

An Evolving Role of Statistical Programmer

Leveraging New Capabilities in Open-Source Environments

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Agenda



Challenge & Motivation



Project Resource Planning App case study (design, architecture, outcomes)



Skills evolution and ways-of-working



Strategic recommendations and conclusions

Challenge & Motivation

Growing Portfolio and Team



As project portfolio grew, our spreadsheet-based planning process became increasingly fragile and difficult to maintain.

Error-prone Data Entry



Manual updates and unstable Excel macros made it hard to assess real resource capacity versus work demand for people managers and leadership team.

Impact to Business



The net effect was delayed decisions, reduced confidence in forecasts, and increased time spent on reconciliation rather than strategic planning.

Solution - PRP App



Goal 1

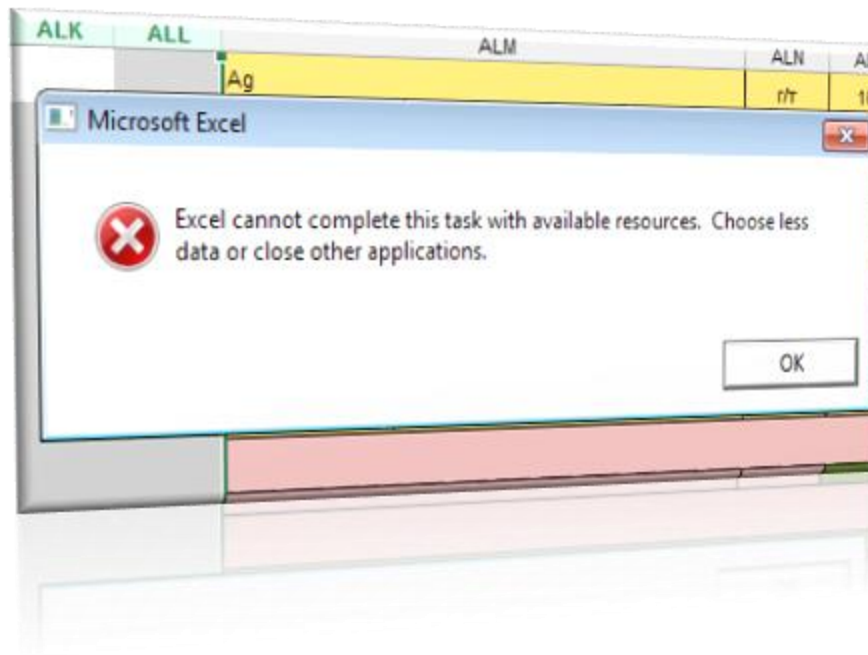
Lightweight and easily scalable application

Goal 2

Easily interpretable and up-to-date analytics & reporting

Goal 3

Timely resourcing decisions based on solid forecasts



PRP — Project Resource Planning

(At a Glance)

- R Shiny App for HTA Statistics and Statistical Programming Leadership Team to manage project portfolio and resource capabilities.
- Users add projects and deliverables. Deliverable types are translated into resource estimates using resourcing algorithms based on historical data.
- The app supports manual algorithms overrides and an adjustment to actual resources spent so forecasts match real-world practice.

HTA Project Resource Planning (PRP)

[Home](#) [Algorithm ▾](#) [Project ▾](#) [Initiative ▾](#) [Capacity ▾](#) [Demand ▾](#) [Assignment ▾](#) [Workload ▾](#) [Report ▾](#) [Scenarios ▾](#) [History ▾](#) [Help ▾](#)

Welcome to HTA PRP

- the HTA Project Resource Planning Tool

This application supports the following functionalities according to the user role:

