The Unexpected Story of NearForm

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About NearForm
Clinic.js is our suite of Node.js performance analysis tools. It includes Doctor, Bubbleprof, Flame and Autocannon. It uses TensorFlow.js ML to ensure data accuracy in noisy environments.

QUIC HTTP/3

The next version of HTTP is coming soon and NearForm Research is leading its implementation on Node.js. HTTP/3 is a major departure from HTTP/1.1 and HTTP/2.

Worker Threads

The worker_threads module enables the use of threads that execute JavaScript in parallel. Workers (threads) are useful for performing CPU-intensive JavaScript operations.
InnerSource enables organisations to uncover creativity, by removing obstacles for collaboration.

It involves:

- Cultural Inventory
- Building an InnerSource Visibility platform
- Engineering confidence into customers’ Software Delivery Life Cycles
Why invest so much in OSS?
Solutions and capability for Enterprise

150+ customers
21 Countries
10 years
Remote-first
Engagement models

- Trusted Advisor
- Technical Directors
- Business Framing

Consult

- Strategic Guidance

Deliver

- Research and Design
- Accelerated Development
- Deployment
- Support

Transform

- Accelerated Enterprise
- Training and Capability
- Strategic roadmap
- Opensource
NearForm Accelerators: for Development Projects

Typical Project

Software Dev

Non Value-add Work

Custom Software Dev

NearForm Accelerator

Accelerated Project

Deploy Accelerator

Tech choices, Tools, Environment Set-up, Learning, on-boarding, CI/CD set-up, etc.

Tech stack, tools, processes, documentation, CI/CD, archetypes, training, opensource
Polaris architecture

**Developer Tools**
- Documentation Tools - docsify
- Testing Tools - Jest & Cypress
- Linter - ESLint & Prettier
- Bundler - Expo tooling
- Component Development - Storybook
- Security Tooling - (many tools)
- Package Management - Yarn

**Application**
- App Pages
- App Templates
- App Components
- Design Tokens
- UI Controls - Various React Native Components
- Routing - React Router
- Forms - Formik
- Localisation - I18next
- Native Capabilities - React Native
- State Machine - XState
- Css in Js - Styled Components
- Progressive Web App - Workbox
- REST Service clients - Fetch
- React Native Platform - Expo
- Cross Platform Mobile - React Native
- Cross Platform Web - React Native Web
- UI Framework - React
- Development Language - TypeScript

**Deployment**
- Deploy Pipeline Tooling
- Automation & Security Tooling
- Continuous Integration System

**Release Channels**
- Android
- Apple
- Laptop
NearForm Accelerators: Impact

OPEN BANKING
NearForm
IBM

Scalability
Opensource
Platform Approach
NearForm Accelerators: Digital platform

Typical Enterprise Frontend

Teams
Tech
Process

Target Frontend

Technical Transformation

Digital Platform
Contact Tracing / Exposure Notification
How Exposure Notifications Work

When A and B are near each other, their phones exchange anonymous key codes.

When A becomes infected, he updates his status in the app and gives his consent to share his key codes with the back-end.

The app on B’s phone regularly downloads the infected keys to check for matching codes. It alerts her that somebody she has been near has tested positive.
COVID Tracker App for Ireland

All-in-one application available in two languages - Irish and English.

- Contact Tracing
- Symptom Check-In
- Information Updates

App installed by over 40% of adults in 4 weeks

137 confirmed app exposure notifications in 4 weeks
SOLUTION HIGHLIGHTS

Jurisdictions: 9 to-date

Population Coverage: 53 million by September 2020

Average Uptake: 40% of addressable population

Delivery Time: 4–7 weeks

Average Security Issues: 0

Interoperability: World’s first

Open Source: Code to Linux Foundation Public Health

https://github.com/covidgreen
Other Jurisdictions
Full circle to Open Source

Benefiting even more from open source

NearForm worked with the Irish Government to donate the source code for their app to the not-for-profit Linux Foundation Public Health, for use by any PHA to help fight COVID-19.

COVID Green benefits from the inputs of many countries, states and vendors.
Scaling

- Core set of upstream repos
- NF Core committers for these core repos
- Core backlog, transparent and inclusive
- Delivery of CT solutions in downstream repos by NF Delivery Teams
- Delivery teams must include some core committers
- NF focus on delivery
- QA at both levels (if possible)
- Support of delivered solutions only
- Core committers, Delivery Teams, TSC run by TDs/Ops
- TSC/Governance Body led by NF Research:
  - Akin to Node.js core
  - Manages branding/public image
  - Lobbying
  - Get feedback from the above
  - Marketing
  - Code of Conduct / Moderation

Core upstream repos (Covid Green)

- TSC/Governance Body
- State Stakeholders, e.g. HSE
- Community contributions - State Gov Teams & NF Delivery Teams
- Founding companies
- Linux Foundation
- Public Health

Gibraltar  Ireland  Northern Ireland  Scotland  TBA  Pennsylvania  TBA  Delaware

Contact Tracing Only

+5
Outro:

Questions we feel we have raised today....

(1) Open Banking - what is the feeling US/UK on what’s next?

(2) Frontend Technical Debt - are Accelerator frameworks part of the answer?

(3) Covid Story - is this really an opensource coming of age story too?

Link to open banking page:
https://community.nearform.com/api-banking

Covid Green:
https://github.com/covidgreen