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SBS COMPUTERS

20593

FINAL REPORT

CONTRACT NO. 92/210

UNIDO PROJECT NO. DP/PAK/84/012

SBS COMPUTERS

C O N T E N T S

SBS COMPUTERS

APPENDICES

SBS COMPUTERS

DRAFT FINAL REPORT

PROVISION OF SERVICES RELATING TO THE INTRODUCTION OF COMPUTER AIDED DESIGN AND MANUFACTURING TECHNIQUES TO THE PAKISTAN MACHINE TOOL FACTORY(PMTF) IN PAKISTAN

INTRODUCTION

1. This has reference to UNIDO contract No.92/210, in regard to project No. DP/PAK 84/012, for provision of services by Computervision Corporation of USA (CV) relating to the introduction of Computer Aided Design and Manufacturing Techniques to Pakistan machine Tool Factory in Pakistan (PMTF).

2. The present report has been prepared to meet the requirement as specified in clause 2.11(c) of the aforesaid contract. It summarises all tasks and activities performed by Computer Vision in conjunction with Selling Business System (SBS) to fulfil the entire range of requirements as spelled out in the contract and covers time period from the date of commencement, that is, 30th March,1993 to the date of concluding, namely, December 02, 1993. This report marks the end of our obligation under the contract except for the provision of a final report based on the current report vis-a-vis the comments and recommendations by UNIDO on it.

3. The broad requirements of the contract as to the provision of goods and services were as follows:

- Supply of hardware as listed in Annex F to the contract, including preparation of SITE, installation and commissioning within a given timeframe.

- Supply of CAD/CAM application software as specified again in Annex F.

- Training of selected PMTF personal to enable them to operate successfully the CAD/CAM application software, including systems training.

- 5-week consultancy comprising ongoing advice and assistance with directory and file handling,

assistance with hardware and software configuration, system upgrade and expansion, training in graphics creation, parametric creation and user programing etc.

SUPPLY OF HARDWARE

4. The detailed coverage on the supply of hardware has already been included in our commissioning report submitted to UNIDO in May 1993.

5. A list of hardware supplied and installed at PMTF is given at appendix A. This is in conformity with annex 'F' to the contract except for a minor deviation in the case of a plotter. The Calcomp plotter supplied was replaced with a Hewlett Packard plotter at the request of PMTF and with the consent of UNIDO representatives. The Chief motivation for this replacement was to achieve consistency with the pre-existing HP plotter with PMTF.

6. The following additional hardware, found necessary in the course of implementation for better operational efficiency was agreed with PMTF and UNIDO, was supplied and installed.

   1. HP Plotter

   2. HP Laserjet IV Printer

   3. 2 MB extra RAM memory for existing printers

7. Necessary cost adjustments for these additional items were agreed with PMTF and UNIDO.

SUPPLY OF SOFTWARE

8. The entire CAD/CAM software range forming part of the contract and detailed in annex F to the contract (Appendix B) had been supplied, installed, and tested in the first place. As explained in our report on implementation, training and customising, the installed software had to be dislodged temporarily to make room for training software. On conclusion of training, the software had been reinstalled. At the time of

reinstallation, computervise software inventory had been prepared which is placed at appendix __C__.

9. During implementation, need was felt to install anti-virus software to protect PC's against virus contamination in the course of operation. An appropriate anti-virus software was accordingly installed in each machine.

TRAINING

10. The detailed coverage on training is to be found in our report on this subject made earlier in Sep., 1993.

11. The main objective of the training was to educate selected PMTF personnel in the use of CAD/CAM application software and the hardware on which it was installed , to a level that they were able to operate these smoothly after the consultants had left.

12. With this objective in view, a cross-section of engineers was drawn from all concerned departments of PMTF, and a training group was formed in consultation with PMTF and UNIDO.

13. The selected group of trainees was intensively trained according to a training schedule (appendix __D__) developed in consultation with PMTF and UNIDO. In the course of implementation, however, some additional courses were identified and found appropriate to supplement the training requirement. These courses were :

1. 3-day training in DOS

2. 6-day training in NOVELL

3. 2-day training in the use of WINDOWS

14. The training programmes by and large proceeded as planned. The quality and conduct of training course had been found most satisfactory by all concerned. We quote here from a meeting held on 29th July, 1993, between SBS, PMTF, UNIDO, and minuted by Mr. Wadsworth of UNIDO.

