COMPUTERIZATION IN DELHI METRO RAIL CORPORATIONTO IMPROVE PERFORMANCE OF EXISTING DMRC SYSTEM

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ABSTRACT

This paper deals with finding the ways regarding how to implement it using application as it was manually done before, as it was time consuming before. It gives an accurate result. The system was checked thoroughly for validation checks, and integrity of data within the modules to meet the specified system requirements. The results of development have concluded that the system would provide reliability and security. Since the entire work has been modularized it is possible to update as the user requirement changes through time. The software can be ported on more advanced hardware or specialized hardware for achieving higher performance. The prototype can be worked on extensively to improve performance.

KEYWORDS: DMRC (Delhi Metro Rail Corporation), Visual Basic, MS Access, Coral Draw.

INTRODUCTION

The total procedure of computerization in DMRC (Delhi Metro Rail Corporation) is described so that the user faces least difficulties
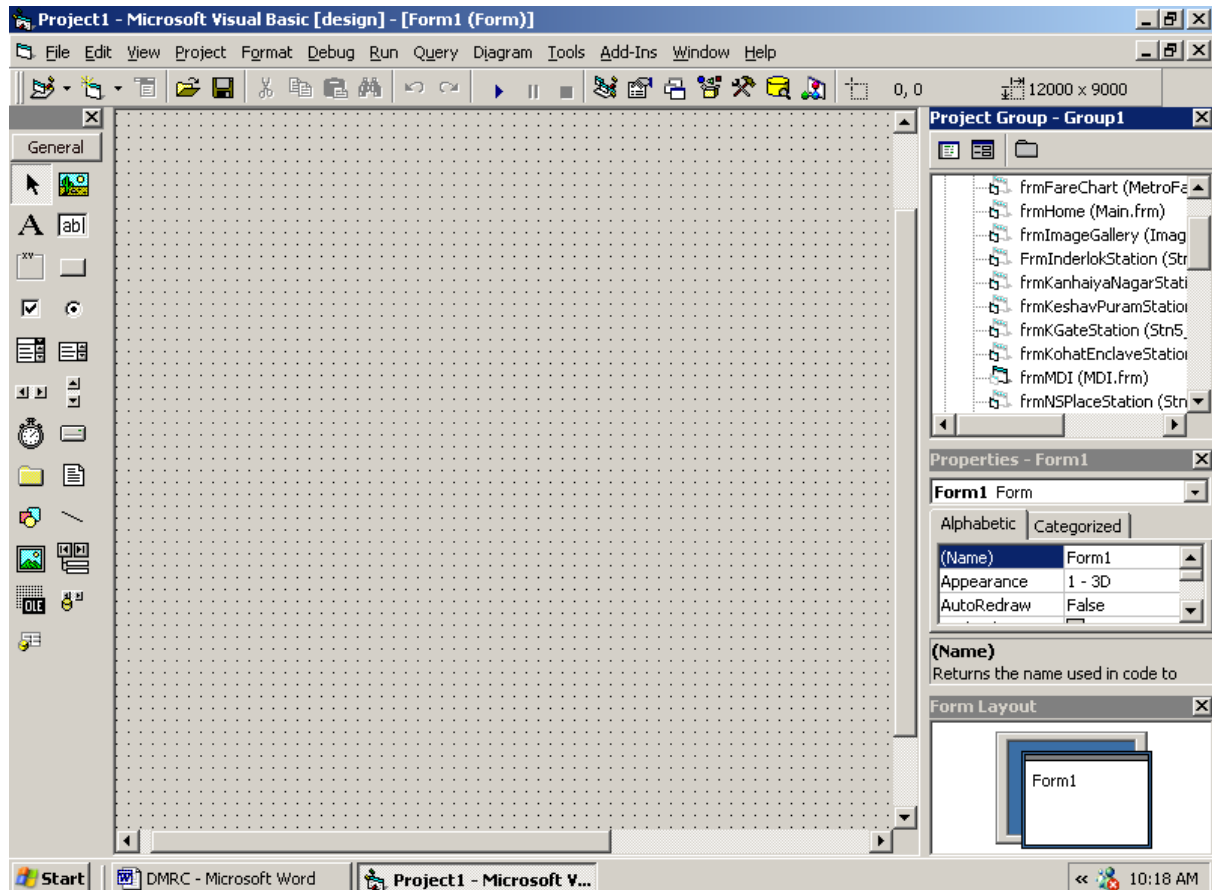
DETAILS

