

Rebuild the App in 80 days

Alex Leith

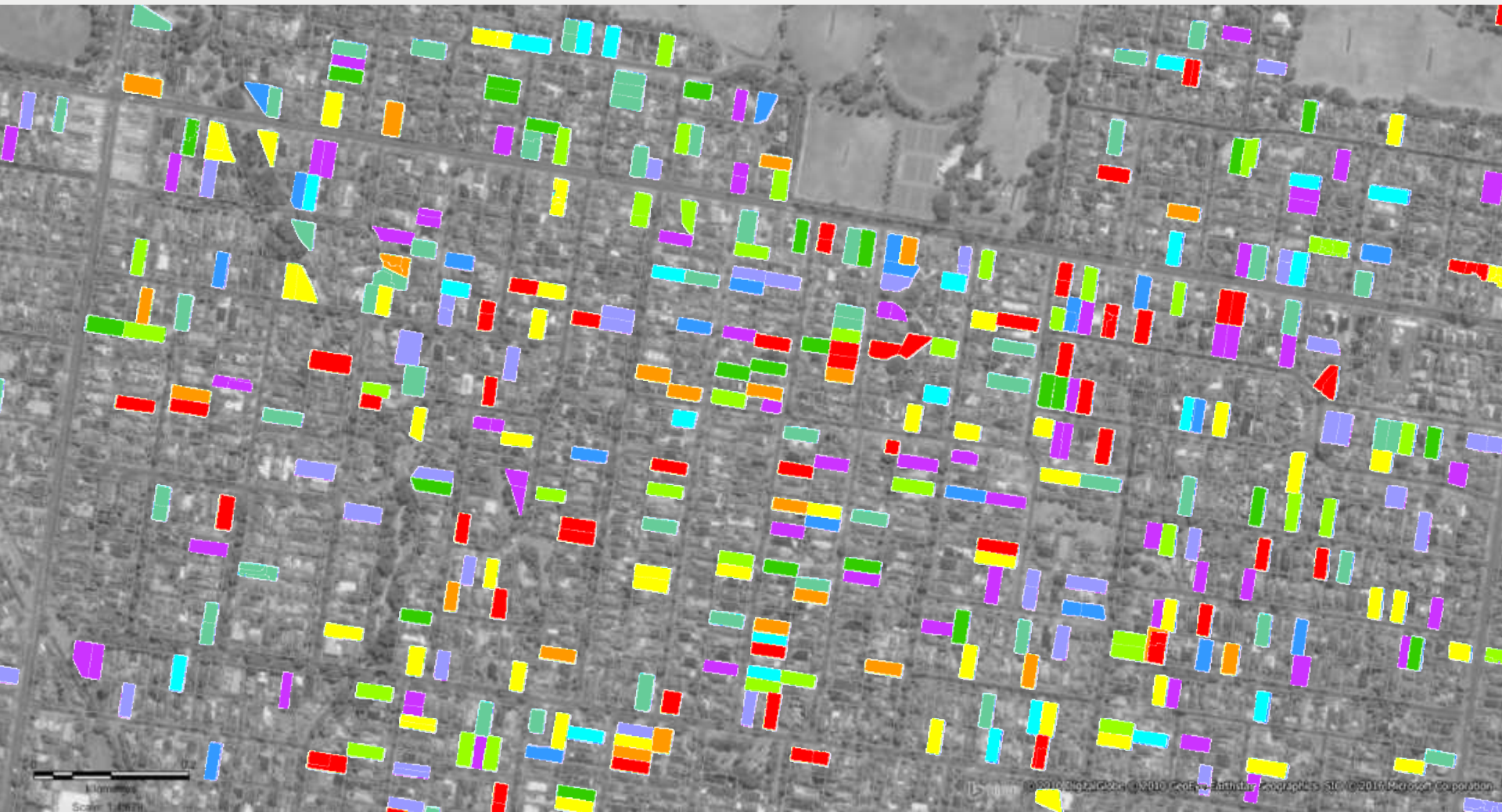
Software Developer and Project Manager, CRC·SI

About me

- Surveying and Spatial Sciences Degree with Honours thesis in Urban Planning
- Three years as GIS Tech and Admin at Glenorchy City Council
- Two years of DevOps and Full-Stack Development at Tidetech
- CRCSI Software Developer and Project Manager
- Various volunteering (SSSI, GeoRabble, FOSS4G and SotM Oceania 2018)

