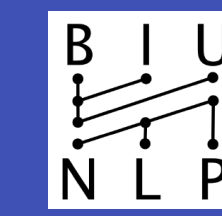# SummHelper: Collaborative Human-Computer Summarization

Aviv Slobodkin, Niv Nachum, Shmuel Amar, Ori Shapira, Ido Dagan
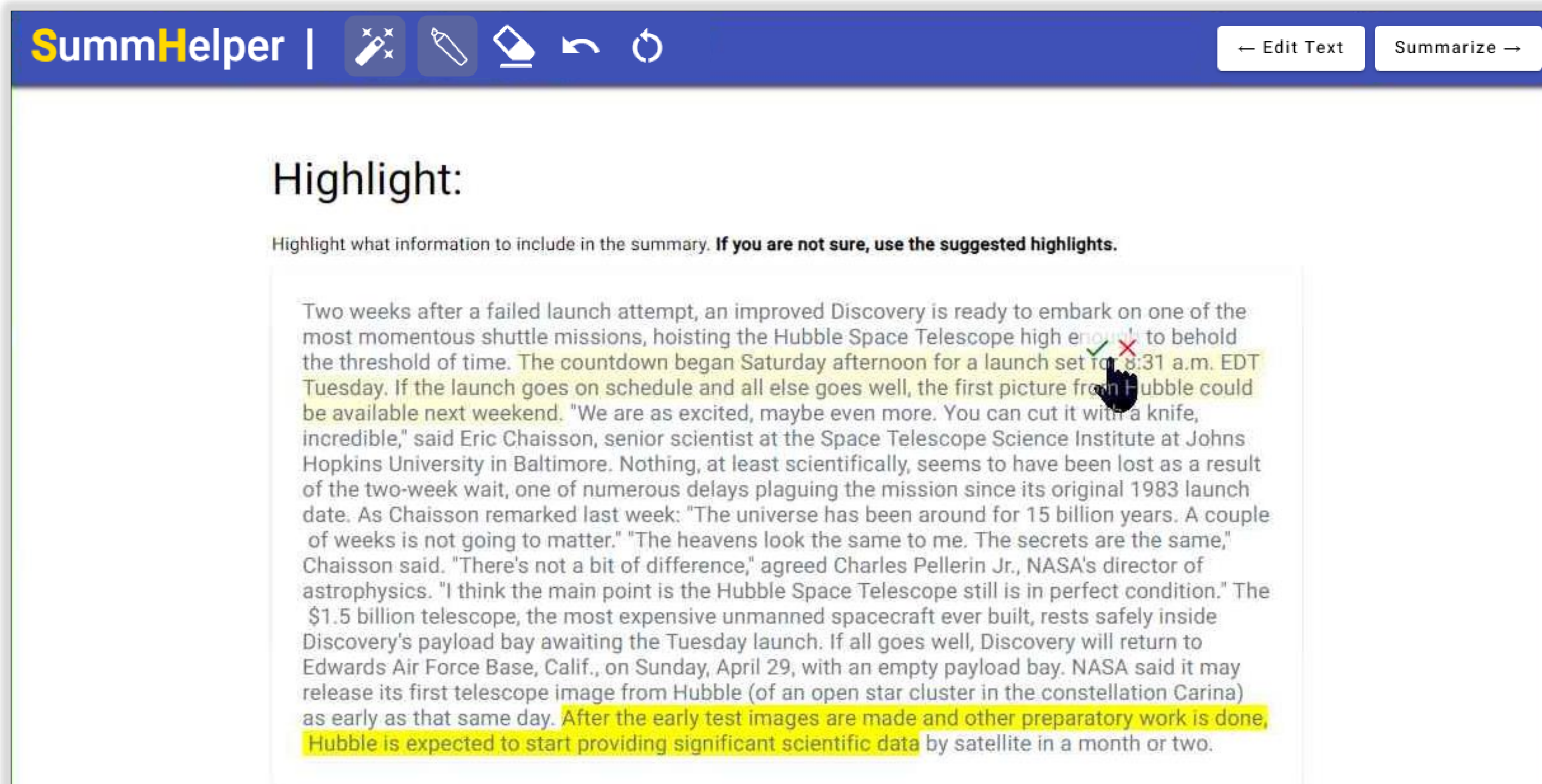
BIU NLP | Bar-Ilan University אוניברסיטת בר-אילן | amazon