1. The system was checked thoroughly for validation checks, and integrity of data within the modules to meet the specified system requirements.
2. The results of development have concluded that the system would provide reliability and security.
3. Since the entire work has been modularized it is possible to update as the user requirement changes through time.
4. The software can be ported on more advanced hardware or specialized hardware for achieving higher performance.
5. The prototype can be worked on extensively to improve performance.
6. Methodology to be adopted: The system was checked thoroughly for validation checks, and integrity of data within the modules to meet the specified system requirements. The results of development have concluded that the system would provide reliability and security. Since the entire work has been modularized it is possible to update as the user requirement changes through time.
7. Resources required: Primary and secondary data about client travelling through various station of metro train.

SOFTWARE USED

VISUAL BASIC

The Visual Basic is a Windows Programming language that has been developed by Microsoft Corporation. Visual Basic is a powerful programming language to develop sophisticated windows programs very quickly. Visual Basic is one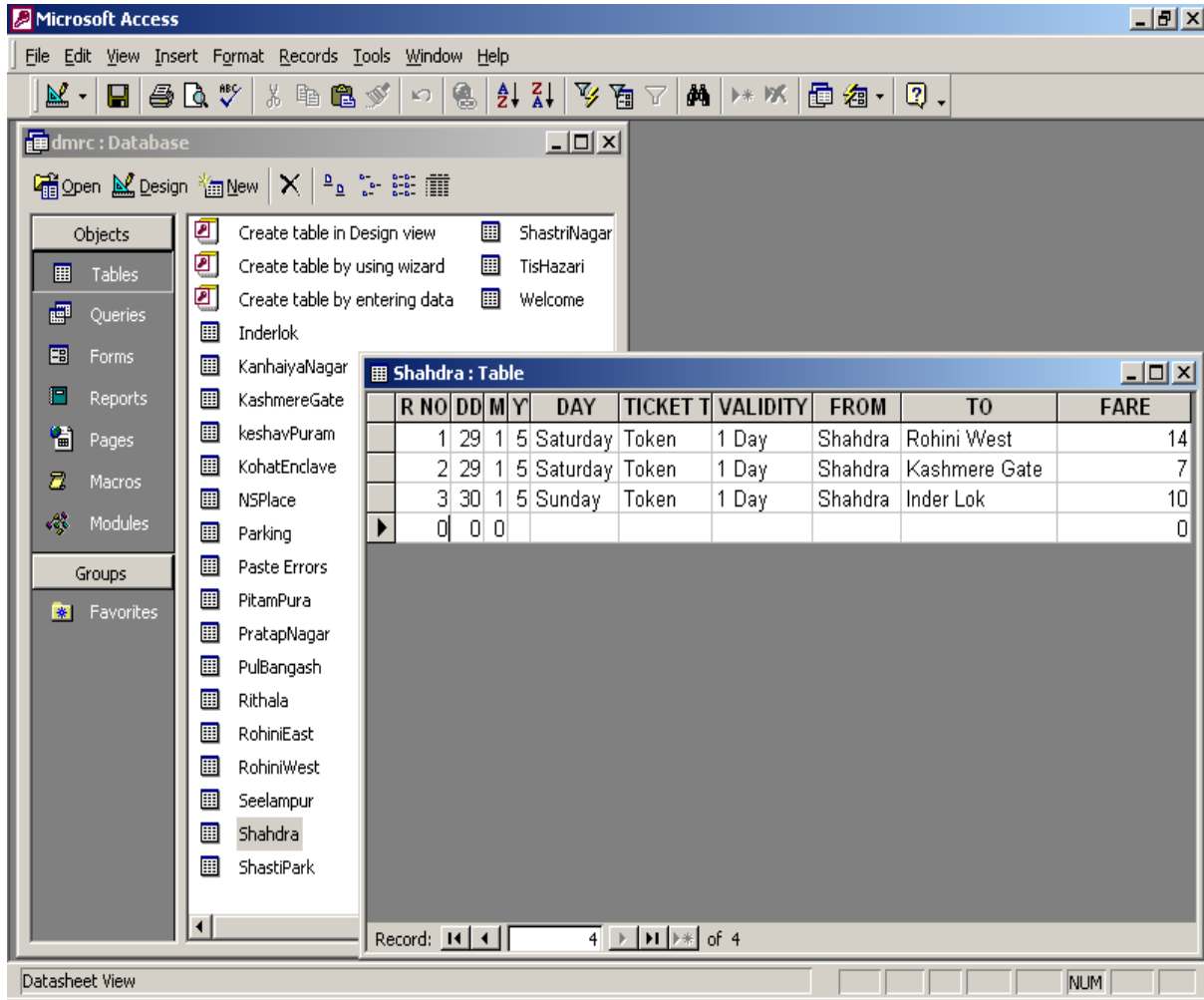 of the RAD (Rapid Application Development) tools as it enables the programmer to develop applications very easily and very quickly. It contains the same BASIC like language that has been popular over the years that it includes all the necessary extensions required to produce Windows Programming. Visual Basic applications are very popular as front-end to many database systems like Ms-Access, SQL/Server and Oracle etc.

