

d-wise

Empowering innovation for a healthier world



STRATEGY



DATA



CLOUD



PRIVACY



ANALYTICS

Disruption Leads to Innovation:
We must learn new things!

Ali Dootson, d-wise
Chris Decker, d-wise

November 10, 2018

💡 INNOVATION




```
[{"data-toggle^=button}],function(t){var n=e(t.target);n.hasClass("btn")||(n=n.closest(".btn")),n.button("toggle")}}}(window.jQuery),!function(e){"use strict";var t=function(t,n){this.$element=e(t),this.$indicators=this.$element.find(".carousel-indicator"),this.options=n,this.options.pause=="hover"&&this.$element.on("mouseenter",e.proxy(this.pause,this)).on("mouseleave",e.proxy(this.resume,this))};t.prototype={cycle:function(t){return t||(this.paused=!1),this.interval&&clearInterval(this.interval),this.options.pause=="hover"&&this.paused&&(this.interval=setInterval(e.proxy(this.next,this),this.options.interval)),this.getActiveIndex(),this.$active=this.$element.find(".item.active"),this.$items=this.$active.parent().children(),this.$next=this.$items.eq(1),to:function(t){var n=this.getActiveIndex(),r=this;if(t>this.$items.length-1||t<0)return;return this.sliding?this.$next.one("slid",function(){r.to(t)}):n==t?this.pause().cycle():this.slide(t>n?"next":"prev",e(this.$items[t]))},pause:(t){return t||(this.paused=!0),this.$element.find(".next, .prev").length&&e.support.transition.end&&(this.$element.trigger(e.support.transition.end),this.cycle(!0)),clearInterval(this.interval),this.interval=null,this},next:function(){if(this.sliding)return;return this.slide("next")},prev:function(){if(this.sliding)return;return this.slide("prev")},slide:function(t,n,r){var i=this.$element.find(".item.active"),i=n||r?[t]:[],s=this.interval,o=t=="next"?left:right,u=t=="next"?first:last,f=e.Event("slide",{relatedTarget:i[0],direction:t}),i.hasClass("active"))return;this.$indicators.length&&(this.$indicators.find(".active").removeClass("active"),this.$indicators.find("[data-slide-to="+i[0]+"]").addClass("active"));if(e.support.transition&&this.$element.hasClass("slide")){this.$element.trigger(f);if(f.isDefaultPrevented())return;i.addClass(t),i[0].offsetWidth,i.addClass(o),this.$element.one(e.support.transition.end,function(){i.removeClass([t,o].join(" ")).addClass("active"),this.$element.trigger(f);if(f.isDefaultPrevented())return;r.removeClass("active"),i.addClass("active"),this.sliding=!1,this.$element.trigger("slid");}));if(f.isDefaultPrevented())return;r.removeClass("active"),i.addClass("active"),this.sliding=!1,this.$element.trigger("slid");}return s&&this.cycle(),this}};var n=e.fn.carousel,e.fn.carousel=function(n){return this.each(function(){var r=e(this).data("carousel"),s=e.extend({},e.fn.carousel.defaults,typeof n=="object"&&n,o=typeof n=="string"?n:s.slide;i||r.data("carousel",s),typeof n=="number"?i.to(n):o?i[o]():s.interval&&i.pause().cycle()}),e.fn.carousel.defaults={interval:5e3,pause:"hover"},e.fn.carousel.Constructor=t,e.fn.carousel.noConflict=function(){return e.fn.carousel=n,this},e(document).on("click",".carousel[data-api]","[data-slide],[data-slide-to]",function(t){var n=e(this),r,i=e(n.attr("data-target")||(r=n.attr("data-target").replace(/.*(?=#[\^\$]+\)$/,""))),s=e.extend({},i.data(),n.data()),o=i.carousel(s),(o=n.attr("data-slide-to"))&&i.data("carousel",o).pause().to(o).cycle(),t.preventDefault())})(window.jQuery),!function(e){"use strict";var t=function(t,n){this.$element=t,this.options=e.extend({},e.fn.collapse.defaults,n),this.options.parent&&(this.$parent=e(this.options.parent)),this.toggle();t.prototype={constructor:t,dimension:function(){var e=this.$element.hasClass("width");return e?"width":"height"},show:function(){var t,n,r,i;if(this.transitioning||this.$element.hasClass("in"))return;t=this.dimension(),n=e.camelCase(t+"-toggle"),r=this.$parent&&this.$parent.find(">.accordion-group>.in");if(r&&r.length){i=r.data("collapse");if(i&&i.transitioning)return;r.collapse("hide"),i||r.data("collapse",null)}this.$element[t](0),this.transition("addClass",e.Event("show"),e.support.transition&&this.$element[t](this.$element[0][n])),hide:function(){var t;if(this.transitioning||!this.$element.hasClass("in"))return;t=this.dimension(),this.reset(this.$element[t]()),this.transition("removeClass",e.Event("hide"),this.$element[t](0)),reset:function(e){var t=this.dimension();return this.$element.removeClass("collapse")[t](e)||"auto"}},offsetWidth:this.$element[0].offsetWidth?this.$element[0].offsetWidth:"auto"}},e.fn.collapse.defaults={toggle:!0},e.fn.collapse.Constructor=t,e.fn.collapse.noConflict=function(){return e.fn.collapse=t,this},e(window).on("load",function(){e("[data-collapse-toggle]").each(function(){var t=e(this).attr("data-collapse-toggle");e("#"+t).collapse({toggle:!1})})})});
```

