



SCHOOL OF COMPUTER AND INFORMATION SCIENCES
IGNOU, MAIDAN GARHI, NEW DELHI - 110 068

II. PROFORMA FOR APPROVAL OF MCA PROJECT PROPOSAL
(Project's Title and Guide Details)

Enrolment No.: 997257618
Study Centre: M.P. STEP (1522P)
Regional Centre Code: 15
e-mail: tarunbhatia2000@rediff.com
Telephone No.: 782792(P.P.)

1. Name and address of the student TARUN KUMAR BHATIA
295, Sector-2/C, Saket Nagar, Bhopal-46202
2. Title of Project "Management of Sales and Service"
3. Name and address of the Guide Dr. R.P. Srivastava, Sh-06, Mehta Complex, Nehru Nagar Bhopal
4. Qualification of the Guide (attach bio-data also)
Ph.D. M.Tech. B.Tech. MCA Any other
5. Working/teaching experience of Guide 15+ Years in IT Industry

Signature of the Student AK
Date: 19-06-02

Signature of the Guide [Signature]
Date: 19-06-02

(Please submit minimum 8-10 pages of the synopsis of the Project proposal)

Ensure to include the following items while submitting the Project Proposal:

1. Proforma for Approval of Project Proposal duly filled and signed by both the student and the supervisor.
2. Bio-data of the guide.
3. Synopsis of the Project Proposal (8-10 pages).

The Project Proposal should include the following:

1. Title of the Project
2. Objectives of the Project
3. Project Category (RDBMS/OOPS/Networking/Multimedia etc.)
4. Analysis reports (DFDs etc.)
5. A complete structure of the Program:
 - (i) Number of Modules, Data Structures and Process Logic
 - (ii) Types of Output/ Report Generation and Validation Checks
6. Tools/Platform, Languages to be used
7. Scope of future application

For Office Use Only



Approved



Not approved

Signature of Project
Co-ordinator

Date:

Suggestions for reformulating the Project

Curriculum Vitae

1. Name & Address : Dr. R P Srivastav
Sh-06, Mehta Complex,
Nehru Nagar - BPL
234549, 671806
98270-57480
2. Father's Name : Sri D.K. Srivastav
3. Age : 35 Years
(D.O.B. 10.12.1964)
4. Qualifications :
Ph.D. Applied Mathematics (Engg)
M.Sc.(Applied) Mathematics & Computer Prog.
B.Sc. Physics, Chemistry, Mathematics
5. Exposure to teaching : *Total Experience = 15 Years.*
4 years with MACT as Lecturer (Computer Sc & Engg)
2 years with Women Polytechnic Computer Sci (Part time)
2 years with SV Polytechnic (Part time)
2 years as Expert Faculty with IGNOU (MCA)
Taught various courses at Academy of Admin Bhopal.
6. Research Publications & Seminars :
23 research papers in the field of Applied Mathematics, Computer Science (AI, Data Communication) and allied subject on national and International level.
7. Employment Record :
Currently working with MPSIDC Bhopal as Assistant Manager (I/C Computer Centre) Since april 1993.
Worked with MACT, Bhopal as Lecturer, Systems Engineer, Programmer from 1988 to April 1993 in Electronics Engg. Deptt.

- *Title Of The Project:*

The title of the project is "**MANAGEMENT OF SALES & SERVICE**". The project will be developed for the client "Channel Four", the authorized dealer for Wipro Peripherals Ltd.

- *Objectives of the Project:*

The objective of the project is to develop an application for "Channel Four" which will help them in the Sales, Servicing and Maintenance of the peripherals and will also assist them in maintaining the Inventory effectively and efficiently. The purpose of the project is to provide low cost solution to the problems, to minimize the workload and complexity and to optimize the efficiency with reduced manpower. The user will be able to retrieve, modify and update the required information efficiently. The application will remove the drawbacks of the existing system, reduce the paper work and maintains the database consistently.

