Rebuild the App in 80 days

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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 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)
Previous State (June 2017)

- 31,000 lines of code in main project
- Around 50,000 lines of code in eight bespoke custom dependencies
- Fundamental features broken:
  - Shift-click didn't work
  - Basemap didn't display
  - 3D assets didn't load
  - A multitude of broken 'promises'
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!
OK! WE HAVE THE PLAN!!

LET'S DO THIS!
Current State (ESPv2 version 1.0)
Outcomes

- Less code – < 30,000 lines of code
  - Mix of Python and JavaScript
- Contributions to upstream projects
  - Fix to Mapbox GL Draw
  - Assistance on implementing Slice in Turf
- Happy developers – We like coding it
- Usable software! – Users are happy too 😊
  - Feedback so far has been very positive
What’s next

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