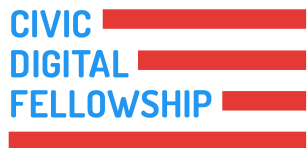


CHARTING A STRATEGIC WAY FORWARD FOR NCATS DATA SCIENCE

National Center for Advancing Translational Sciences (NCATS)

Christine M. Cutillo, M.M.C.i. — Data Science Lead, OD



MAIA MATERMAN

Olin College

CS + Human Centered Design

THE CHALLENGE

imbalance in
resources
applied to
different
informatics
efforts

no training for
staff who are
data science
novices

hard to get
projects across
the finish line

lack of data
lifecycle /
management
policy at
NCATS

building the
plane as we
fly it
mentality

sharing of
resources or
lessons comes
up more ad hoc.

prioritization is
nonexistent

Need: Overarching Strategy for NCATS Data Science

so many
different
collaborative
platforms -- -
annoying!

considerations
about value to
public or

usability feel
secondary

Silos, silos, sometimes

papers and
projects aren't
disseminated
effectively

need for a
project at a
given time

need more
proper
documentation
for tools

no coordination
of current IT
resources

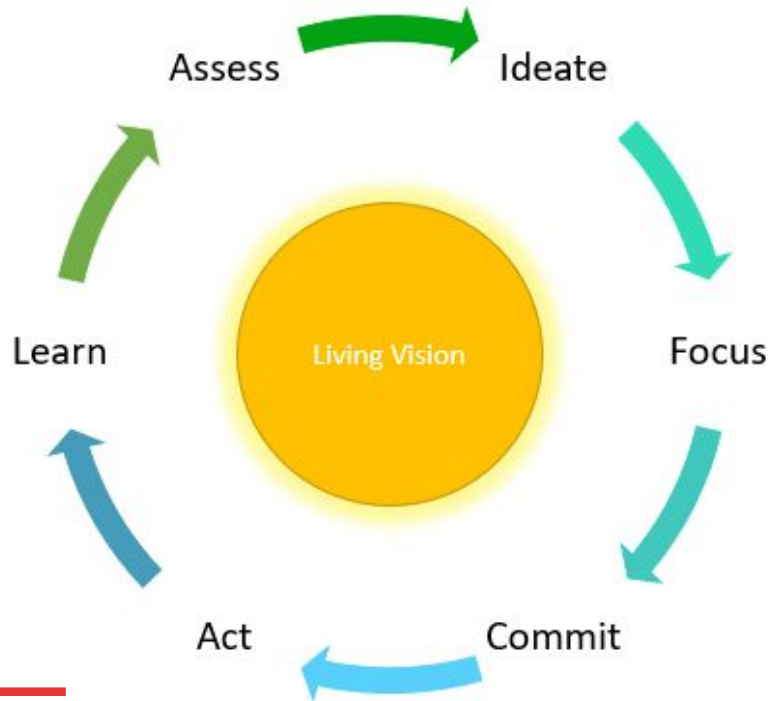
It is difficult to
know the
process and
how to get help

lack of
standardization
of coding and
data practices

thinking of
IT/informatics
as an unlimited
resource

staff are
overburdened
and burnt-out

THE METHOD



&

**“You can’t improve what you
can’t measure”**

THE PROCESS

Understand
our
Portfolio



Visualize
our
Portfolio

Understand
Us

Move Us
Forward



Get
Feedback



Follow our
Progress

UNDERSTAND OUR PORTFOLIO

171 projects initially identified

20 interviews over 6 days

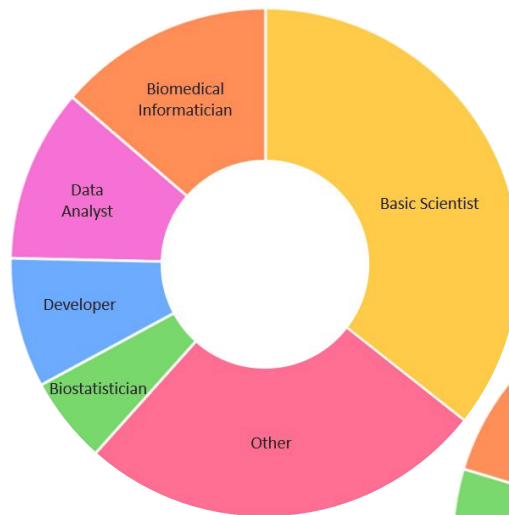


54 projects detailed & inventoried

via survey

VISUALIZE OUR PORTFOLIO

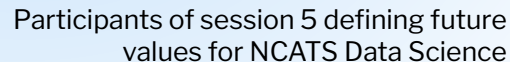
- Allowed us a greater understanding of our portfolio
- Will serve as a foundation for future tracking dashboard



Left: Breakdown of Records by Intended End User

Right: Breakdown of Records by NCATS Topics Addressed





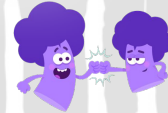
UNDERSTAND US

“lots of tech
expertise at
NCATS”

“lack of
success is not
a failure”

“culture of
'yes' let's try
this!”

