THE QUANTITATIVE DATA COLLECTED FROM USER TESTING (TASK COMPLETION TIME, ERROR RATE, SUS). THE TASKS ARE AVAILABLE IN [69] and [70]

ABSHER MOBILE APP

Attribute	Tasks Included	Avg Task Completion Time (sec)	Avg Error Rate	SUS score
Effectiveness	17 tasks (1–13, 22–25)	62 sec	0.18	-
Efficiency	10 tasks (1, 3, 4, 7, 10, 11, 12, 24, 25)	95 sec	0.21	-
Learnability	8 tasks (3, 4, 10, 11, 12, 22, 23, 24)	78 sec → 54 sec (after second attempt)	0.12 → 0.07 (errors drop)	-
Satisfaction	All tasks	-	-	SUS = 63 (OK)
Memorability	8 tasks (3, 4, 10, 11, 12, 13, 22, 23)	82 sec → 68 sec (revisit)	0.15 → 0.10	-
Error	11 tasks (2, 3, 4, 6, 7, 10, 11, 12, 22, 24, 25)	71 sec	0.24	-

AGILE SPM TOOL

Attribute	Tasks Included (by No.)	Avg Task Completion Time (sec)	Avg Error Rate	SUS
Effectiveness	1–14	75	0.16	–
Efficiency	1, 3, 4, 5, 6, 7, 8, 10, 11	105	0.22	–
Learnability	3, 4, 5, 6, 7, 8, 10, 11	90 → 65 (2nd attempt)	0.18 → 0.10	–
Satisfaction	1–14 (all)	-	-	SUS = 61 (“OK”)
Memorability	3, 4, 5, 6, 7, 8, 10	88 → 72 (revisit)	0.16 → 0.12	–
Error	2, 3, 4, 6, 7, 8, 10, 11, 12	80	0.26	–

APP	Metric	Min Value	Max Value
Absher	Task Completion Time (sec)	10 sec	200 sec
Agile tool		15 sec	180 sec
Both	Error Rate	0	1
Both	SUS Score	0	100

- **All the data above are averages across tasks and users.**
- **Task completion time and error rate are negative metrics because higher values indicate worse user experience, whereas SUS is a positive metric.**

REFERENCES

[69] A. Alshabib, N. Alakkas, and J. Hassine, “A Comparative Study of Heuristic Evaluation and Cognitive Walkthrough: An E-Government Usability Assessment Case Study,” SpringerA Alshabib, N Alakkas, J HassineArabian Journal for Science and Engineering, 2025•Springer, vol. 50, no. 10, pp. 7801–7830, May 2025, doi: 10.1007/S13369-025-09980-4.

[70] E. Alshabeeb, H. Alshammare, N. Alakkas, and M. Alshayeb, “Evaluating Usability as a Key Human Factor in Agile SPM Tools Through Expert-Based Techniques,” in 39th IEEE/ACM International Conference on Automated Software Engineering Workshops (ASEW), Institute of Electrical and Electronics Engineers Inc., 2024, pp. 136–145. doi: 10.1145/3691621.3694963.