"3.1 The quality of the training had been assessed using questionnaires completed by the students. The assessment rated the tuition to be good, i.e., ranging between good and excellent."

"3.2 The training environment had proved to be very good."

"3.3 The students had responded positively to the training program and continued to be highly motivated."

15. The training program within the context of the current agreement had concluded on October 15, 1993. Meantime, however, UNIDO and PMTF had asked SBS to quote for a Systems Management Training Program. The quotation and schedule of training had already been submitted to PMTF and UNIDO as requested.

STAFFING

16. To meet the requirements of the enlarged scope of training and also to make available the services of most appropriate specialists for different subjects, the number of training consultants had to be increased.

17. The team of consultants which consequently carried out different training and consultancy tasks comprised the following persons :

1. Mr. S. Moffat
2. Mr. H. Rehman
3. Mr. A. Malik
4. Mr. B. Conti
5. Ms. Diana Yeow
6. Mr. Lai Chi Hung
7. Mr. James Tsang
8. Mr. Fransisco Tang
9. Mr. Keith Tan
10. Mr. Martin Wright

18. The C.V's of these personnel already supplied to PMTF and UNIDO at different times, are placed at appendix __E__.

SBS COMPUTERS

CONSULTANCY

19. The consultancy spread over the whole length of assignment was primarily concerned with :

- assistance with configuration of the system for both hardware and software from a practical point of view
- ongoing advice and assistance with configuration, directory and file handling
- systems training for the above
- on-the-spot hardware and software bug-fixing
- follow-on assistance in training in graphics creation, parametric creation, and user programing
- advice on system upgrade and expansion

20. Because of their local presence, SBS consultants had continued to give advice and assistance throughout in all areas listed above except for the last two. The more specific consultancy was given by Computervision consultants over a period

Name of consultant	**Functional Area covered**	**Duration**
1. Mr. Lai Chi Hung	Technical & Business Evaluation of PMTF	1 week (19-22 Oct.,1993)
2. Mr. James Tsang	Application Working Practices	1 week (6-11 Nov.,1993)
3. Mr. Francisco Tang	System Working Practices	1 week (13-18 Nov.,1993)
4. Mr. Bernard Conti	Applications Working Practices	1 week (20-26 Nov.,1993)
5. Mr. Keith Tan	Systems Working Practices	1 week (27 Nov-2 Dec.,199

21. In addition to the scheduled consultancy, another CV consultant Mr. Martin Wright came to Pakistan for installation and testing of post processors, as a part of transfer of technology program.

22. Each of the consultant has written an end-of-consultancy report detailing the advice and assistance rendered by him. These reports are placed at appendix __F__.

GENERAL OBSERVATIONS

23. On conclusion of the assignment, we feel satisfied that CADS CAM system and techniques as appropriate to the needs of PMTF have been fully transfered.

Smooth installation and transfer of technology has been made easier due to personal involvement of DGM,PMTF, Qazi Mohammad Aslam, as well as judicious selection of a crossection of PMTF personnel for training. In our assessment, the PMTF team has trained well and at the end is competent enough to operate the system without much outside assistance except in the area of maintenance.

Being the first project of its kind in Pakistan, it should be a matter of pride for PMTF to have access to this advanced technology with the assistance of UNIDO. We hope, this project will serve as a brilliant example to other similar organizations not only in Pakistan but elsewhere in Asia where this new technology is yet to make it debut.

CONCLUSION

24. Finally, we would like to thank all concerned and acknowledge once again that without the active interest and cooperation of PMTF and UNIDO, it would have been difficult to complete the requirements of the contract within the given timeframe.

LIST OF HARDWARE APPENDIX A

Product Description	Qty
19" SPARC STN IP x(424)	2
Memory: 16 MByte Exp (IPX)	2
DISK: CD-ROM Optical Disk Drive 644 MByte	2
Calcomp 1025 Pen Plotter	1
Tektronix phase II PXE color screen printer	1
UPS 3.0 KVA POM	2
21"Daewoo Server with 1 Gbyte HDD	2
21"Daewoo 486 3D Workstation	2
21"Daewoo 486 2D/3D Workstation	4
21'Daewoo 486 Workstation (CNC Shop)	1
HP Laser Jet IV Printer	2
Paper Tape Punch - GN Data Corp	1
UPS 600 VA	1