It's *time* to ask yourself, do you believe in a better way?



What if...?

How would you...?



All

Images

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Settings

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About 667,000 results (0.79 seconds)

Medial Meniscus Tear | Knee Specialist | Vail, Colorado

<https://drrobertlaprademd.com/complex-tear-of-the-medial-meniscus-medial-knee-inj...>

★★★★★ Rating: 5 - 18 reviews

A **medial meniscus tear** is more common than a lateral meniscus tear, because it is firmly attached to the deep medial collateral ligament and the joint capsule.

You visited this page on 04/10/18.

People also ask

Can a medial meniscus tear heal on its own?



How long does it take to recover from a torn meniscus?



What is best treatment for torn meniscus?



What are the symptoms of a torn medial meniscus?



Feedback

Meniscus Tear in Knee: Symptoms, Causes, and Treatments - WebMD

<https://www.webmd.com> > Pain Management > Knee Pain > Reference

19 Nov 2017 - The knee injury known as a meniscus tear can be painful and debilitating. Learn more from the experts at WebMD.

You visited this page on 04/10/18.

Meniscus Tears - OrthoInfo - AAOS

<https://orthoinfo.aaos.org/en/diseases--conditions/meniscus-tears/>

Meniscus tears are among the most common knee injuries. Athletes, particularly those who play contact sports, are at risk for meniscus tears. However, anyone ...

Meniscus Tear - PhysioWorks

<https://physioworks.com.au/injuries-conditions-1/knee-meniscus-injury>

29 Aug 2018 - Each knee joint has a medial meniscus and a lateral meniscus. Your knee meniscus has unique shapes. They are a wedged, kidney shape.



Medial Collateral Ligament And Meniscus Tear

The **menisci** — the **medial meniscus** and **lateral meniscus** - are crescent-shaped bands of thick, rubbery cartilage attached to the shinbone (tibia). They act as shock absorbers and stabilize the knee. The **medial meniscus** is on the inner side of the knee joint. The **lateral meniscus** is on the outside of the knee.

