

Auror.

A photograph showing the backs of two police officers. They are wearing dark uniforms with high-visibility yellow vests over them. The word "POLICE" is printed in white on the back of each vest. They are standing in what appears to be a public space with other people in the background.

BUILDING A HYPERMEDIA API A RETROSPECTIVE



ABOUT US

Christiano Borchardt – senior developer with a focus on application architecture, scalability and security

James Corbett - technical co-founder, development team lead.

Auror – A crime prevention tool

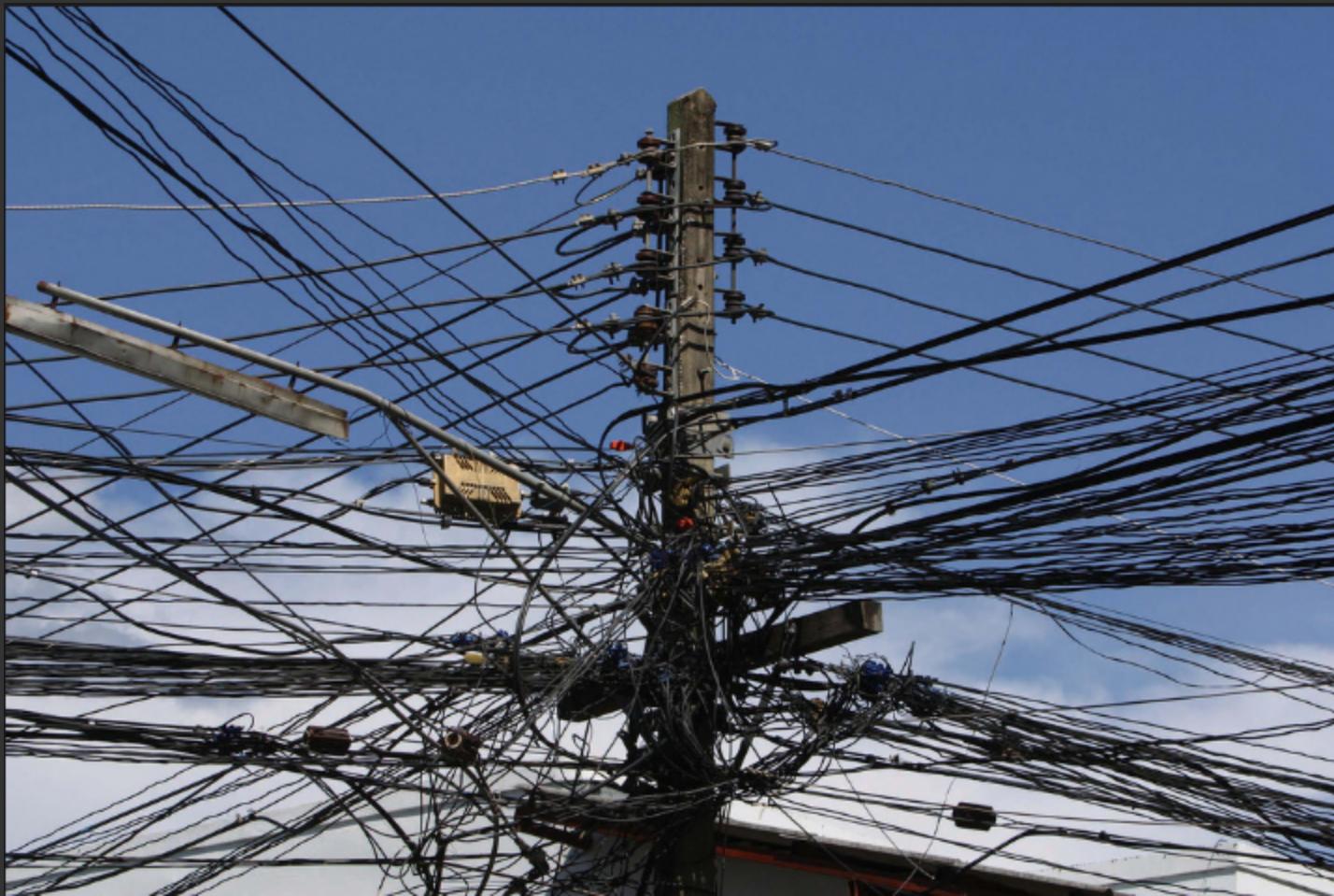


INTRODUCTION

- Our journey through building and consuming a Hypermedia API
- A retrospective of our experience
 - I. What went well
 - II. Challenges we faced



BACKGROUND



Investigation



PLANNING

- What should we build first?
- Designing the API
- Micro Services?
- Access Control