LIST OF SOFTWARE

APPENDIX B

Product Description	Model No.	Qty
Personal Designer Rev 5.0	954200	2
Micro Draft Rev 5.0	954206	6
UPL Rev 5.0	954610	4
Data Extract Rev 2.0	924630	3
Personal DXF Rev 5.0	954625	7
DEsign View Rev 3.0	731700	7
PD/CADDS Direct Translator	954622	2
Page Maker (Technical Publication) Editer)	TP6423	1
Plotware - calcomp single seat license	SXXX-V0500	1
CV Vare Parametric Design	SXXX-V1303	2
PM 2.5 Axis Rev 4.1 including PD 5.0	944561	1

PAKISTAN MACHINE TOOL FACTORY

CADCAM SYSTEM CONFIGURATION	
DEPARTMENT	TOOL DESIGN

SUN WORKSTATION NUMBER	TD-00
MACHINE TYPE	SUN IPX
MACHINE SERIAL NUMBER	236M3059
MACHINE IP NUMBER	129.1.0.11
HARD DISK DRIVE SIZE (Mb)	424 + 500
3.5" FLOPPY DISK DRIVE (Mb)	1.44
SUN CD-ROM DRIVE (Mb)	640

Installed Software

		Version No	Remarks
1	SUN OS	4.1.3	Installed
2	CVware Parametric Design	2.11	Installed

Installed by: Hafeez *Date:* 14/11/93

Checked by: Zuri *Date:* 25/11/93.

Verified by: Wadsworth *Date:* 25-11-93

PAKISTAN MACHINE TOOL FACTORY

CADCAM SYSTEM CONFIGURATION	
DEPARTMENT	TOOL DESIGN

PC NUMBER	TD-01
MACHINE TYPE	WS-3D
MACHINE SERIAL NUMBER	009341716
MACHINE IP NUMBER	129.1.0.15
HARD DISK DRIVE SIZE (Mb)	245
3.5" FLOPPY DISK DRIVE (Mb)	2.88
5.25" FLOPPY DISK DRIVE (Mb)	1.2
TAPE BACKUP CAPACITY (Mb)	-

Installed Software

		Version No	Serial No	Device No	Remarks
1	DOS	5.0	010893	-	
2	Windows	3.10	602403	-	
3	Personal Designer	5.03	95032064	830002	
4	MicroDraft				
5	Designview	3.0	73000002		Key Installed
6	Data Extract				
7	Personal Machinist				
8	UPL				
9	PD/CADDS	5.03	95030241	830002	
10	Personal DXF	5.01	95010537	-	
11	Page Maker	4.0	03-4009	-	
12	Novell	3.11	06299938	-	

Installed by: Hafeez *Date:* 20/10/93

Checked by: Zaki *Date:* 27 Oct 93

Verified by: R.H. Wadsworth *Date:* 27/10/93

PAKISTAN MACHINE TOOL FACTORY

CADCAM SYSTEM CONFIGURATION	
DEPARTMENT	TOOL DESIGN

PC NUMBER	TD-02
MACHINE TYPE	WS-2D
MACHINE SERIAL NUMBER	009341714
MACHINE IP NUMBER	129.1.0.14
HARD DISK DRIVE SIZE (Mb)	120
3.5" FLOPPY DISK DRIVE (Mb)	2.88
5.25" FLOPPY DISK DRIVE (Mb)	1.2
TAPE BACKUP CAPACITY (Mb)	-

Installed Software

		Version No	Serial No	Device No	Remarks
1	DOS	5.0	010893	-	
2	Windows	3.10	602403	-	
3	Personal Designer				
4	MicroDraft	5.03	95033412	830006	
5	Designview	3.0	73000003		key installed
6	Data Extract	2.0	92000545	830006	
7	Personal Machinist				
8	UPL				
9	PD/CADDS				
10	Personal DXF	5.01	95010539	-	
11	Page Maker	4.0	03-4009	-	
12	Novell	3.11	06299938	-	

Installed by: _____ *Date:* 20/10/93

Checked by: _____ *Date:* 27 Oct 93.

