# PSA
PROFESSIONAL SOFTWARE ASSOCIATES, INC.

VITAL UPGRADES FOR CODED TRACK CIRCUIT SYSTEM

Datasheet

Project objective

Upgrade the firmware for the MicroTrax PCB, a microprocessor-based coded track circuit board utilized for building and managing track circuits, and providing train detection within non-electrified territories. Ensure vital I/O to be provided from coded track circuit to vital interlocking CPU for correct execution of interlocking applications.
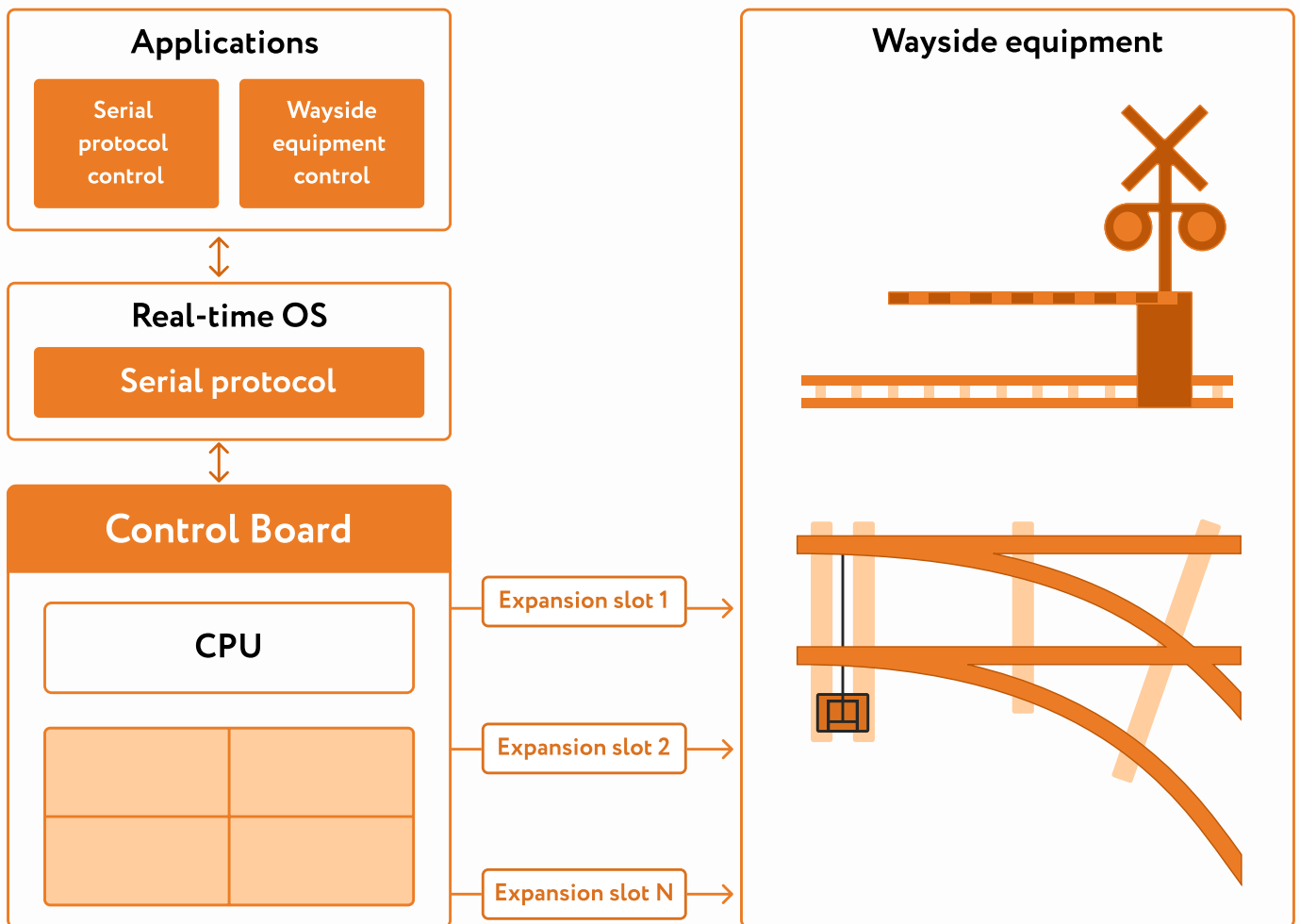
Result

The client got the MicroTrax source code reviewed, tested, and updated. The upgraded system became more reliable and user-friendly, which contributes to ultimate accuracy and safety for train detection, and its more performative use.

Scope of work

- Addition of support for an existing proprietary vital communication protocol to exchange data with vital CPU
- Updates and modifications for proprietary operation system
- Refactoring of the source code with respective comments
- Updates and setup for the system software used to manage and monitor MicroTrax devices

Activities

- Requirements definition (onsite)
- Software architecture & design
- Software development
- Infrastructure preparation
- Unit & functional testing

About the project

Technologies

- C/C++
- SVN
- C Shell
- GCC
- imake
- NiOS Altera II

- Xilinx MicroBlaze
- ACC MicroExec
- Xilinx ISE
- Altera Quartus II
- Serial communication interface

Project size

- 1 person

Duration

5 months

July 2014 – May 2015

Platforms

- Embedded