

Behavioural Insights with Ghostwriter

A Digital Solution to a Paper Problem

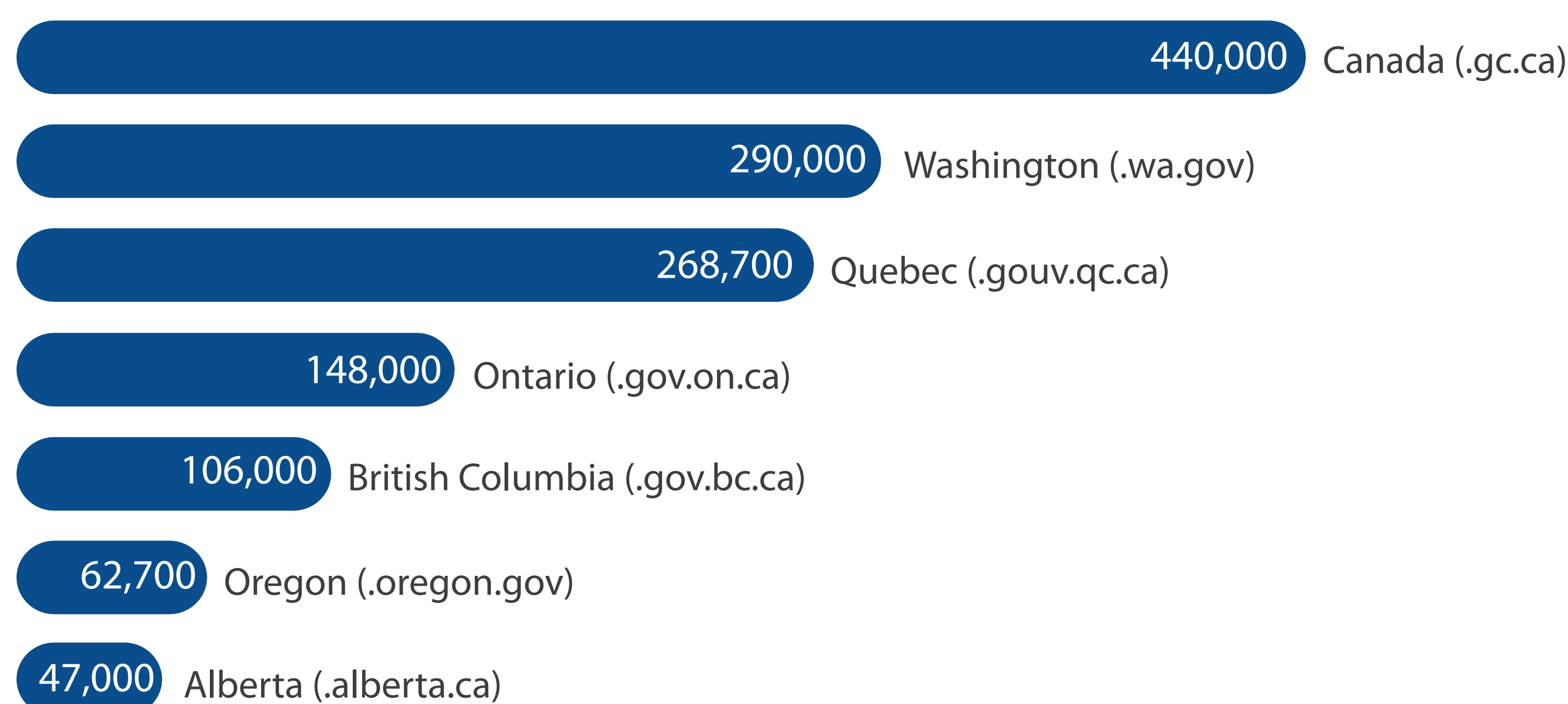
Paper forms and randomized trials don't always mix

Digital government → new data + analysis

- More usable services for more users at less cost
- Ideal for randomized trials

But paper forms remain common

Google search results for PDF forms by web domain



Many trials randomly assign paper mailers

- e.g. Increasing voter turnout (Panagopoulos 2011)
- Shifting paper license renewals online (Castelo et al. 2015)
- Improving diversity in public service recruitment (Linos 2017)

