



**COMMUNITY
DAYS 2023**

Advanced MDX: Recipe to Change Report Context

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COMMUNITY DAYS 2023



- **What is context and why to change it**
- **eazyBI full of stars**
- **3 use cases**



**All selected values in Rows, Columns, and Pages form the report context.
The measures are context responsive.**

eazyBI Documentation

Report context

Pages Nonempty

- > Project
- > Time

Columns > Measures > Issue Type

Table Bar Line Pie Scatter Timeline Map Gantt Gauge

Hide empty rows Total Freeze header

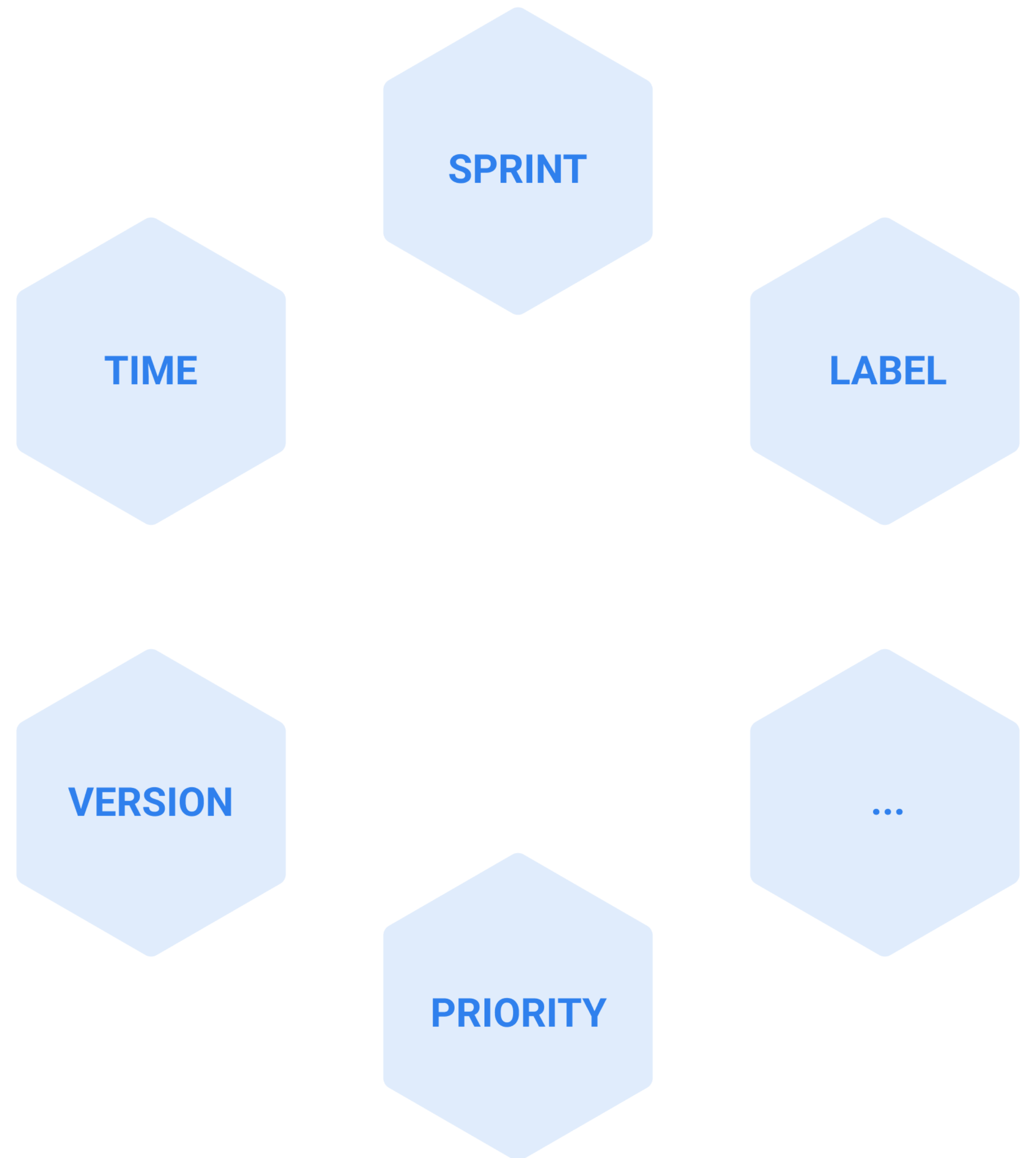
Rows Nonempty

- > Priority

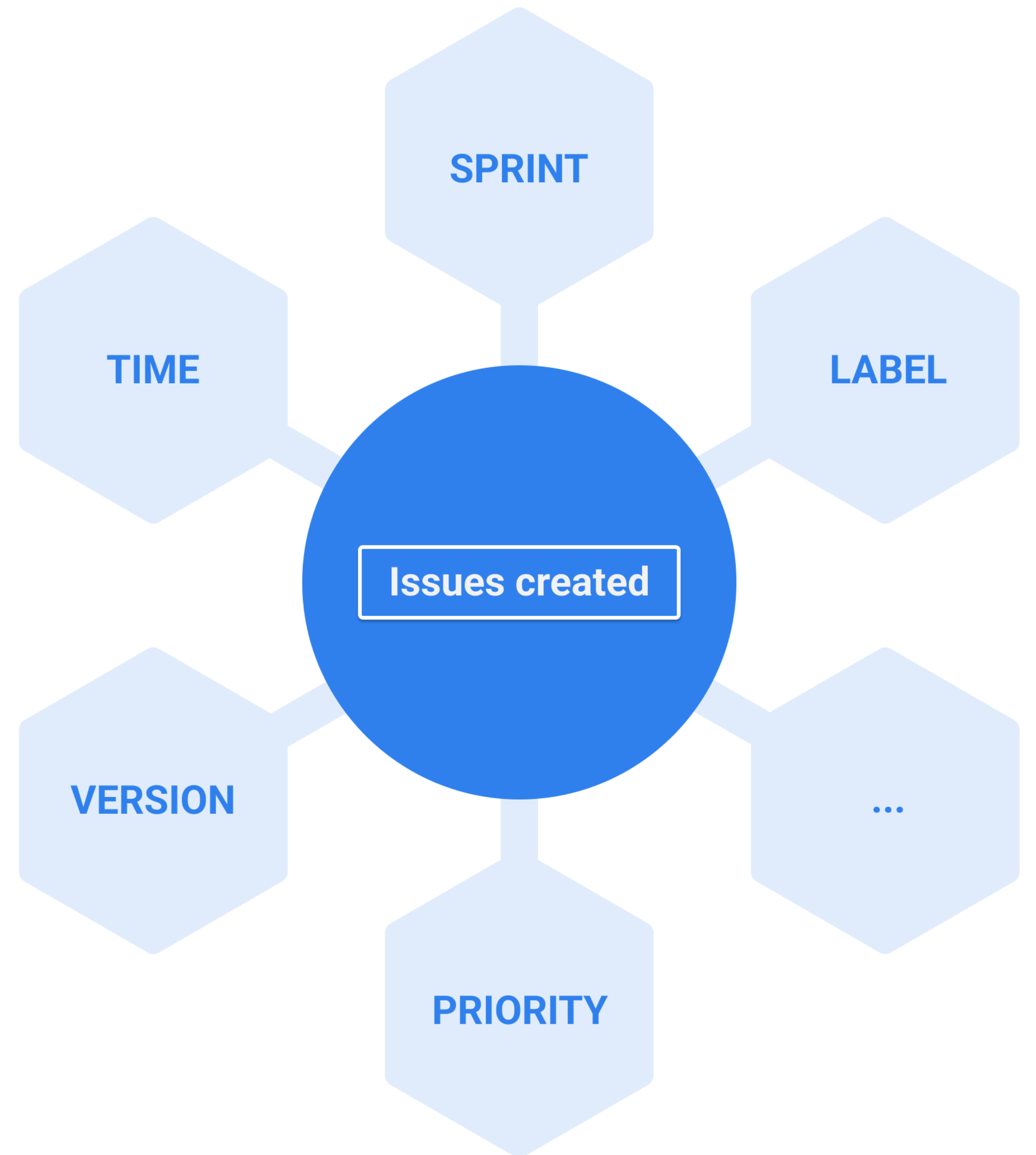
DEMO Beta 2023

	Issues resolved		Open issues	
	Story	Bug	Story	Bug
Highest	11	5	5	1
High	10	15	15	3
Medium	5	4	18	12
Low		5	18	12
Lowest	4	1	17	19