[Medial and Lateral Meniscus Tears | Cedars-Sinai](#)
Cedars-Sinai

People also search for



Meniscus Ligaments



Articular Cartilage Meniscus



Knee Arthroscopy Meniscus



Meniscus Dislocation



Pcl And Meniscus Tear

Feedback

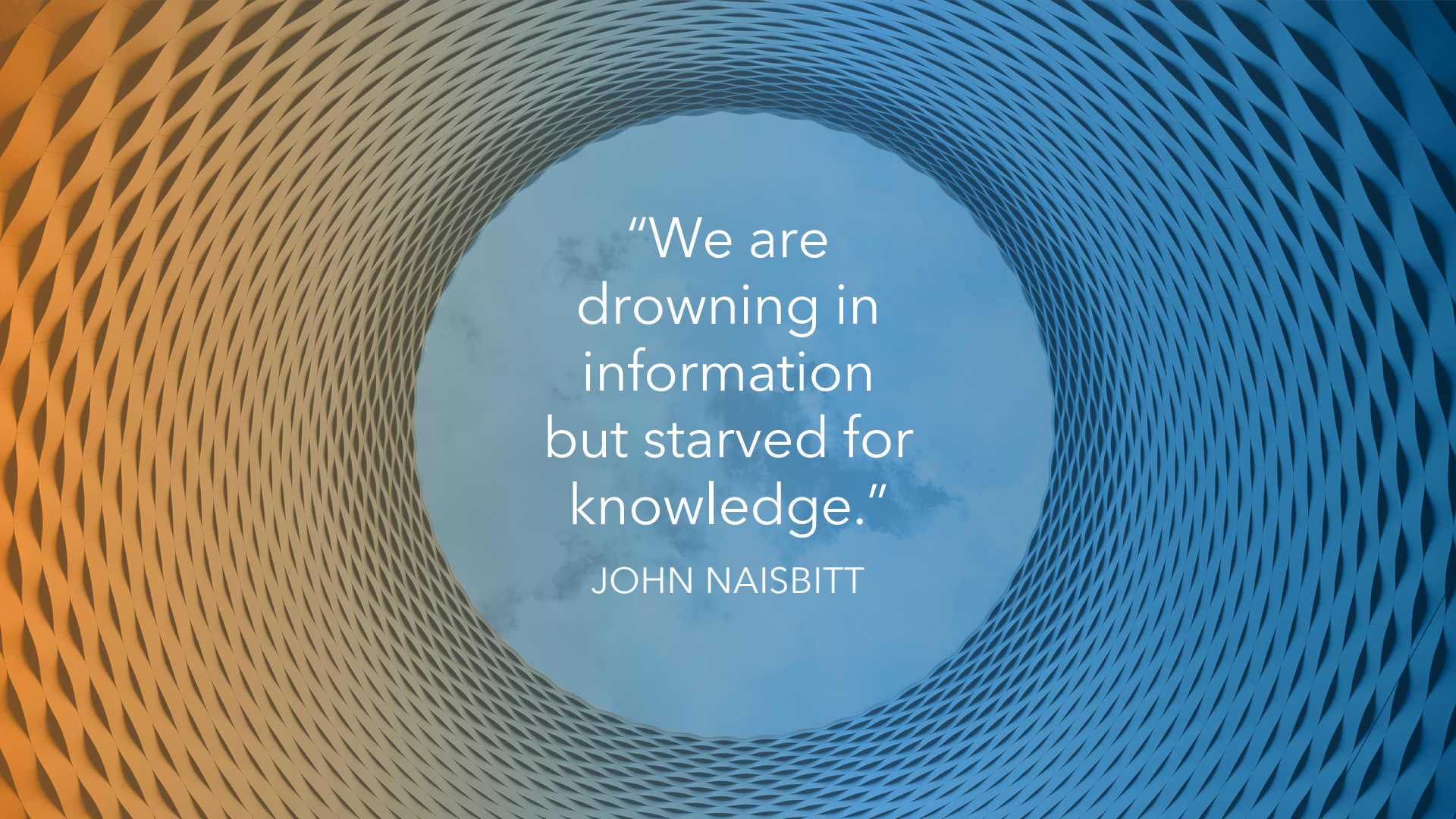


THE CURRENT PARADIGM

“Silos build the wall in people’s
minds and create the barrier in
organizations’ hearts.”