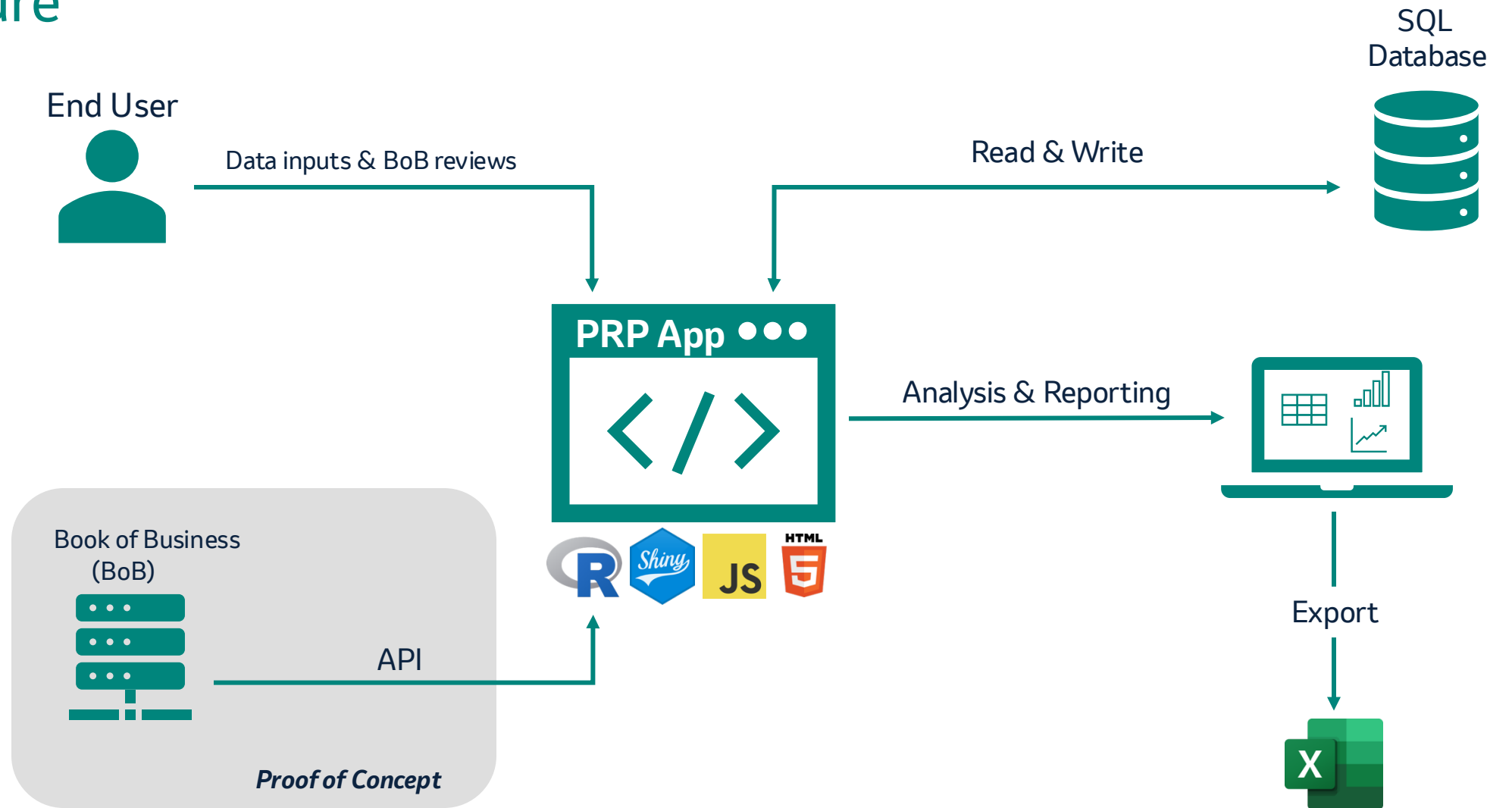
- Algorithm** - to define resource algorithm for each project deliverable
- Project** - to define project and its deliverables
- Initiative** - to define non-project initiatives
- Capacity** - to define resource capacity
- Demand** - to define project and initiative resource demand
- Assignment** - to assign resources to projects and initiatives
- Workload** - to track and forecast resource workload
- Report** - to view reports on capacity, demand and resources
- History** - to view the audit trails of user updates



The diagram shows a central gear with the letters 'PRP' next to it. A line connects the top of the gear to a circle containing a person icon. Three lines branch out from the bottom of the gear to three separate circles: the left one contains a bar chart icon, the middle one contains a dollar sign icon, and the right one contains a clock icon.