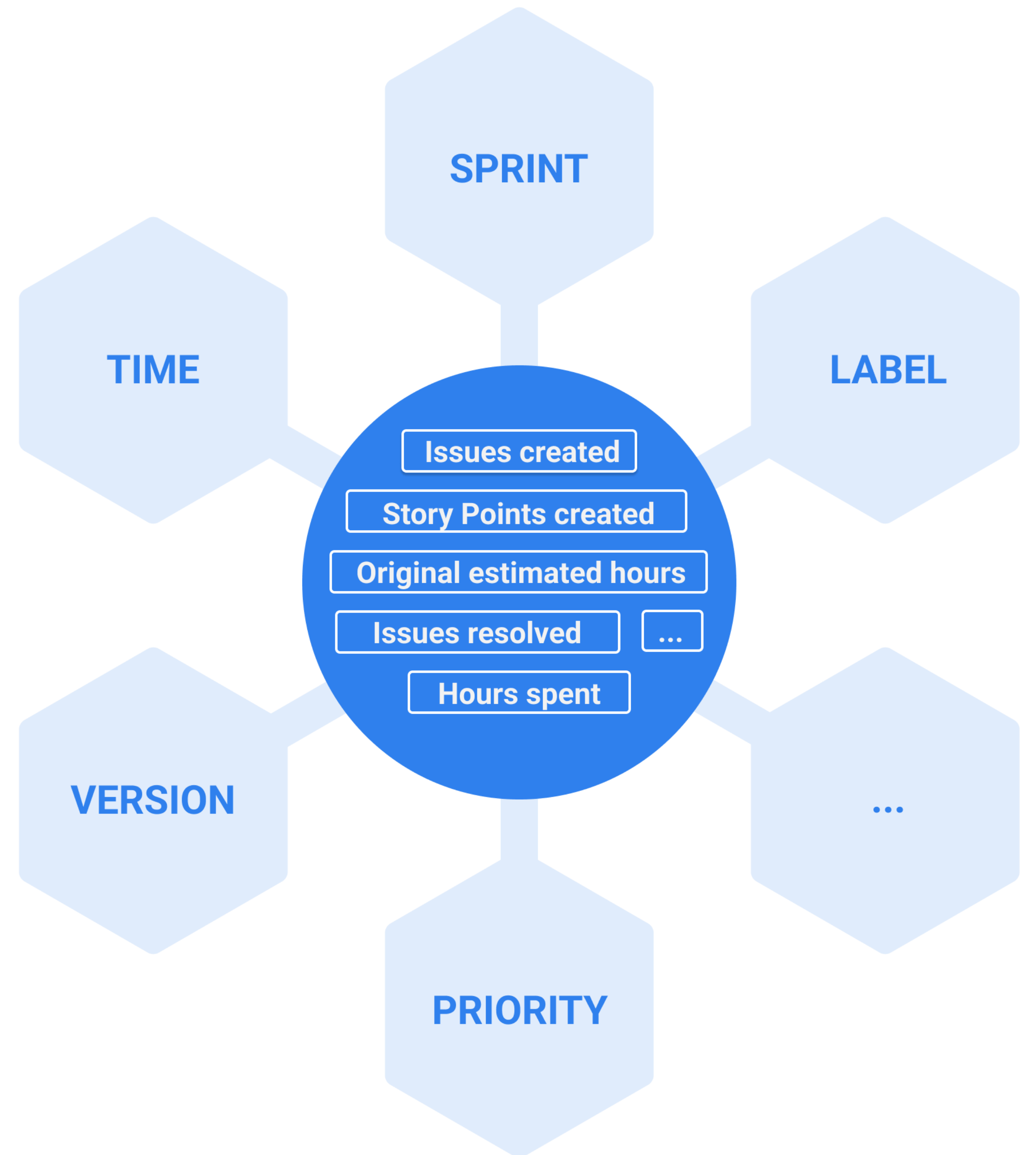
In the
middle of
it all
stands
Measure



In the
middle of
it all
stands
Measure



In the middle of it all stands Measure

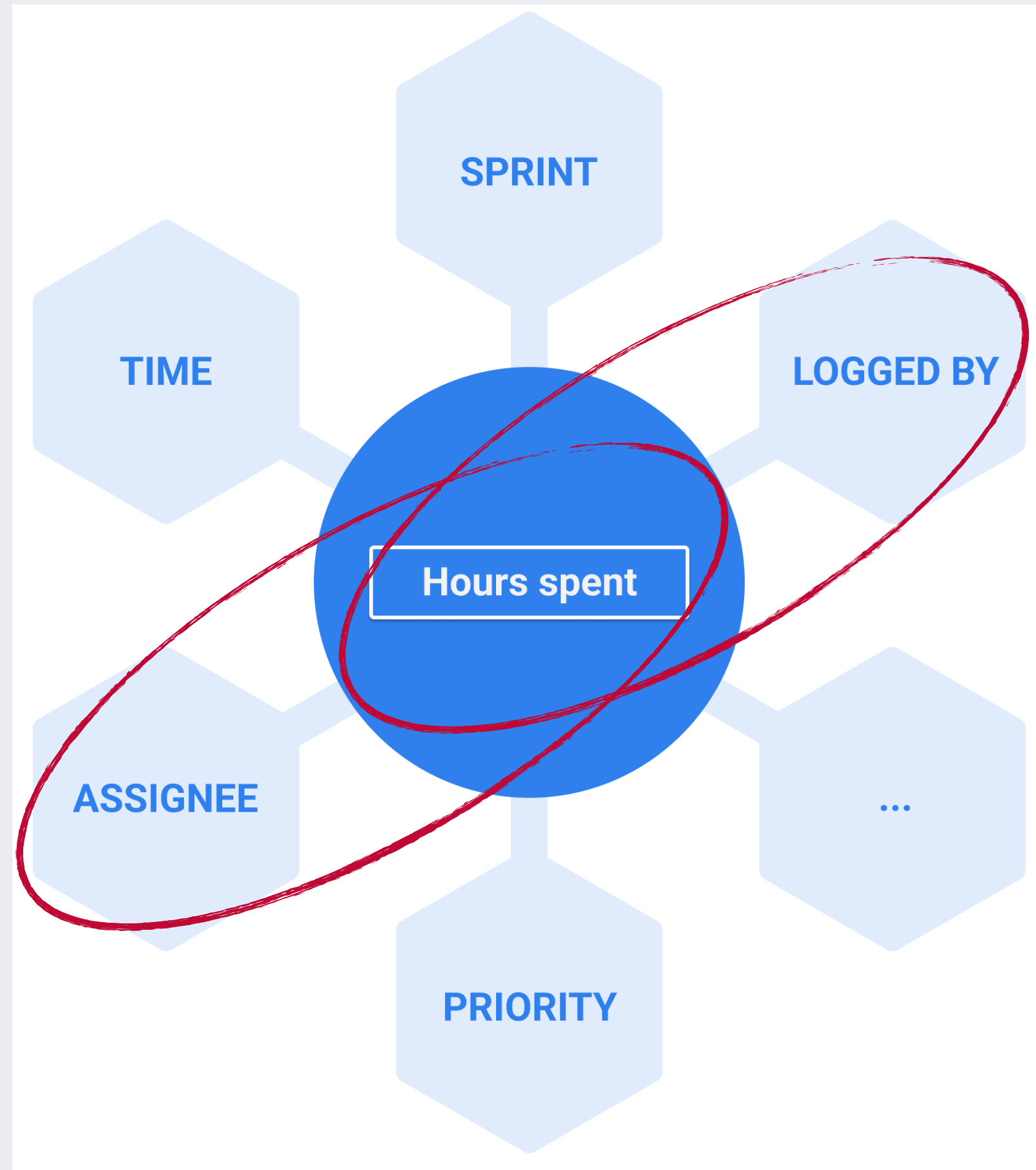


When and why to change context

- **Different object share the same name**
For example, the Team names match in Tempo and AdvancedRoadmaps specific team fields.
- **The same object represented in two dimensions**
For example, same users represented in Assignee and Logged by dimensions.
- **Data from different Jira apps or additional sources**
For example, Sprint and team capacity from Google Sheets.

Hours spent by users

Logged hours by any user or assignee



- Hours spent by Assignee
- Hours spent by Logged by
- Hours spent by Logged by & Assignee

Logged hours by any user or assignee

Pages: Nonempty

- > Project
- > Time

Columns: Measures

Table | Bar | Line | Pie | Scatter | Timeline | Map | Gantt | Gauge

Hide empty rows | Total

DEMO Beta | 2023

	Hours spent	Hours spent on assigned issues	Hours spent in any issue
David Sand	49.00	48.00	48.00
Duncan Snow	59.00	56.00	67.00
eazyBI support demo	75.00	64.00	68.00

Rows: Nonempty

- > Assignee

Hours spent by Logged by users

[Measures].[Hours spent in any issue] =

```
1 (
2   [Measures].[Hours spent],
3   -- find user in Logged by dimension matching selected Assignee
4   [Logged by].[User].GetMemberByKey(