Verified by: _____ *Date:* 27/10/93

PAKISTAN MACHINE TOOL FACTORY

CADCAM SYSTEM CONFIGURATION	
DEPARTMENT	TOOL DESIGN

PC NUMBER	TD-03
MACHINE TYPE	WS-2D
MACHINE SERIAL NUMBER	009341715
MACHINE IP NUMBER	129.1.0.13
HARD DISK DRIVE SIZE (Mb)	120
3.5" FLOPPY DISK DRIVE (Mb)	2.88
5.25" FLOPPY DISK DRIVE (Mb)	1.2
TAPE BACKUP CAPACITY (Mb)	-

Installed Software

		Version No	Serial No	Device No	Remarks
1	DOS	5.0	010893	-	
2	Windows	3.10	602403	-	
3	Personal Designer				
4	MicroDraft	5.03	95033414	830008	
5	Designview	3.0	73000006		key installed
6	Data Extract				
7	Personal Machinist				
8	UPL	5.02	95020338	830008	
9	PD/CADDS				
10	Personal DXF	5.01	95010541	-	
11	Page Maker	4.0	03-4009	-	
12	Novell	3.11	06299938	-	

Installed by: Hafeez *Date:* 20/10/93

Checked by: [signature] *Date:* 27 Oct 93

Verified by: [signature] *Date:* 27/10/93

PAKISTAN MACHINE TOOL FACTORY

CADCAM SYSTEM CONFIGURATION	
DEPARTMENT	TOOL DESIGN

PC NUMBER	TD-04
MACHINE TYPE	PC-Server
MACHINE SERIAL NUMBER	009341712
MACHINE IP NUMBER	129.1.0.12
HARD DISK DRIVE SIZE (Mb)	1024
3.5" FLOPPY DISK DRIVE (Mb)	2.88
5.25" FLOPPY DISK DRIVE (Mb)	1.2
TAPE BACKUP CAPACITY (Mb)	250

Installed Software

		Version No	Serial No	Device No	Remarks
1	DOS	5.0	010893	-	
2	Windows	3.10	602403	-	
3	Personal Designer				
4	MicroDraft	5.03	95033416	830015	
5	Designview				
6	Data Extract				
7	Personal Machinist				
8	UPL	5.02	95020340	830015	
9	PD/CADDS				
10	Personal DXF				
11	Page Maker	4.0	03-4009	-	
12	Novell	3.11	06299938	-	

Installed by: Hafeez *Date:* 20/10/93

Checked by: [signature] *Date:* 27 Oct 93.

Verified by: [signature] *Date:* 27/10/93

PAKISTAN MACHINE TOOL FACTORY

CADCAM SYSTEM CONFIGURATION	
DEPARTMENT	DESIGN OFFICE

SUN WORKSTATION NUMBER	DO-00
MACHINE TYPE	SUN IPX
MACHINE SERIAL NUMBER	249M1936
MACHINE IP NUMBER	129.1.0.1
HARD DISK DRIVE SIZE (Mb)	424 + 500
3.5" FLOPPY DISK DRIVE (Mb)	1.44
SUN CD-ROM DRIVE (Mb)	640

Installed Software

		Version No	Remarks
1	SUN OS	4.1.3	Installed
2	CVware Parametric Design	2.11	Installed

Installed by: Hafeez *Date:* 14/11/93

Checked by: [signature] *Date:* 25/11/93

Verified by: [signature] *Date:* 25-11-93

PAKISTAN MACHINE TOOL FACTORY

CADCAM SYSTEM CONFIGURATION	
DEPARTMENT	DESIGN OFFICE

PC NUMBER	DO-01
MACHINE TYPE	WS-3D
MACHINE SERIAL NUMBER	009341719
MACHINE IP NUMBER	129.1.0.5
HARD DISK DRIVE SIZE (Mb)	245
3.5" FLOPPY DISK DRIVE (Mb)	2.88
5.25" FLOPPY DISK DRIVE (Mb)	1.2
TAPE BACKUP CAPACITY (Mb)	-

Installed Software

		Version No	Serial No	Device No	Remarks
1	DOS	5.0	010893	-	
2	Windows	3.10	602403	-	
3	Personal Designer	5.03	95032065	830004	
4	MicroDraft				
5	Designview	3.0	73000004		key installed
6	Data Extract				
7	Personal Machinist				
8	UPL				
9	PD/CADDS	5.03	95030242	830004	
10	Personal DXF	5.01	95010536	-	
11	Page Maker	4.0	03-4009	-	
12	Novell	3.11	06299938	-	

Installed by: Hafeez *Date:* 20/10/93

Checked by: [signature] *Date:* 27-Oct-93.

