




SBB HoloGuide

Revolutionizing Train Door Maintenance with AR


Team Members: Riccardo Bollati, Federica Bruni, Luca Tagliavini, Christopher Zanolli
Supervisors: Julia Chen, Zuria Bauer, Hermann Blum

MOTIVATION

Dynamic railway maintenance demands adaptability and expertise, yet current systems lack clear guidance [1].
SBB HoloGuide bridges this gap with AR-powered train door maintenance.



3x Maintenance Manuals
(~170 pages each)



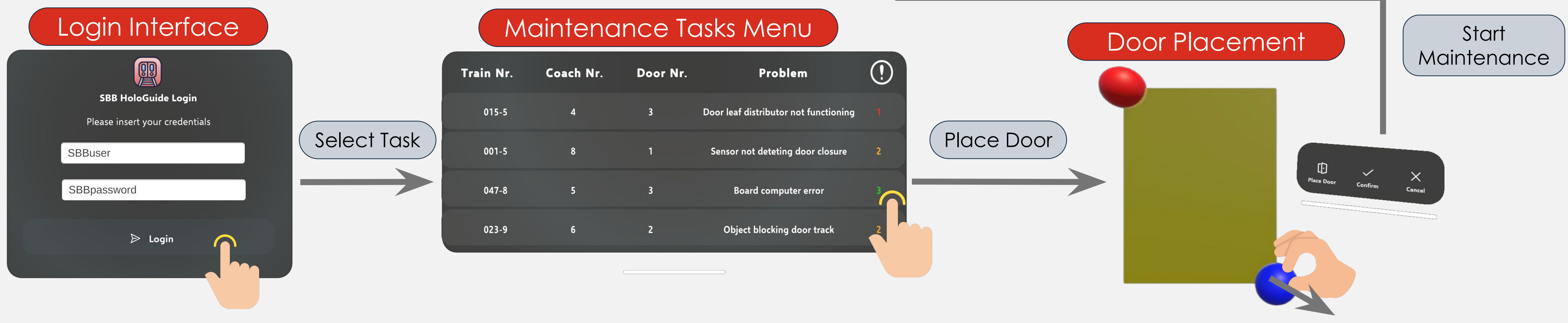
2x Maintenance Log Databases
(~1.8k entries each)





More than 300 components!

CORE MAINTENANCE FLOW

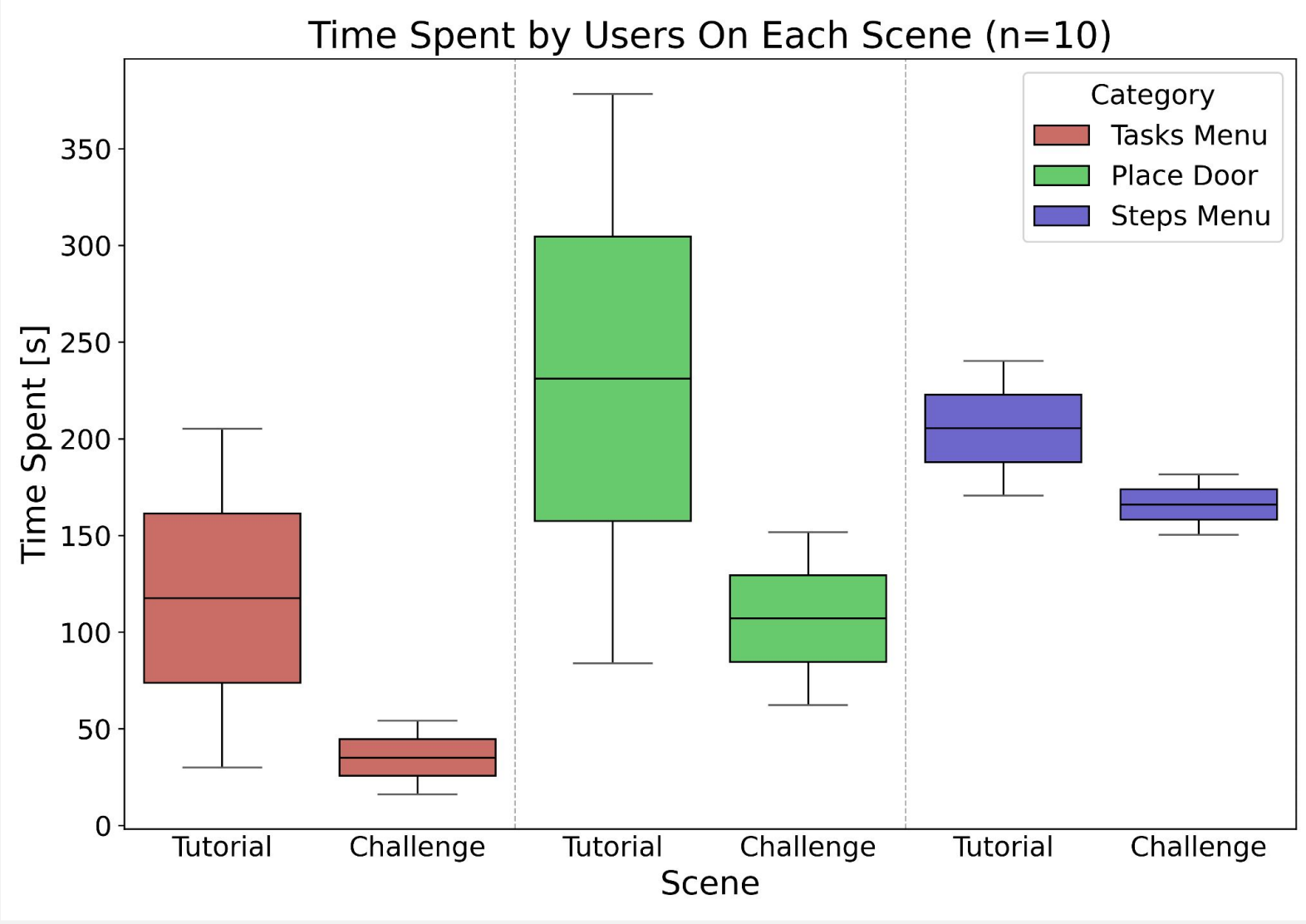


PRELIMINARY RESULTS

"The SBB HoloGuide application is very easy to use. I believe this application is far better for novice operators to perform maintenance than the traditional method."
Nikoletta - Senior SBB Operator

- App operability [2]:
- Usability: 5/5
 - Navigation: 4/5
 - Appearance: 4.5/5
 - Content: 4/5

3X faster
than the traditional maintenance method.



CONCLUSION

We developed an AR app enabling novice SBB operators to efficiently maintain train doors, achieving tasks 3x faster.
Future plans include automating door placement and integrating an ETL data layer.



REFERENCES

[1] Sara Scheffer, Alberto Martinetti, Roy Damgrave, Sebastian Thiede, and Leo van Dongen. How to make augmented reality a tool for railway maintenance operations: Operator 4.0 perspective. Applied Sciences, 11(6), 2021
[2] Danúbia Bueno Espíndola, Luca Fumagalli, Marco Garetti, Carlos E. Pereira, Sílvia S.C. Botelho, Renato Ventura Henriques. A model-based approach for data integration to improve maintenance management by mixed reality. Computers in Industry, Volume 64, Issue 4, 2013, Pages 376-391