5     [Assignee].CurrentMember.Key),
6   -- ignore selected Assignee
7   [Assignee].DefaultMember
8 )
```

Logged hours by any user or assignee

Pages: Nonempty

- > Project
- > Time

Columns: Measures

Table | Bar | Line | Pie | Scatter | Timeline | Map | Gantt | Gauge

Hide empty rows | Total

DEMO Beta | 2023

	Hours spent	Hours spent on assigned issues	Hours spent in any issue
David Sand	49.00	48.00	48.00
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eazyBI support demo	75.00	64.00	68.00

Key MDX Functions

GetMemberByKey

Find someone similar – soul mate

DefaultMember

Ignore selected one – ghosting

DefaultContext

Ignore everyone with exception – madly in love

Group issues by linked Bug priority

Default context by “Issues Created”

Pages Nonempty

- > Project

Rows Nonempty

- > Issue
- > Bugs

Columns > Measures > Priority

Table Bar Line Pie Scatter Timeline Map Gantt Gauge

🗒 ↶ ↷ 💬 ⬇ Hide empty Total row Freeze header

DEMO Alpha ▾

Issue	Bugs	Issue priority	Issue Bugs	Issues created				
				Highest	High	Medium	Low	Lowest
DA-161	DA-184	Low	DA-185,DA-184,DA-186,DA-187				1	
	DA-185	Low	DA-185,DA-184,DA-186,DA-187				1	
	DA-186	Low	DA-185,DA-184,DA-186,DA-187				1	
	DA-187	Low	DA-185,DA-184,DA-186,DA-187				1	
DA-166	DA-188	Highest	DA-189,DA-190,DA-188	1				
	DA-189	Highest	DA-189,DA-190,DA-188	1				
	DA-190	Highest	DA-189,DA-190,DA-188	1				
Total				3			4	