Architecture

(High Level)



Role-Based Access – Secure, tailored access to PRP

Protecting sensitive timeline and staffing data while meeting distinct user needs

Layered Access Control

Enterprise Authentication

- SSO authentication controls app entry

Functional DB Connection

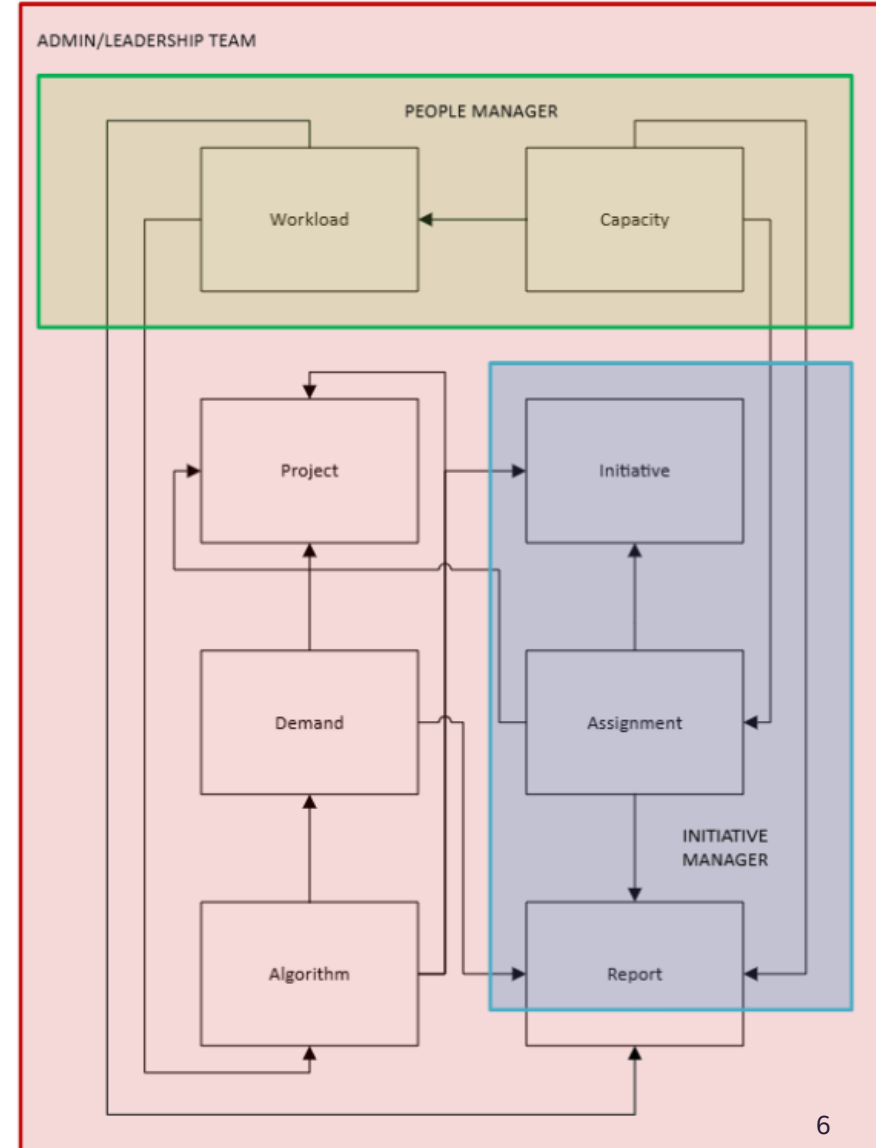
- User's ID enables area data access

PRP "Permissions" Table

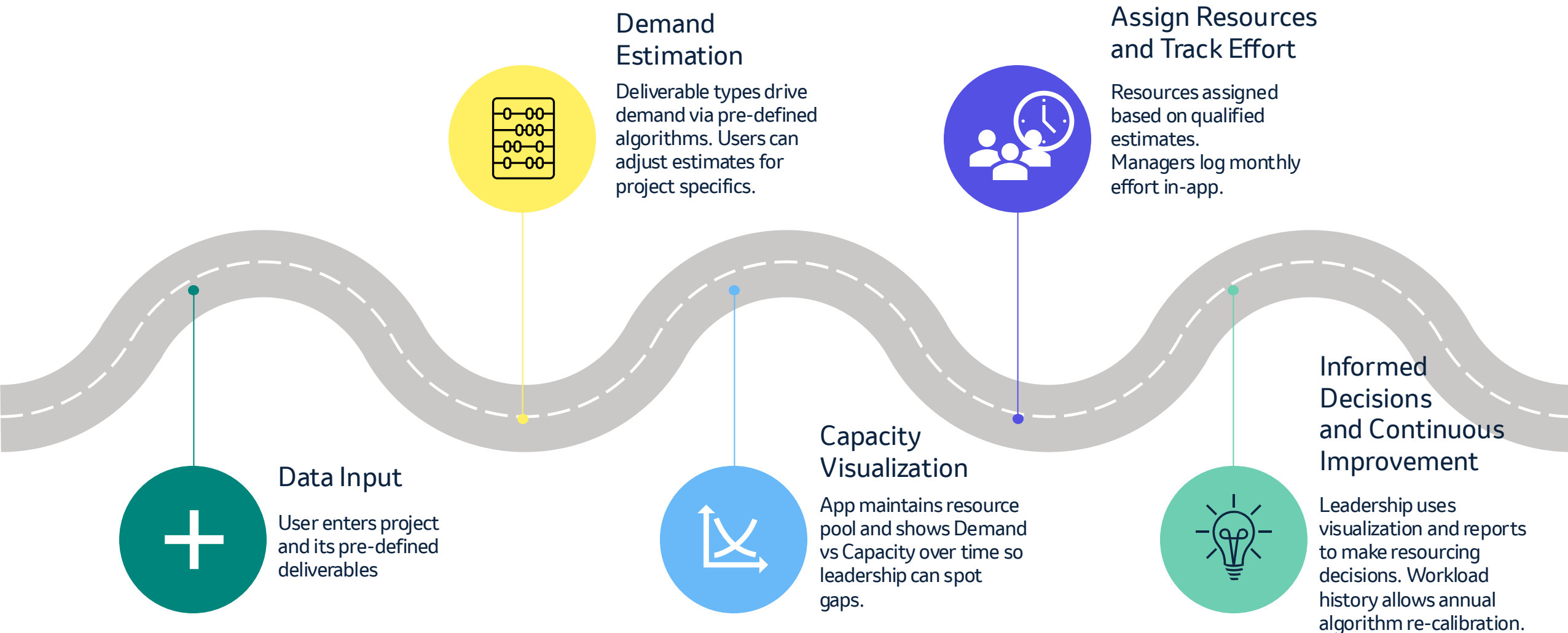
- Granular feature & data control

Benefits