MS ACCESS

Ms-Access is a RDBMS (Relational Database Management System) under windows. It is used to store and manipulate large amount of data. The data is stored in manipulate tables and access allow us to setup relationship between the tables to facilities data retrieval. Ms-Access is an Object Oriented Program i.e., everything in Ms-Access is an object. Each object has properties that defines how it appears and what work it perform. Ms-access has a number of components out of which the most important component is the Table object. Tables are objects that hold the data and all related such as Queries, Forms and Reports that are used to manage this data in tables.

COREL DRAW

Corel-DRAW is an intuitive graphics design application that gives designers a more enjoyable work experience. Corel-DRAW is built and designed to meet the demands of today's working designer to create ads or collateral for print or for the Web.

IMPLEMENTATION & RESULTS

Computerization in DMRC (Delhi Metro Rail Corporation): It is developed in the Microsoft Visual Basic 6.0, which is a powerful programming language.
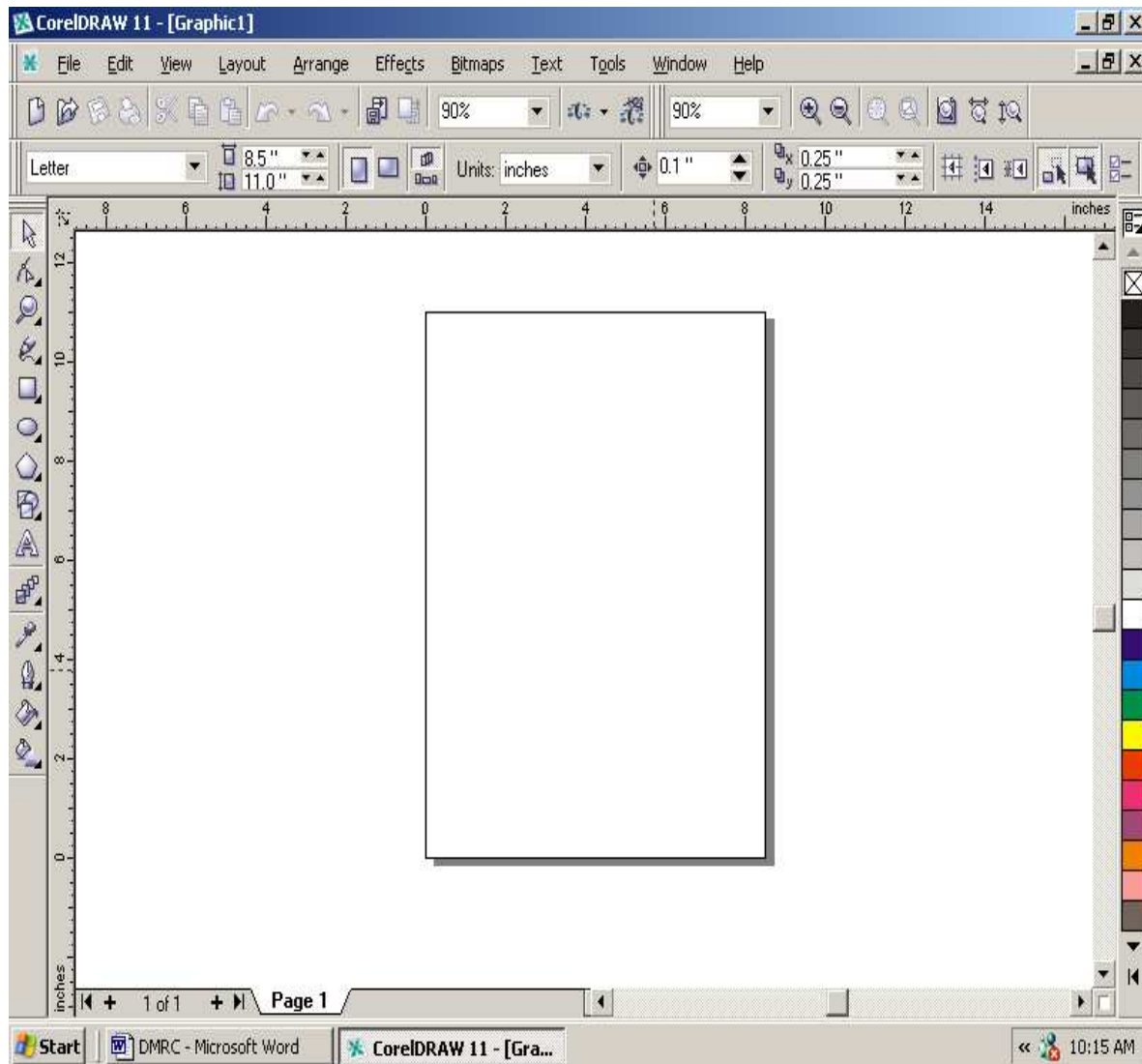
The total procedure of computerization in DMRC (Delhi Metro Rail Corporation) is described so that the user faces least difficulties. The first and foremost advantages of this system to be mentioned are the time consuming factor.