Context change for Bug Priority

Pages Nonempty

- > Project

Rows Nonempty

- > Issue
- > Bugs

Columns > Measures > Priority

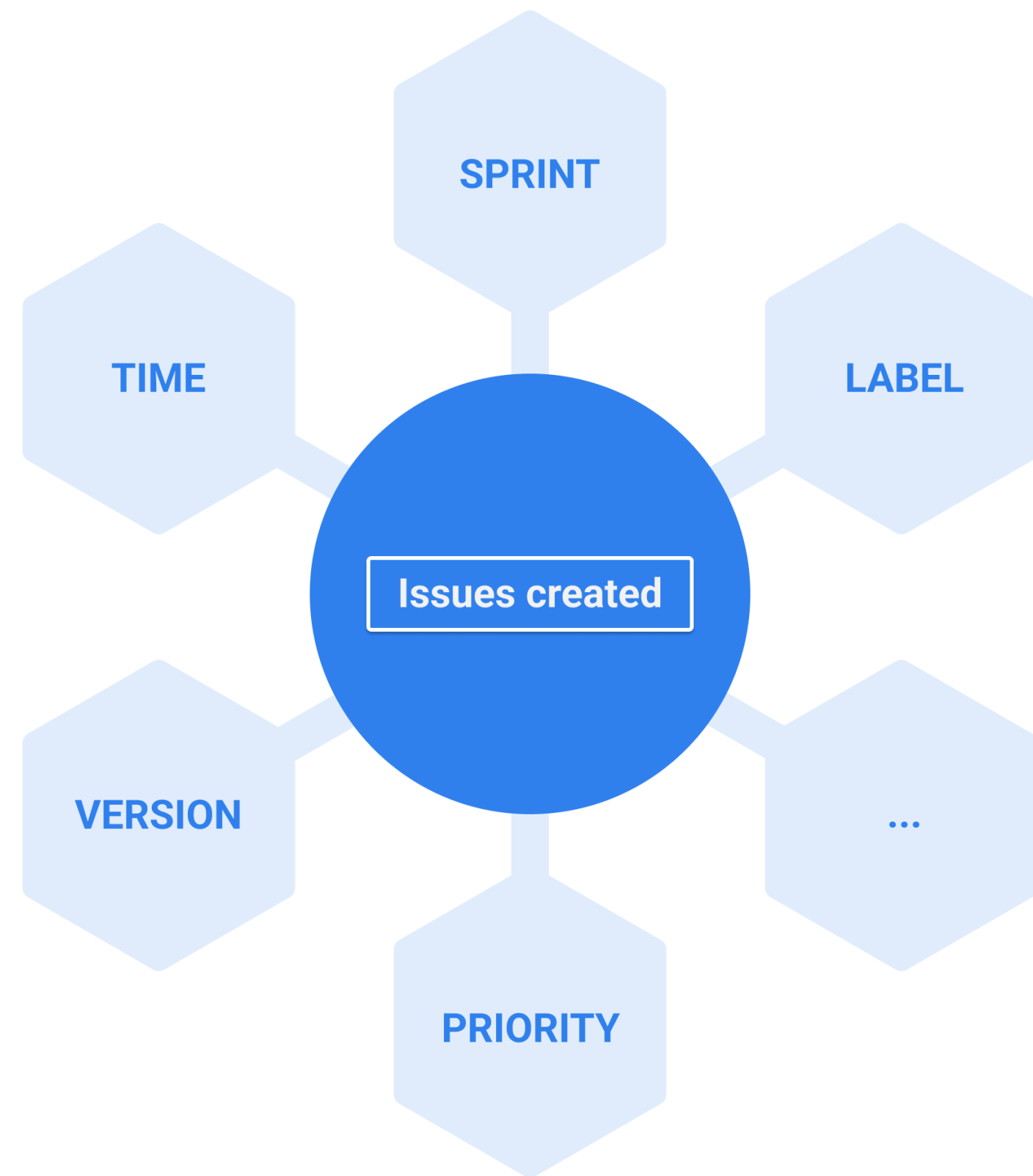
Table Bar Line Pie Scatter Timeline Map Gantt Gauge

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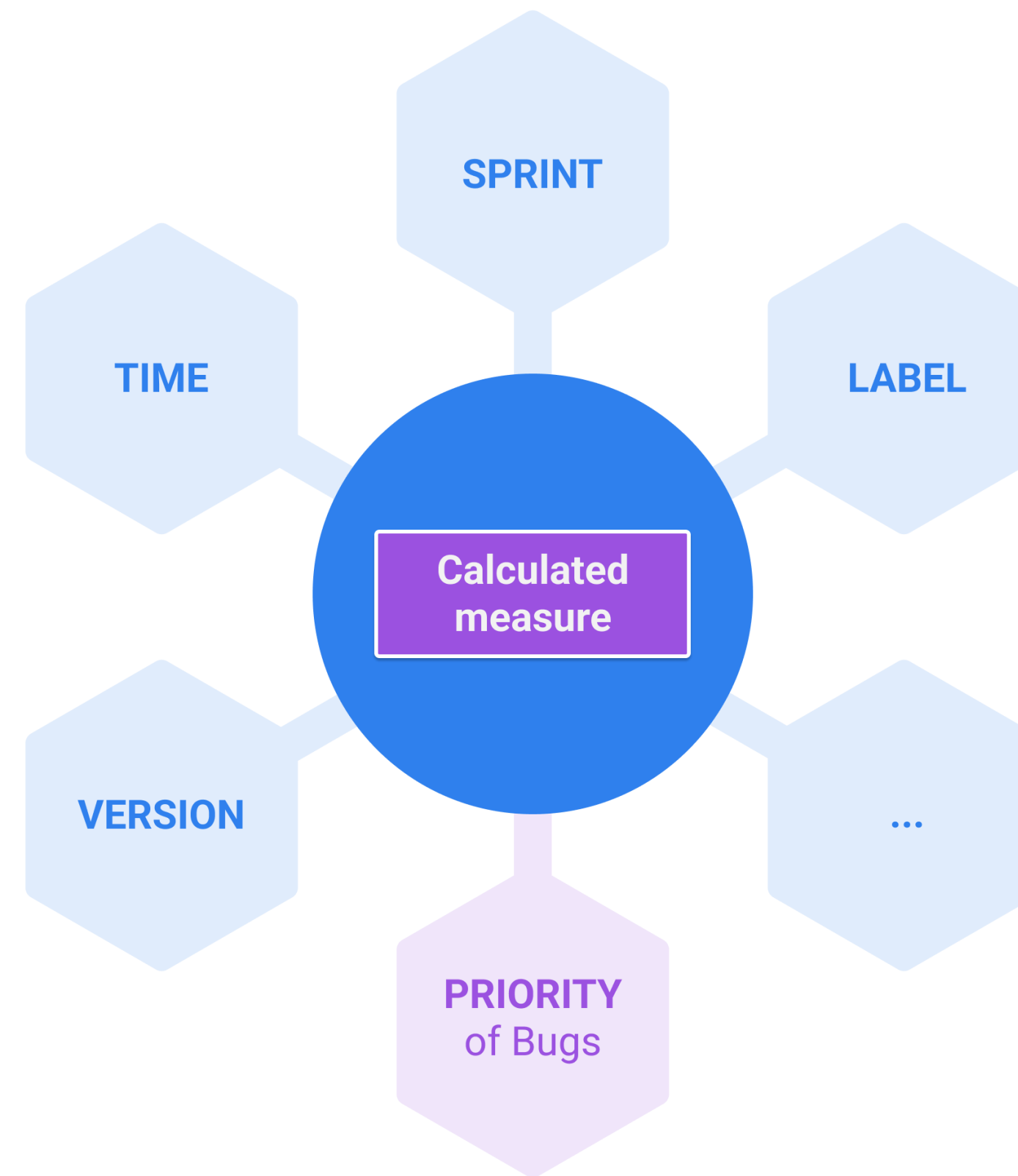
DEMO Alpha ▾

