",
  "format": "text/csv",
  "date": "2022-02-28",
  "creator": [
    {
      "creatorName": "Bruce Wayne",
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    },
    {
      "creatorName": "Selina Kyle",
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  ],
  "experimentalParameters": {
    "testRide": {
      "rideName": "Flight of the Bat",
      "location": "Gotham City, New Jersey",
      "rideType": "roller coaster"
    },
    "testPerson": {
      "sex": "male",
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    },
    "recording": {
      "rideName": "Flight of the Bat",
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      "rideType": "roller coaster"
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}
```

```
{
  "fileName": "trainingObject.csv",
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    },
    "recording": {
      "rideName": "Flight of the Bat",
      "location": "Gotham City, New Jersey",
      "rideType": "roller coaster"
    }
  }
}
```

16	0.22	0.589581	-0.16039	-0.4206521	0
17	0.25	0.6049827	-0.1941399	-0.4243806	0
18	0.26	0.619992	-0.206991	-0.4192794	0
19	0.27	0.6320583	-0.2191554	-0.4092732	0
20	0.3	0.6392196	-0.2279844	-0.3975993	0
21	0.31	0.6465771	-0.2317122	-0.3908304	0
22	0.32	0.6583491	-0.2291616	-0.3950487	0
23	0.34	0.6725736	-0.2220984	-0.4050549	0

# Enforcing metadata records with JSON schema



