National Best Practices on Reducing IT Project Risk

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There are real consequences for people

Rhode Island Health Infrastructure Project (UHIP)

UHIP debacle: R.I. to extend contract, as Deloitte agrees to more concessions

Continuing UHIP debacle named R. I. Story of the Year

RI awards Deloitte $99 million contract to keep running UHIP

Childcare centers say R.I. computer glitches are costly

There are real consequences for people

UHIP repair cost grows

State must pay an additional $30M to solve the computer system problems

U.S. fines R.I. $2 million over UHIP payment errors

ACLU sues Rhode Island over computer benefits system delays

There are real consequences for people

A single UHIP update kicked 5,500 Rhode Islanders off Medicaid

R.I. still unsure how much it will get from $50-million Deloitte settlement

Deloitte again in cross fire, this time in R.I.

EDITORIAL: Deloitte, That is All Raimondo

There are real consequences for people

Ransomware attack on Rhode Island health system exposes data of hundreds of thousands

Hackers have posted some RIBridges data on the dark web, McKee says

Rhode Island says personal information potentially stolen in RIBridges data breach

Deloitte hit with class action lawsuits following RIBridges cyberattack, state was warned

Ransomware gang leaks data stolen in Rhode Island's RIBridges Breach

Deloitte pays $5M in connection with breach of Rhode Island benefits site

A month later, Rhode Islanders still feel lingering effects of RIBridges cybersecurity attack

Approximately 650,000 Rhode Islanders — more than half the state's population — were potentially impacted by the breach.

There are real consequences for people

'We are very sorry': Deloitte apologizes to RI about UHIP

Of all government software development contracts over $6 million, **only 11% are successful** (cost, schedule, performance).

46% of systems developed across $35 billion worth of DoD spending **failed to meet real needs**, even though they met the **contractual requirements.**

The average government IT project costs **310%** of the originally estimated price.

Source: "The Empirical Reality of IT Project Cost Overruns: Discovering A Power-Law Distribution," by Flyvbjerg et al, 2022

This is normal.
There is a better way.

Demystifying software project budgeting and procurement in 10 minutes

5 signs a software project is setup to succeed

1. **Human-Centered Design (HCD)**
2. **Agile Software Development**
3. **Product Ownership**
4. **Building out of loosely coupled parts**
5. **Modular Contracting**

1.Human-Centered Design (HCD)

What is design?

"**Design** is deciding how a thing should be."

— William Van Hecke, Director, Product Design at Facebook

Not just color, but every detail of what you're building.

Human-Centered Design (HCD)

Human-centered design is designing for the **needs of the actual human who will use it.**

Not just the needs of the organization building it.

USER NEED

INSTITUTIONAL PLANNING

Who are the users of an integrated benefit system?

State caseworkers / administrators

Image credit: Civilla

Who are the users of an integrated benefit system?

Local benefit navigators helping people apply for benefits

Image credit: Civilla

Who are the users of an integrated benefit system?

General public applying for benefits

Image credit: Civilla

Human-Centered Design (HCD)
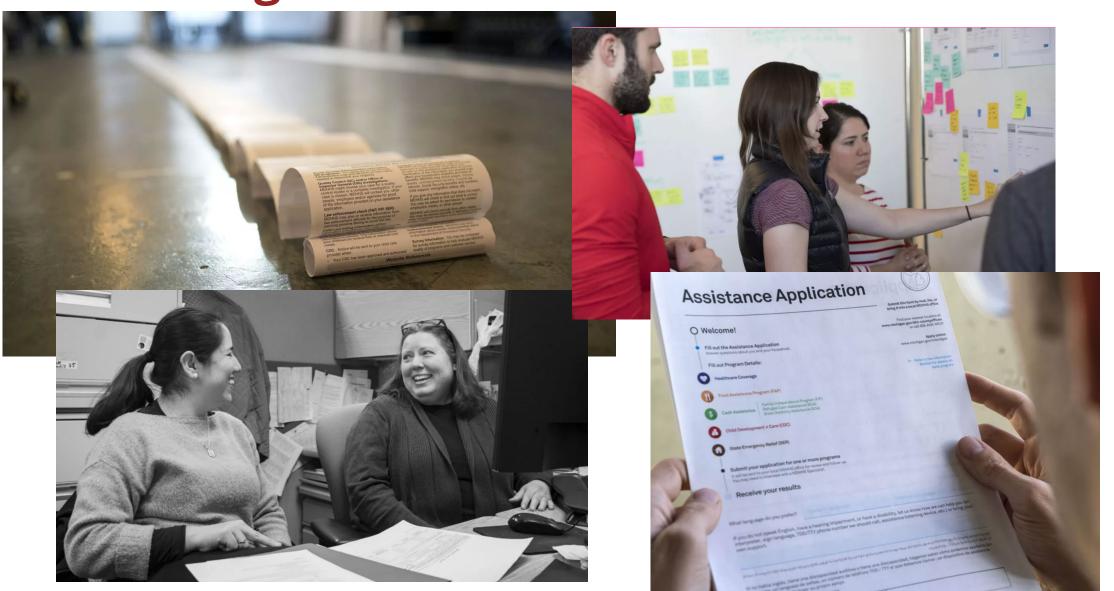
User research ensures that vendor is working on **the actual needs of users**, and that system will do what you need it to do.