Issue	Bugs	Issue priority	Issue Bugs	Issues created by Bug Priority				
				Highest	High	Medium	Low	Lowest
DA-161	DA-184	Low	DA-185,DA-184,DA-186,DA-187			1		
	DA-185	Low	DA-185,DA-184,DA-186,DA-187	1				
	DA-186	Low	DA-185,DA-184,DA-186,DA-187			1		
	DA-187	Low	DA-185,DA-184,DA-186,DA-187					1
DA-166	DA-188	Highest	DA-189,DA-190,DA-188					1
	DA-189	Highest	DA-189,DA-190,DA-188	1				
	DA-190	Highest	DA-189,DA-190,DA-188	1				
Total				3		2		2

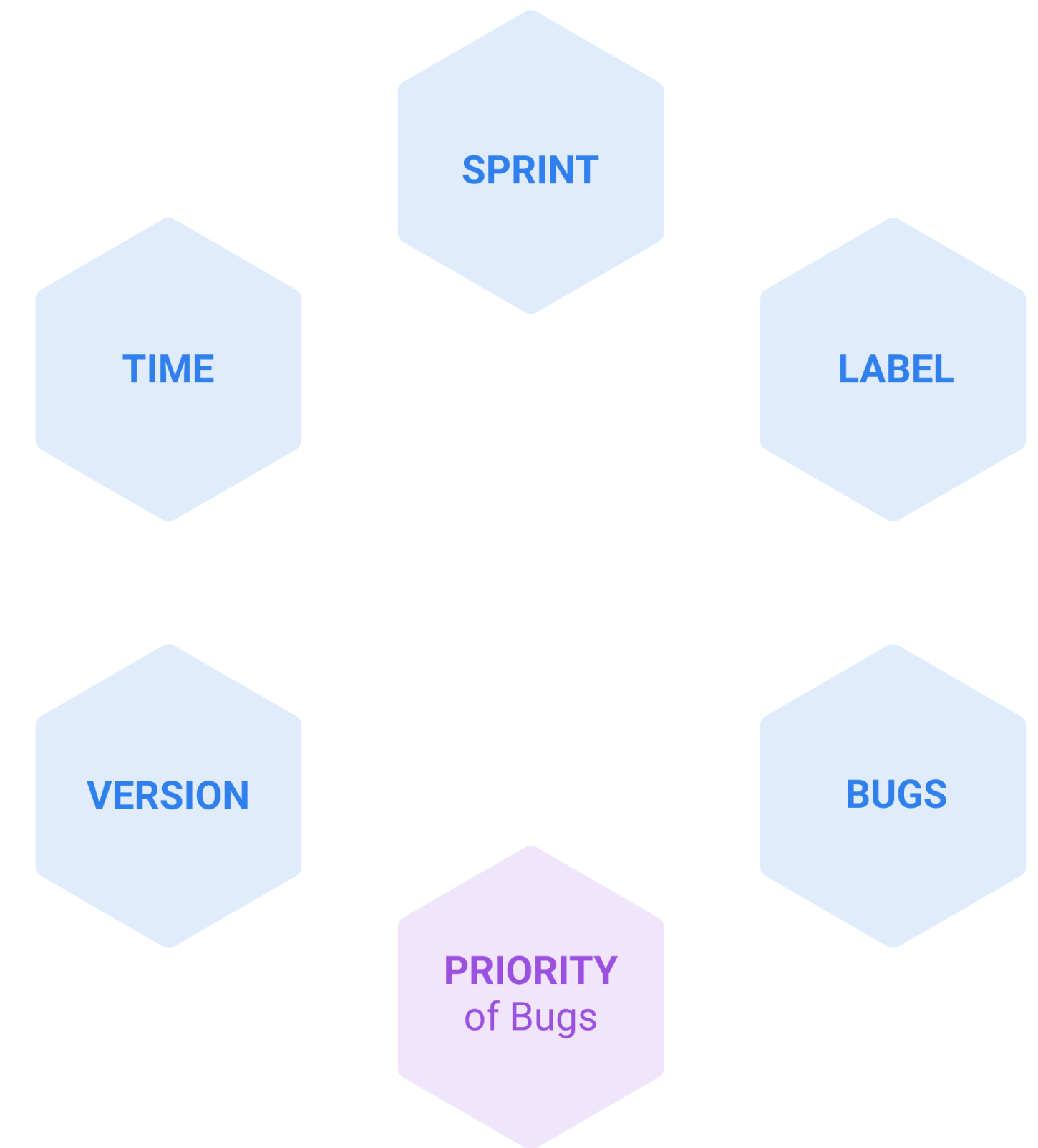
Change context of measure



Default context of "Issues created"



Calculated measure to change Priority relation



No such relation for Bug priority

Context change in 3 steps

1) Iterate through set of Bugs

Filter() & DescendantsSet()

2) Create new relation for Bug and Priority

GetMemberByKey() & DefaultContext()

3) Ignore default relation of Priority

DefaultMember

1 - Set of Bugs

```
Sum(  
  --go through all linked Bugs  
  Filter(  
    DescendantsSet([Bugs].CurrentMember, [Bugs].[Bugs]),  
    --check if Bug Priority matches selected Priority  
    DefaultContext(  
      [Measures].[Issues created],  
      [Issue].[Issue].GetMemberByKey(  
        [Bugs].CurrentMember.KEY),  
      [Priority].CurrentHierarchy.CurrentMember  
    )) > 0  
  ),  
  --aggregate linked Bugs ignoring the issue Prority  
  ([Measures].[Issues created],  
  [Priority].CurrentHierarchy.DefaultMember)  
)
```

2 - Create relation with Priority

```
Sum(  
  --go through all linked Bugs  
  Filter(  
    DescendantsSet([Bugs].CurrentMember, [Bugs].[Bugs]),  
    --check if Bug Priority matches selected Priority  
    DefaultContext(  
      [Measures].[Issues created],  
      [Issue].[Issue].GetMemberByKey(  
        [Bugs].CurrentMember.KEY),  
      [Priority].CurrentHierarchy.CurrentMember  
    )) > 0  
  ),  
  --aggregate linked Bugs ignoring the issue Prority  
  ([Measures].[Issues created],  
  [Priority].CurrentHierarchy.DefaultMember)  
)
```