Greening the Greyfields

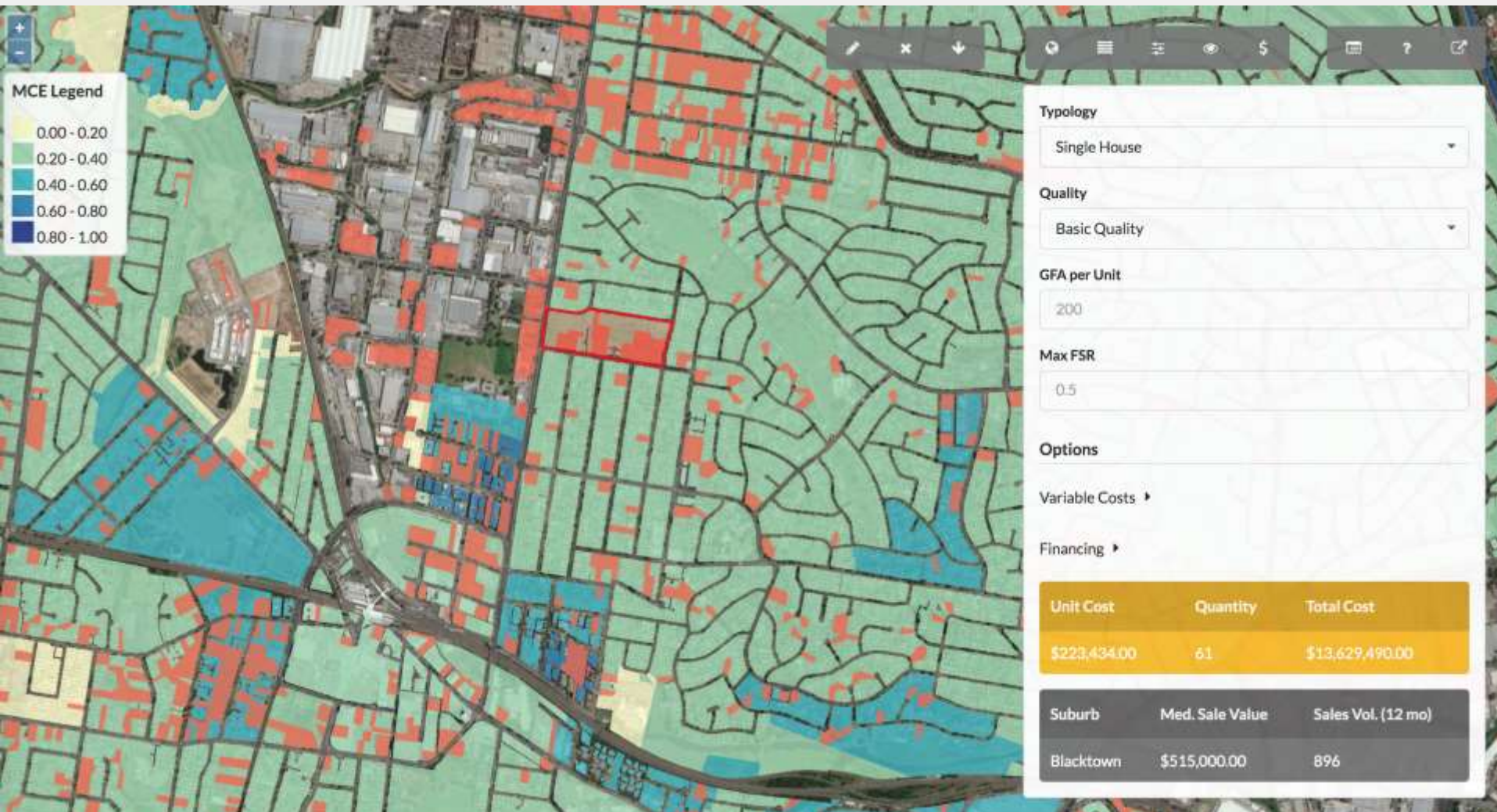
2014



Greening the Greyfields Apps

- Envision
 - Precinct identification (Multi-criteria evaluation)
 - Lot selection (Redevelopment potential)
 - Viability analysis
 - Export a precinct as GIS data
- Envision Scenario Planner (ESP)
 - Import a precinct as GIS data
 - Plan for redevelopment (in 3D interactive)
 - Compare and contrast

Envision



Envision Scenario Planner (ESP)