BUILD



BUILD



BUILDING THE CLIENT

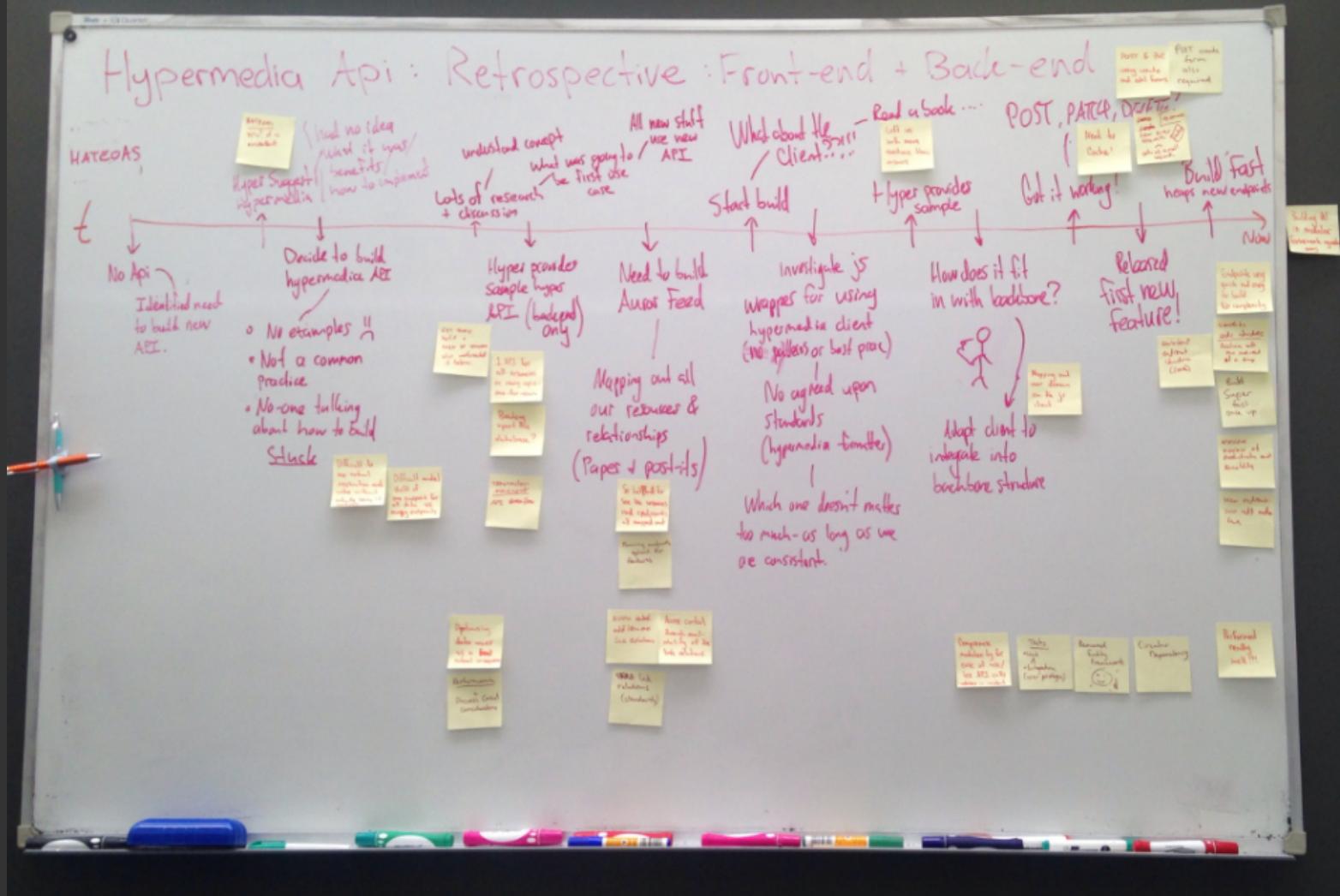
- Data Hydration
- BackboneJS
- Caching



Success



RETROSPECTIVE



WHAT WENT WELL

- Increased productivity and reusability
- Reduction of complexity
- Testable API



WHAT WENT WELL

Performance

□ 303	200	xhr	Other		1004 B	47 ms	
□ 152	200	xhr	Other		1021 B	50 ms	
□ 302	200	xhr	Other		1003 B	45 ms	
□ 255	200	xhr	Other		1001 B	61 ms	
□ 274	200	xhr	Other		1.0 KB	88 ms	
□ most-relevant-persons	200	xhr	eyedentify.min.js?v=1.8.15:58		309 B	37 ms	
□ 13722	200	xhr	eyedentify.min.js?v=1.8.15:58		309 B	37 ms	
□ 303	200	xhr	eyedentify.min.js?v=1.8.15:58		1004 B	44 ms	
□ 13092	200	xhr	eyedentify.min.js?v=1.8.15:58		309 B	37 ms	
□ 152	200	xhr	eyedentify.min.js?v=1.8.15:58		1021 B	45 ms	
□ 13718	200	xhr	eyedentify.min.js?v=1.8.15:58		309 B	37 ms	
□ 274	200	xhr	eyedentify.min.js?v=1.8.15:58		1.0 KB	44 ms	
□ 13218	200	xhr	eyedentify.min.js?v=1.8.15:58		309 B	36 ms	
□ 255	200	xhr	eyedentify.min.js?v=1.8.15:58		1001 B	48 ms	
□ 13237	200	xhr	eyedentify.min.js?v=1.8.15:58		309 B	37 ms	
□ 302	200	xhr	eyedentify.min.js?v=1.8.15:58		1003 B	47 ms	
□ qaapi2.auror.co	200	xhr	eyedentify.min.js?v=1.8.15:58		898 B	41 ms	
□ most-relevant-persons	200	xhr	Other		843 B	76 ms	
□ 13722	200	xhr	Other		974 B	66 ms	



WHAT WENT WELL

Visualising the API



CHALLENGES WE FACED

- Authorisation Performance
- Hypermedia in action
- Theory vs Practicality



AUTHORISATION PERFORMANCE

- Performance bottleneck on API reads due to authorization
- 90% of API calls are reads
- Moved access control logic to writes
- Trade-off between read and write – depends on your situation



HYPERMEDIA IN ACTION

- Not a common practice
- Hard to picture all the benefits of Hypermedia without seeing it in action or actually starting an implementation.



THEORY VS PRACTICALITY

- Additional complexity to accomplish something ‘simple’
- Theory vs Practicality
- Compromise between complete separation of resources and actual usage



HAVEN'T SOLVED YET

Caching becomes critical

How to manage transactions across resources



SUMMARY

- Taken you through our journey
- Visualizing the network of data
- Authorization & Access Control
- Integrating Hypermedia into your front-end



QUESTIONS



Auror.

Transforming how police and communities
prevent and solve crime in real-time.

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