REACT NATIVE IN INSTAGRAM

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WHY REACT NATIVE?

Developer velocity

- Developer velocity is a defining value of Instagram’s mobile engineering.
- React Native allowed product teams to ship features faster to both iOS and Android apps through code sharing and higher iteration speeds.

https://engineering.instagram.com/react-native-at-instagram-dd828a9a90c7
PAYMENTS CHECKOUT FLOW

Highlights

• 2 JS engineers finished the development in 4 month on both iOS and Android
• 98% iOS and Android code sharing
CTA and header update

thumbnail-based navigation

collapsible description
NOTIFICATION SETTINGS

Highlights

- Metrics neutral in # of notifications sent and crash rate
- Looks much better than the old WebView
- 92% iOS and Android code sharing
COMMENT MODERATION

Highlights

• 85% iOS and Android Code sharing
• Developed by a non-mobile developer with JS experience
• Implemented in the span of one release cycle
Highlights

• 87% iOS and Android Code sharing
• Same React Native code is used for both Facebook and Instagram
POST PROMOTE

Highlights

• 99% Code sharing
• Improved Time to Interact from ~7 seconds in original web view to ~3 seconds for React Native version
• Positive +3.9% increase in ads creation
CHECKPOINTS

Highlights
• 97% Code sharing
CHALLENGES
And how to address them

• App Size and Android Methods Count
  • Ended up selectively pulling in the parts needed and re-write other implementations, adding ~3500 methods and 1~2 MB size increase

• Start up overhead mostly caused by having to inject the JavaScript bundle into JavaScriptCore (the VM used by React Native both on iOS and Android) and instantiate native modules and view managers.
  • Ended up leveraging ideas and infra already built by the React Native team, namely Random Access Module Bundling, Inline Requires, Native Parallel Fetching, and plenty more already integrated into the framework.

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