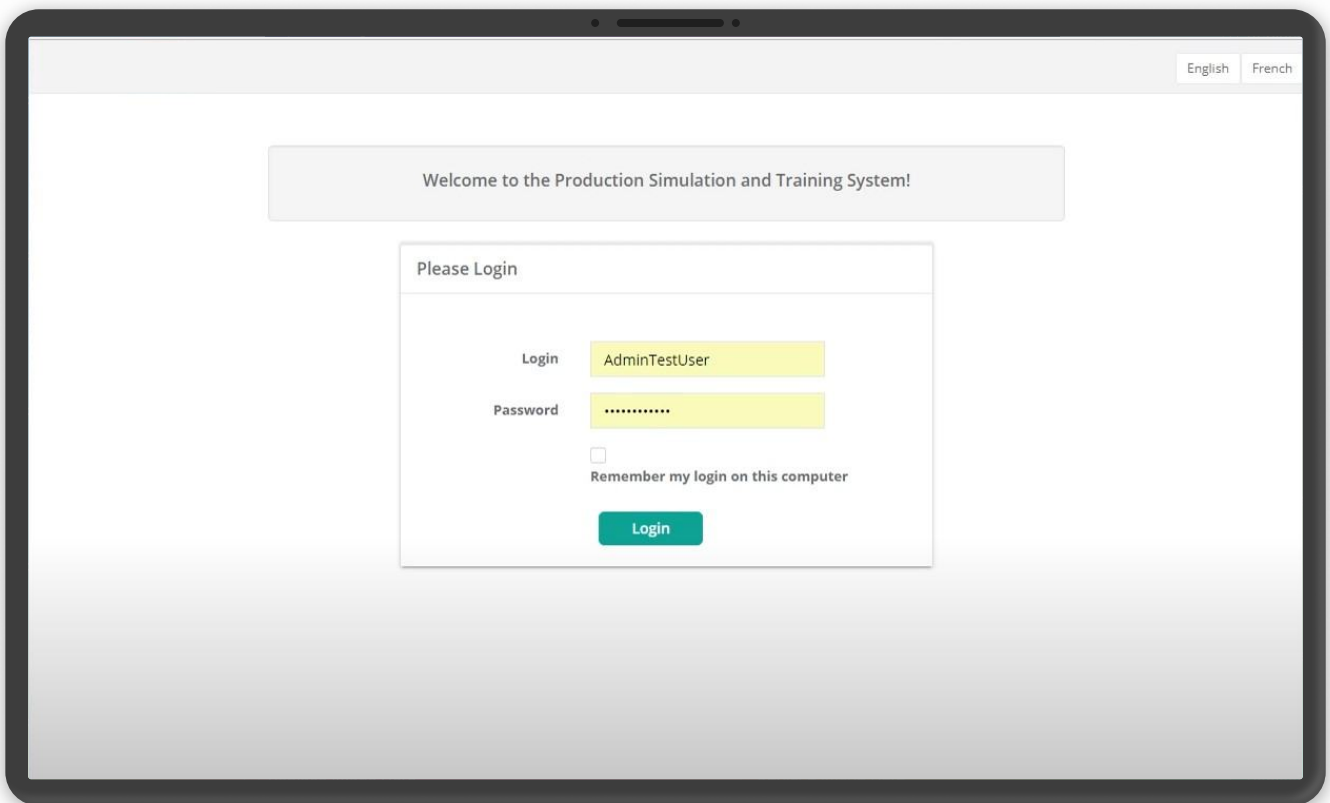# PSA

PRODUCTION SIMULATION SYSTEM FOR AUTOMOTIVE GIANTS

Datasheet

Project objective

Provide a complete architecture redesign for an integrated production simulation system to be used for hiring purposes by leading global automotive manufacturers. The projected system had to support the functionality of importing a list of candidates, configuring assessment stations and exercises, performing tests and controlling this process, collecting and transferring results to the external HR system, and creating backups while providing consistent uptime, easy reconfiguration, and simplification of onsite deployment.

Result

The architectured system comprises a core server, multiple testing stations, an inspection station, sensor agents, testing hardware, and brand-customizable UI, thus meeting the challenge of rapid and efficient assessment of compliance with the production role requirements. The system is provided with the ability to introduce new station types and substitute modules created by 3rd party through defined interfaces between modules and external systems. 24/7 remote access via the web browser using a secure connection protocol enables handy administrator management.

The delivered architecture document defines requirements for stations, web portal, and administration module, as well as hardware constraints for system implementation.

Scope of work

- Onsite sessions for deep-dive system research, stakeholder interviews on business and technical expectations, and environment analysis
- Use cases creation, components descriptions with diagrams showing modules and logical connections, sequence diagrams, interface definitions covering external and internal system interfaces, database schema definition, and deployment diagrams
- Desktop app design for one simulation station with custom peripherals attached

Activities

- System investigation
- Onsite requirements definition
- Architecture design
- Software design

About the project

Technologies

- .Net Core
- ASP Core
- EF Core
- NodeJS
- Npm
- TypeScript
- Angular
- MS SQL
- Docker
- MQTT
- C/C++

Platform

- Linux

Project size

- 1 System Architect
- 2 Software Engineers
- 1 Technical Writer

Duration

7 months