Verified by: [signature] *Date:* 27/10/93

PAKISTAN MACHINE TOOL FACTORY

CADCAM SYSTEM CONFIGURATION	
DEPARTMENT	DESIGN OFFICE

PC NUMBER	DO-02
MACHINE TYPE	WS-2D
MACHINE SERIAL NUMBER	009341713
MACHINE IP NUMBER	129.1.0.4
HARD DISK DRIVE SIZE (Mb)	120
3.5" FLOPPY DISK DRIVE (Mb)	2.88
5.25" FLOPPY DISK DRIVE (Mb)	1.2
TAPE BACKUP CAPACITY (Mb)	-

Installed Software

		Version No	Serial No	Device No	Remarks
1	DOS	5.0	010893	-	
2	Windows	3.10	602403	-	
3	Personal Designer				
4	MicroDraft	5.03	95033411	830005	
5	Designview	3.0	73000005		key installed
6	Data Extract	2.0	92000544	830005	
7	Personal Machinist				
8	UPL				
9	PD/CADDS				
10	Personal DXF	5.01	95010538	-	
11	Page Maker	4.0	03-4009	-	
12	Novell	3.11	06299938	-	

Installed by: Hafeez *Date:* 20/10/93

Checked by: [signature] *Date:* 27 Oct 93

Verified by: E Wadsworth *Date:* 27/10/93

PAKISTAN MACHINE TOOL FACTORY

CADCAM SYSTEM CONFIGURATION	
DEPARTMENT	DESIGN OFFICE

PC NUMBER	DO-03
MACHINE TYPE	WS-2D
MACHINE SERIAL NUMBER	009341717
MACHINE IP NUMBER	129.1.0.3
HARD DISK DRIVE SIZE (Mb)	120
3.5" FLOPPY DISK DRIVE (Mb)	2.88
5.25" FLOPPY DISK DRIVE (Mb)	1.2
TAPE BACKUP CAPACITY (Mb)	-

Installed Software

		Version No	Serial No	Device No	Remarks
1	DOS	5.0	010893	-	
2	Windows	3.10	602403	-	
3	Personal Designer				
4	MicroDraft	5.03	95033413	830007	
5	Designview	3.0	73000001		key installed
6	Data Extract				
7	Personal Machinist				
8	UPL	5.02	95020337	830007	
9	PD/CADDS				
10	Personal DXF	5.01	95010540	-	
11	Page Maker	4.0	03-4009	-	
12	Novell	3.11	06299938	-	

Installed by: Hafeez *Date:* 20/10/93

Checked by: [signature] *Date:* 27 Oct 93.

Verified by: [signature] *Date:* 27.10.93

PAKISTAN MACHINE TOOL FACTORY

CADCAM SYSTEM CONFIGURATION	
DEPARTMENT	DESIGN OFFICE

PC NUMBER	DO-04
MACHINE TYPE	PC-Server
MACHINE SERIAL NUMBER	009341711
MACHINE IP NUMBER	129.1.0.2
HARD DISK DRIVE SIZE (Mb)	1024
3.5" FLOPPY DISK DRIVE (Mb)	2.88
5.25" FLOPPY DISK DRIVE (Mb)	1.2
TAPE BACKUP CAPACITY (Mb)	250

Installed Software

		Version No	Serial No	Device No	Remarks
1	DOS	5.0	010893	-	
2	Windows	3.10	602403	-	
3	Personal Designer				
4	MicroDraft	5.03	95033415	830009	
5	Designview				
6	Data Extract				
7	Personal Machinist				
8	UPL	5.02	95020339	830009	
9	PD/CADDS				
10	Personal DXF				
11	Page Maker	4.0	03-4009	-	
12	Novell	3.11	06299938	-	

Installed by: Hafeez *Date:* 20/10/93

Checked by: [illegible] *Date:* 27 Oct 93.