A two-step summarization process that allows a human 👤 to refine automatically produced 🪄 outputs

✓ Better content selection   ✓ Better generation

Step 1: Content Selection
🪄 SummHelper suggests content
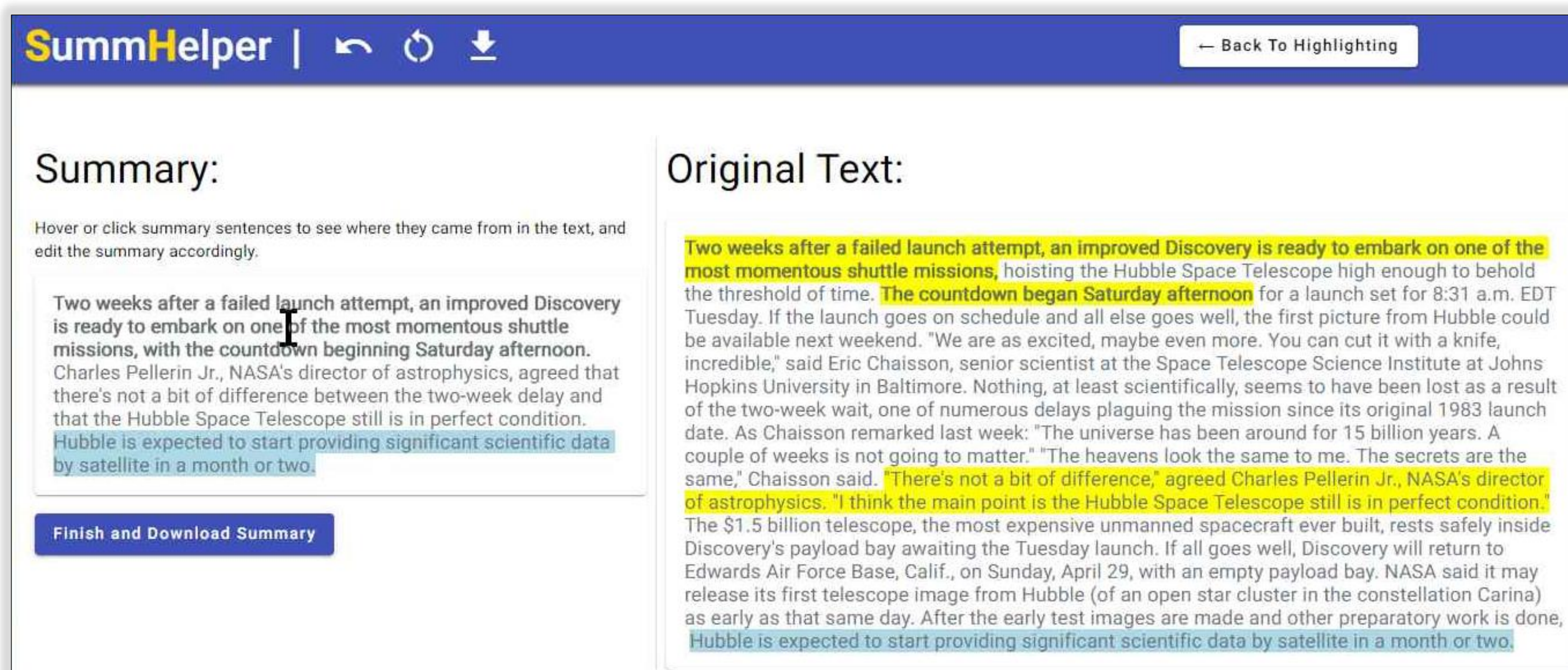👤 User selects the desired content

- 🪄 reveals sentences from an extractive summarizer

- 📝 allows highlighting desired text

- Can accept ✓ or reject ✗ entire suggestions when hovering 👆

Step 2: Content Consolidation
🪄 SummHelper consolidates selected content + maps summary to source for quick assessment
👤 User edits the summary as needed

- Selected spans → summary with "Controlled Text Reduction" (Slobodkin et al., 2023)

