

Pencil

A Brandtech Company

How Keyvalue accelerated **feature delivery** for Pencil

Report type :
Case study

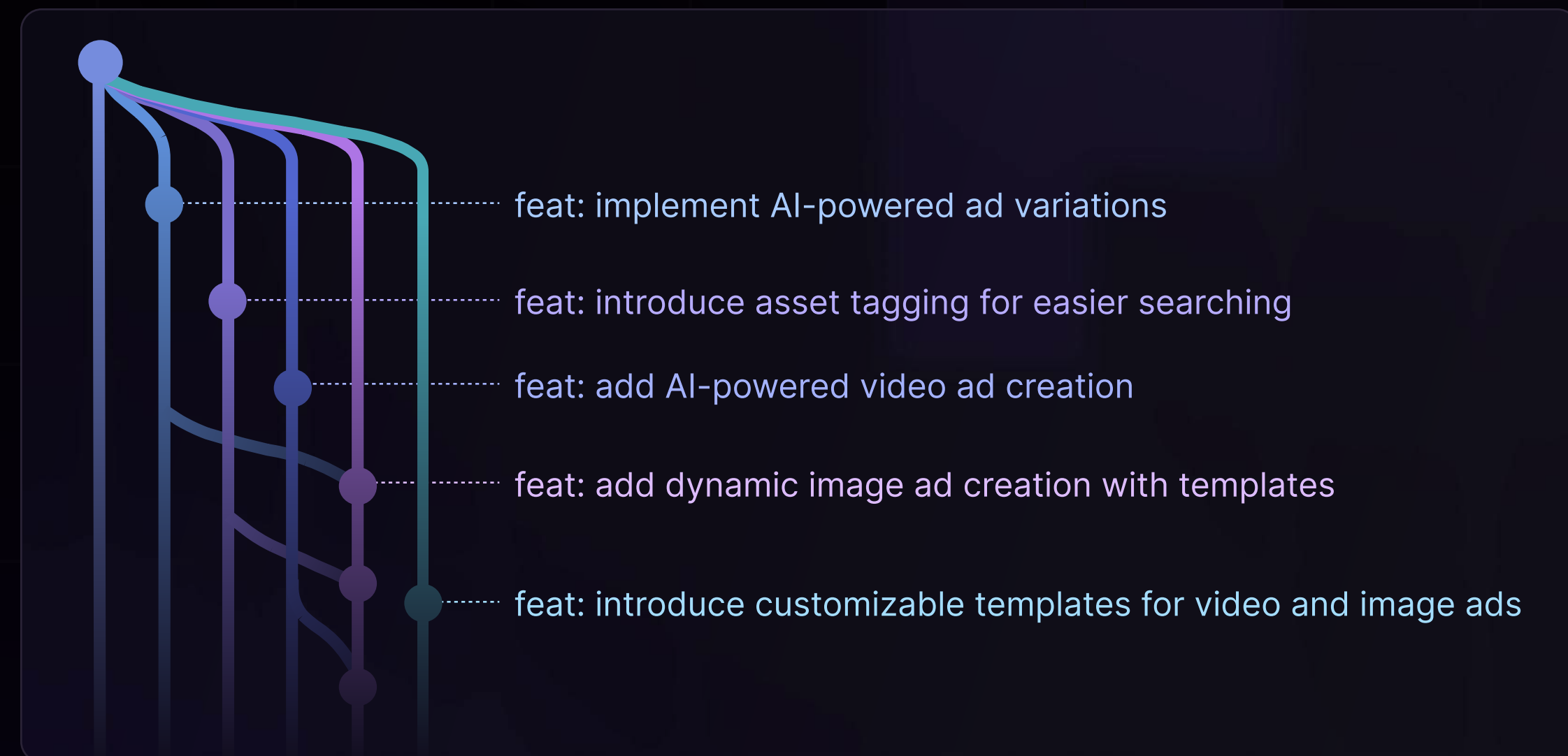
Domain :
Ad generation platform

Headquarters :
 UK



Problem statement

Developing features at Pencil was challenging due to complex LLM integrations and **dependencies** across multiple micro services. Local testing was difficult, and relying on a **shared environment made issue isolation and debugging slow**. A solution was needed to provide each feature with its own isolated environment to speed up development and testing.