This application will simplify the work of Reception or Call-Coordination, Sales Department, Service Department, Inventory Department, Purchase Department and Accounts Department.

Call-Coordinator will register the call made by the client. The enquiry made by the client may be on-site or walk-in. On-site calls will be completed on client site or within the organization (if required) and Walk-in calls are completed within the organization. The call may be for Sales or for Service. If the call is for sales then the call will be forwarded to Sales Manager and if the call is for service then the call will be forwarded to Service Manager i.e. the call-coordinator will pass-on the clients enquiry to the concerned department.

Service call will be handled as follows: Service Manager will follow-up all the enquiries and distributes the jobs among Service Engineers. Service

Engineer will follow-up all the jobs assigned to him by the Service Manager on the basis of enquiry type (on-site / walk-in). To complete the job he may require some spare parts, which will be provided by Inventory Manager. If the parts to be replaced are in warranty period, then the warranty stockist provides the parts. Upon job completion he reports to Service Manager. The Inventory Manager needs to know when the supply of a particular part is low and needs to order more parts. The purchase request is then made to Purchase Manager. The Purchase Manager follow-up purchase requests for parts and purchase order will be placed to the supplier. On receiving the purchase delivery stock is updated and payments will be done by the Accounts Department. After the job is completed and handed over to the client, the client does payments.

Sales call will be handled as follows: Sales Manager distributes On-site calls as well as Walk-in calls to Executives. For demonstration and for sale, executive requires the peripherals, which are provided by the Inventory Manager. The role of Inventory Manager is described above in the Service call description. After the sale is completed, the client does the payments.

- *Tools, Platform & Language to be used:*

The application will be developed on *Microsoft Windows NT* platform. The project application will use *Microsoft Visual Basic 6.0 Enterprise Edition* as a front end and *Microsoft SQL Server 7.0* as a Back end.

Visual Basic 6.0 Enterprise Edition will be used to develop all the executables of the application. SQL Server 7.0 will be used to develop the databases for transaction of data. Microsoft ActiveX Data Objects (ADO) is the application-programming interface (API) used to access information. *OleDb* provider for SQL Server named *SQLOLEDB.1* is used for connectivity. *Seagate Crystal Report Designer* is used to develop various types of reports.

The minimum hardware requirements of the system are as follows

- 486 processor
- 32 MB of Ram
- 2 GB hard disk space
- VGA Monitor
- FDD
- Printer

- **Project Category:**

The category of the project falls under *Relational Database Management Systems (RDBMS)*. The application to be developed falls under *Client/Server based application*. Client/Server is a programming technique where a client program makes requests of a server program. In the case of SQL Server, the client program running on the user's computer generates requests for information or supplies commands to the database server, which processes them and returns the results back to the calling application.

- **Types of Report Generated:**

The software to be developed will generate various types of reports. Various persons within the organization use these reports for different purposes. For example one may use Purchase Order details to know which orders are placed to which suppliers. The types of reports to be generated are as follows:

1. Stock Details
2. Purchase Order Details
3. Purchase Delivery Details
4. Sales Details
5. Consumption Details
6. Collection Details

7. SCR Details
8. WCR Details
9. Customer Account Details
10. Supplier Account Details
11. Customer-Supplier Combined Account Details
12. Call Details
13. Job Details
14. Purchase Details
15. AMC Details
16. Employee Details
17. Client Details
18. Supplier Details

Out of the above reports some reports will be generated daily, monthly or annually.

• **Number of Modules & its Description:**

The modularization means the division of the system into parts on some systematic basis. Each unit is a separate unit of work. Modules can then be further subdivided into smaller sub modules. The system needed to be broken down into loosely coupled modules so that the modules can be developed separately, thus maximum accuracy and later, all then could be integrated with minimum efforts. Management of Sales & Service system is broken into following modules:

- Service module
- Call Management module
- Sales module
- Inventory Management module
- Purchase module
- Accounts module

Out of the above modules I am doing the Service module, Call Management module, Inventory Management module and Purchase module.