- Summary sentences and source texts are mapped via fast lexical similarity

- Hovering **emboldens the alignment**; clicking it sets a blue highlight

- Summary can be edited I with alignments updating on-the-fly

User Studies
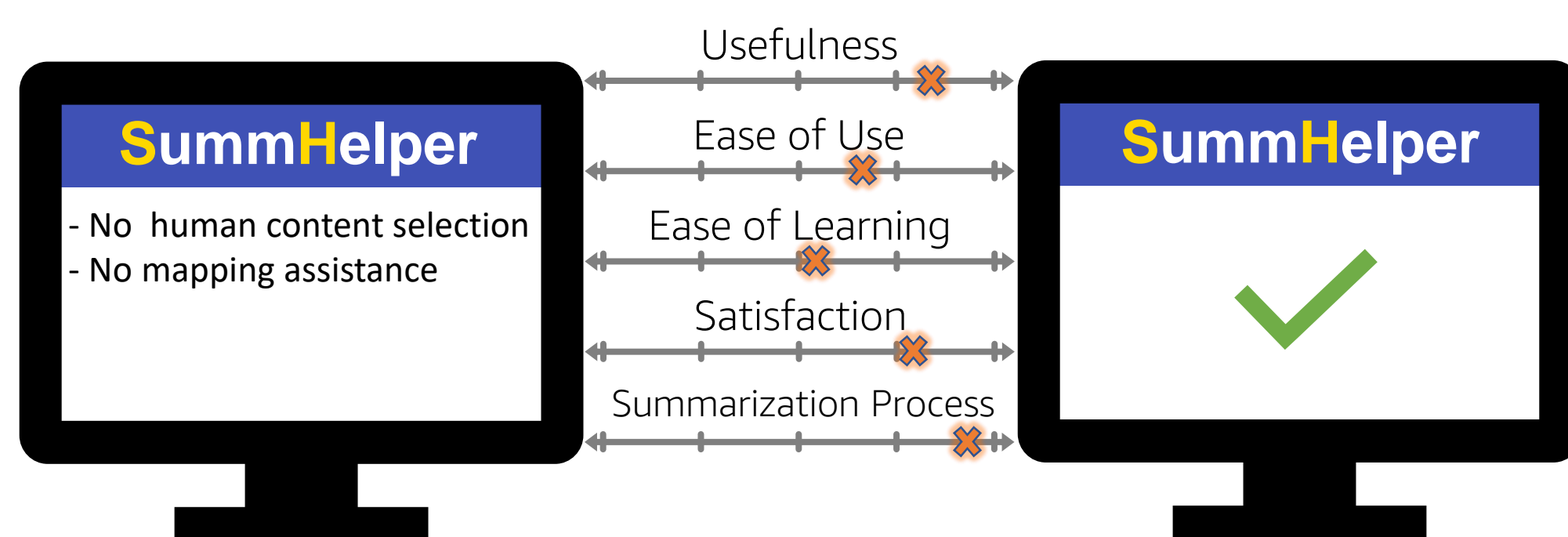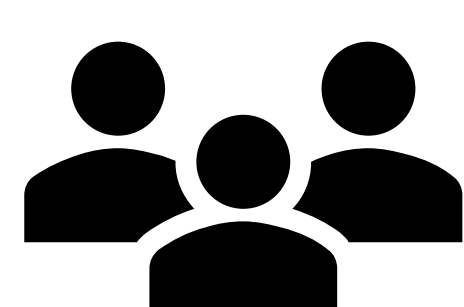
Comparative Usability Test

System Aspect	Score
Highlights suggestion model	3.7 (1.0)
Alignments algorithm	4.3 (1.0)
CTR model	
Summary coherence	4.2 (0.7)
Summary non-redundancy	4.6 (0.4)
Highlights coverage	4.7 (0.4)
Highlights adherence	4.2 (0.7)
Overall satisfaction	4.0 (0.7)
General	
Intuitiveness of highlighting	4.5 (0.4)
Likeliness to recommend	4.2 (0.7)

Usability Study (SUS questionnaire)
Overall, very high satisfaction and the desire to incorporate in everyday work.

SummHelper