

Subway Automatic Ticket Booking System using Verilog

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Abstract: Using Verilog HDL language to research a subway automatic ticket booking system. The design of this subway ticketing system takes convenience, quickness and simplicity as the core, and takes saving time for passengers. It completes the main process of buying subway tickets for passengers. Firstly, this project studies the development of subway ticketing system at home and abroad, and then studies the basic components of subway ticketing system. The paper also simulates the ticket selection module, change processing module and display interface module on Xilinx Vivado. In the Verilog design, finite state machines (FSMs) are employed to model the various states of the ticket booking process. These FSMs ensure smooth transitions between states, enabling the system to handle scenarios such as ticket availability checks, payment processing, and generating tickets. Additionally, the communication interface is responsible for securely transmitting booking information to the subway network, ensuring seamless integration with the overall subway infrastructure.

Keywords: Verilog HDL

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