

A Supplemental Material

A.1 Experiment details

Crowd workers were U.S.-based Mechanical Turk workers who were paid \$3.50 to write a review of Chipotle using the keyboard interface illustrated in Figure 1. They could elect to use the interface on either a smartphone or on a personal computer. In the former case, the interaction was natural as it mimicked a standard keyboard. In the latter case, users clicked with their mouses on the screen to simulate taps. (There did not seem to be significant differences between these two groups.) The instructions are given below:

Go to <URL> on your computer or phone.

Try out our new keyboard by pretending you're writing a restaurant review. For this part we just want you to play around -- it doesn't matter what you type as long as you understand how it works. Click the submit button and enter the code here:

Did you use your phone or did you use you computer?
How would you describe the new keyboard to a friend? How do you use the phrase suggestions?

Next, please go back to <URL> on your computer or phone (reload if necessary).

Now please use the keyboard to write a fun review for Chipotle, the infamous chain Mexican restaurant. The ideal review is well written (entertaining, colorful, interesting), and has specific details about Chipotle menu items, service, atmosphere, etc. Please do not randomly click on nonsense suggestions -- we all know Chipotle doesn't serve pizza or burgers. We will bonus our favorite review!

A.2 Qualitative feedback

We include quotes from feedback from participants who used the system with suggestions generated by the reference model h_0 , i.e., n -grams with temperature 1/2. Some users found the suggestions accurate at predicting what they intended to say, some found them useful in shaping one's thoughts or finding the "right words," and others found them overly simplistic or irrelevant.

- "The phrases were helpful in giving ideas of where I wanted to go next in my writing, more as a jumping off point than word for word. I've always liked predictive text so the phrases are the next level of what I never knew I wanted."
- "Kind of easy to review but they also sometimes went totally tangent directions to the thoughts that I was trying to accomplish."
- "I was surprised how well the words matched up with what I was expecting to type."
- "I did like the phrase suggestions very much. They really came in handy when you knew what you wanted to say, but just couldn't find the right words."
- "I thought they were very easy to use and helped me shape my thoughts as well! I think they may have been a bit too simple in their own, but became more creative with my input."

A.3 Fitted model weights

The following table gives the fitted weights for each feature in the log-linear model, averaged across dataset folds.

| | base LM | is_long | PUNCT | ADJ | ADP | ADV | CONJ | DET | NOUN | NUM | PRON | PRT | VERB |
|------|---------|---------|-------|------|------|------|------|------|------|------|------|------|------|
| mean | 2.04 | 0.92 | -1.16 | 1.03 | 1.45 | 0.45 | 0.91 | 0.36 | 0.96 | 0.87 | 1.68 | 0.23 | 0.79 |
| std | 0.16 | 0.14 | 0.26 | 0.61 | 0.38 | 0.55 | 0.26 | 0.22 | 0.14 | 0.27 | 0.20 | 1.00 | 0.32 |