AURIN **Envision Scenario Planner** STIRLING DEMO ROMAN TRUBKA

Objects

Advanced 3 Storey Walkup
Advanced 3 Storey Walkup
Advanced 3 Storey Walkup
Advanced 3 Storey Walkup
Advanced 3 Storey Walkup
Advanced 3 Storey Walkup
Advanced 5 Storey High Rise
Advanced 5 Storey High Rise
Advanced 5 Storey High Rise
Advanced 5 Storey High Rise

Show 10 rows per page Page 1 of 10

Typologies

Advanced 3 Storey Walkup
Advanced 5 Storey High Rise
Advanced Garden Court

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Lots

Advanced 3 Storey Walkup
Advanced 5 Storey High Rise
Advanced Garden Court

Show 10 rows per page Page 1 of 1

Residential
Commercial
Institutional
Mixed Use
Open Space
Pathway
Asset

Reports

Residential Report

Assessing 87 entities

Space

Lot Size (m ²)	78,278.43
Extra Land + Lawn (m ²)	8,561.21
Extra Land + Annual Plants (m ²)	5,707.48
Extra Land + Hardy Plants (m ²)	19,976.17
Extra Land + Impermeable (m ²)	22,829.90
Extra Land (m ²)	57,074.76
Footprint Area (m ²)	21,203.67
Gross Floor Area (m ²)	34,178.80
Plot Ratio	0.39
Dwelling + Density (dwelling/ha)	32.87
Dwellings + Total (dwellings)	312
No. Occupants (people)	630

Dwelling Mix by Subclass

Dwelling Mix by Bedrooms

Previous State (June 2017)

AURIN WORKBENCH Envision Scenario Planner

Error Failed to render entity oYr86KWRAB6Scr4ct SCENARIO

Objects

COM - Activity Centre (Corner)
COM - Activity Centre (Corner)
COM - Supermarket and Shopping Mall
COM - Supermarket and Shopping Mall
High Rise - 5 Storey 1 and 2 Bed - Basic - 20Dw
High Rise - 5 Storey 1 and 2 Bed - Efficient - 20Dw
High Rise - 5 Storey 1 and 2 Bed - Efficient - 20Dw

Residential
Commercial
Institutional
Mixed Use
Open Space
Pathway
Asset

Reports

Select

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Elements Console Sources Network Performance Memory Application Security Audits