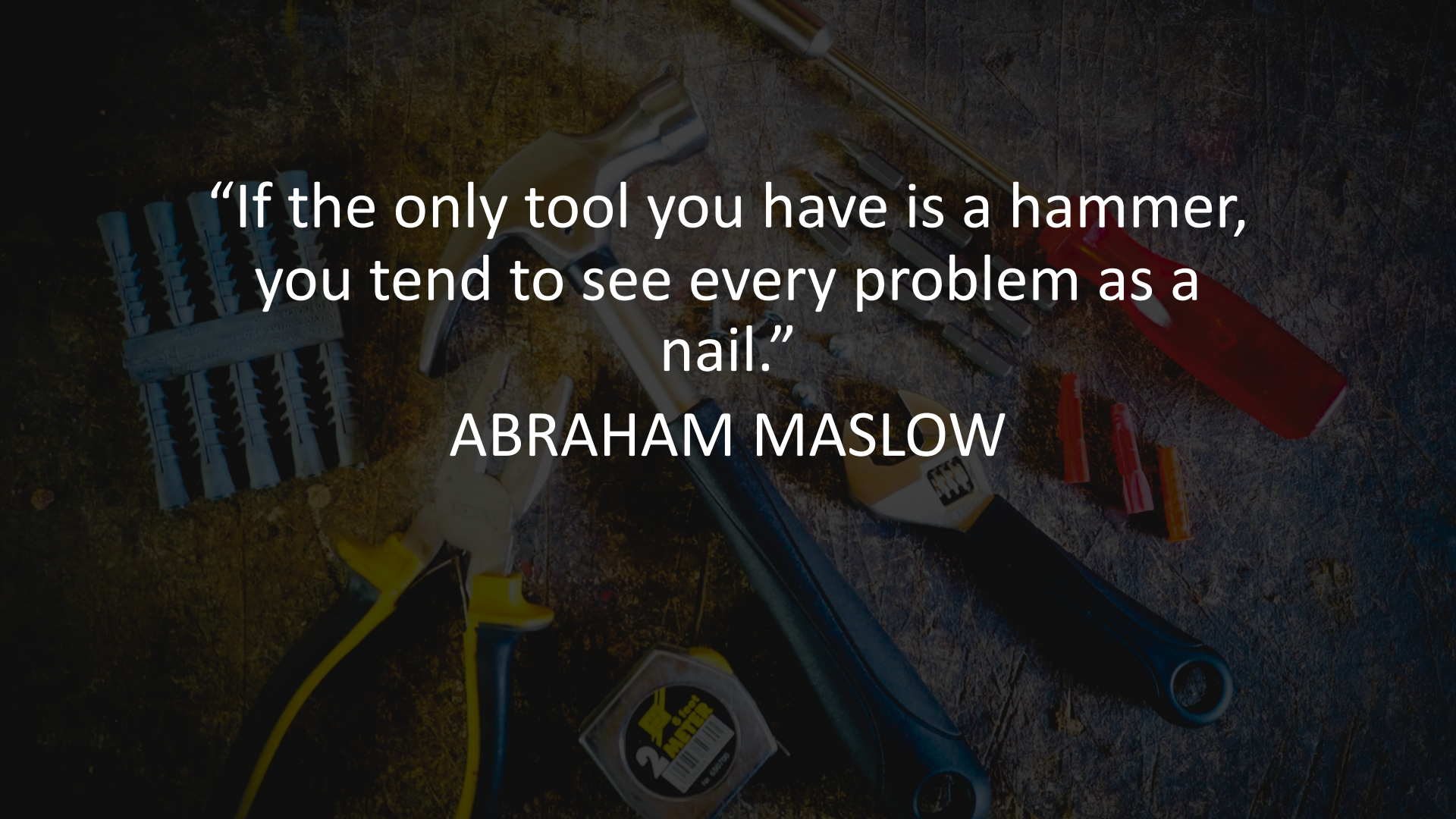
PEARL ZHU





"We are
drowning in
information
but starved for
knowledge."

JOHN NAISBITT



“If the only tool you have is a hammer,
you tend to see every problem as a
nail.”

ABRAHAM MASLOW



“IF I HAD ASKED PEOPLE
WHAT THEY WANTED,
THEY WOULD HAVE SAID:
FASTER HORSES...”

