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SUWIMON PAISANWATTANA: DESIGN A NEW COMPUTERIZED CHARGING SYSTEM VIA EXPRESSWAY TAG. RESEARCH PROJECT ADIVSORS: SUPACHAI TANGWONGSAN, Ph.D., JARERNSRI MITR PANONT, Ph.D. 165 p. ISBN 974-663-303-1

This project proposes a new toll charging system for the Expressway and Rapid Transit Authority of Thailand. It utilizes Information Technology for its implementation in all processes. They include the automatic payment by tag cards, toll charges based on distance of travelling, and information systems for management.

To use the system, a customer is required to present the tag card at the entrance station, no cash payment is allowed. This is called the car-in process, certainly it would speed up the payment process by 1 to 5 seconds. The tag card can be either a credit card or an electronic cash card. The tag card is read again when the customer passes the exit station. Then the toll charge is calculated, which based on the distance of travelling. The procedure ends with the car-out process, where the tag card is eventually updated indicating the balance amount from the toll charge.

Form a management point of view, the system would report useful information, timely, accurately and comprehensively, by passing all manual activities.

The proposed concept was implemented via system prototyping. The prototype software was written by Power Builder version 5.0 and database SQL Anywhere for Client / Server version 5.0. Then the program was tested on a network of 10 workstations, simulating entrance and exit stations. The simulation process generated 5000 records of transactions over a five month period. The outcome proved satisfactory and went in accordance with the objectives of the project.