Service Module: The service department will use this module. Service Manager will make a job card and distributes the jobs among Service Engineers. If the parts to be replaced are in warranty period then a WCR (Warranty Consumption Report) will be send to the supplier to replace the parts. After the job completion Engineer will submit the SCR (Service Call Report) to the Manager.

Call Management Module: The Reception will use this module. Call Coordinator will handle all the enquiries. He will submit the enquiries to the concerned department. He can give all the information regarding the client's job.

Inventory Management Module: The Inventory department will use this module. Inventory Control Manager will handle all the parts request or peripherals request made by the Sales & Service department. He will also request to Purchase department in order to maintain the stock.

Purchase Module: The Purchase department will use this module. Purchase manager will handle the Purchase request made by the Inventory department. He will place Purchase Orders to the supplier.

- **Data Structures (Tables) of all Modules:**

The tables used by all the modules are described on the next page with their field names and data types.

CLIENT:

Field Name	Data Type
# client_id	Int
c_cat_id	Int
client_nm	varchar
con_person	varchar
Addr	varchar
city_id	Int
ph1	varchar
ph2	varchar
Email	varchar
Fax	varchar
Mobile	varchar
Remark	varchar

SUPPLIER:

Field Name	Data Type
# supp_id	Int
supp_nm	varchar
con_person	varchar
Addr	varchar
city_id	Int
Ph1	varchar
Ph2	varchar
Email	varchar
Fax	varchar
Mobile	varchar
remark	varchar

EMPLOYEE:

Field Name	Data Type
# empno	int
ename	varchar
short_nm	varchar
addr	varchar
addr2	varchar
Ph	varchar
ph_r	varchar
email	varchar
mobile	varchar
Doj	smalldatetime
deptno	int
desig_id	int

C_CATEGORY:

Field Name	Data Type
# c_cat_id	Int
c_cat_nm	varchar
Descry	varchar

DEPT:

Field Name	Data Type
# deptno	Int
Dname	Varchar
Descr	Varchar

DESIGNATION:

Field Name	Data Type
# desig_id	int
Desig_nm	varchar
Job_descr	varchar

DEPT_DESIG:

Field Name	Data Type
# deptno	Int
# desig_id	int

CITY:

Field Name	Data Type
# city_id	Int
Std	Varchar
City_nm	Varchar

TEMP_CALL:

Field Name	Data Type
# call_no	Int
Call_section	Tinyint
P_cat_id	Int
Call_type	Tinyint
Call_dt	datetime
Client_id	Int
Attendent	Int
Descr	Varchar
Status	Tinyint

PROD_CATEGORY:

Field Name	Data Type
# p_cat_id	Int
p_cat_nm	varchar

P_SUB_CATEGORY:

Field Name	Data Type
#p_sub_cat_id	Int
P_cat_id	Int
P_sub_cat_nm	Varchar

PART_CATEGORY:

Field Name	Data Type
#part_cat_id	Int
part_cat_nm	varchar
Keyword	varchar

CONSUMABLES:

Field Name	Data Type
# con_code	Int
Con_nm	varchar

PART STOCK:

Field Name	Data Type
Part_cat_id	Int
P_cat_id	int
# Part_id	Int
Part_code	Varchar
Part_nm	Varchar
Rol	Int
Roq	Int
Cur_price	Int
Least_price	int
Cp	Int
Dp	Int
Qty	Int
Status	Bit

SALES_UNIT:

Field Name	Data Type
# model	Varchar
P_sub_cat_id	Int
Rol	Int
Roq	Int
Cur_price	Int
Least_price	Int
Term1	Int
Term2	Int
Cp	Int
Status	Bit

CONS_STOCK:

Field Name	Data Type
# con_code	int
# model	varchar
Rol	int
Roq	int
Cur_price	int
Least_price	int
Cp	int
Dp	int
Qty	int

AMC:

Field Name	Data Type
# amc_no	Varchar
Model	Varchar
Sr_no	Varchar
Amc_amt	Int
From_dt	Datetime
Till_dt	Datetime
With_parts	Bit
Company	Bit
Client_id	Int
End_user	Int
Remarks	Varchar

PARTS_REQ:

Field Name	Data Type
# empno	Int
# Part_id	Int
Qty	Int
# mode	Tinyint

ISSUE_PARTS:

Field Name	Data Type
# issue_id	Varchar
Issue_dt	smalldatetime
Issue_to	Int

ISS_DET_P:

Field Name	Data Type
# issue_id	Varchar
# part_id	int
Req_qty	Int
Iss_qty	Int

CONS_REQ:

Field Name	Data Type
# empno	Int
# con_code	Int
# Model	Varchar
Qty	Int
# Mode	Tinyint

ISSUE_CONS:

Field Name	Data Type
# issue_id	Varchar
Issue_dt	smalldatetime
Issue_to	Int

ISS_DET_C:

Field Name	Data Type
# issue_id	Varchar
# con_code	int
# model	Varchar
Req_qty	Int
Iss_qty	Int

RET_P:

Field Name	Data Type
# ret_id	Int
Rdate	Datetime
Empno	Int

RET_DET_P:

Field Name	Data Type
# ret_id	Int
# part_id	int
Qty	Int

RET_C:

Field Name	Data Type
# ret_id	Int
# rdate	Datetime
Empno	Int

RET_DET_C:

Field Name	Data Type
# ret_id	Int
# con_code	Int
# model	Varchar
Qty	Int

POR_SERVICE:

Field Name	Data Type
# por_id	Varchar
Por_dt	smalldatetime
Supp_id	Int
Status	Int

POR_DTL_SERVICE:

Field Name	Data Type
# por_dtl_id	Int
Por_id	Varchar
Part_id	Int
Qty	Int
Status	Int

PDC_SERVICE:

Field Name	Data Type
# p_dc_no	Varchar
Old_dc_no	Varchar
Por_id	Varchar
Del_dt	Datetime
Rcv_by	Int
Status	Bit

PDC_DTL_SERVICE:

Field Name	Data Type
#pdc_det_id	Int
P_dc_no	Varchar
Por_det_id	Int
Qty	Int
Rate	Int

RETURN_DC_SERVICE:

Field Name	Data Type
# ret_dc_no	Varchar
Ret_dt	Datetime
P_dc_no	Varchar

RETURN_DC_DTL_SERVICE:

Field Name	Data Type
# ret_det_id	Int
Ret_dc_no	Varchar
Pdc_det_id	Int
Qty	int

ACTION_MASTER:

Field Name	Data Type
# action_id	Varchar
P_cat_id	Int
Action_desc	varchar

PARTS_RECEIVABLES:

Field Name	Data Type
# p_rec_id	Int
P_cat_id	int
P_name	Varchar

COMP_REP:

Field Name	Data Type
# comp_id	Int
Comp_nm	Varchar

PARTS_REC'D:

Field Name	Data Type
# j_c_no	Varchar
P_rec_id	Int

JOB_CARD:

Field Name	Data Type
# j_c_no	Varchar
Call_no	Int
Eng_id	Int
Model	Varchar
Smo	Varchar
Comp_id	Int
Comp_smo	Varchar
Sr_key_flag	Bit
Inf_status	Tinyint
Rec_time	Datetime
Prob_desc	Varchar
Job_type	Tinyint
Rep_level	Bit
Est_cost	Int
Exp_dt	smalldatetime
Status	Tinyint
Print_status	Bit
Remark	Varchar
t e s t e d	b i t

UNIT_STOCK:

Field Name	Data Type
# model	Varchar
# smo	Varchar
# p_dc_no	Varchar
Client_id	Int
Act_date	Datetime
Com_wty	Smallint
C4_wty	Smallint
Status	tinyint

SERVICE_MASTER:

Field Name	Data Type
# service_id	Int
Descr	Varchar
P_sub_cat_i	int
d Cp	Int
Dp	Int
S_level	Bit
Chip_level	bit

PARTS_REPL:

Field Name	Data Type
j_c_no	Varchar
scr_no	Varchar
empno	Int
Part_id	Int
Qty	Int
Rate	Int
Billable	Bit

ACTIONS:

Field Name	Data Type
j_c_no	varchar
action_id	varchar
scr_no	varchar
taken_by	int
status	bit
descr	varchar

PAYMENT:

Field Name	Data Type
# r_no	varchar
client_id	int
r_dt	smalldatetime
empno	int
remarks	varchar
mode	tinyint

PROBLEM_MASTER:

Field Name	Data Type
# prob_id	int
p_cat_id	varchar
prob_desc	varchar

SERVICING:

Field Name	Data Type
j_c_no	Varchar
service_id	Int
scr_no	Varchar
rate	Int
done_by	Int
status	bit
descr	varchar
billable	bit

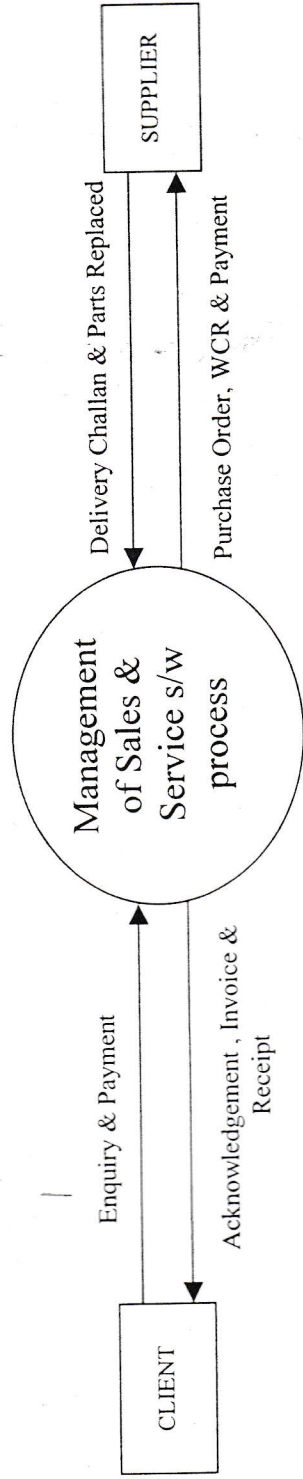
WCR:

Field Name	Data Type
# wcr_id	int
wcr_no	varchar
wcr_dt	smalldatetime
wcr_app_dt	smalldatetime
j_c_no	varchar
scr_no	varchar
part_id	int
qty	int

PROBLEMS:

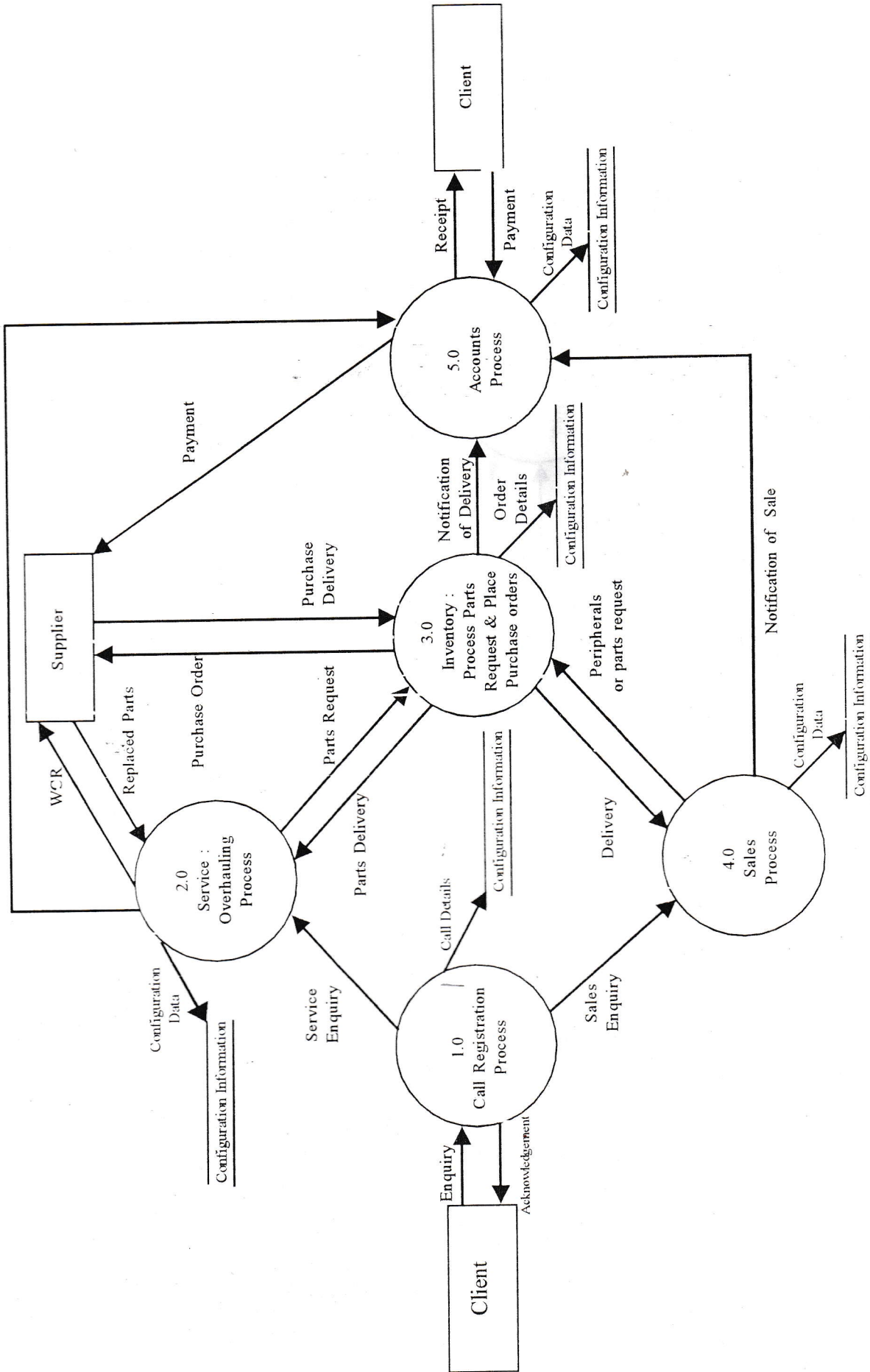
Field Name	Data Type
j_c_no	varchar
prob_id	varchar
scr_no	varchar
descry	varchar

• Analysis (Data Flow Diagrams - DFD's):