Henry Ford



Clinical
Programmer

The image shows four people of diverse backgrounds standing on a green lawn with a city skyline in the background. From left to right: a man with glasses in a blue checkered shirt holds a blue speech bubble; a woman in a striped sleeveless top holds a pink speech bubble; a woman with curly hair in a white shirt holds a teal speech bubble; and a man in a brown shirt holds an orange speech bubble. All are smiling and holding their bubbles high.

Data
Manager

Standards
Manager

Statistician



SAS V5
XPT



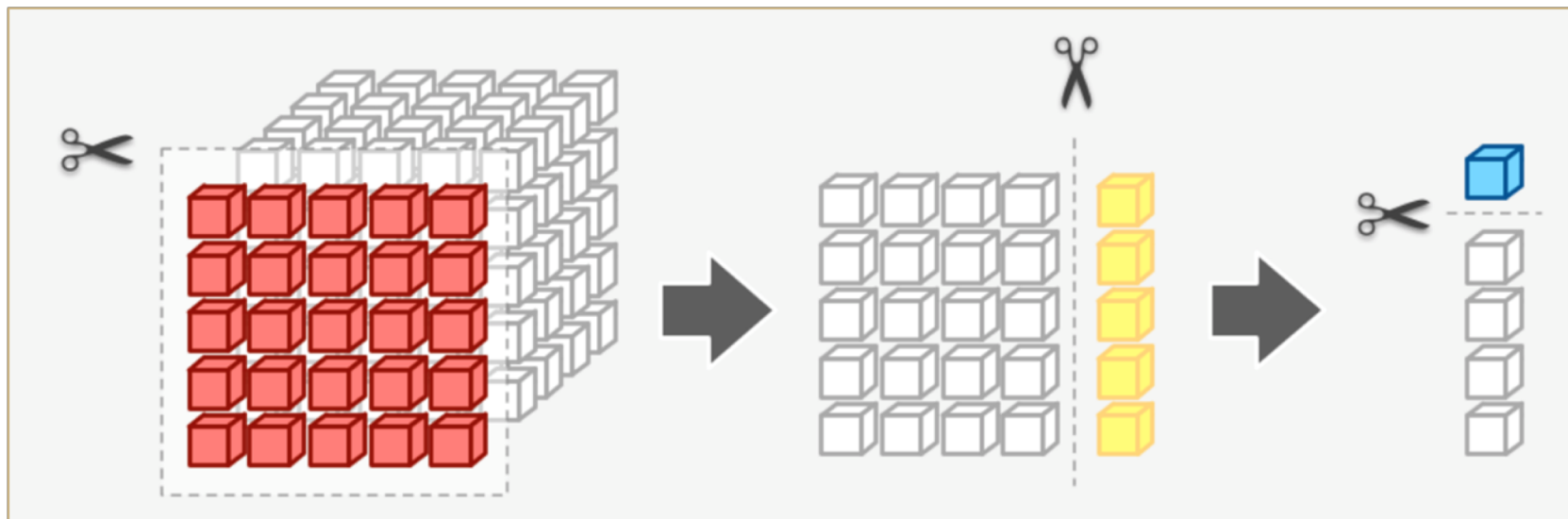
**BACK TO THE
FUTURE**

1955 · 2015 · 1885



What should we
learn?