Others randomly assign online forms

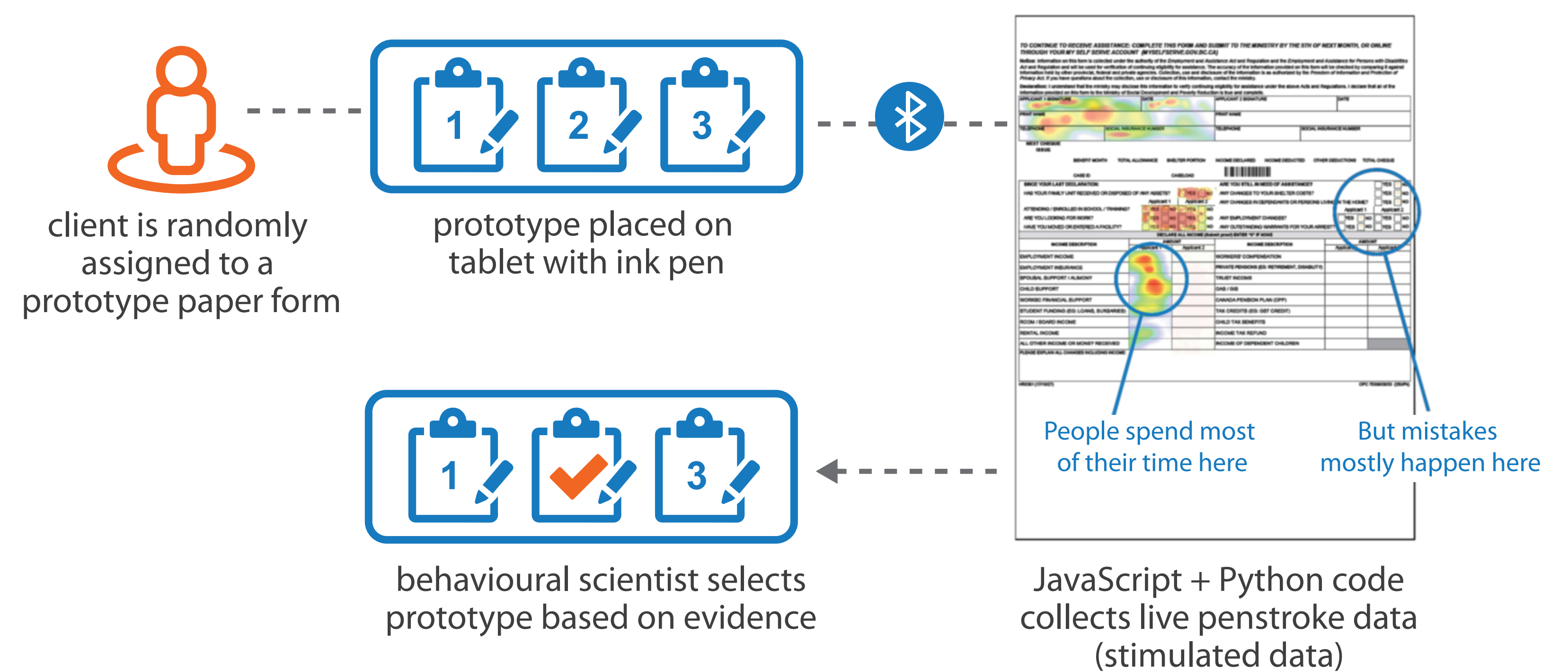
- e.g. Student aid forms in the US (Bettinger et al. 2012)
- Health insurance forms (Appelt et al. 2014)
- Organ donation forms (Sallis et al. 2018)

It's rare to randomly assign paper forms

- Important exceptions include rotating assignment of paper-based organ donation forms (Ontario, 2019)

A new tool for randomized user testing of paper forms

How it works



Analog in the front, digital in the back

- Ghostwriter uses a commercial Electro-Magnetic Resonance tablet with "smart" ink pen to time and record pen movements
- For clients, the experience is the same as an original paper form

What data does it generate?

- Output is similar to cursor (e.g. MouseLab, Johnson et al. 1989) or eye-tracking data
- Measures error rates, completion time/delay, flow + sequencing
- Useful for behaviourally-informed design (e.g. dynamic heatmaps)

Improving access to social benefits

- We're using Ghostwriter for a project with the Ministry of Social Development and Poverty Reduction
- We combine behavioural design and randomized evaluation to reduce errors in monthly income assistance reports

What's the use case?

- When online forms are infeasible (e.g. homeless shelter application)
- When small tweaks = complex logistics (e.g. paper tax filings)
- When field trials place new burdens on citizens (e.g. emergency release forms in hospital)