Challenges

Building an **ephemeral environment** for Pencil which consists of:

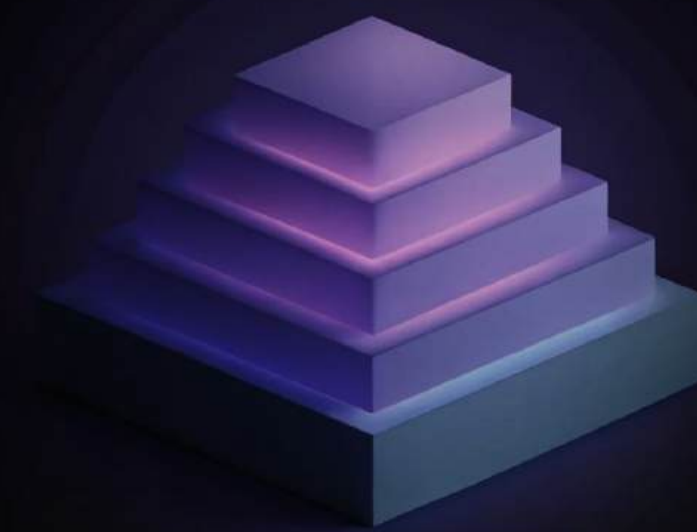
25+

Micro-services

Self-managed
cloud components

100+

Compute resources



15+

Parallel feature development

30+

Integrations



Solution

We implemented an **automated workflow for ephemeral environments**. When developers raise pull requests (PRs) with a feature tag (e.g., FeatureA), automation gathers all tagged PRs and spins up on isolated environment with all required components, such as **micro-services, databases, and integrations**. Once testing is complete, the environment is automatically deleted, ensuring **efficient resource usage** and a clean process.