Focus on the Analysis



***Demographics
Analyses***

***Sex by Planned Tx
Analysis***

***Analysis
Result***

Learn from the Past and Inform the Future



Study Design



**Objectives &
Inclusion/Exclusion
Criteria**

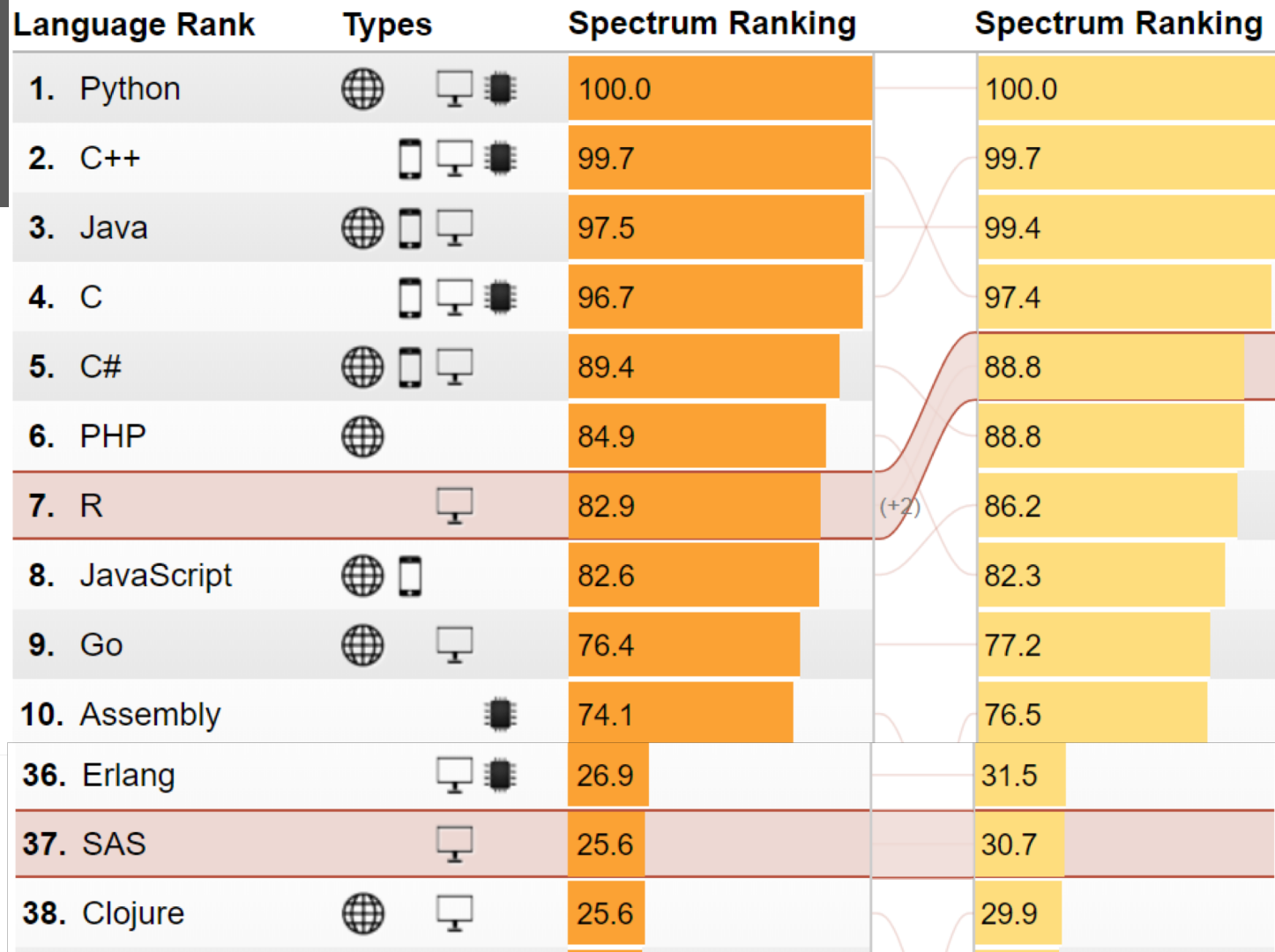


Procedures



**Schedule of
Procedures**

Trends in Programming Languages 2018

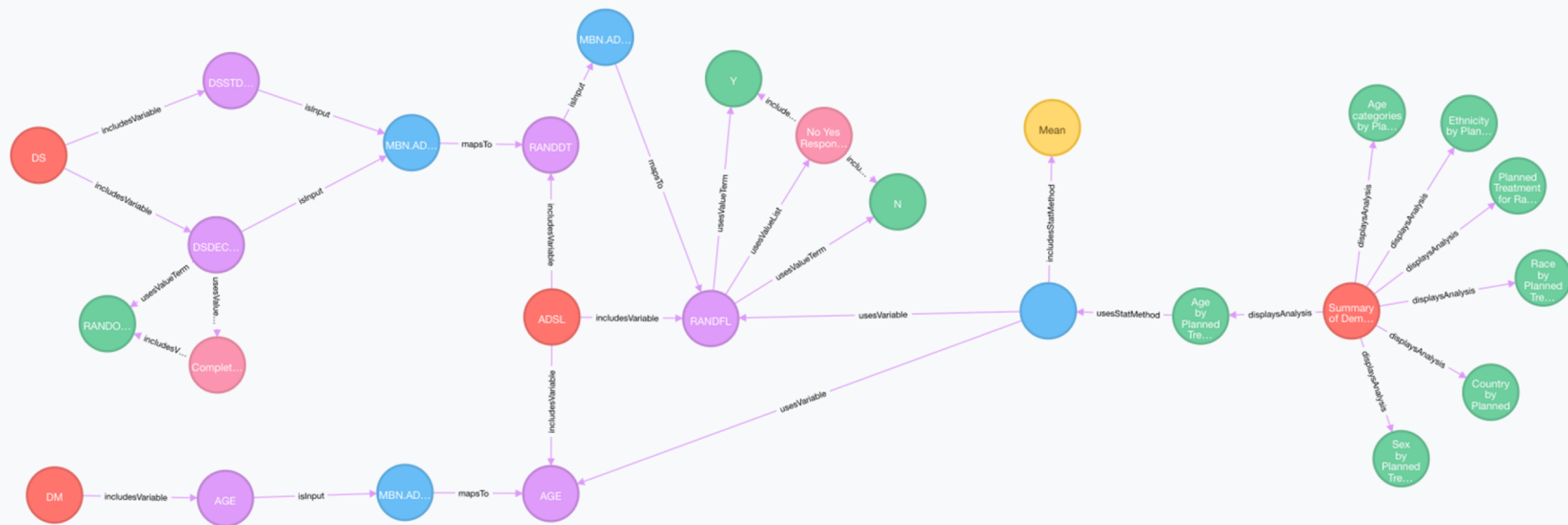


Build Real Traceability