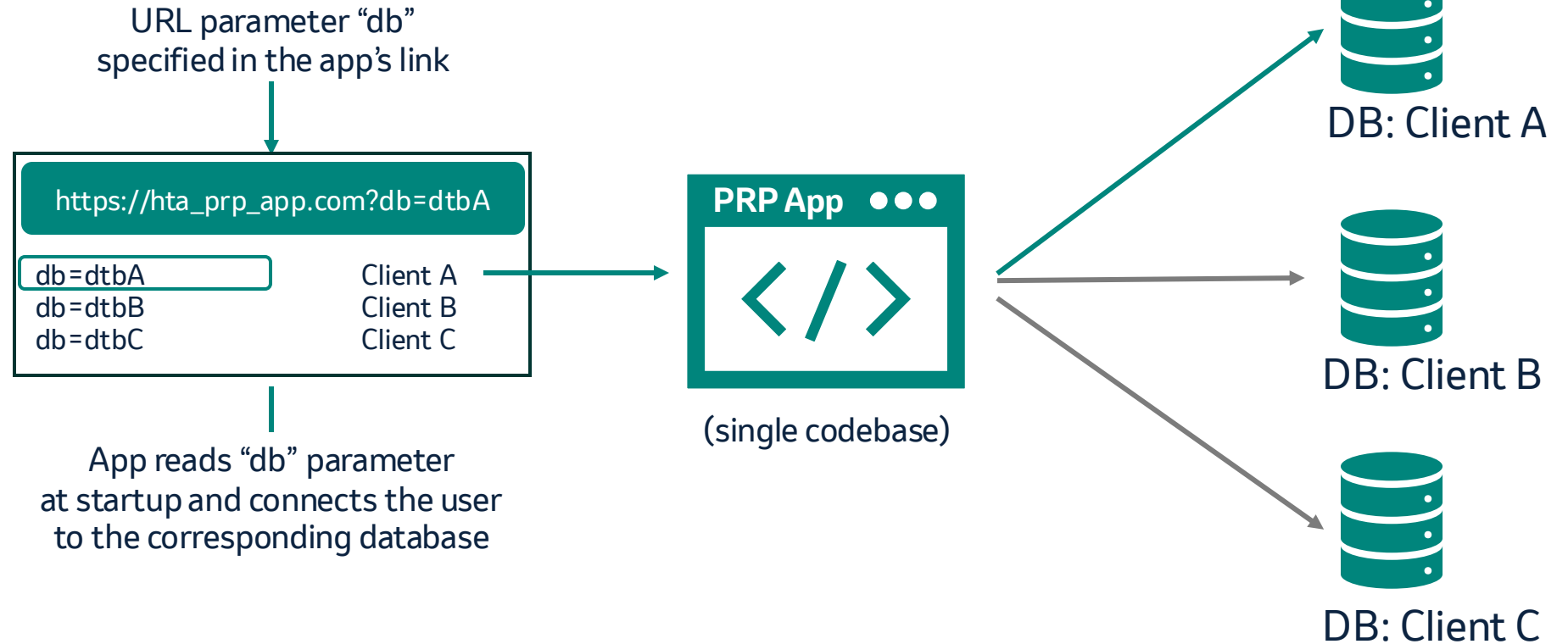
- Prevents broad exposure of sensitive data
- Enables role-tailored (i.e. Leadership Team, People Manager, Initiative Manager and Admin) functionality and visibility
- Provides auditability & easy administrative updates



