

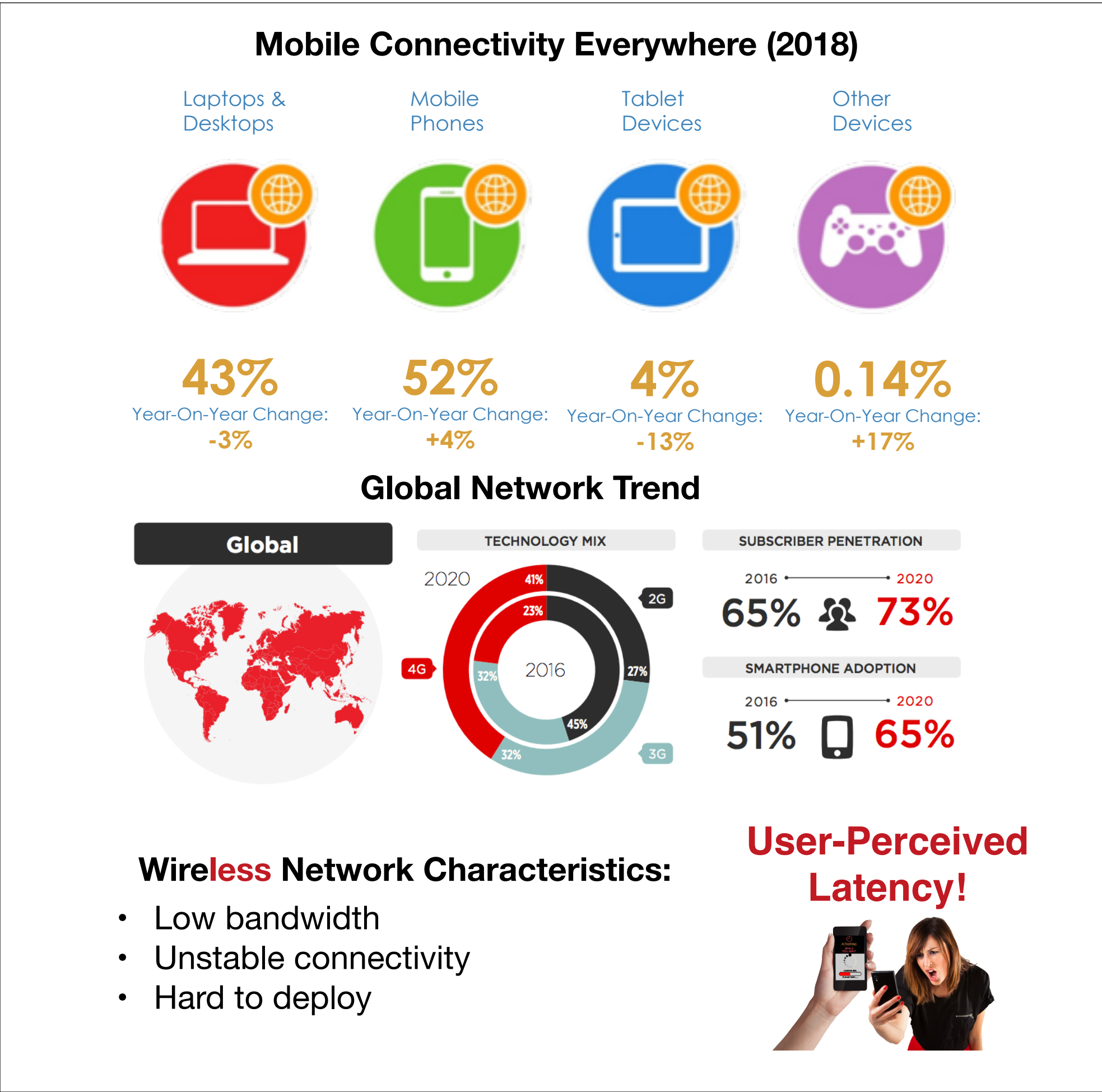
Leveraging Program Analysis to Reduce User-Perceived Latency in Mobile Applications