A vendor should have a user researchers on staff working side-by-side with programmers.

40 page application -> 8 pages Processing time down 50%
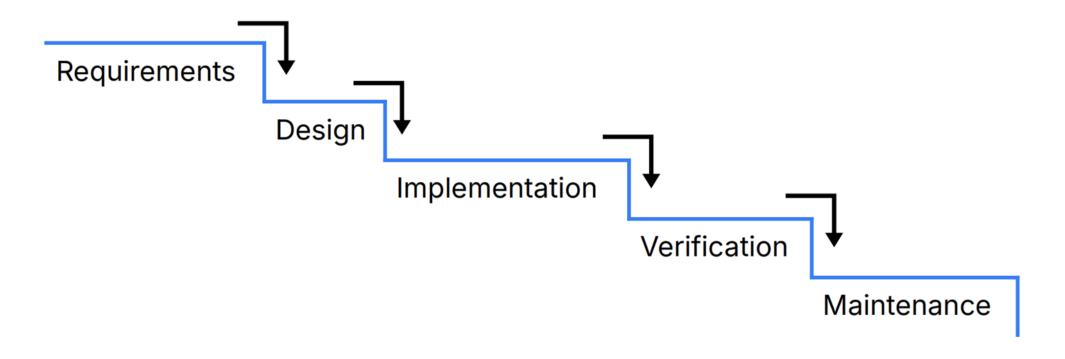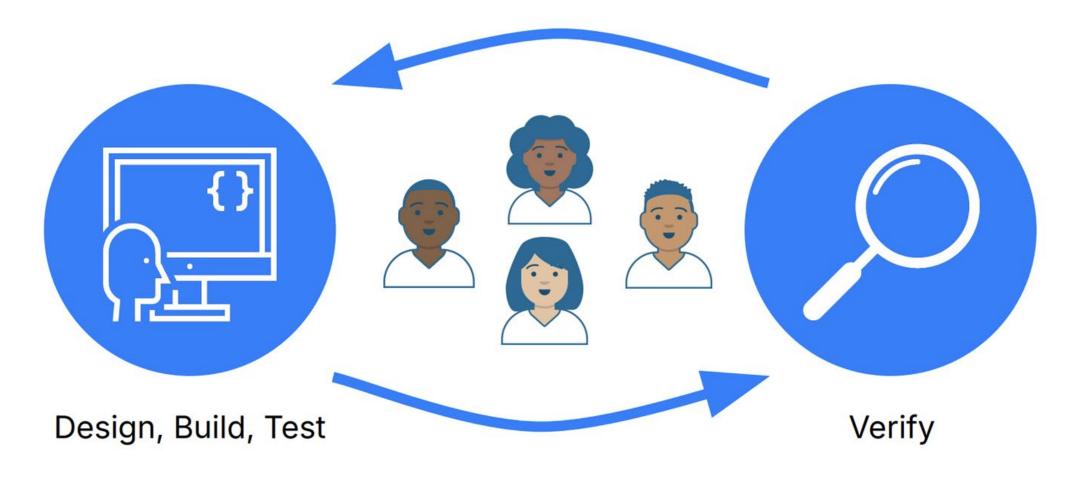
2. Agile Software Development

Agile development is NOT Waterfall development

Image credit: US Digital Response

Agile Software Development

Design, Build, Test

Verify

Image credit: US Digital Response

Why use Agile?

Agile facilitates extraordinary tight **contract oversight of vendor activities** and ensures that you're **getting your money's worth**. It's how the whole software industry works.

How to use agile to develop an integrated benefit system?

