

The Metadata Game

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Your team has been selected for an exciting new FAIR metadata repository project.

The goal is to collaborate across the metadata life cycle to create a repository of ten metadata records that include all FAIR elements.

Progress is measured regularly.

Good luck!



Project Tools

FAIR Principles

Findable Accessible Interoperable Re-Usable

A	I	F	R	R	F	A	I	F	R
R	I	F	A	R	F	R	F	I	
F	A	I	A	F	F	F	A	I	A
R	I	A	A	F	F	I	A	F	I
F	A	I	A	I	R	F	A	I	R
I	A	I	R	F	R	R	A	A	R
R	A	F	I	F	F	F	F	F	I
F	R	I	R	F	F	R	R	R	I

2 Board

Start

Project Metadata

Player 1 _____

Player 2 _____

Player 3 _____

Player 4 _____

Date _____

Rule Choices (Y/N)

____ Updates

____ Adjacent Fields

____ First Available

Metric Choices

____ Complete Records

____ Collaborations

____ Missing Fields

Repository Metric	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

4

Concept / Bonus									
F									
A									
I									
R									

3 Repository

Tools are available for

1. tracking project metadata,
2. selecting metadata elements,
3. recording repository content,
4. recording repository metrics after each round.

Start on one of the squares with the arrows at the center of the board.

Selection Rules – Summary

Round 1 – Select adjacent squares.

Subsequent rounds – jump adjacent filled squares.

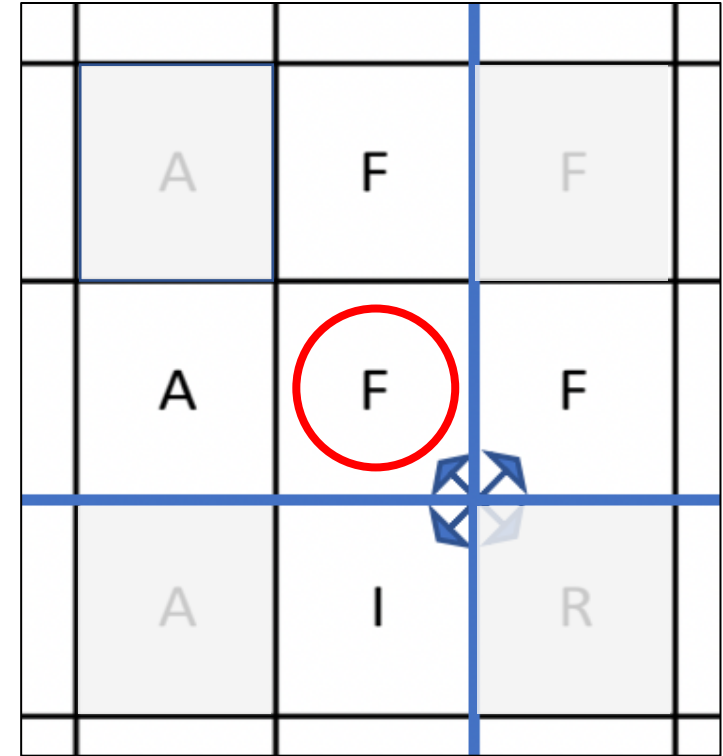
Can't jump? – select square in same quadrant where you can jump next round.

Selection Rules - First Round

The player with the earliest birthday selects a square in the center of the board (where the arrows are) by circling the letter and then fills the corresponding element in the first repository record.

In this example, **Red** selects F and fills the F in the first record.

Other players select squares that are adjacent to ones already selected (vertically or horizontally, i.e. not diagonal). The next player can select any of the unshaded squares.