PALOMA: Program Analysis for Latency Optimization of Mobile Apps

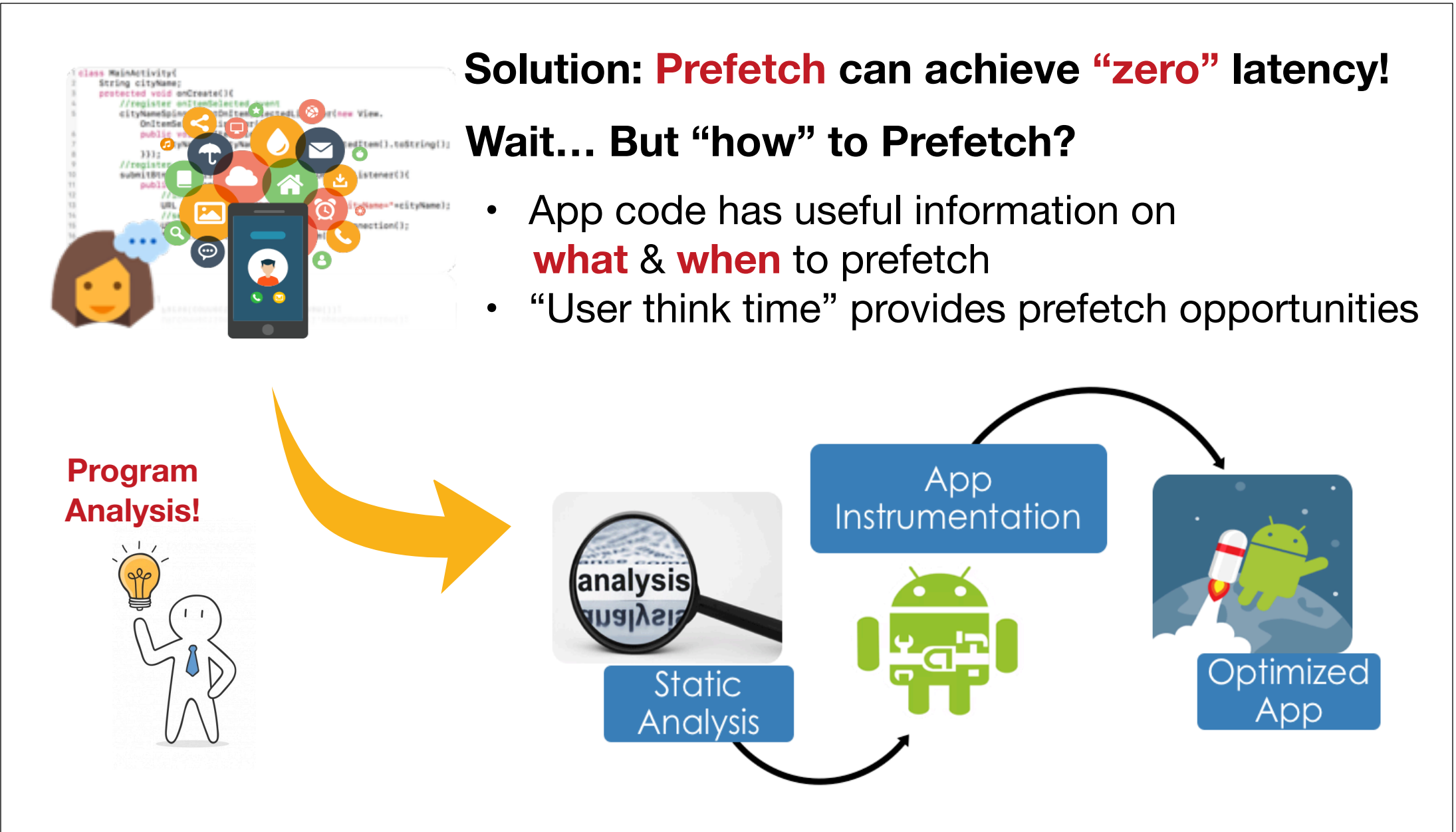
Yixue Zhao (yixue.zhao@usc.edu), Marcelo Schmitt Laser, Yingjun Lyu, Nenad Medvidović



