## Number of Query Reformulation Types (QRTs) – Repeated vs Non-repeated Tasks Number of New Queries – Repeated Task(s) Number of New Queries – Non-repeated Task(s) (U = 17, p = .03, ES = 0.21) \*Group Group 2.00 low high high 1.75 reform 1.50 1.25 1.00 1.0 , Finance 1, Ubuntu 3, Finance 3, Bias (Phase, Task Name) Time → (Phase, Task Name) Time → **New Queries** (a) (b) Number of Query Generalizations – Repeated Task(s) Number of Query Generalizations – Non-repeated Task(s) (U = 60, p = .07, ES = 0.71) † Group Group 8.0 low low 0.6 gen high high 0.0 1, Finance 3, Finance 1, Ubuntu 3, Bias (Phase, Task Name) Time → (Phase, Task Name) Time → Generalizations (c)(d) Number of Query Specializations – Repeated Task(s) Number of Query Specializations – Non-repeated Task(s) 1.0 Group Group 8.0 sbec 29ds 1.2 low low high high reform\_n=0.6 duery 8.0 0.0 1, Ubuntu 1, Finance 3, Finance 3, Bias (Phase, Task Name) Time → (Phase, Task Name) Time → Specializations (e) Number of Word Substitutions in Queries – Repeated Task(s) Number of Word Substitutions in Queries – Non-repeated Task(s) 0.5 Group Group low high high query\_reform\_n\_ 0\_ 10\_ reform 0.2 dneux 0.1 0.0 0.0 1, Finance 3, Finance 1, Ubuntu 3, Bias (Phase, Task Name) Time → (Phase, Task Name) Time → **Word Substitutions** (g) (h) Number of Repeat Queries – Repeated Task(s) Number of Repeat Queries – Non-repeated Task(s) 3.0 Group Group low low † 2,2.5 high high reform 2.0 query\_ 1.5 0.5 1.0 1, Finance 1, Ubuntu 3, Bias 3, Finance (Phase, Task Name) Time → (Phase, Task Name) Time → **Repeat Queries** Repeated Tasks: Personal Finance Non-repeated task: Ubuntu Ethics, Algorithmic Bias