Analysis: Baseline Weight by Planned Treatment



Change the data paradigm





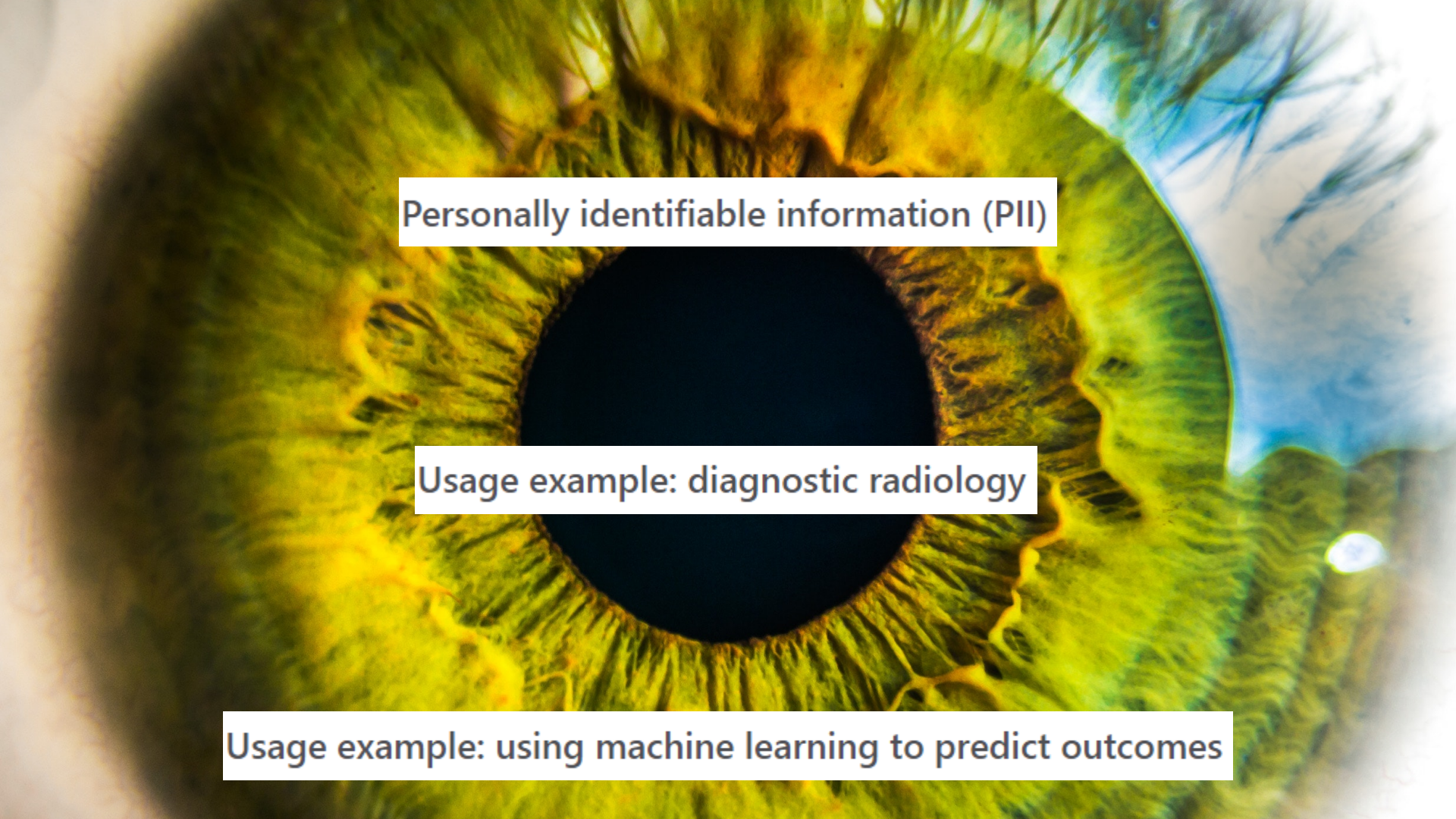
R

R



Shiny
by RStudio

TIBCO Spotfire



Personally identifiable information (PII)

Usage example: diagnostic radiology

Usage example: using machine learning to predict outcomes

day 1



understand

- who are the users
- what are their needs
- what is the context
- competitor review
- formulate strategy

2



diverge