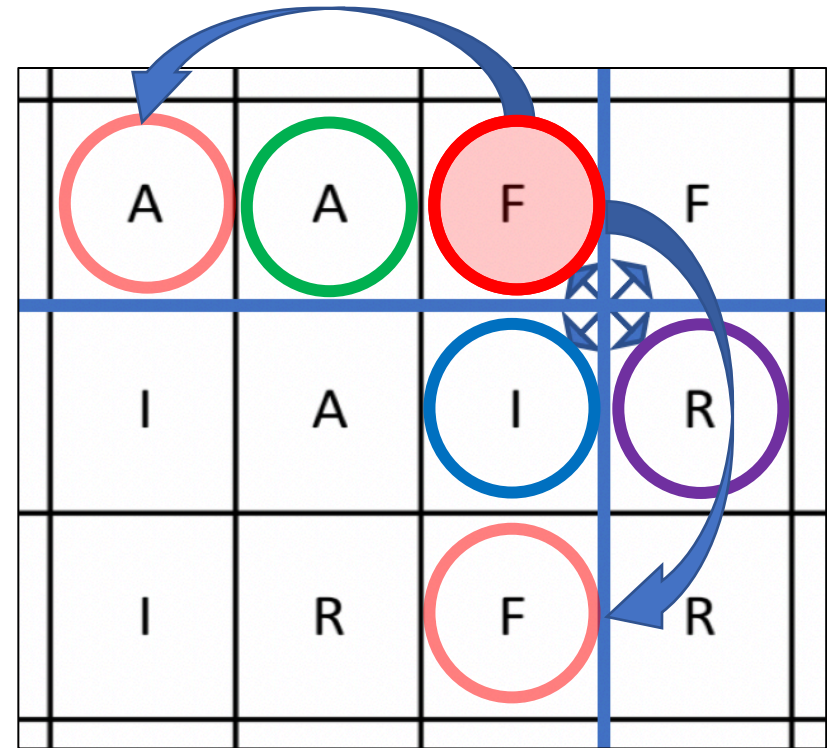
Concept / Bonus														
Findable														
Accessible														
Interoperable														
Reusable														

Selection Rules - Subsequent Rounds

Players jump **one or more** filled squares vertically or horizontally.

In this example, **Red** can jump to the left (to A) or down (to F) to start the second round.

The space jumped from is filled in so that the open circle indicates current position.



After the first round the repository has one complete record with collaboration and the metric is 6.

Concept / Bonus	6									
Findable										
Accessible										
Interoperable										
Reusable										

Metric Defaults

Progress is tracked **after each complete round** by combining three repository metrics:

Complete Records have all four fields filled.

Collaborations have four fields filled with one element of each color.

Empty Fields are fields with no content in records that have been started.

Metric Choices	
<u>4</u>	Complete Records
<u>2</u>	Collaborations
<u>-1</u>	Missing Fields

The metrics have default values.

Concept / Bonus	6	6	6	6	6	6	6	6	6	6
Findable	Red	Green	Red	Purple	Blue	Green	Red	Blue	Green	Purple
Accessible	Green	Blue	Purple	Blue	Red	Purple	Blue	Green	Red	Green
Interoperable	Blue	Purple	Green	Red	Green	Red	Green	Purple	Blue	Red
Reusable	Purple	Red	Blue	Green	Purple	Blue	Purple	Red	Purple	Blue

= 60

Metric Examples

Calculate the metric **after each complete round** by adding all record bonuses and subtracting the number of empty fields:

Track record bonuses here 

Concept / Metric	6								
Findable									
Accessible									
Interoperable									
Reusable									

One complete record with collaboration = 6.

One complete record with collaboration and four empty fields = $6 - 4 = 2$.

Concept / Metric	6								
Findable									
Accessible									
Interoperable									
Reusable									

Three complete records, one with collaboration = 14.

The **repository project ends** when no more elements can be legally selected and added to the repository.

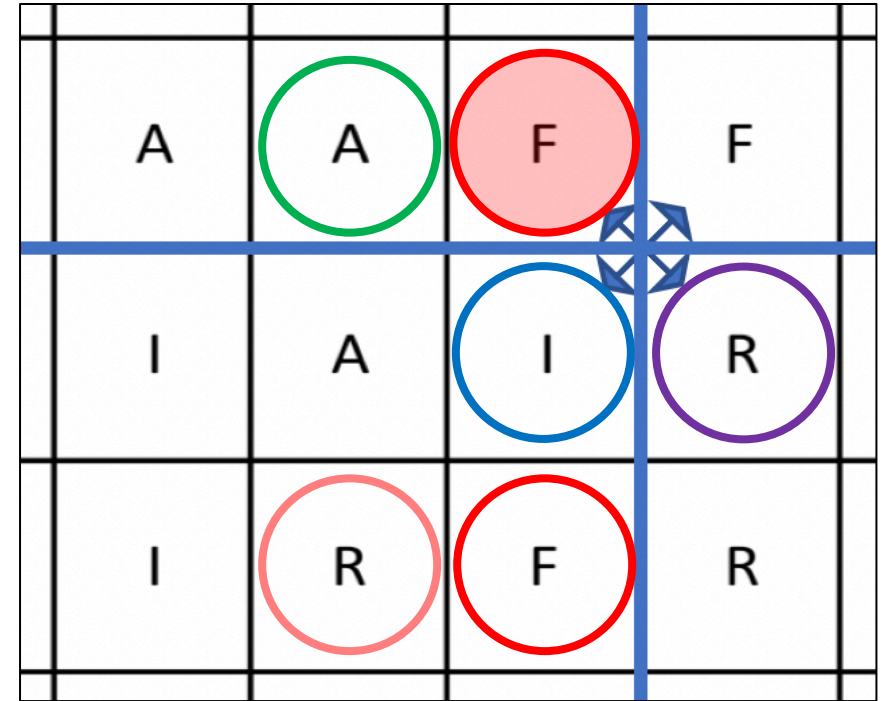
The final metric includes all ten records.

