Real World Longitudinal iOS App Usage Study at Scale

— Kim et al. (2019)

Summary

A four-year, large-scale longitudinal study of app usage on ~162k iOS devices (Aug 2012–Oct 2016). Analyzed population-level and individual-level longitudinal patterns, category vs app-level changes, and “working set” sizes.

Key insights

- App usage proportions by category shifted notably from 2012–2014 then stabilized after 2015 (e.g., steep decline in productivity/mail usage; growth in Photo/Video).
- At the individual level, usage patterns are highly variable over time — users’ proportional time across categories can change substantially; building stable user profiles requires frequent updates.
- “Working set”: 90% of iPhone users launch ~14–18 apps per week; iPad weekly working set is much smaller (~5–7 apps). Also, only ~10–20% of top-N apps remain in that top list across the entire period — most apps cycle in/out.

Practical implications

- Recommenders and OS features (preloading, suggested apps) must account for high individual variability and update models frequently.
- For UX/default-dashboard design, show a working set of ~15 apps for phones to maximize usefulness; prioritize long-lived categories/apps for persistent placement.

Limitations/caveats

- Dataset comes from jailbroken devices using a specific privacy app (ProtectMyPrivacy); selection biases possible. Authors document preprocessing to mitigate bias but warn about generalization.