

TRAIN DRIVER DECISION SUPPORT SYSTEM BASED ON ANDROID OPEN SOURCE PROJECT

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There are rapidly increasing number of high-speed trains equipped with on-board computers around the world. Such trains have the ability to use driver support decision support systems and automatic train control systems. This is already a certain industry standard. Also, the important point is that this industry continues to develop, control systems receive additional functionality. The development of microprocessors, in particular the ARM architecture, provides a basis for an on-board computer with a large margin of computing power, which will not require hardware upgrades for a long time, and will have opportunities for future software upgrades [1].

Therefore, is important the question of use appropriate operating systems, which will create a universal platform for on-board computers of the train, will be able to interact with external devices and components that will appear in the future, will unleash the potential of hardware components in terms of speed and energy saving. As a basis for such on-board computers, I propose to take the Android Open Source Project (AOSP), an open source operating system based on the Linux Kernel, which has a flexible structure [2] that allows add to the operating system necessary custom system services and applications for interaction with the user, which are designed separately to solve problems of railway transport control. Given the peculiarities of AOSP, when updating the hardware of the train, it is possible to easily adapt the project to work on the basis of the new platform [3]. In addition, AOSP has relevant components that are constantly updated and are responsible for information security, energy saving, resource efficiency, etc.

Therefore, the use of AOSP as a basis for on-board train control systems, which will be supplemented by appropriate system services and applications that will solve the tasks of train control, is a promising direction for the development of on-board computer systems in rail transport.

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