Identifying Conflicting Routes in Control Table of Indian Railways Interlocking System using NuSMV

Abstract

A “control table” is a functional specification of the signaling system of a railway section. It specifies the routes on which trains are allowed to pass. Control table for interlocking system in Indian Railways is done by a vendor. This control table is verified for correctness by another vendor. The process followed to generate this control table remains a black box, i.e., unknown. Through this paper, a working system has been proposed to explore this unknown process and come up with correct control table entries for a given layout of railway section.

References


Index Terms

Computer Science

Control Systems
Keywords

Railway Interlocking, Formal Methods, Model Checking, NuSMV