3 - Ignore default relation of Priority

```
Sum(  
  --go through all linked Bugs  
  Filter(  
    DescendantsSet([Bugs].CurrentMember, [Bugs].[Bugs]),  
    --check if Bug Priority matches selected Priority  
    DefaultContext(  
      [Measures].[Issues created],  
      [Issue].[Issue].GetMemberByKey(  
        [Bugs].CurrentMember.KEY),  
      [Priority].CurrentHierarchy.CurrentMember  
    )) > 0  
  ),  
  --aggregate linked Bugs ignoring the issue Prority  
  ([Measures].[Issues created],  
  [Priority].CurrentHierarchy.DefaultMember)  
)
```


Create new relation

DefaultContext
&
GetMemberByKey

```
DefaultContext((  
  [Measures].[Issues created],  
  [Issue].[Issue].GetMemberByKey(  
    [Bugs].CurrentMember.KEY),  
  [Priority].CurrentHierarchy.CurrentMember  
)) > 0
```

Ignore default relation

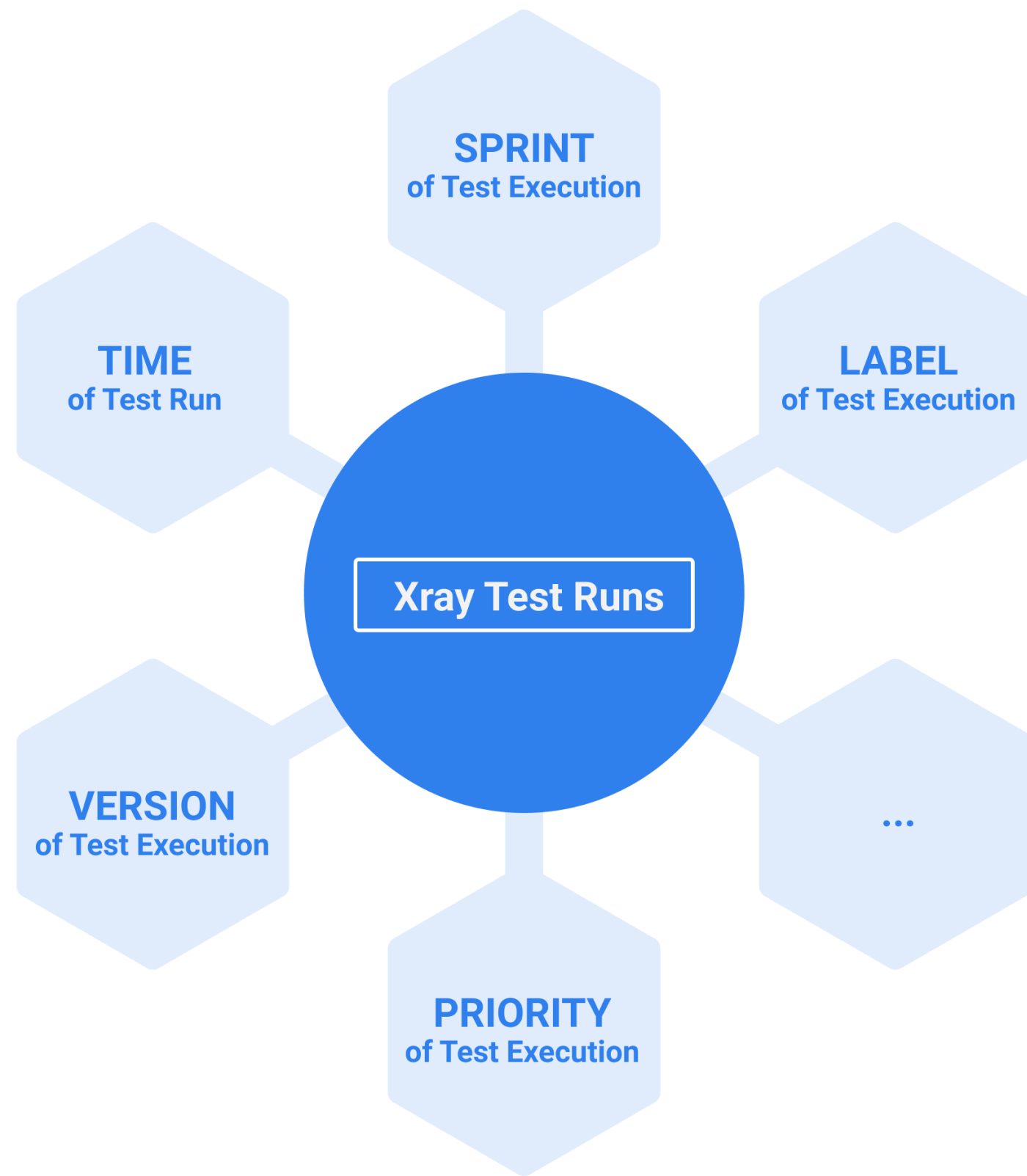
DefaultMember

```
( [Measures].[Issues created],  
  [Priority].CurrentHierarchy.DefaultMember )
```

