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**REGISTRATION SUBSYSTEM AND PROJECT
CONTROL FOLLOW-UP**

PROJECT UNIDO No. BR/COL/92/001

FINAL REPORT

MARCH 1994



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

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INDEX

	PAGE
1.0 INTRODUCTION	3
2.0 PROJECT ACTIVITIES	3
2.1 ACTIVITY 3 - DETAILED FUNCTIONAL SPECIFICATIONS	3
2.1.1 Definition of Chaining Diagrams	4
2.1.2 Definition of Data Entry Forms and Displays	4
2.1.3 Description of Tasks	4
2.1.4 Definition and Design of Data Models	5
2.2 DEFINITION OF REQUIRED	6
2.2.1 Hardware Definition	6
2.2.2 Software Definition	6
3.0 REVIEW AND APPROVAL CYCLE	7
ANNEX 1 LIST OF DISPLAYS PER MODULE	
ANNEX 2 LIST OF TASKS PER MODULE	
ANNEX 3 LIST OF SOFTWARE SYSTEM ENTITIES	

1.0 INTRODUCTION

The purpose of this document is to present the Final Report of the Project UNIDO-BR/COL 92/001, which consists in the Design of a computer software system for the supervision and control of the programs and services rendered by the Instituto Colombiano de Bienestar Familiar- ICBF. (Colombian Institute for Family Welfare).

The activities reported hereby have been executed during the period December 1st, 1993 to March 30, 1994.

2.0 PROJECT ACTIVITIES

During the period stated above, the Consultant completed the activities denoted as Activity 3 and Activity 4 of the proposal accepted by UNIDO and the ICBF. These activities are:

- ° Detailed Functional Specifications
- ° Definition of required computer resources and configuration.

2.1 ACTIVITY 3-DETAILED FUNCTIONAL SPECIFICATIONS

The Document "General Functional Specifications" was reviewed in great detail and further accepted by UNIDO and the ICBF. The review was made with a substantial and representative group of users belonging to the central headquarters, the regional and the zonal centers. This document constituted the basis for execution of this activity.

The main steps involved in the work performed under activity 3 were:

- ° Definition of Chaining Diagrams
- ° Definition of Data Entry forms and Displays
- ° Definition of User Forms and Output Reports
- ° Description of Tasks
- ° Data Model

2.1.1 Definition of Chaining Diagrams

The objective of this task is to identify the man machine interactions for each one of the modules previously identified.

Based on the various processes and procedures, the corresponding computer programs and their user interaction were defined in detail. As a result of this task, the chaining of all computer programs and individual processes was produced. This result identifies in detail the input displays and formats for each system task, and the results produced to the user in terms of data displays and reports; it also identifies the trigger mechanisms for the execution of other tasks based on the results of each task.

2.1.2 Definition of Data Entry Forms and Displays

Each and every one of the displays of the system was designed and defined, including the following characteristics.

- **General Design Standards:** Whereby the Consultant, once agreement was reached with the ICBF on the use of Microsoft Visual Basic under Windows as the development tool for user displays, defined all the corresponding standards to be used in the actual development.
- **Classification of Data on User Displays :** Which includes data entry information, user displays to consult or retrieve data, information produced as a result of a calculation or internal process and output data in terms of reports and displays.
- **Display Design :** Each and every one of the various displays was defined in detail, including content and structure.
- **Definition and Design of HELP Windows:** These windows were design to help the user while he is using the system. Help windows clarify major steps and options.

In Annex 1, a list of displays per module is presented.

2.1.3 Description of Tasks

Once the different procedures were identified, the actual computer programs (tasks) to implement such procedures were designed and defined.

In the definition of each task, the following criteria was adopted:

- Standardization and parametrization for each one of the routines that compose a task.
- Information integrity
- Clear and user oriented description of each one of the tasks

Based on the above, for each task the following was described:

- General Task Description. Overview of the purpose of each task within a computer program.
- Detailed Task Description by means of a pseudo algorithm of the major characteristics of a task to allow easy implementation. The detailed description contains:

Task Initiation: What or Who activates a task.

Task Execution, which specifies: General Validations with internal and foreign keys; handling and control of display menus and options; Calculations and internal processes; control to the triggering of routines and tasks in other modules; Handling of Displays and Windows; Handling and Control of error messages; Handling and control of all activity for writing or reading information from the Data Base.

Annex 2 presents a list of the System Tasks.

2.1.4 Definition and Design of Data Models:

A Basic Data Model had been defined in the General Functional Specifications. During this task, the final data model was refined, completed and normalized taking into account the following considerations:

- Entity-Relation Model normalized for each one of the modules.
- General Data Model for the Entire Software System.
- Detailed description of entities.

Annex 3 contains a description of major entities that are present in the Data Base.