PRP Workflow



Multiple userbase solution



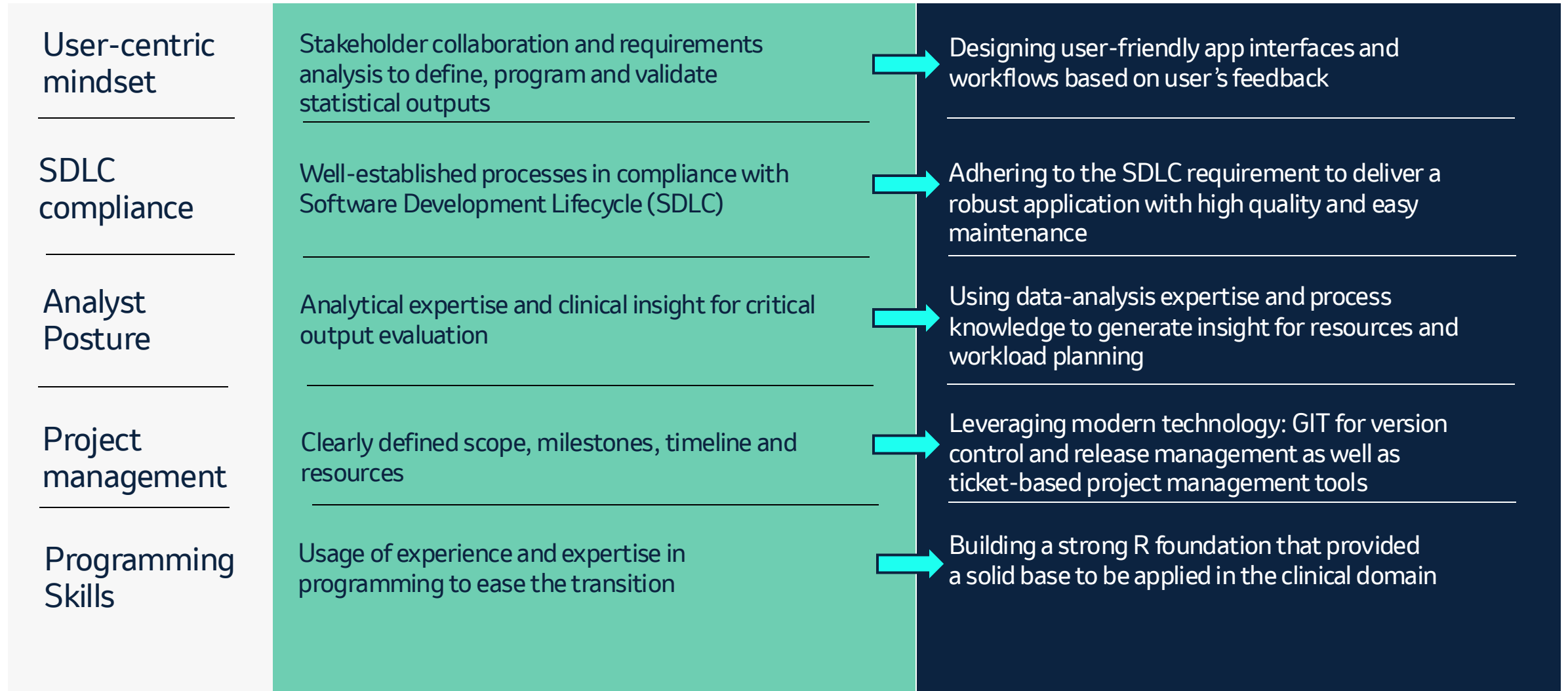
The app has scaled beyond initial users, attracting interest across HTA and other groups. New adopters onboard quickly with a smooth experience. Scalability comes from connecting groups to separate databases without creating a twin application for another group and maintain the same codebase.

The Evolutionary Journey

Core statistical programming practices enabled rapid app delivery while new open-source competencies extended our capabilities



Leverage Core Skills



Learning and Skills Transfer

1

Fit-for-purpose mindset

Choosing the best tool to serve business without falling back to default options



Open to innovation

Delivered flexible solutions aligned to business needs

2

Modern SDLC practices

Applying modern SDLC and software engineering practices, including the use of Git and ticket-based tracking



Improved Collaboration and Reproducibility

Improved traceability, transparency, and multi-user workflows.

3

Open-source competencies

Built capability in R, Shiny, and complementary technologies to work effectively with open-source tools



Spectrum of modern tools

Expanded options for modern analytics and interactive analysis and reporting

4

Knowledge transfer channels

Establish formal knowledge-sharing rituals (book clubs, coding clinics, peer reviews)



Upskill opportunity

Created a positive feedback loop that reinforced clinical pipeline support.

- Skills Transformation

Modern ways of working and effective engagement with open-source technologies - create a new suite of competencies in automation space which in turn strengthen the support of our clinical pipeline



- App Development

- Effective automation solution with good planning and design can deliver measurable operational value



- Strategic Investment

- Role evolution must be chosen strategically to ensure time invested returns organizational benefit



Thank you! Any questions?

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