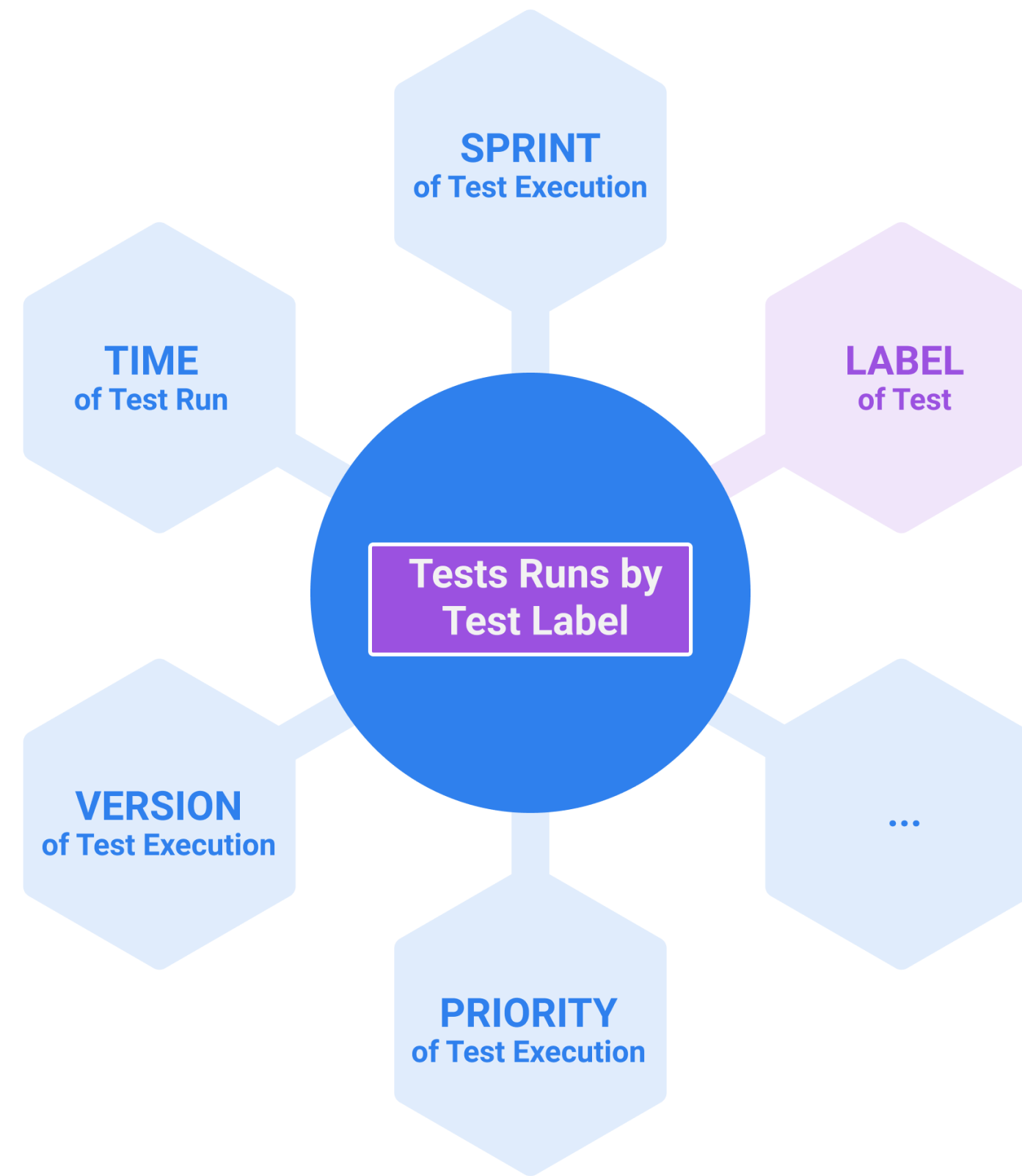
Xray Test runs by Test label

Special Hi! to Xray friends =)

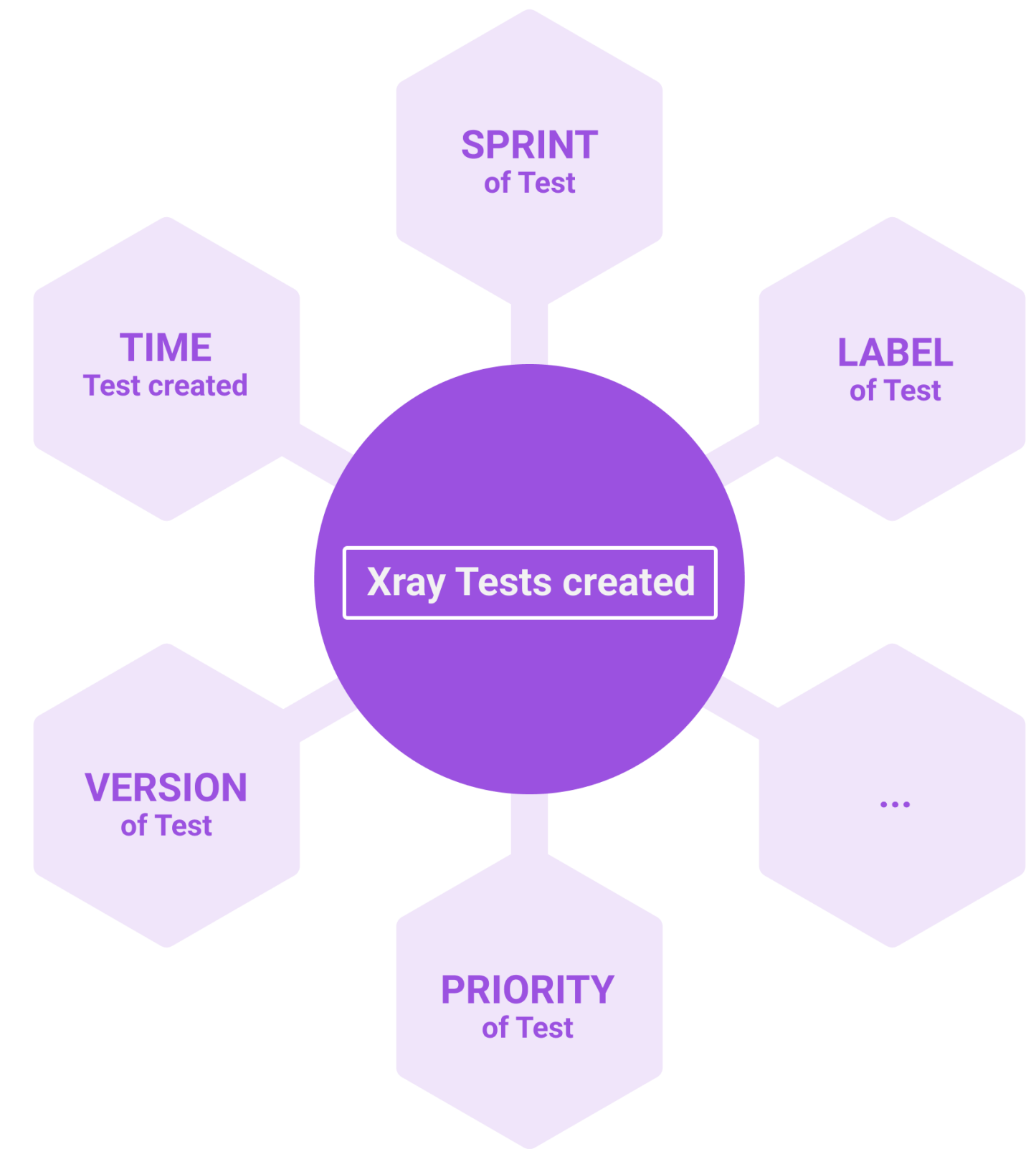
Xray Test runs by Test label



Test Execution related
measure



Calculated
measure



Test related
measure

Context change in 3 steps

1) Iterate through set of Tests

Filter() & DescendantsSet()

2) Create new relation for test runs and Label

DefaultContext()

