

3rd Edition

Data Research
meetup by MagIC



Where Users Go,
Testing Should Follow

Data-Driven Prioritization

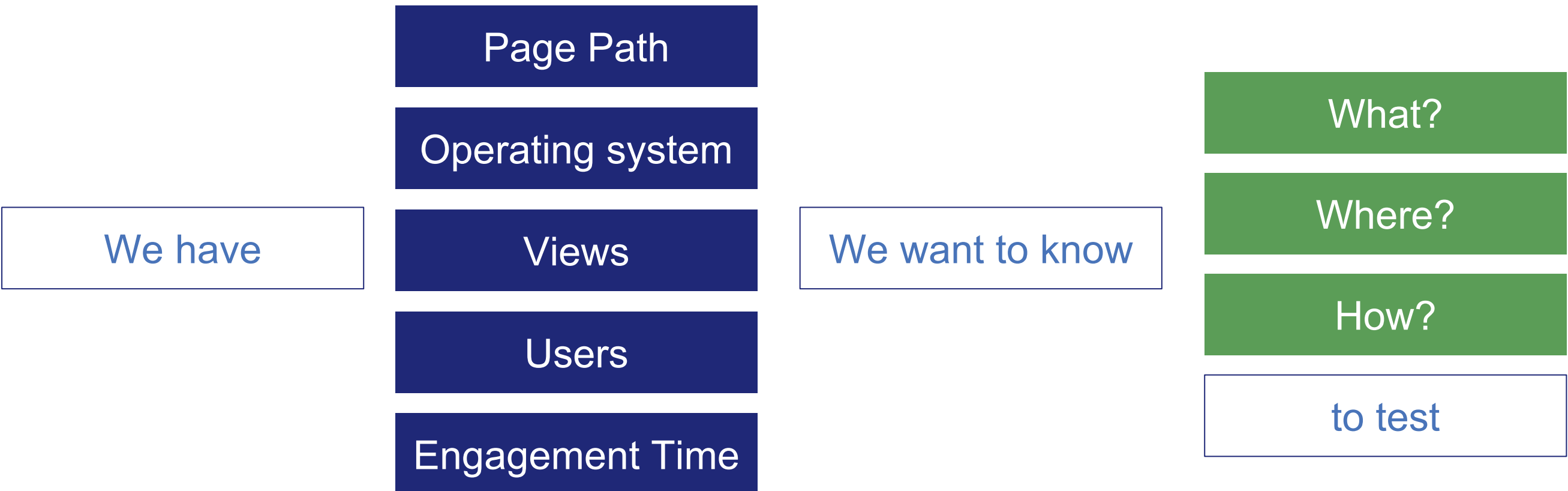
Anna Somova

NOVA Information Management School (NOVA IMS),
Universidade Nova de Lisboa, Campus de Campolide, 1070-312
Lisboa, Portugal