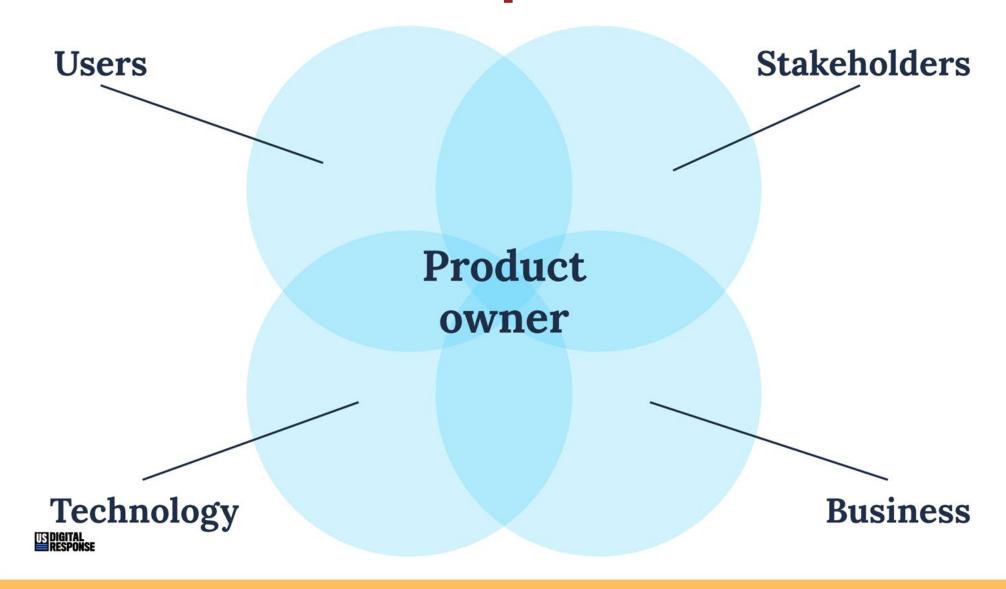Require vendors to **allow demonstration of the software *at least* every two weeks** to government and users.

New features should be tested with real users of the software to **verify it meets their needs.**

Agency staff should be able to **review the source code** itself after each sprint.

3. Product Ownership

Product ownership

Users

Stakeholders

Product owner

Technology

Business

Product ownership

The success of the project hinges on the product owner.

They are the keeper of all system knowledge, the person who knows in excruciating detail exactly what the vendor is doing.
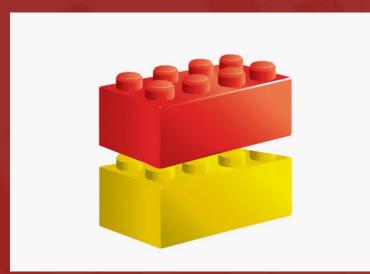
Recommendations for product owner of an integrated benefit system

- Current or new OKDHS staff member depending on capacity. If new staff, is preferably a former staff member with pre-existing knowledge of the relevant benefit programs and systems.

- 0.8 - 1 FTE: Should be funded as their full time job to review vendor's work and ensure it aligns with needs of end users, stakeholders (other agencies, legislature), business needs, and technology needs.

4. Building with loosely coupled parts

Creating big systems out of small pieces

Building with loosely coupled parts

Your **new system** will eventually be your **old system**.

Make sure it can be replaced and **continuously improved** one piece at a time.

Application Programming Interfaces (APIs)

In software, we call interoperability standards **Application Programming Interfaces (APIs).**

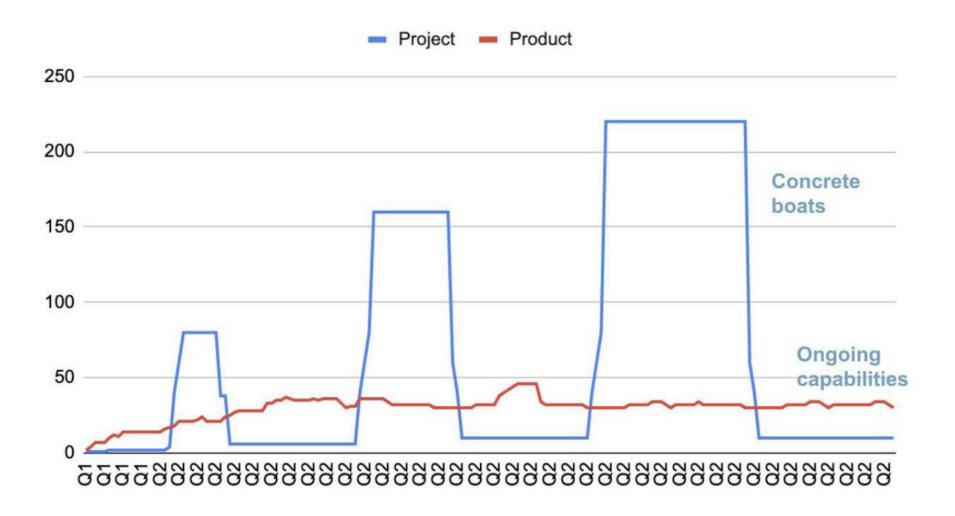**It's how software talks to software. Like shipping containers but for data.**

Building with loosely coupled parts

Multiple teams or multiple vendors can work simultaneously on a system with a minimal coordination.

There's no technical need to award a single contract for a large project.

