In this study an elevator automation application is developed using a real time operating system, targeting 8051 based microcontrollers. In the application, task of controlling a three-level elevator model, also monitoring and remote control of the system over a PC are implemented. In order to fulfill these tasks, a platform for T89C51CC01 microcontroller is designed. Remote monitoring and remote controlling of the system is established by this platform via Controller Area Network (CAN). The software developed for monitoring and controlling the system from a PC is created using .NET C# language and Canlib SDK drivers provided by Kvaser.