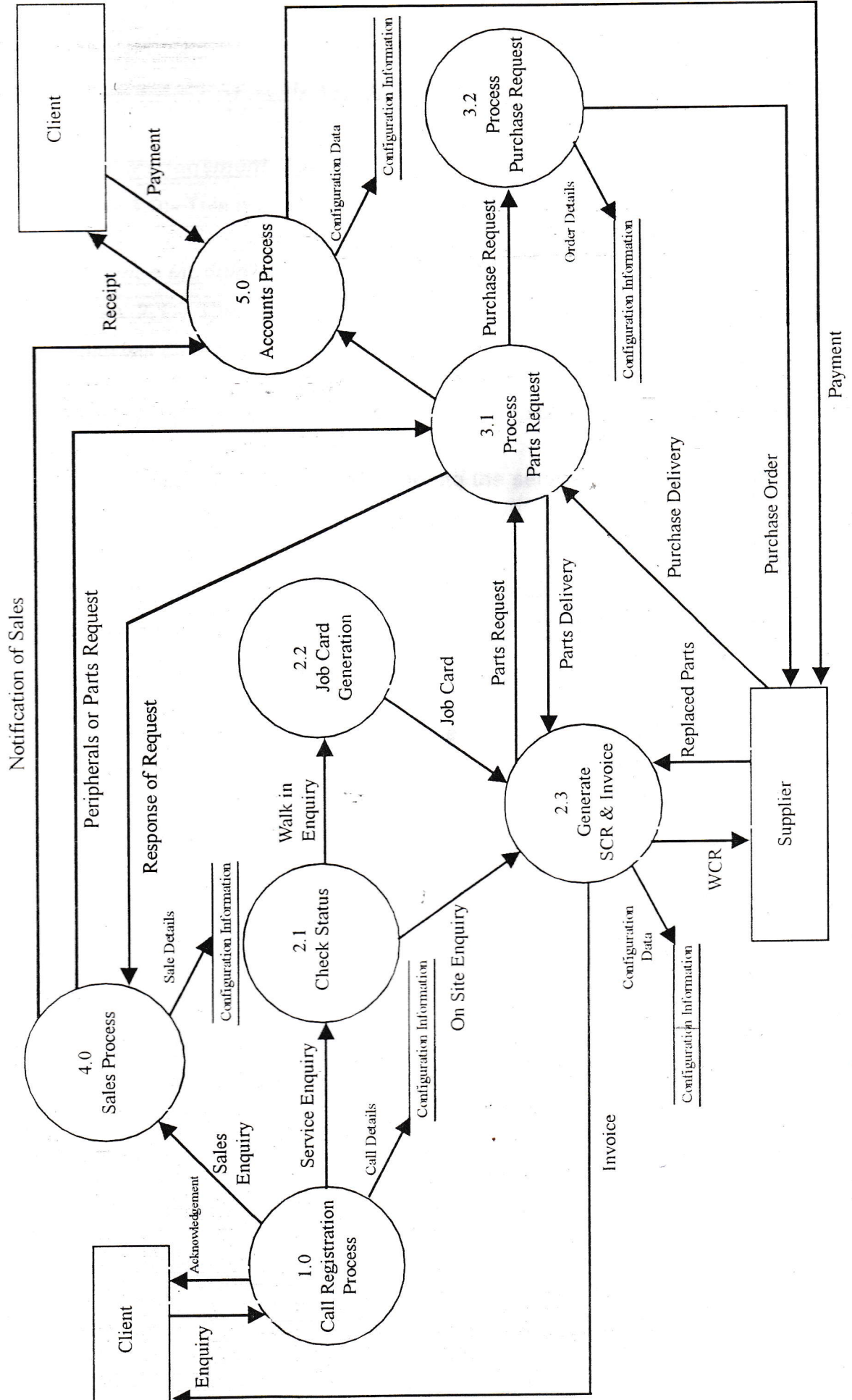


Level 0 DFD (Context Level Diagram)

Notification of Job Completion



Level 1 DFD



Level 2 DFD

- Process Logic of each Module:

For Call Management Module-

Process 1.0:- This process will register the call of client.

For Service Module-

Process 2.1:- The enquiry made by the client is processed is here. The process will distinguish among the onsite and walk-in calls.

Process 2.2:- This process will generate the job card.

Process 2.3:- This process will generate the service call report and also the invoices which are to be given to the client.

For Inventory Management & Purchase Module-

Process 3.1:- All the requests made by the service & sales department are processed here.

Process 3.2:- This process will generate the purchase orders.

- Validation Checks:

The user of the software should only be able to enter numeric data for numeric fields, and character data for character fields.

- *Scope of Future Application:*

This project can be used for any organization where the work is related to Sales & Service. It is generalized software, which can be used for multiple organizations simultaneously. Designed for small and medium sized organizations, Management of Sales & Service System combines superior reliability and powerful features with capacity to be used for more than one organization on a single installation.