Concept / Metric	6	4	4						
Findable									
Accessible									
Interoperable									
Reusable									

Selection Rules - No Jumps Available

If **no jumps are available**, a player can move to any square in the same quadrant (marked by blue lines) that allows a jump on next move, i.e. adjacent to a filled square.

If **Red** had selected F on the last move (note that original position is shaded), and this was the complete board, no jump is available, so **Red** can select any square in the current quadrant that allows a jump on the next move (only R in this case).



Repository Rules – Adjacent Fields

The **Adjacent Fields** rule represents the many obstacles encountered on the road to complete metadata repositories.

In this example, the team succeeded in collaborating to create a complete record in round 1 and received the complete record (4) and collaboration (2) bonuses. If **Red** selects an F in the second round, the **Adjacent Fields** rule controls where F can play:

If Adjacent Fields is **Yes, i.e. allowed**, **Red** must select the F in the second record

If Adjacent Fields is **No, i.e. not allowed** (default), **Red** must select the F in the third record. This creates seven missing fields and has a negative effect on the metric.

Concept	6									
Findable		Yes	No							
Accessible										
Interoperable										
Reusable										

Repository Rules - Updates

Updating existing metadata records to address new use cases is an important role of repositories.

After **Red** fills the F in the third record, the **Updates** rule controls where **Green** can play in round 2:

If Updates is **Yes** (default), **Green** can update F, I, or R in record 2. The A in record 2 cannot be selected because it is adjacent to **Green** in record 1 and **Adjacent Fields** is No. If Updates is **No**, **Green** must select A, I, or R in record 3 and record 2 will always be empty and will always contribute four empty fields to the metric.

Concept	6									
Findable	Red	Yes	Red							
Accessible	Green	No								
Interoperable	Blue	Yes	No							
Reusable	Purple	Yes	No							

Repository Rules – Next Available

The **Next Available** rule represents the many obstacles to collaborating on the road to complete metadata repositories.

After two rounds, **Red** must play an R to start round 3 and **Blue** must play an A because of jump constraints on the board. Red must play the R in record 3 because it is the only R available in an existing record. The **Next Available** rule controls where **Blue** can play in round 3:

If Next Available is **Yes** (default), **Blue** must play an A in record 2 and a collaboration bonus will not be scored for record 2 because two fields were filled by **Blue**.

If Next Available is **No**, **Blue** can play the A in record 3, preserving the possibility of a collaboration bonus for record 2.

Concept	6									
Findable	Red	Green	Red							
Accessible	Green	Yes	No							
Interoperable	Blue	Purple								
Reusable	Purple	Blue	Yes							

Repository Rule Defaults

The **Repository Rules** also have default values.

Rule Choices (Y/N)	
<u> </u> N	Adjacent fields
<u> </u> Y	Updates
<u> </u> Y	First Available

The **repository project ends** when no more elements can be added to the repository.
The final metric includes all ten records.

Metadata Project Stories

Organizations make metadata creation rules and set repository metrics. The default values were selected as a reasonable starting point.

You can **change the metadata game** by changing rule and metric choices.

Are there rules you would like to change?

How will changes affect opportunities, decisions, and metrics?

The Metadata Game was developed by Erin Robinson and Ted Habermann. Please let us know how you liked it or how it can be improved. Also let us know if you think The Metadata Game could help your organization make better metadata.

Thanks, ted@tedhabermann.com