2.2 DEFINITION OF REQUIRED COMPUTER RESOURCES AND CONFIGURATION.

Based on processing requirements, anticipated system activity and storage requirements, the minimum hardware and software requirements of the computer system were defined, for the National Headquarters, the Regional Centers and the Zonal Centers.

2.2.1 Hardware Definition

The ICBF has standardized its information system architecture on an INTEL PC-based hardware configuration. This is in line with major system trends in the computer industry and assures maximum system life-time from a technological point of view, as well as access to cost decreasing hardware elements.

The platform selected has been Client- Server. The Server handles data base requests and routes all requests to the proper geographical and physical memory devices. The Client contains the majority of the user interactive services and consists of PC devices with local memory and intelligence. This is at the time the preferred platform for modern information systems.

2.2.2 Software Definition

The Operating System platform will be UNIX for the server; this is consistent with the current trend toward open systems by mean of which software and hardware can be transported to a variety of computer system vendors without incurring in computer obsolescence and software reprogramming.

In the Client Server configuration the Operating System for the Clients (user devices) will be WINDOWS under Visual Basic as a programming tool. This assures low cost productivity software available in the future to all users at the ICBF.

The Fourth Generation software tool and data base selected has been ORACLE 7.0. This is the most powerful and popular Programming/Data Base 4GL subsystem available in the market today.

3.0 REVIEW AND APPROVAL CYCLE.

All results and recommendations have been subject to a detailed and careful review with ICBF personnel at different levels, specially the future users. Also the review has included the personnel delegated by ONUDI for project management.

After a long series of discussions, some changes, additions and extensions were agreed and incorporated into the final system which is profusely documented.

With the submission of the Final Report " Detailed System Specifications " the Project UNIDO BR/COL/92/001 has been completed to the entire satisfaction of all parties involved.

ANNEX 1

ANNEX 1**LIST OF DISPLAYS PER MODULE****PROGRAMS AND SERVICES**

Program and Services Main Menu
Programs
Subprograms
Projects
Subprojects
Resources by Project
Variables for Project Follow-up
Variable groups by subproject
Population group target by subproject
Data Base Enquiries and Reports.

ADMINISTRATIVE ENTITIES

Main Menu of administrative agencies
Creation and updating of requests
Requirements of a Request
History of the evolution of a Request
Updating of administrative entities
Requirements of the Administration Entity
History of the status of administrative entities
Menu for enquiries and Reports
Menu for enquiries and reports
ICBF Top Management Menu Options

ADMINISTRATION OF ICBF SERVICE UNITS

Main Menu of Service Units
Registration of Requests for services
Characteristics of the services- Requests
Administrative status of request
Target Groups-Requests
Updating of service units

Updating of subprojects per service unit
Characteristics of a service- Service Units
Status of services in each service unit
Target groups, per service unit, per subproject
Consolidated information about service units
Enquires and Reports- User parameters

PROGRAMMING INVESTMENT FOR PHYSICAL AND FINANCIAL GOALS

Main menu for programming investment for physical and financial goals
Registration of need per zone
Programming adjustments- Definition of programming costs
Programming adjustments- Resource model per subproject
Calculation and evaluation of the programming investment for physical and financial goals
Execution of basic programming
Execution of generated programming
Annual programming for physical and financial goals
Annual programming for resources
Registration and handling of events that imply programming change
Budget for attaining physical goals
Budget of resources
Budget transfers between subprojects
Generation of the investment program
Updating of the investing program
Data entry of system parameters- Data base access and reports
Enquires for needs
Enquires for programming of physical goals
Enquires for programming of resources
Enquires for execution of investment for physical and financial goals
Enquires for changes of investment for physical and financial goals

TRAINING

Main menu for Training
Programming and execution of training events
List of Participants in each event
Comparison between programmed and executed resources per event
Information about each event
Consolidated training information
Enquires and reports about training parameters

ADMINISTRATION OF SUPPLIES

Main menu for administration of supplies

Supply Requirements

Adjustments to supplies

Programming and actual delivery of supplies

Consolidated supplies information

Enquires and reports of system parameters

Enquirements and reports for supply demands

Comparative demand enquires and reports for each type of supply

Enquires about requests for physical resources

Enquires about requests for supplies

Management enquires and reports.