Building with loosely coupled parts

Building with loosely coupled parts in an integrated benefit system

- **Consider each benefit integration as a separate project**.
- For big integrations (like Medicaid) consider **integrating in phases**.
- Start with a **minimal viable product.**
- If housing data centrally is unfeasible. It may be possible to **ship only the data necessary and allowable using APIs.**

5. Modular contracting

Break your large **huge risky contract** into a handful of **safe smaller contracts**.

1. Keep your contract increments under $10-15 million

The more you spend, the greater your odds of failure. So, don't. Break up the contract.

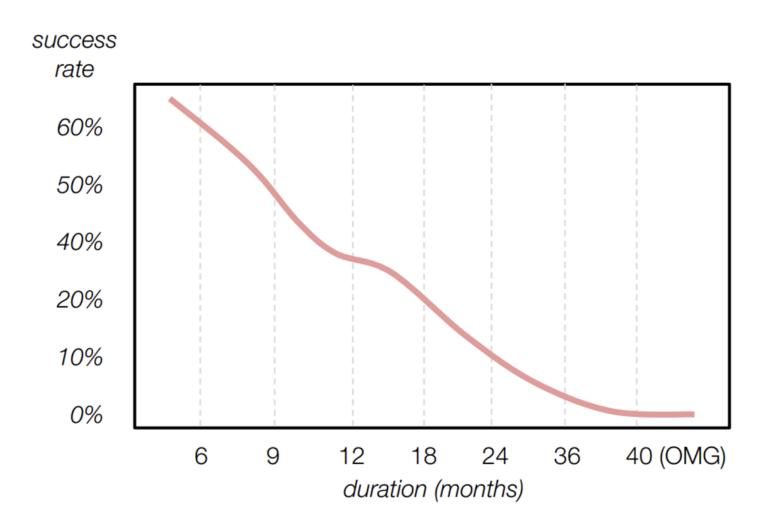| Cost *millions*	< $0.5	$0.5-3	$3-6	$6-10	> $10
Success	61%	24%	12%	11%	6%

Source: "CHAOS Report 2015," Standish Group

2. Keep period of performance short.
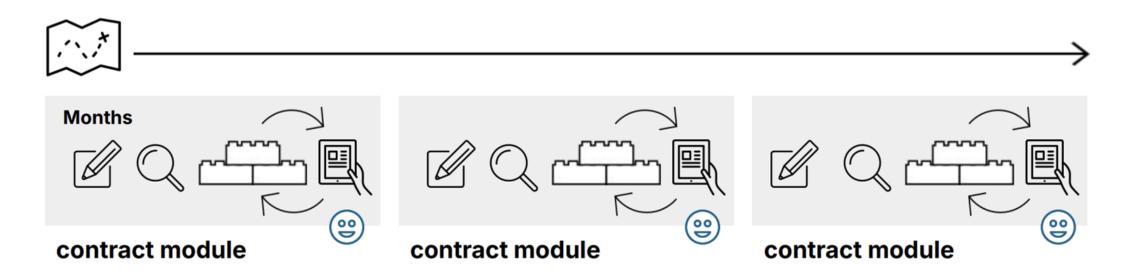
No longer than **3 calendar years** (including options).

Standish Group Study of 23,000 projects comparing project success versus duration.
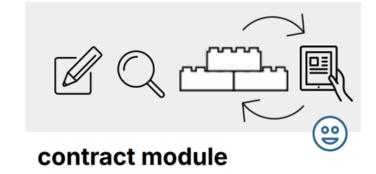
Agile acquisition

Software budgeting made simple

- **One team of 5-9 here in Oklahoma costs about $1M/year ($600K-$2M/year).** That includes a mix of software developers, user researchers and a project manager,

- **Developers from more expensive areas are about 2-3x the cost so $1.2M-$6M/year**. Mostly you're just paying their higher rent. Sometimes it's necessary, but the top end of that is usually not worth it.

Software budgeting made simple

- **Budgeting is figuring out: how many teams do we need and for how long?**
- Example: 1 team for a 6 month project. Is ~$300K-$1M in-state or $600K - $3M out-of-state. Depending on the size and location of the team.

How to Fail at Software Projects

- Don't conduct user research
- Define lots of requirements up front
- Sign a $10M+ contract with a single vendor
- Conduct oversight via reports, not live software demos
- Punish projects that fail fast

Executive actions

- Require demos, not memos
- Limit contracts to $10-15 million and three years
- Require user research for $1M+ projects
- Require a named, empowered product owner for all projects

Legislative actions

- Require twice-monthly demos to legislative staff
- Create a state digital service
- Allocate funding operationally

De-risking Government Technology

2.0 Guide

Technology can be a blocker to progress, or it can enable progress. But changes to budget and oversight are necessary to get that right.

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