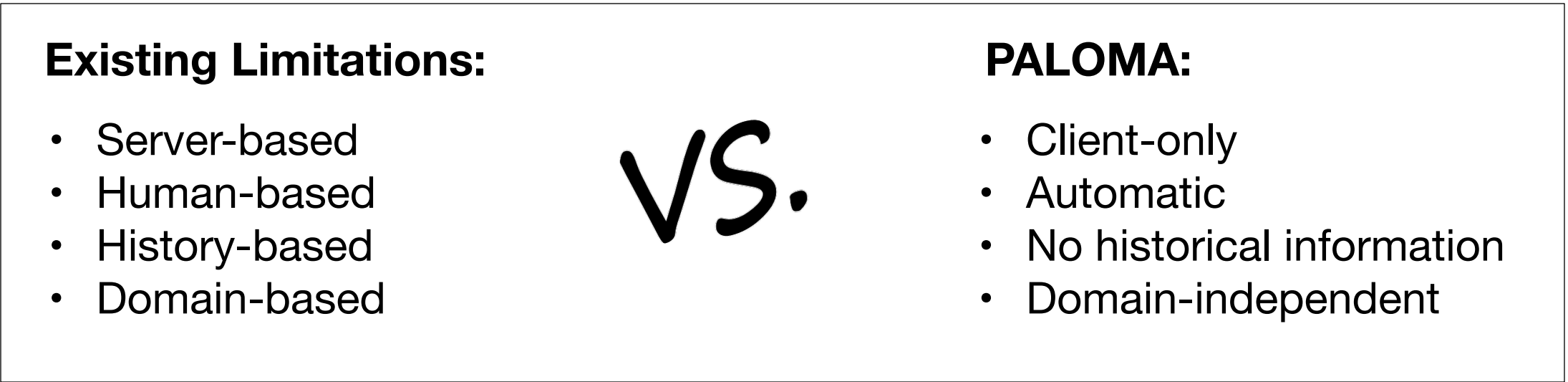
Motivation



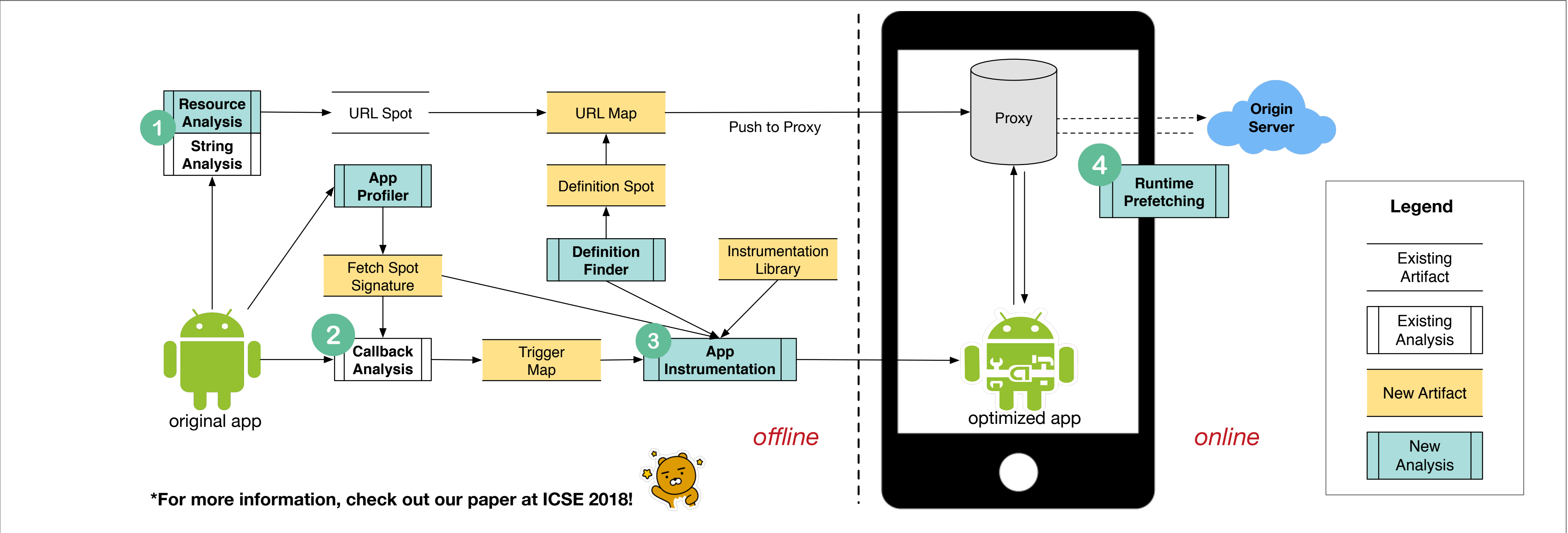
Key Insights



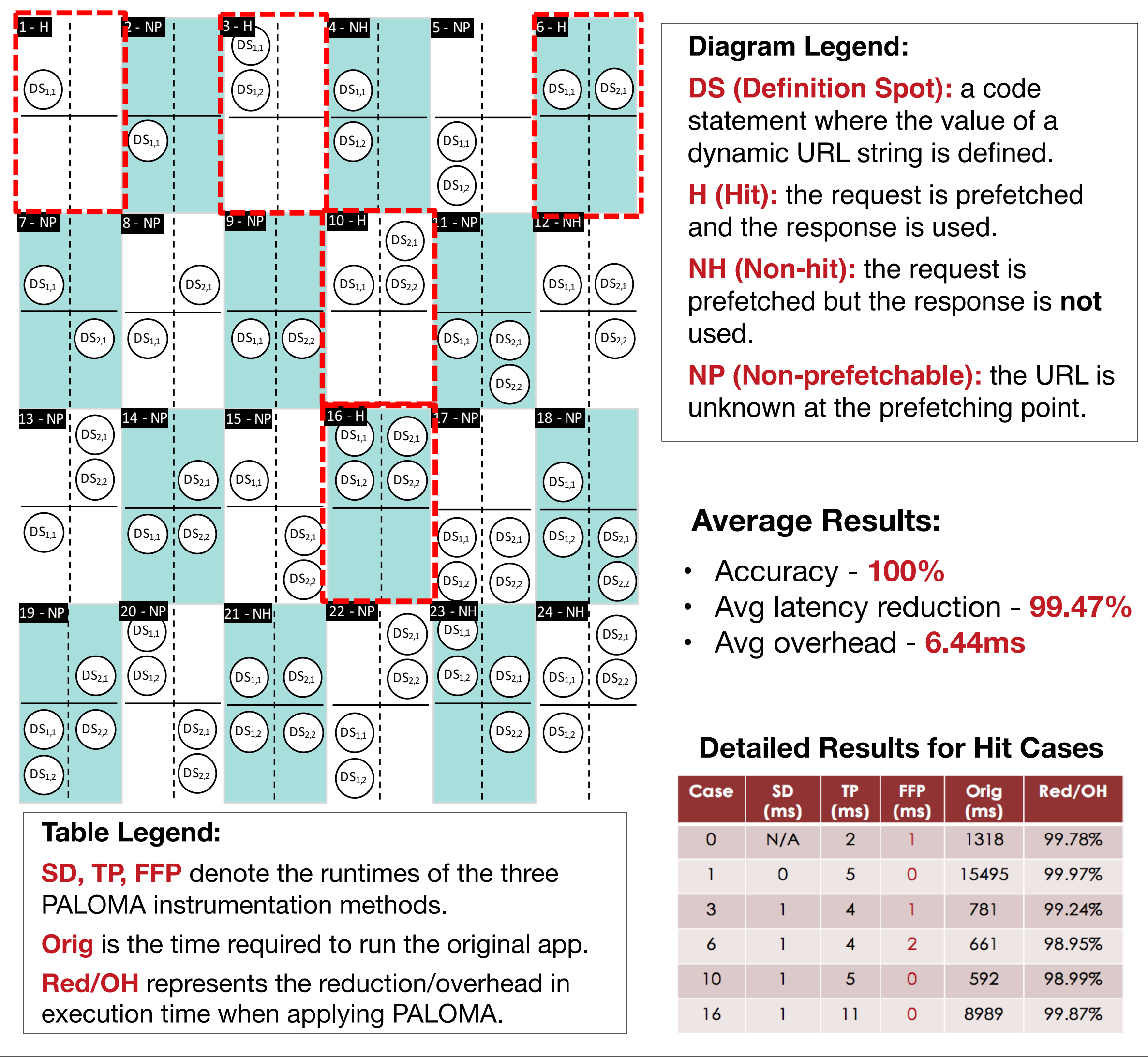
Current State of the Art



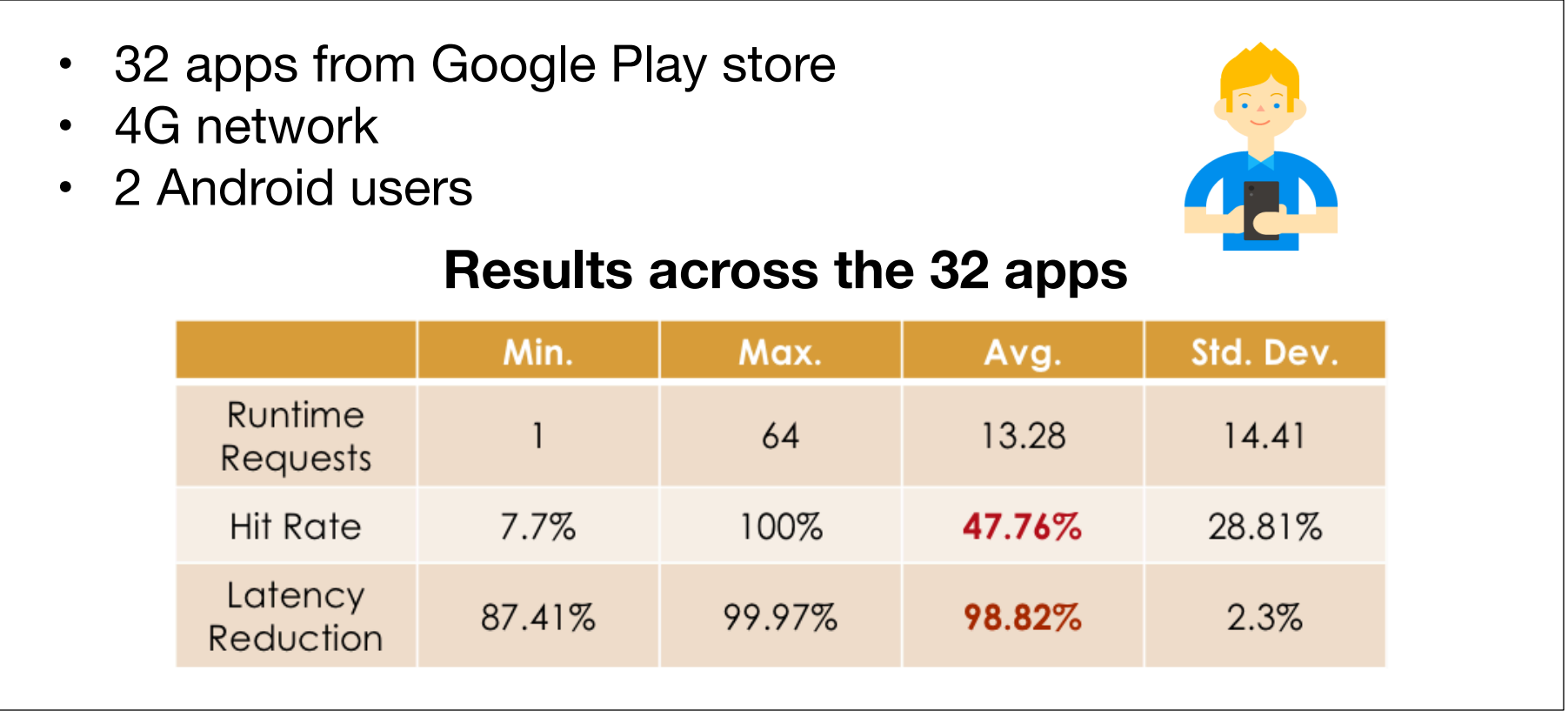
PALOMA Overview



Microbenchmark Evaluation



Real App Evaluation



Road Ahead

- Lay the foundations for program analysis-based prefetching techniques
- Balance QoS trade-offs
- Study user behaviors
- Extend to other latency-hogging operations

References

- Yixue Zhao, “Toward Client-Centric Approaches for Latency Minimization in Mobile Applications.” MOBILESoft 2017.
- Yixue Zhao, Marcelo Schmitt Laser, Yingjun Lyu, Nenad Medvidovic, “Leveraging Program Analysis to Reduce User-Perceived Latency in Mobile Applications.” ICSE 2018.
- Sources of the statistics of mobile network: <https://wearesocial.com>, <http://www.gsma.com>.