Touch Screen Text Entry as Cognitively Bounded Rationality

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Abstract: Typing on a smartphone is an everyday activity that involves various cognitive and behavioural processes. This paper models touch screen text entry as cognitively bounded rationality. The model aims to maximise error-free text throughput, while being constrained by its architecture and task environment. Empirical data are used to calibrate the model, which demonstrates adequate fit. The model is used to explore how strategic choices under given constraints affect text entry performance. The preliminary model presented here serves as a confirmation that touch screen text entry can be modelled as cognitively bounded rationality. Future extensions by integration into richer cognitive architectures are outlined.