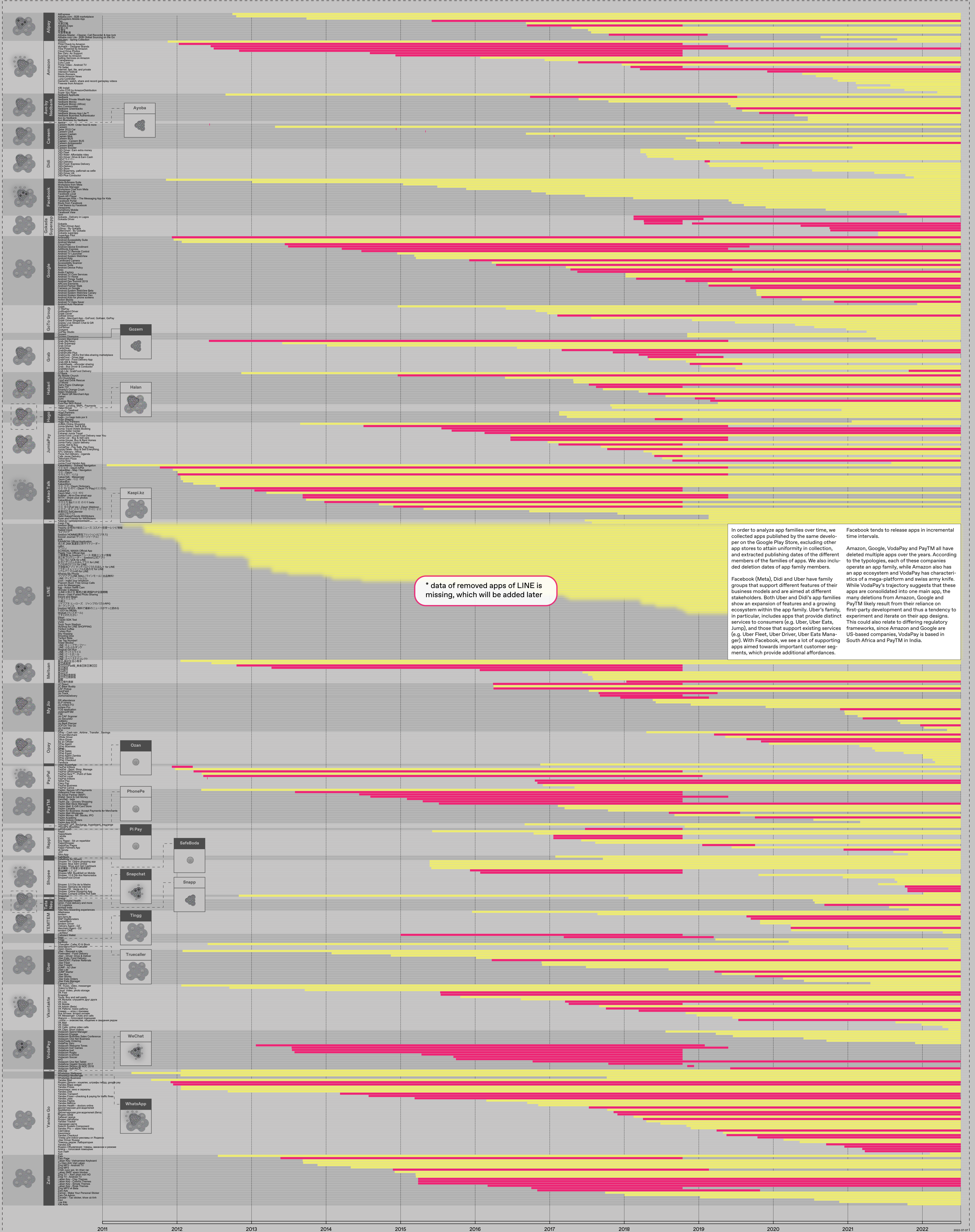


HISTORY OF APP FAMILIES

TIMELINE OF EVOLUTION OF FAMILIES



* data of removed apps of LINE is missing, which will be added later

In order to analyze app families over time, we collected apps published by the same developer on the Google Play Store, excluding other app stores to attain uniformity in collection, and extracted publishing dates of the different members of the families of apps. We also included deletion dates of app family members.

Facebook (Meta), Didi and Uber have family groups that support different features of their business models and are aimed at different stakeholders. Both Uber and Didi's app families show an expansion of features and a growing ecosystem within the app family. Uber's family, in particular, includes apps that provide distinct services to consumers (e.g. Uber, Uber Eats, Jump), and those that support existing services (e.g. Uber Fleet, Uber Driver, Uber Eats Manager). With Facebook, we see a lot of supporting apps aimed towards important customer segments, which provide additional affordances.

Facebook tends to release apps in incremental time intervals.

Amazon, Google, VodaPay and PayTM all have deleted multiple apps over the years. According to the typologies, each of these companies operate an app family, while Amazon also has an app ecosystem and VodaPay has characteristics of a mega-platform and swiss army knife. While VodaPay's trajectory suggests that these apps are consolidated into one main app, the many deletions from Amazon, Google and PayTM likely result from their reliance on first-party development and thus a tendency to experiment and iterate on their app designs. This could also relate to differing regulatory frameworks, since Amazon and Google are US-based companies, VodaPay is based in South Africa and PayTM in India.