5 strategizing sessions
70+ people from across NCATS



MOVE US FORWARD



Impactfully
Innovative



Sustainable



Inclusive,
Equitable and
Diverse



Transparent,
Open and
Communicative

GET FEEDBACK

I think that's right. I interpret this to mean "solution driven" "data-driven" and "focused" based on the conversation I attended.

November 30, 2020, 12:22 PM

Would impact fit with innovative and cutting edge?

November 30, 2020, 10:25 PM

And should this be a value rather than a vision pillar?

November 30, 2020, 11:11 PM

NCATS Data Science Vision – Draft

December 2020

An Introduction

Our mission creates focus
Our vision provides direction
Our values define behavior¹

Strategic vision came from many places, surfacing from staff working in data science trainees to senior leadership and informatics to ITIR. Across the board, there is a desire for an organization that doesn't stifle innovation; for processes that can help with staff maintaining NCATS' collaborative culture; for a plan that would enable us to make our goals without ceding our strengths and unique values at NCATS. Throughout months of staff working in data science, both via formal strategizing sessions and informal conversations, we have been approaching that strategy. We will not, however, claim to have reached a perfect plan. We have approached the vision below as an experiment and invite you to

In data science, this plan is intended to strengthen both our operations and science on a daily basis. At the end of the day, this document is intended to help every person working in and around NCATS. While it may not feel as though each objective is relevant to you or your project, this is an overarching look at data science at the center, as a whole, and as each of these things improves or is accomplished, we hypothesize that your experience and projects will too. A primary driver for that, though, is engagement from everyone—about what is working or not working, where we want to go, and how we should change.

At its core, this is an experiment, and we hope that all of us across NCATS data science can jump in to test, tweak, improve, and create the workplace culture that all of us would like to see.

About this Vision

First and foremost, this vision is intended to guide NCATS data science for the next five years, at which point it will be revisited. It is, however, a bit unlike many other comparable strategic plans. It is intended to be a living document, one that can be updated as needed. The four visionary pillars that NCATS data science would like to see are mutable tactics to reach those targets. In fact, much like a classic "goalposts" and stay constant until the overall vision is revisited.

Practices by which these goals are achieved will change as people change. These "how's" are included below in the form of Objectives and Key Results. In this vision and a more typical strategic plan is that we hope to see these regularly (via collectively reviewing tasks and projects) and re-evaluate. In this reflection and ideation process, the objective is to move forward. This approach aims to enable NCATS data science to make progress, to innovate and grow. To use a word that came up throughout our initial strategizing sessions, our aspiration is that this process is as agile as possible, while still forming a coherent and solid framework for data science work at NCATS. The vision is organized into four main pillars. There is also a larger process at play throughout all that was done (and ideally will be done) depicted in the illustration below.

Key Result: Develop clear metrics and definitions of successful FAIR implementation example projects

sense alone, less so when linked together. Illustrate how all this fits

Vision Pillars

Where We Want to Be



ships at sea. Right now, without any knowledge of or alignment with any light. With the lighthouse, the (Objectives). They can also track the (Key Results). Sometimes, however, a path, while moving it closer to take a slightly new bearing to get

the ships themselves (the sails, for example). The winds, or Supports, push them back. At the end of the charted path, all the ships are at their destination!

either solved or enhanced via

Challenges



te meaningful change.