CONTRACTING

Main menu for contracting services and supplies in the various programs

Contracting Requests

Administrative status of a contracting request

Requests for additions to existing contracts

Administrative status of a request for additions to an existing contract

Generated requests per service unit

Information about existing and executed contracts

Registration of legalized contracts

Updating existing contracts

Additions to contracts

Contracts per service unit

Contract administrative status

Enquires and reports- System parameters

PROGRAM CONTROL

Main menu for program control

Parameters for selection of site visits

Updates on the site visits

Variables associated with a site visit

Registration of consolidated information

Consolidation parameters

Main menu for enquires and reports

Program Control enquires

Site visit enquires
Programming of site visit enquires

MINORS' IN IRREGULAR SITUATION

Main menu of minors in irregular situation
Information about individual minors
Location of individual minors
Graphic data on minors
Evaluation of minor status
Family composition of minor
Integral history of minor families
Cases associated with the minor
Registration of actions taken on the minor
Basic data on the minor
Characteristics and/or limitations of the minor
Consolidated information about minors
Menu for enquires and reports
Management information services

ADOPTIONS

Main menu for the adoption subsystem
Adoption requests
Minors requested on adoption
History of requesting family
Economic data and evaluation of requesting family
Family composition of requesting family
Control of adoption requests
Control of adoption assignments
Menu for cross comparisons
Parameters for cross comparisons
Selection of cross comparisons
Enquires and Reports of cross comparisons
Consolidated information about adoptions
Enquires and reports on adoption requirements
Enquires and reports of parameters related to the control of adoptions
Enquires and reports of parameters associated with minors available for adoption.

LEGAL AND SOCIAL SUPPORT FOR THE MINOR AND HIS FAMILY

Main menu of social and legal support
Registration of appointments
Registration of individual histories
Family cases
Family composition
Social and legal actions undertaken
Judicial actions undertaken
Consolidated information about legal and social support
Enquires and reports- Parameters for support cases
Enquires and reports- Parameters for actions undertaken
Enquires and reports- Appointments given to beneficiaries

LOANS TO SERVICE UNITS

Main menu of loans to service units
Loan requests
Administrative status of requests
Modifications to loan conditions
Administrative status of loans
Consolidated information about loans to service units
Enquires and reports for data entry of loan parameters
Enquires and reports about loan requests
Enquires and reports about loans
Management information system for loans to service units

HANDLING OF ACCOUNTS

Main menu for handling of accounts
Registration and legalization of accounts
Enquires about the contract
Loans
Parameters for handling of payments
Registration of payments
Registration of payments to service units
Menu for enquires and reports
Management information system for handling of accounts

BASIC TABLES

Main menu of Basic Tables
Updating of basic tables
Control variables
Enquires and Reports.

SOFTWARE SYSTEM ADMINISTRATION

Main menu for system administration
Users and their privileges
User groups and their privileges
Groups and users
Control Tables
Updating and generation of files.

ANNEX 2

ANNEX 2**LIST OF TASKS PER MODULE****PROGRAMS AND SERVICES**

Validation of options from the menu for program and services
Validation, registration and updating of programs and services
Enquires and reports

ADMINISTRATIVE ENTITIES

Validation of the menu options for administrative entities
Validation of requests
Validation and registration of events
Validation of the menu options for enquires and reports
Validation of enquires for requests
Validation of enquires about administrative entities
Consolidation of information of administrative entities

ADMINISTRATION OF SERVICE UNITS

Validation and execution of the options menu for service units.
Validation and registration of information for requests about service units
Validation, and registration of information about service units
Consolidation of information about service units
Enquires and reports

PROGRAMMING OF PHYSICAL AND FINANCIAL INVESTMENT GOALS

Validation of options from the menu of physical and financial goals
Validation, registration and update of physical requirements
Validation, calculation, registration and update of adjustments to programming
Validation, calculation, registration and update of physical and financial goals
Validation, calculations, registration and update of programming resources
Registration and update of programming events
Validation of the menu options for generation and update of files
Generation of files
Validation and generation of enquires

TRAINING

Validation and execution of the training menu

Validation and registration of data concerning programming and execution of training events.

Consolidation of information concerning training

Validation and execution of Enquires and Reports.

ADMINISTRATION OF SUPPLIES

Validation of the menu for administration of supplies

Validation, calculations, adjustments and registration of requests for supplies

Validation and registration of programming and delivery of supplies

Validation and execution of consolidation of supplies.

Validation and execution of Enquires and reports concerning administration of supplies.

CONTRACTING

Validation and execution of the contracting menu

Validation and registration of information related to contracting requests

Generation of files for contract generation and printout

Creation of legalized contracts

Validation and registration of information related to contract modifications

Validation and execution of enquires and reports related to contracting

PROGRAM CONTROL

Validation of the options menu for program control

Validation of parameters for site visit selection and generation of list of site visits to be performed.

