

Extending the NASA-TLX





Research Objective

We are interested in creating an extension of the NASA-TLX that allows for clearer interpretation of scores using cut off points that indicate workload is too high. Extending the NASA-TLX to include this element will make the NASA-TLX a more effective tool in making decisions regarding humanautonomy teams.

Research Approach

- Literature review of the NASA-TLX
- Interview scientists at JPL to identify strengths and weaknesses of the NASA-TLX

Figure 8.6

NASA Task Load Index

Hart and Staveland's NASA Task Load Index (TLX) method assesses work load on five 7-point scales. Increments of high, medium and low estimates for each point result in 21 gradations on the scales.

Name	Task	Date	
Mental Demand	How	mentally demanding was the task	?
Very Low		Very Hig	 ph
Physical Demand	How physical	ly demanding was the task?	
Very Low		Very Hig	 jh
Temporal Demand	How hurried o	or rushed was the pace of the task	?
Very Low		Very Hig	 ah
Performance	How success you were aske	ful were you in accomplishing what ed to do?	at
Perfect		Failur	 ``e
Effort	How hard did your level of p	you have to work to accomplish erformance?	
Very Low		Very Hig	 ,h
Frustration	How insecure and annoyed	, discouraged, irritated, stressed, wereyou?	
Very Low		Very Hig	 ah
			_

- Create extension to indicate when workload scores are too high, and raters will experience a decrease in performance
- Present extension to the scientists at JPL for feedback
- Implement feedback
- Test extension in an experiment.

Research Team

Eric McCoy, Ellie Kazemi, Adisa Ptah, Helina Mekonnen, Amir Rahmani (JPL), ARCS fellows and faculty, CSUN



High Workload

Low Workload