



ESTIMATION OF PASSENGER WAITING TIME IN ELEVATOR SYSTEMS WITH ARTIFICIAL NEURAL NETWORK

MAHIR DURSUN

Gazi University

Technical Education Faculty

Department of Electrical Education 06500 Teknikokullar

Ankara, Turkey

mdursun@gazi.edu.tr

ABSTRACT—In this study, a simulation program for elevator control system with 10 floor apartment with 300 people was prepared by using C++ builder programming language. In simulation program, the cabin was controlled with both artificial neural network (ANN) and traditional methods under 10 different variable speeds with constant acceleration. In the program, the number of passenger and their waiting times were multiplied and applied to ANN inputs as degrees of weight. Thus, the waiting time of passengers has been added to control algorithm which is different from traditional control methods. With the suggested system, the cabin was directed to floor that has the most weighted grade. Consequently, passenger's waiting time was scattered for each floor in balanced manner. Moreover the cabin travel time and passengers waiting time have been decreased by about 18% using suggested method for up peak traffic situation.