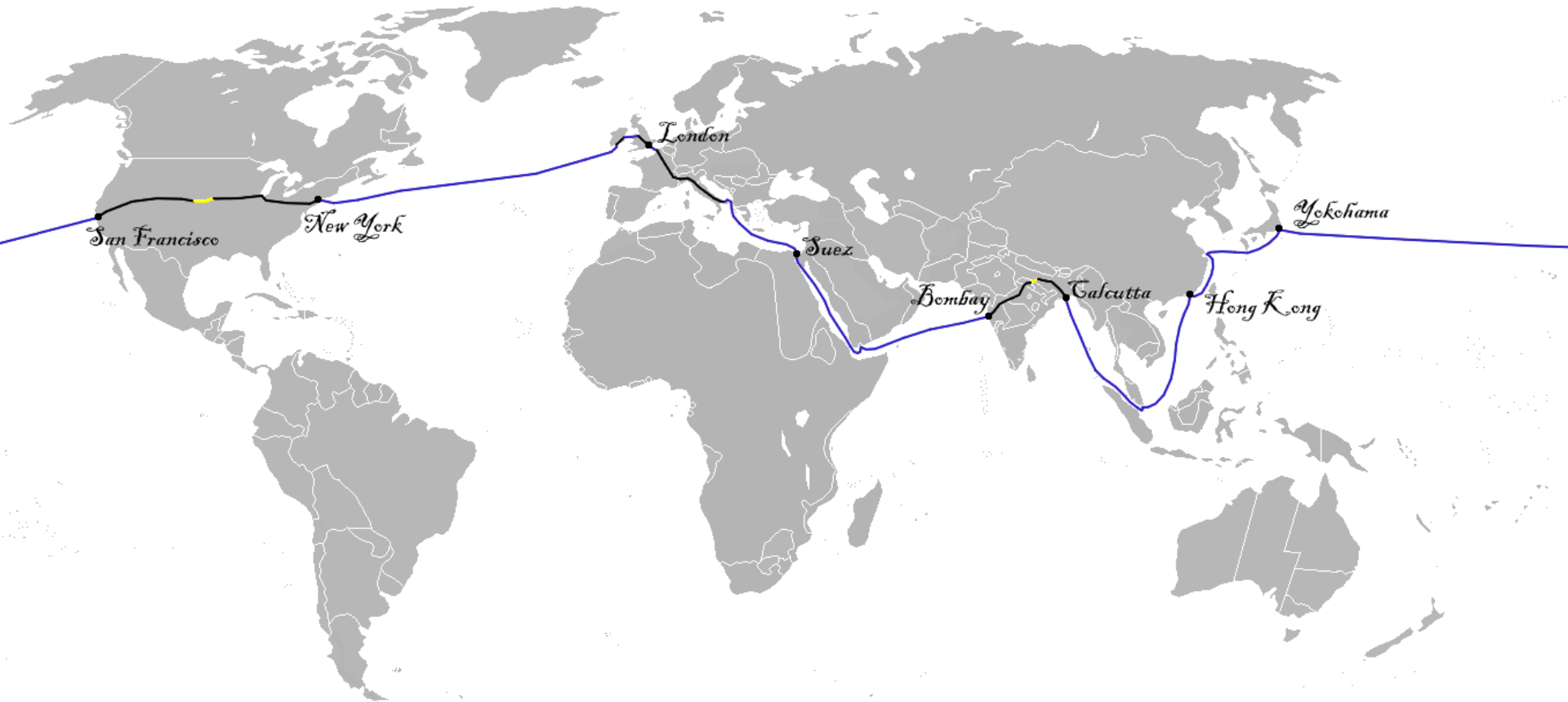
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at Array.forEach (<anonymous>)
at Function._.each._.forEach (https://esp.aurin.org.au/packages/underscore.js?hash=27b3d66...:149:11)
at SockJS.self.socket.onmessage (https://esp.aurin.org.au/packages/ddp-client.js?hash=2750240...:2735:11)
at SockJS.REventTarget.dispatchEvent (https://esp.aurin.org.au/packages/ddp-client.js?hash=2750240...:175:22)
at SockJS._dispatchMessage (https://esp.aurin.org.au/packages/ddp-client.js?hash=2750240...:1160:10)
at SockJS._didMessage (https://esp.aurin.org.au/packages/ddp-client.js?hash=2750240...:1218:18)
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4 [Q] Unhandled promise rejection: Error: Failed to download file files/eAiPPn2GuL9mLeKAh-undefined from S3 bucket aurin-esp [500]
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at https://esp.aurin.org.au/packages/ddp-client.js?hash=2750240...:2736:11
at Array.forEach (<anonymous>)
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D GET https://api.mapbox.com/v4/mapbox.satellite/12/4013/2600.png?access_token=pk_YST6IjA2Yz8jOTM3YzF1YzljYmQ5NDAxZWl1Y2ZlNzZlM2E1In0.v0ZL2SPFEPi_f7ziAIP_yw 401 (Unauthorized)

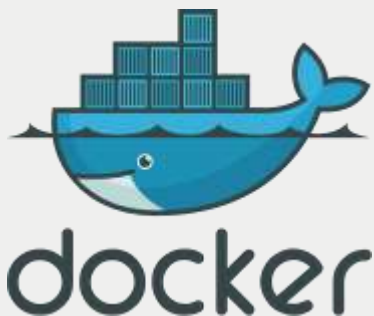
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Rebuild the App in 80 Days



Who's with me?

- University of Canterbury
 - Ines Falcao and Rita Dionisio
- CRCSI
 - Alex Leith and Phil Delaney
- Swinburne University
 - Stephen Glackin



Tech Stack

- Mapbox GL
- Vue.js + Bootstrap
- Django + Django REST
- Postgres + PostGIS
- Docker

What's the plan

- Identify the minimum viable product
 - Don't build things you don't need
- Stand on the shoulders of giants
 - Someone else has had this problem
- KISS: Keep it simple, stupid!
 - It's harder to have less buttons than more
- Start small and iterate
 - They call it agile, but I call it sensible!



Current State (ESpV2 version 1.0)

Project 1

Alex's Blacktown Scenario



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Assessing 14 typologies

Summary

Built environment

Total precinct area (m ²)	22,343
Total building area (%)	19
Total pathway length (km)	0.1
Total residents (people)	110
Total jobs (jobs)	0

Project 2

Mark's Blacktown project



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Assessing 9 typologies

Summary

Built environment

Total precinct area (m ²)	22,343
Total building area (%)	15
Total pathway length (km)	0
Total residents (people)	116
Total jobs (jobs)	0