- envision
- develop lots of solutions
- ideate

3



decide

- choose the best idea
- storyboard the idea

4



prototype

- build something quick and dirty to show to users
- focus on usability not making it beautiful

5

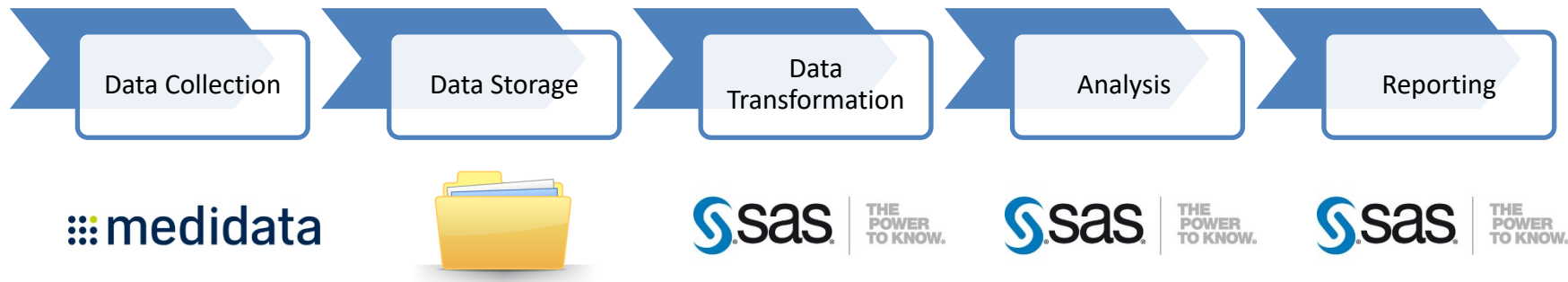


validate

- show the prototype to real users outside the organisation
- learn what doesn't work



Clinical trial workflow



Possible future clinical trial workflow