Business impact

Delivery time

Achieved a 30% difference in
delivery time



Optimised QA testing

Isolated environment for QA provides
easiness and efficiency in testing



Client satisfaction

Timely delivers provides fulfilment to
customer commitment

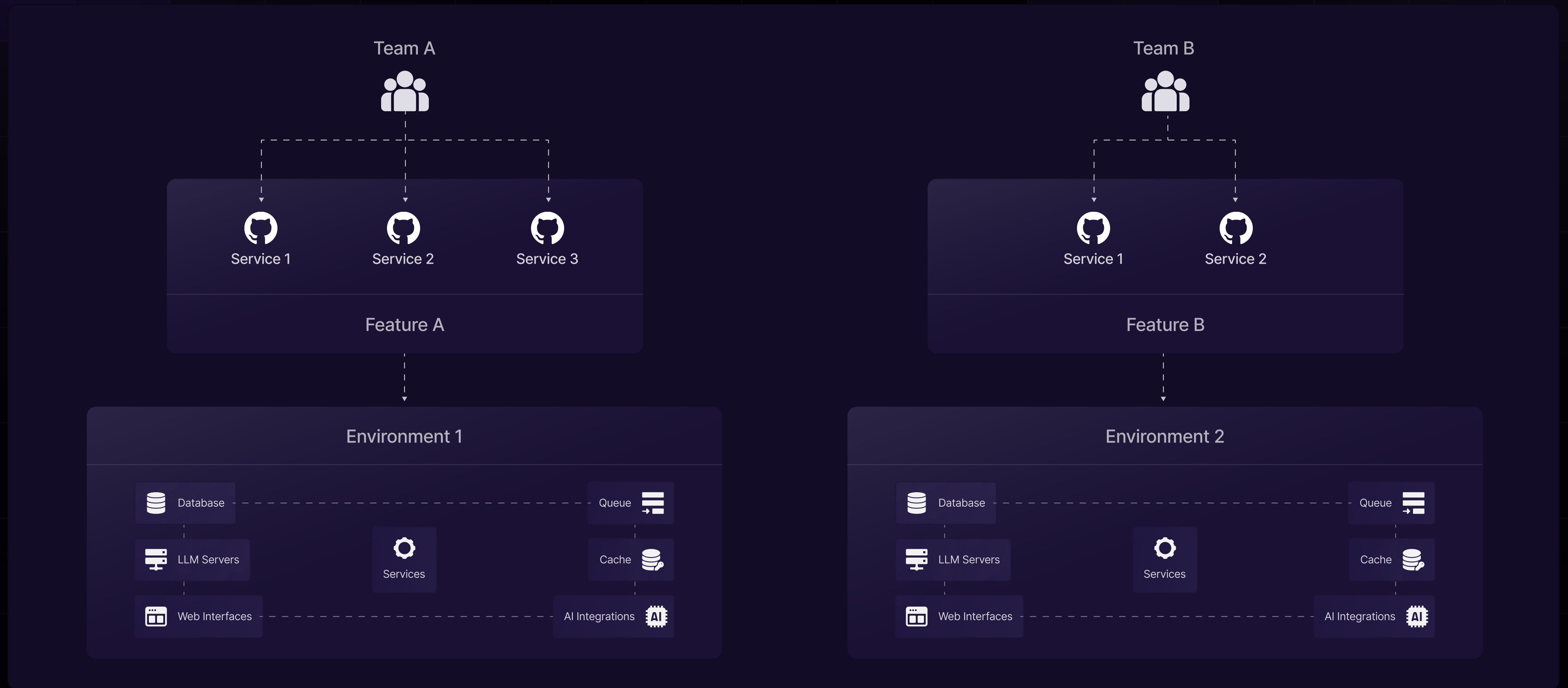


Faster development

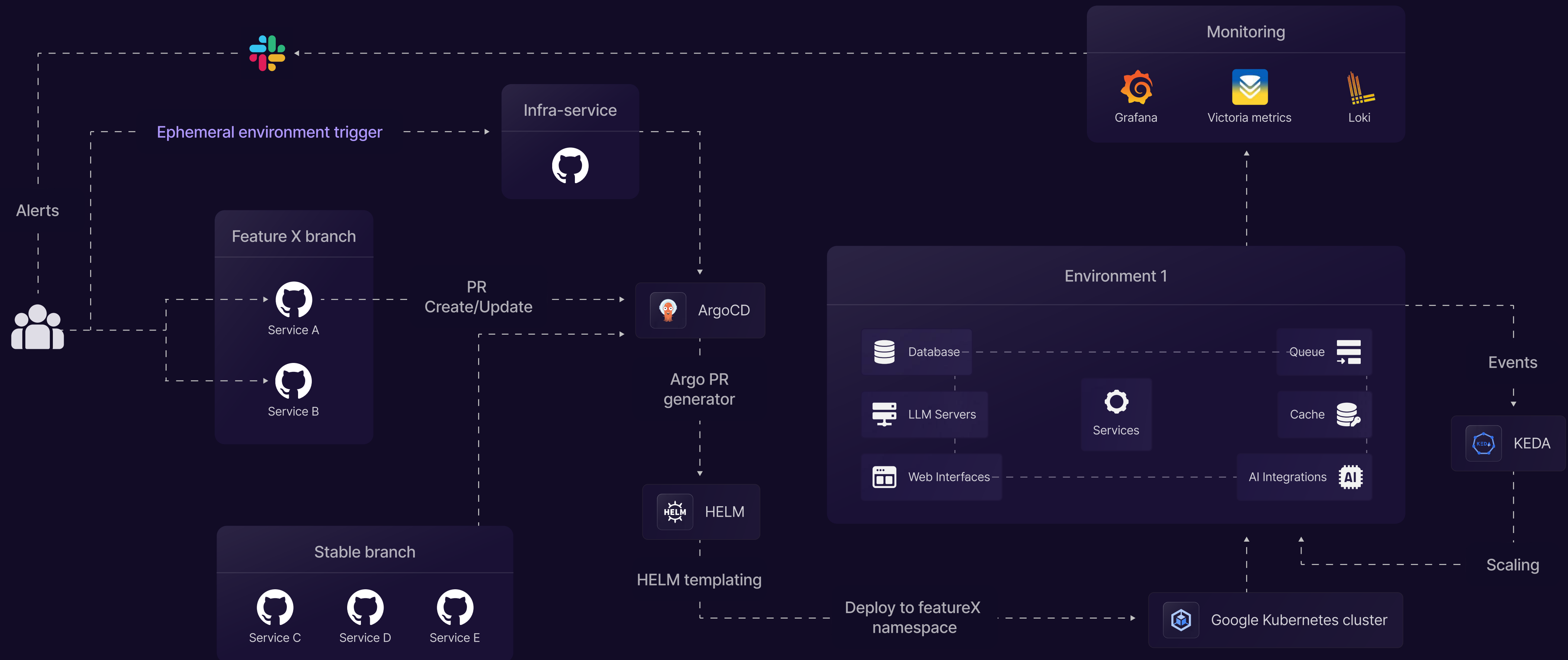
Isolated environments accelerate
development, enabling faster,
reliable, feature launches



User flow



Technical solution diagram



Technology stack



ArgoCD



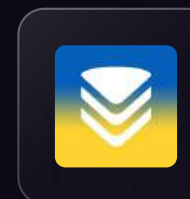
Kubernetes



KEDA



Helm



Victoria Metrics



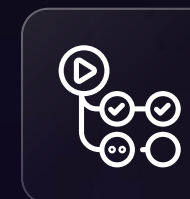
Grafana



Grafana Loki



Google Kubernetes Engine



Github Action



Engineering challenges