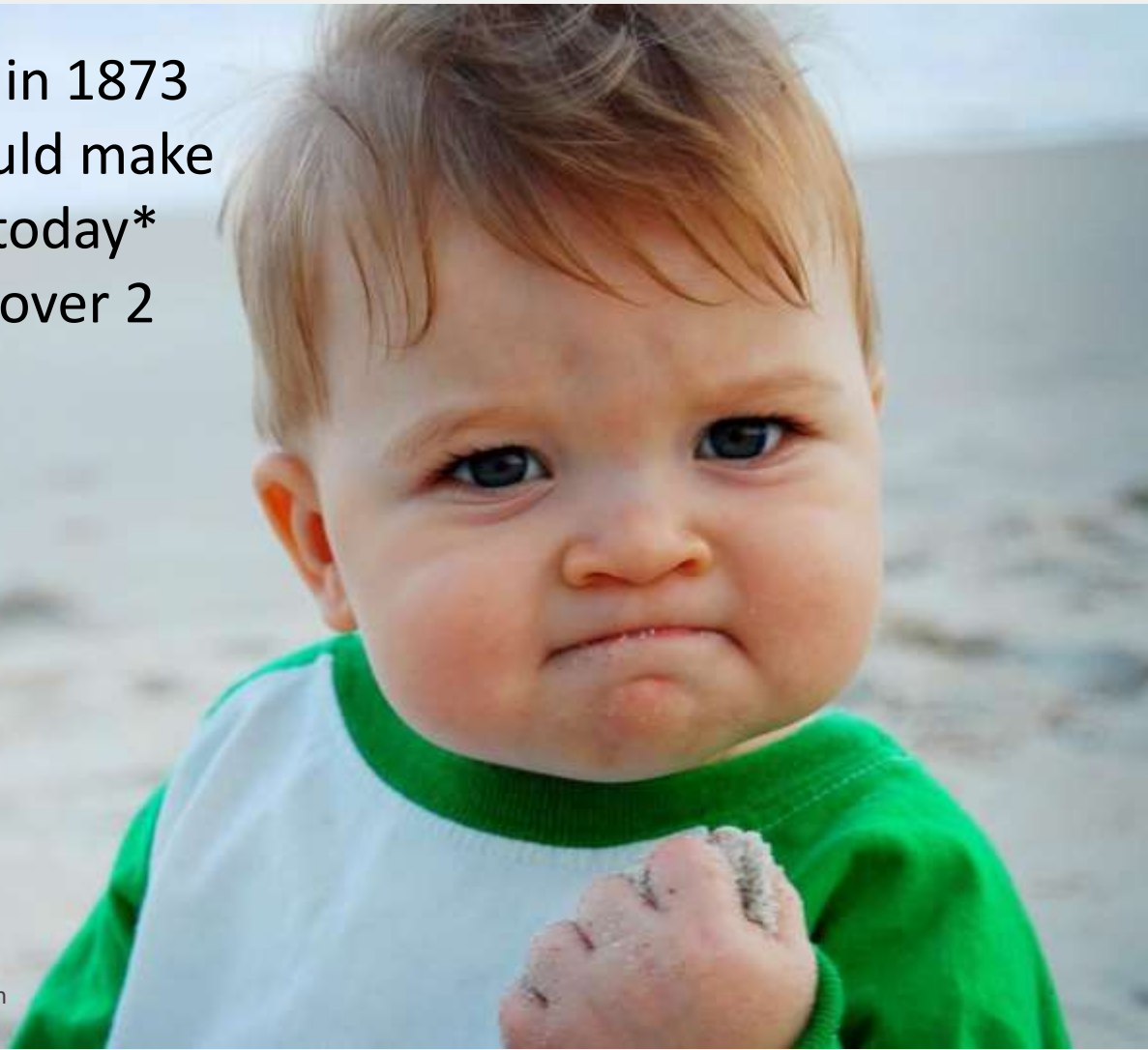
What's next

- ESP is currently being applied in:
 - Blacktown
 - Maroonda and Knox
 - Christchurch
 - Your place?!

Capability

- Jules Verne said 80 days in 1873
- A passenger airplane could make the journey in 30 hours today*
- The ISS does it in a little over 2 hours

*<https://travel.stackexchange.com/questions/5829/fastest-route-around-the-world-on-regularly-scheduled-transportation>



Smart Cities and Suburbs

- Real legislative change
- Timeline to achieve planning scheme amendment in ~12 months
- Potential property projects after that

Conclusion

- Simplicity is key
- There's an app for that
- Agile is not just a buzzword
- The software is easy...
engagement is my next challenge!