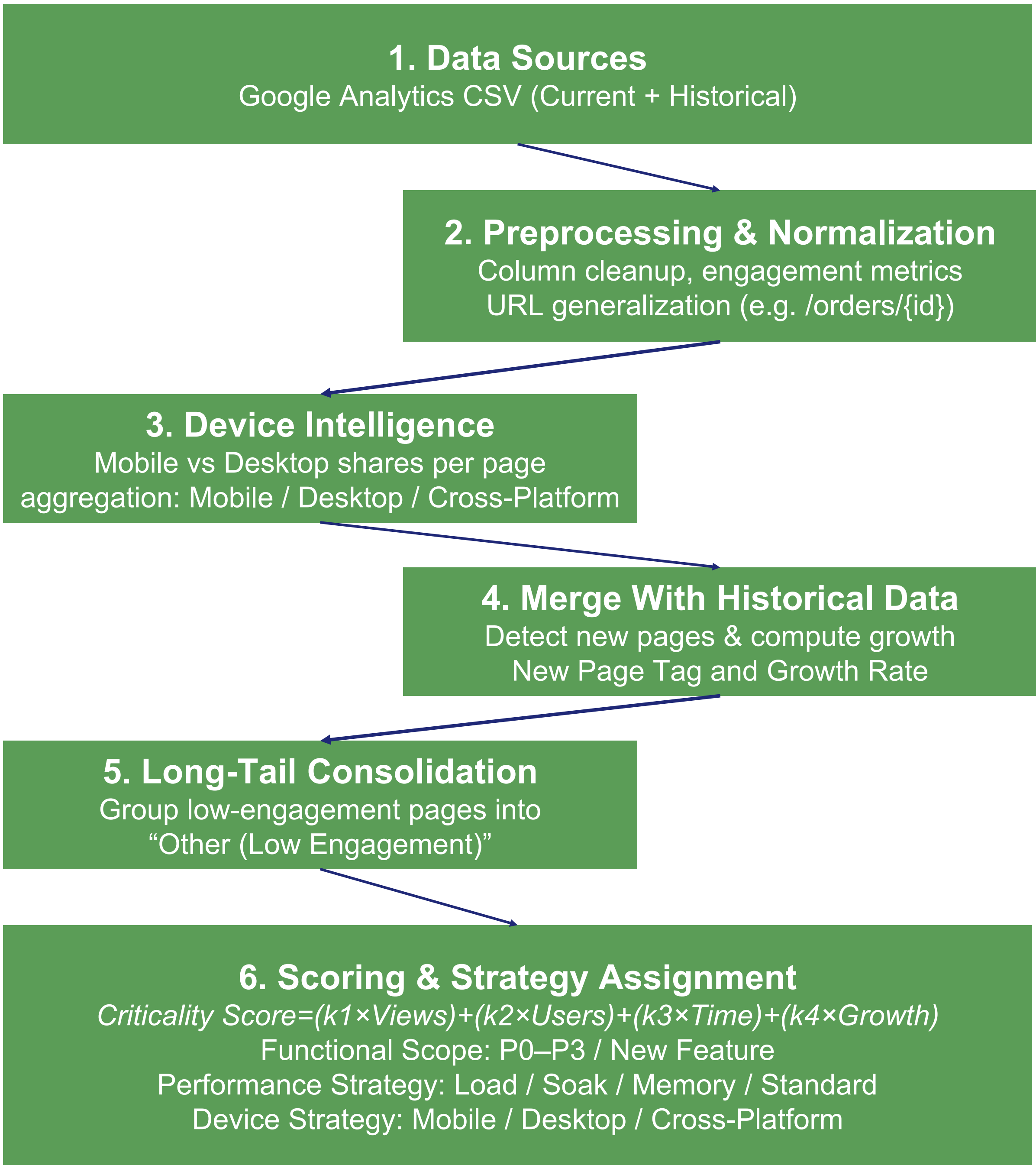
INTRODUCTION

Software Quality Assurance (SQA) teams often lack visibility into how **real users interact** with applications [1]. As a result, testing efforts may focus on less important areas while critical or emerging issues remain unnoticed.

This study analyzes real-world usage data (page views, engagement time, devices) from Google Analytics to understand **which parts of the system matter most**.