MS-Access is very powerful and flexible package. Highlights of this package are listed below:

RELATIONAL DATABASE MANAGEMENT SYSTEM (RDBMS)

- Full relational and programming features for user interface.
- Easy to use with system mode, help screen.
- Database file may contain one of billions of records.
- Each record can contain 1 to 256 fields etc.

Microsoft Visual Basic is a very powerful and flexible package. Highlights of this package are listed below:

- Visual Basic is a very popular Front-end.
- In Visual Basic it is possible to see the interface of the program during designing/run time.
- In visual Basic built in object can be simply drag and drop on the from itself. That is why it is very popular among the software developers.
- We can combine existing controls and make our own controls.
- We can make report of a particular program, which will be used for printouts.
- We can write OLE application Visual Basic.

HARDWARE & SOFTWARE SPECIFICATION

HARDWARE

- A Micro Computer
- Main Memory, 64MB(min)
- Hard Disk Capacity 1.2GB(min)
- Floppy Disk Drive 1.44MB

SOFTWARE

- Window Operating System 95/98,2000,XP (any one)
- Microsoft Visual Studio (GUI Tool)
- Microsoft Visual Basic (Language)
- Microsoft Access (Database)

IMPLEMENTATION

This DMRC (Delhi Metro Rail Corporation) work structure consists of various forms and one MDI form and three menus under different headings such as Home, Ticket Window, Parking Window and Exit. We can select these menus by pressing corresponding short-cut key.

THE DMRC (DELHI METRO RAIL CORPORATION) HOME PAGE CONSISTS OF SIX DIFFERENT SECTIONS THOSE ARE DESCRIBED BELOW:

METRO FARE

By selecting Metro Fare Button a new page appear under the heading DMRC Metro Fare. Which shows all metro station fares from one station to another.

STATION INFO

Station Info shows Metro-rout, distance, name of the stations and number of the stations.

I.   Line 1 (Shahdara - Rithala)

Distance: 22.06 Kms

No. Of Stations: 18

Name of Stations: Shahdara, Welcome, Seelampur, Shastri Park, Kashmere Gate, Tis Hazari, PulBangash, Pratap Nagar, Shastri Nagar, InderLok, Kanhiya Nagar, KeshavPuram, NetajiSubhash Place, Kohat Enclave, PitamPura, Rohini East, Rohini West and Rithala.

II. Line 2 (VishwaVidyalaya - Central Sectt.)

Distance: 10.84 Kms

No. Of Stations: 10

Name of Stations: VishwaVidyalaya, VidhanSabha, Civil Lines, Kashmere Gate, Delhi Main, Chawri Bazar, New Delhi, Connaught Place, Patel Chowk and Central Sectt.