3) Ignore default relation of Test run and Label

DefaultMember

1 - Set of Test

```
Sum(  
  --go through all Tests  
  Filter(  
    Descendants([Xray Test].CurrentMember, [Xray Test].[Test]),  
    -- check on tests label by Test specific measure  
    DefaultContext(  
      [Measures].[Xray Tests created],  
      [Xray Test].CurrentMember,  
      [Label].CurrentHierarchyMember  
    )) > 0  
  ),  
  --aggregate test runs ignoring label of a Test Execution  
  ([Measures].[Xray Test Runs],  
  [Label].CurrentHierarchy.DefaultMember)  
)
```

2 - Create relation with Test Label

```
Sum(  
  --go through all Tests  
  Filter(  
    Descendants([Xray Test].CurrentMember, [Xray Test].[Test]),  
    -- check on tests label by Test specific measure  
    DefaultContext(  
      [Measures].[Xray Tests created],  
      [Xray Test].CurrentMember,  
      [Label].CurrentHierarchyMember  
    )) > 0  
  ),  
  --aggregate test runs ignoring label of a Test Execution  
  ([Measures].[Xray Test Runs],  
  [Label].CurrentHierarchy.DefaultMember)  
)
```


3 - Ignore Label of Test Execution

```
Sum(  
  --go through all Tests  
  Filter(  
    Descendants([Xray Test].CurrentMember, [Xray Test].[Test]),  
    -- check on tests label by Test specific measure  
    DefaultContext(  
      [Measures].[Xray Tests created],  
      [Xray Test].CurrentMember,  
      [Label].CurrentHierarchyMember  
    )) > 0  
  ),  
  --aggregate test runs ignoring label of a Test Execution  
  ([Measures].[Xray Test Runs],  
  [Label].CurrentHierarchy.DefaultMember)  
)
```

Xray Test runs by Test label

Pages Nonempty

> Xray Test Plan

Rows Nonempty

> Label

Columns > Measures

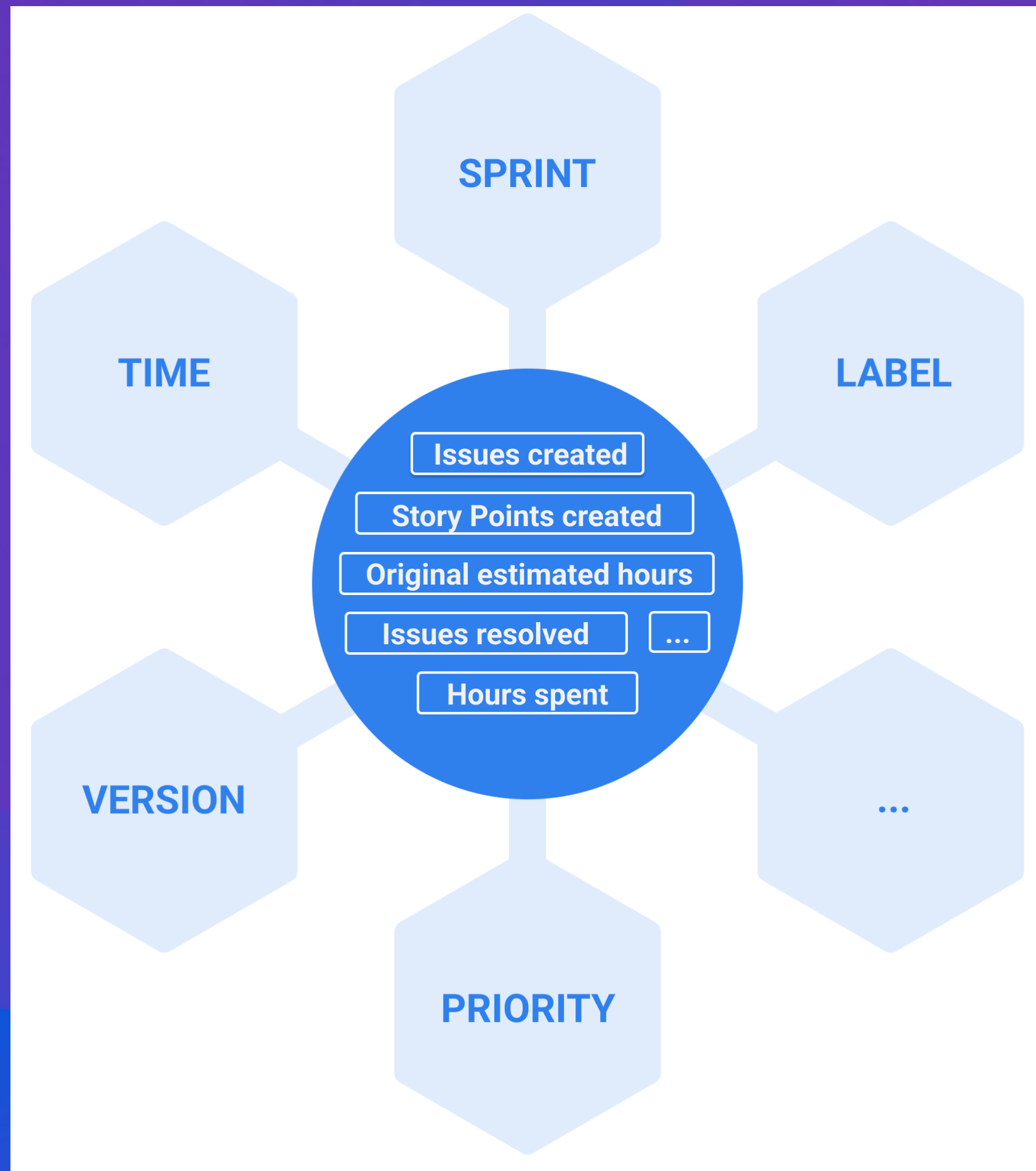
Table Bar Line Pie Scatter Timeline Map Gantt Gauge

✕ ↶ ↷ 💬 ⬇ Total ▾

XDOG-102 Testing in Sprint 3 ▾

	Xray Test Runs	Test Runs by Test label	Xray Tests created
– All Labels	541	541	90
(none)	122	81	9
APP_1	161		
APP_2	164		
demo	164		
label_t		307	51
label_x	85	153	30
label_z	131		
testing		460	81

The measure is the core of the context!

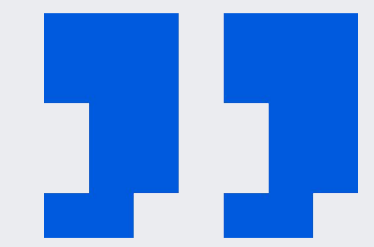


Balance the connections in calculated measure

Create new relation

Ignore default relation





Work on relationships. It ain't eazy but it is rewarding.

Every article on psychology I have read.

Questions?

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support@eazybi.com