METHODS AND MATERIALS



RESULTS & DISCUSSION

We achieved

Priority

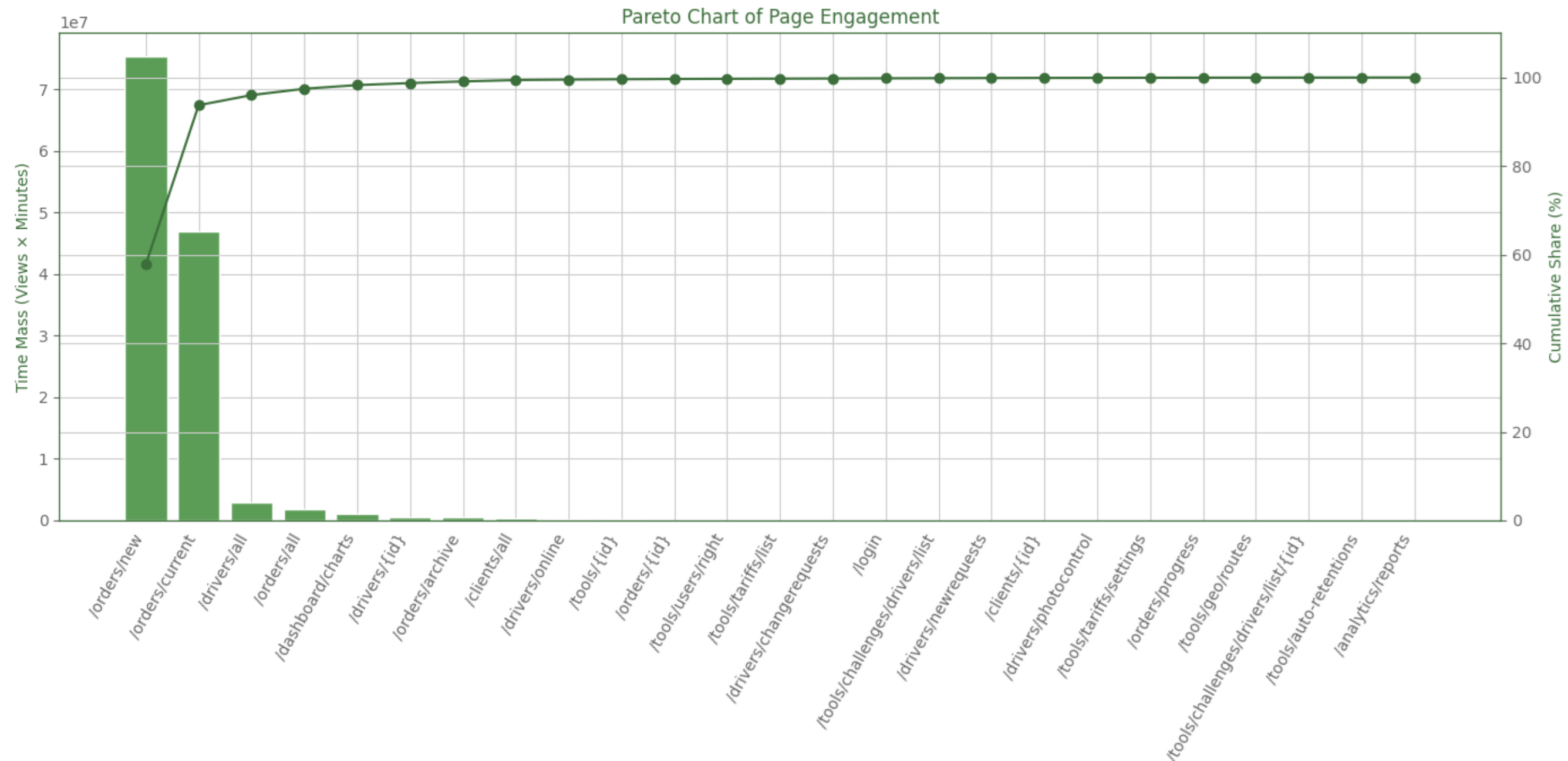
Mobile/Desktop/Both

Load Test Necessity

aligned with real users' usage

Hidden Risks Revealed: Aggregating dynamic URLs exposed several paths as a top-5 load generator, reclassifying it from "Low Priority" to "**Critical Load Test**."

Behavioral Segmentation (Depth vs. Breadth): Analysis of the **Views-per-User** ratio revealed two distinct user modes. A negative correlation was observed between user count and dwell time. "Navigator" profiles accessed multiple pages with low dwell times (and thus, requiring **Functional Testing**), while "Specialist" profiles exhibited extreme stationarity on single pages (requiring **Performance Testing and/or Load Testing**). It was revealed that a **small subset of pages generates the majority of total engagement load**, indicating the system's true high-impact surfaces.



CONCLUSION

User Behavior Analytics gives QA an opportunity to build its processes according to users need and not according to historical failure rates or code metrics. [2]

By prioritizing tests based on **Time Mass** and **Growth Trends**, testing efforts are aligned with actual business value, successfully identifying "blind spots" like low-traffic new features and high-load backend workflows.

Next Steps:

- Gap Analysis:** Automatically mapping analytics **Page Paths** to existing manual and automated test repositories will highlight coverage gaps instantly.
- Automated Test Generation:** Mined user flow data will be leveraged to automatically scaffold test scripts for high-frequency user journeys.
- Standardization:** The final goal is to fully adopt the **Criticality Score** as the standard metric, determining the required regression scope for every deployment.

ACKNOWLEDGEMENTS

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Real-world data for case studies was provided by <https://mobion.tech/>

REFERENCES

1. Das, S. and Gary, K. (2025). Regression Testing in Agile - A Systematic Mapping Study. *Software*, 4(2). <https://doi.org/10.3390/SOFTWARE4020009>

2. Moubayed, A., Alhindawi, N., Alsakran, J., Injadat, M. & Kanan, M. (2024). A Data-Driven Approach Towards Software Regression Testing Quality Optimization. *Automation, Control, and Information Technology*. <https://doi.org/10.1109/ACIT62805.2024.10877022>