III. Line 3 (Barakhamba Road - Dwarka)

Date of Completion: September 2005

Distance: 22.90 Kms

No. of Stations : 22

Name of Stations: Barakhamba Road, Connaught Place, R.K. Ashram Marg, Jhandewalan, Karol Bagh, Rajendra Place, Patel Nagar, Shadipur, Kirti Nagar, Moti Nagar, Ramesh Nagar, Rajouri Garden, Tagore Garden, Subhash Nagar, Tilak Nagar, Ganesh Nagar, Janakpuri, Uttam Nagar, Prem Nagar, Om Vihar, DwarkaMorh and Dwarka

TRAVELING INFO

This form provides the information about the metro traveling.Metro traveling is divided in eight different steps. Each step expresses some instructions about the traveling.

- Step-1   Reach the station
- Step-2   Metro Rout
- Step-3   Chose your journey & Ticket Option
- Step-4   Buy the ticket, Enter through the Ticket Gate & Reach the platform
- Step-5   Board the Metro Train.
- Step-6   Inside the Metro Train
- Step-7   Alight from the Metro Train & Exit through the Ticket Gates
- Step-8   Leave the Station

PASSENGER SAFETY

This form provides the instructions of passengers' safety through four different steps.

- Safe Escalators
- Safe Coaches
- Do's
- Don'ts

METRO ROUT-MAP

Three is shown the Metro-rout map.

IMAGE GALLERY

There is displayed some images related to metro and tries to make a Metro Image-Gallery.

USER MANUAL

System developed in the work is user friendly. The system developed is easy to operate and itself directs at itself directs at each steps to user to select the desired working.

Proper messages are displayed to guide the user and each option is supported with a program so that user can work on that option until his choice is yes. Thus time is saved, due to sophisticated program. It is easy for the user to operate on the present system.

DATA ENTRY FOR THE TABLES

A. Table 1: - Ticket Window (Shahdra to Rithala)

- R. No:- It is the Record number of the passengers including Token holders, Smart-Card holders and Tourist-card holders.
- Date:- It is the Date of each record.
- Day:- It is the Day of each record.
- Ticket Type:- There is Ticket Type is selected like Token, Smart-Card and Tourist-Card.
- Valid:- Validity of the Ticket From Location of the current Station To Location of the desire Station
- Fare:- Fare of your Traveling

B. Table 2: - Parking Window (Shahdra to Rithala)

- R. No:- It is the record number of all types vehicle in the parking.
- Date:- It is the date of each parking vehicle.
- Day:- It is the date of the records.
- Station:-It is the name of the parking station.
- Vehicle:-Type of the vehicle. Like it is four-wheeler of two-wheeler.
- Number:-It is the number of the vehicle.
- In Time:-It is the in time of the vehicle.
- Out Time:-It is the out time of the vehicle.
- Charge:-It is the parking charge of the vehicle.

STRUCTURE OF THE TABLES

Table 1.Ticket Window (Shahdra to Rithala)

Field Name	Type	Description
R NO	Number (Primary Key)	Record number
DATE	Number	Date of the record
DAY	Text	Day of the record
TICKET TYPE	Text	Type of the ticket
VALIDITY	Memo	Validity of the ticket
FROM	Text	Name of the current station
TO	Text	Name of the desire station
FARE	Number	Fare of the journey

Table 2.Parking Window

Field Name	Type	Description
R NO	Number (Primary Key)	Record number
DATE	Number	Date of the record
DAY	Text	Day of the record
STATION	Text	Name of the parking station
VEHICLE	Text	Type of the vehicle
NUMBER	Memo	Number of the vehicle
IN_TIME	Date/Time	Entering time of the vehicle
OUT_TIME	Date/Time	Going time of the vehicle
CHARGE	Number	Parking charge of the vehicle

CONCLUSION

The system was checked thoroughly for validation checks, and integrity of data within the modules to meet the specified system requirements. The results of development have concluded that the system would provide reliability and security. Since the entire work has been modularized it is possible to update as the user requirement changes through time. The software can be ported on more advanced hardware or specialized hardware for achieving higher performance. The prototype can be worked on extensively to improve performance.

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