Does the shortest green block’s lexical features (bigrams, remove(except(brown))) parser over logical forms (e.g. Model: log SHRDLURN)?

Now that our models are better, are full NLIs still worth pursuing? Bernick, 1996

Early NLIs with “Sum the totalpay for chefs”

This work: can we restrict NLI languages without compromising UX and making NLI engineering easier?

Natural language is (Hendrix, Carbonell, Joshi, et al., 1982) flexible, easy to learn, faster than menus/GUIs, compositional but is also ambiguous, verbose, repetitive

This could make natural language interfaces (NLIs) less desirable, despite pushes for fully-natural NLIs in many domains

NLyze (Excel)

PixelTone (Photoshop)

“Sum the totalpay for chefs”

“Change the color of the shirt”

NLI programs with controlled languages (Perlman, 1984; Ogden and Bernick, 1996) developed partially due to computational limitations. Now that our models are better, are full NLIs still worth pursuing?

Experiment

16 participants, 2 conditions
- Unrestricted communication
- Restricted communication with only the following words:
  - all, cyan, red, brown, orange, except, leftmost, rightmost, add, remove, to (corresponding to logical language)

Task performance (lower is better)

Subjective (NASA-TLX) measures

Restricted users show same/better task performance with better UX measures; simpler languages = better performance

Discussion

- Consider restricting NLIs for well specified domains with finite action spaces
- Conveying NLI limitations to users improves learning

Specialized programming languages/GUIs

This work

Fully natural NLIs

Consider the full spectrum and its tradeoffs between learnability and expressivity.

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