```
1  {
2  "title": "Sample JSON schema title",
3  "description": "Sample description. Schema validates a JSON object entry",
4  "type": "object",
5  "required": [
6    "fileName",
7    "abstract",
8    "format",
9    "creator",
10   "date",
11   "experimentalConditions",
12   "columns"
13  ],
14  "properties": {
15    "fileName": {
16      "description": "Name of the described data file or set.",
17      "type": "string",
18      "minLength": 1
19    },
20    "abstract": {
21      "description": "A free text abstract of the experimental setup.",
22      "type": "string",
23      "minLength": 24
24    },
25    "format": {
26      "description": "The Internet Media Type of the resource, MIME Type.",
27      "type": "string",
28      "enum": [
29        "text/csv",
30        "video/mp4",
31        "text/markdown",
32        "image/png",
33        "other"
34      ]
35    }
36  }
37 }
```



Sample JSON schema title

Sample description. Schema validates a JSON object entry for the DC shared universe repository.

**fileName\***  
Name of the described data file or set.

**abstract\***  
A free text abstract of the experimental setup.

**format\***  
The Internet Media Type of the resource, MIME Type.

**creator\***  
An array of people (1-n) primarily responsible for making the resource.

**creatorName**  
The name of the creator, a person.

**creatorAffiliation**  
The name of the institute the creator is working for.



# Tools to help you enforce your metadata



## **DirSchema**

DirSchema is a directory structure and metadata linter based on JSON Schema



## **Metador**

Metador is a “metadata-aware mailbox” – it helps you to create and share structured metadata alongside your data

# But what about other peoples data?



data in your collaboration

# But what about other peoples data?



The code editor shows a JSON schema for a 'Sample JSON schema title'. The schema includes fields like 'title', 'description', 'type', 'required', 'properties', 'format', and 'enum'. The data table below it has columns 't', 'ax', 'ay', 'az', 'D', and 'E'.

t	ax	ay	az	D	E
0	0.3931848	-0.1593144	-0.4178079	0	0
0.01	0.3957354	-0.15696	-0.4242825	0	0
0.04	0.4138839	-0.1547037	-0.429678	0	0
0.05	0.4415481	-0.1512702	-0.4325229	0	0
0.06	0.4741173	-0.1488177	-0.434583	0	0
0.08	0.5021739	-0.1521531	-0.4285008	0	0
0.1	0.5247369	-0.1669662	-0.420849	0	0
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0.16	0.5534802	-0.2035575	-0.4056435	0	0
0.17	0.5527935	-0.1961019	-0.4098618	0	0
0.2	0.558189	-0.1908045	-0.4121181	0	0
0.21	0.5764356	-0.1865862	-0.4162383	0	0
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0.27	0.6320583	-0.2191554	-0.4092732	0	0
0.3	0.6392196	-0.2279844	-0.3975993	0	0
0.31	0.6465771	-0.2317122	-0.3908304	0	0
0.32	0.6583491	-0.2291616	-0.3950487	0	0
0.34	0.6725736	-0.2220984	-0.4050549	0	0

data in your collaboration

The data table has columns 't', 'ax', 'ay', 'az', 'D', and 'E'.

t	ax	ay	az	D	E
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0.26	0.619992	-0.206991	-0.4192794	0	0
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0.31	0.6465771	-0.2317122	-0.3908304	0	0
0.32	0.6583491	-0.2291616	-0.3950487	0	0
0.34	0.6725736	-0.2220984	-0.4050549	0	0

data from another group

# But what about other peoples data?



data in your collaboration

community-wide  
metadata schema

t	A	B	C	D	E
1	ax	ay	az	Sci	
2	0	0.3931848	-0.1593144	-0.4178079	0
3	0.01	0.3957354	-0.15696	-0.4242825	0
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13	0.17	0.5527935	-0.1961019	-0.4098618	0
14	0.2	0.558189	-0.1908045	-0.4121181	0
15	0.21	0.5764356	-0.1865862	-0.4162383	0
16	0.22	0.589581	-0.18639	-0.4258521	0
17	0.25	0.6049827	-0.1941399	-0.4243806	0
18	0.26	0.619992	-0.206991	-0.4192794	0
19	0.27	0.6320583	-0.2191554	-0.4092732	0
20	0.3	0.6392196	-0.2279844	-0.3975993	0
21	0.31	0.6465771	-0.2317122	-0.3908304	0
22	0.32	0.6583491	-0.2291616	-0.3950487	0
23	0.34	0.6725736	-0.2220984	-0.4050549	0

t	A	B	C	D	E
1	ax	ay	az	Sci	
2	0	0.3931848	-0.1593144	-0.4178079	0
3	0.01	0.3957354	-0.15696	-0.4242825	0
4	0.04	0.4138839	-0.1547037	-0.429678	0
5	0.05	0.4415481	-0.1512702	-0.4325229	0
6	0.06	0.4741173	-0.1488177	-0.434583	0
7	0.08	0.5021739	-0.1521531	-0.4285008	0
8	0.1	0.5247369	-0.1669662	-0.420849	0
9	0.11	0.5421987	-0.1813869	-0.4160421	0
10	0.14	0.5506353	-0.1947285	-0.4094694	0
11	0.15	0.5538726	-0.203067	-0.4057416	0
12	0.16	0.5534802	-0.2035575	-0.4056435	0
13	0.17	0.5527935	-0.1961019	-0.4098618	0
14	0.2	0.558189	-0.1908045	-0.4121181	0
15	0.21	0.5764356	-0.1865862	-0.4162383	0
16	0.22	0.589581	-0.18639	-0.4258521	0
17	0.25	0.6049827	-0.1941399	-0.4243806	0
18	0.26	0.619992	-0.206991	-0.4192794	0
19	0.27	0.6320583	-0.2191554	-0.4092732	0
20	0.3	0.6392196	-0.2279844	-0.3975993	0
21	0.31	0.6465771	-0.2317122	-0.3908304	0
22	0.32	0.6583491	-0.2291616	-0.3950487	0
23	0.34	0.6725736	-0.2220984	-0.4050549	0

```
1 {
2   "title": "Sample JSON schema title",
3   "description": "Sample description. Schema validates a JSON object ent",
4   "type": "object",
5   "required": [
6     "filename",
7     "abstract",
8     "format",
9     "creator",
10    "date",
11    "experimentalConditions",
12    "columns"
13  ],
14  "properties": {
15    "filename": {
16      "description": "Name of the described data file or set.",
17      "type": "string",
18      "minLength": 1
19    },
20    "abstract": {
21      "description": "A free text abstract of the experimental setup.",
22      "type": "string",
23      "minLength": 24
24    },
25    "format": {
26      "description": "The Internet Media Type of the resource, MIME Type",
27      "type": "string",
28      "enum": [
29        "text/csv",
30        "application/
31        "text/markdown",
32        "image/png",
33        "other"
34      ]
35    }
36  }
37 }
```

data from another group

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**Fundamentals of Scientific Metadata:  
Why Context Matters**

published on **The Carpentries Incubator**.

**Please cite this presentation as:**

Gerlich, S., Strupp, A., Hofmann, V., Sandfeld, S. (2023).  
*Fundamentals of Scientific Metadata: Why Context Matters*.  
The Carpentries Incubator. DOI: [10.5281/zenodo.10091708](https://doi.org/10.5281/zenodo.10091708)

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