validated in lab (as opposed to other way

and explore new

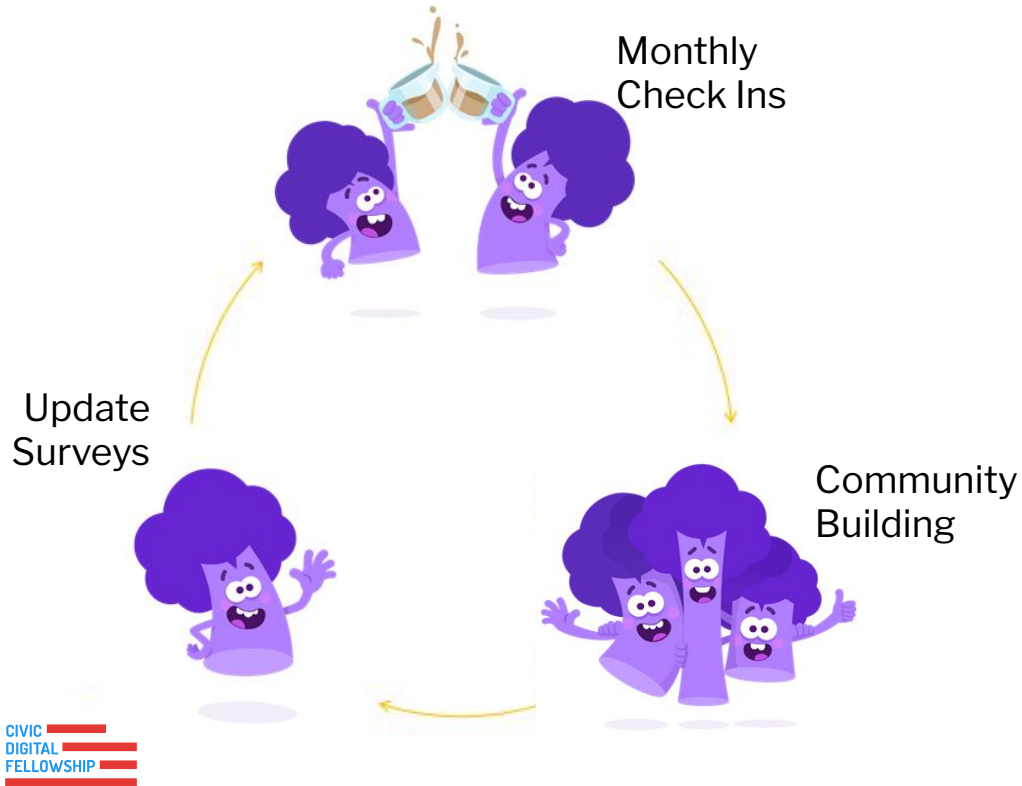
for user-centered

allow us to grow

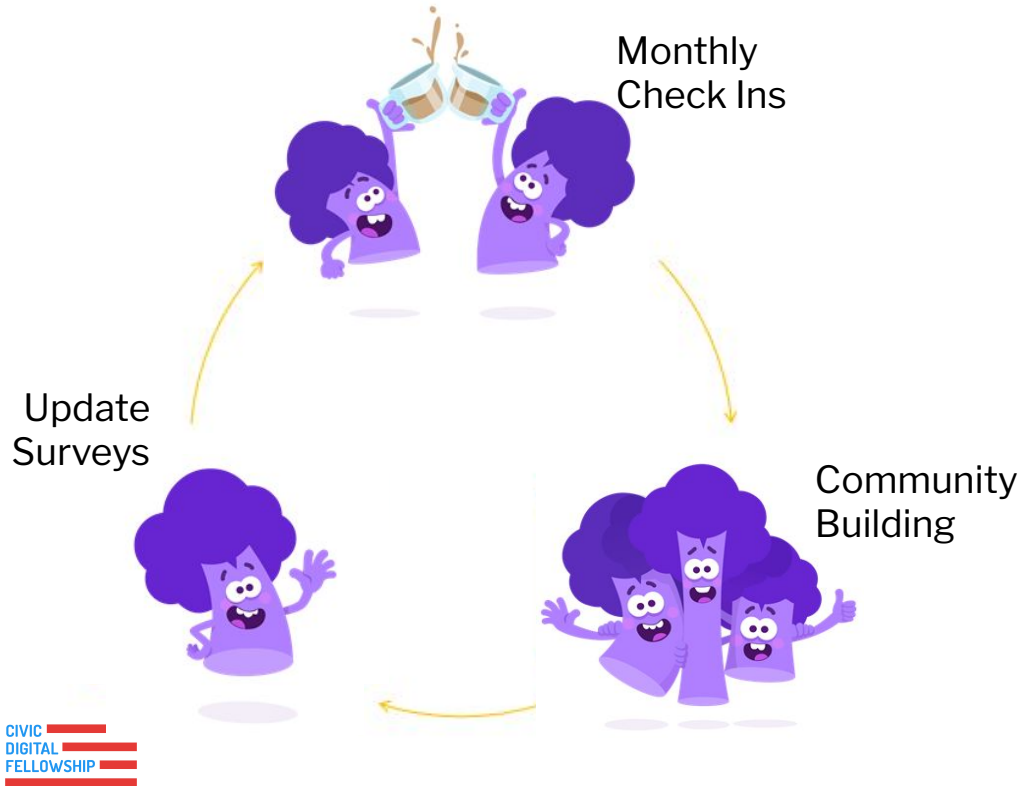
What does this mean? Is this where data-driven lives? I really hope we at NCATS are using the data to make decisions rather than just making pretty dashboards or images for journal covers.

November 24, 2020, 1:47 PM

FOLLOW OUR PROGRESS



FOLLOW OUR PROGRESS

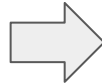


THE IMPACT

Inventory

Strategy

Processes



Empowerment,
Foundation, &
Community!

NEXT STEPS

Short Term:

- Implementing *New Project* and *Update* workflows
- Creating *Strategy* and *Project Tracking* dashboard infrastructure
- Continuing to *Inventory*

Longer Term:

- Align around strategy and engage with NCATS Data Science community month over month and year over year!

THANK YOU!

To so many people...

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Song Hia

Joni Rutter and Kyle Brimacombe

Everyone in NCATS Data Science