Validation and update of site visit results

Validation and update of consolidation of site visit results

Consolidation of information concerning program control

Validation and execution of the options menu for enquires and reports

Validation of parameters for management enquires

Validation of parameters and execution of the program for site visit enquires

Validation of parameters and execution of enquires concerning program control

MINORS IN IRREGULAR SITUATION

Validation and execution of the options menu related to minor protection.
Validation and registration of information concerning minors in irregular situations
Consolidation of information concerning minors in irregular situation
Validation and execution of enquires and reports concerning minors in irregular situation
Validation and execution of management enquires

ADOPTIONS

Validation and execution of the options menu concerning adoptions
Validation and registration of information concerning adoption requests
Validation and registration of information about control of the adoption process
Validation and execution of cross comparisons
Validation and execution of cross comparisons between adoption requests and minors available for adoption.
Validation and registration of the results of cross comparisons
Validation and execution of enquires and reports about cross comparisons
Generation of consolidated information about adoptions
Validation and execution of enquires and reports related to adoptions

LEGAL AND SOCIAL SUPPORT FOR THE MINOR AND HIS FAMILY

Validate and execute the options menu.
Validate requests and search for data related to users history
Validation and registration of appointments for support
Validation and registration of family history
Validation and registration of legal cases
Validation and registration of judicial cases
Consolidation of information for social and legal support to the minor.
Validation and execution of enquires and reports for legal and social support of minors

LOANS TO SERVICE UNITS

Validation and execution of the options menu for loans
Validation, registration and update of data related to loan requests
Validation, calculations and update of loans
Validation and execution of consolidated information about loans
Validation and execution of enquires and reports related to loans

HANDLING OF ACCOUNTS

Validation and execution of the options menu for account handling
Validation and registration of accounts and legalizations
Validation of parameters and execution of liquidation of accounts
Validation of payments to administrative entities
Validation of payments to service units
Validation and execution of enquires and reports related to accounts

BASIC TABLES

Validation and execution of the options menu for the basic tables
Validation, registration and update of basic tables.

SOFTWARE SYSTEM ADMINISTRATION

Validation and execution of the options menu for system administration.
Validation of users
Validation of user groups
Validation of data in control tables
Validation of parameters for generation or update of files.

ANNEX 3

ANNEX 3**LIST OF SOFTWARE SYSTEM ENTITIES**

Acts of ICBF personnel
Additions to contracts
Administrative entities
Adopting Families
Aggregation level
Application users
Appointments
Areas-Location
Assignment of minor to adopting family
Banking accounts
Banks
Basic data of minors
Branch offices of banks
Calendar for site visits
Cases with minors- Reason for support
Categories
Civil status
Communities
Consolidated contracting
Consolidated minors
Consolidated administrative entities
Consolidated judicial processes
Consolidated training
Consolidated service units
Consolidated supplies
Consolidated adoption requests
Consolidated loans
Consolidated minors in adoption
Consolidated Program Control
Consolidated legal and social support
Contracts
Control table of applications
Countries
Departments
Destination unit

Detail-Requests
Documentation adoption requests
Educational level
Entity classes
Execution and programming of resources per zonal center
Execution and programming of physical goals per zonal center
Family cases
Family composition- adopting families
Family composition-minors in irregular situations
Follow up variables
Group Options
Group variables
Group of variables per subproject
Groups of service units
Historic state per service unit
International Agency for Adoptions
Job positions
Judicial intervention
Kindred
Labor schedules
Level of training event
Liquidation of accounts per resources of administrative entity or service unit
Liquidation of accounts per administrative entity or service unit
Loans
Location of minor
Mayor's Office
Minor Characteristics
Models
Municipalities per zonal center
Municipalities
Needs per zonal center per model
Options
Parameters for selection of site visits
Participants in training events
Places of delivery per administrative entity or service unit
Places of delivery
Population groups per service units per subproject
Population Groups
Professional Areas- Job description
Professionals
Programming of physical goals per zonal center per model

Programming costs per model
Programming events per resource per zonal center
Programming of training events
Programming Events per physical goals per zonal center
Reasons for rejection
Reasons for exit or entry
Regional operational costs
Resource sources per zonal center per model
Resource Sources
Service units
Service characteristics
Service characteristics-Subproject
Small towns.
States and processes
Status of requests
Status of history of contracting requests
Status of site visits
Status of historical requests
Status history of loans
Status of minor
Status of training events
Status of a request or an entity
Steps
Subprograms
Subprojects
Subprojects per service units
Suburbs per zonal center
Suburbs
Target Group
Target group per subproject
Training Agents
Training Events
Training events-Subproject
Type of requirements
Type of identification
Type of link
Type of housing solution
Type of institution
Type of characteristics
Type of participants-training sessions
Type of loan

Type of adoption document
Type of acts of ICBF personnel
Type of contract addition
Type of training event
Types of administrative entity or service unit
Units of measurement
User groups
User groups
User modes
User group per subproject
Values of follow up variables
Variable groups
Variables of follow up by subproject
Variables of follow up by administrative entity
Zonal Centers