Verified by: R Wadsworth *Date:* 27/10/93

PAKISTAN MACHINE TOOL FACTORY

CADCAM SYSTEM CONFIGURATION	
DEPARTMENT	CNC SHOP

PC NUMBER	CNC-01
MACHINE TYPE	WS-CAM
MACHINE SERIAL NUMBER	009341718
MACHINE IP NUMBER	129.1.0.2
HARD DISK DRIVE SIZE (Mb)	245
3.5" FLOPPY DISK DRIVE (Mb)	2.88
5.25" FLOPPY DISK DRIVE (Mb)	1.2
TAPE BACKUP CAPACITY (Mb)	250

Installed Software

		Version No	Serial No	Device No	Remarks
1	DOS	5.0	010893	-	
2	Windows	3.10	602403	-	
3	Personal Designer				
4	MicroDraft				
5	Designview	3.0	73000000		key installed
6	Data Extract	2.0	92000543	830003	
7	Personal Machinist	5.03	94100253	830003	
8	UPL				
9	PD/CADDS				
10	Personal DXF	5.01	95010542		
11	Page Maker	4.0	03-4009	-	
12	Novell	3.11	06299938	-	

Installed by: Hafeez *Date:* 20/10/93

Checked by: [signature] *Date:* 27 Oct 93.

Verified by: [signature] *Date:* 27/10/93

Appendix D

TRAINING SCHEDULE FOR PMTF CAD/CAM PROJECT

ITEM	ACTIVITY	RESP	PMTF NUMBERS INVOLVED	WEEK No and WEEK BEGINNING SATURDAY ==)\ -1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
				May		June				July					August				September				October					November			
				22	29	05	12	19	26	03	10	17	24	31	07	14	21	28	04	11	18	25	02	09	16	23	30	06	13	20	27
	TRAINING				Hol				Hol																					
1	Seminar for Managers	CV	8			*																								
2a	Seminar for Engineers.1	CV	15			*																								
2b	Seminar for Engineers 2 (repeat)	CV	15			*																								
3	Solid Modelling & Parametrics	CV	4				****	****	P		PP		PP	PP			PP		PP		PP		PP		PP	PP	PP	PP	PP	PP	PP
4	Intro to UNIX Systems Management	SBS	13							****	PP																				
5	Personal Designer, DV & DE	SBS	13									****	PP	PP			PP		PP		PP		PP		PP	PP	PP	PP	PP	PP	PP
6	Technical Drawing and Microdraft	SBS	13												****	****	PP														
7	Advanced UNIX Systems Management	CV	13															****	PP		PP		PP		PP	PP	PP	PP	PP	PP	PP
8	Personal Machinist, NC Programming	SBS	12																	****	PP		PP		PP	PP	PP	PP	PP	PP	PP
9	User Programmable Language - UPL	SBS	14																			****	PP								
10	Pagemaker - Technical Publications	SBS	12																					****	PP	PP	PP	PP	PP	PP	PP
	TECHNOLOGY TRANSFER PROGRAMME																														
11	Technical and Business Evaluation	CV	13										****																		
12	Application Working Practices	CV	13																					****	****						
13	System Working Practices	CV	13																								****	****			
14	Install Post-processors & Test	CV	5														****														
15	On-site Systems Training & Support	SBS		****		****	****	****		****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****
16	On-site Systems Management Support	UNIDO		****		****	****	****		****	****	****	****	****	****	****	****	****						****	****	****	****	****	****		

UNIDO

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PERSONAL HISTORY STATEMENT
(Project Personnel)
(PRAS/2)

THIS INFORMATION MAY BE SUBMITTED TO MEMBER GOVERNMENTS.

Date: 1-Oct-1992 Signature of applicant: Bernard Conti

1. Name: Bernard Conti
2. Nationality: French
3. Present address: 16A Shelford Road, Singapore 1128
4. Date of birth: Day 17 Month 01 Year 1958
5. Marital status: Married

6. Knowledge of languages — Mother tongue: French

Other languages	Read		Write		Speak		Understand	
	Easily	Not easily	Easily	Not easily	Easily	Not easily	Easily	Not easily
English	X		X		X		X	
German	X		X		X		X	
Russian	X		X				X	
Italian		X		X	X		X	

7. Education: (see instruction 5)

Dates attended		Name and location of institution of learning	Academic degrees and certificates or diplomas obtained	Main field of study
From	To			
	1981	Ecole Superieure d'Electricite Paris	Masters	Maths/Physics/ Electronics engineering and Compuers

8. List any significant publications or papers: (see instruction 6)

9. List special qualifications and skills confirmed by licenses held and membership in professional, civil, public or international societies or institutions relevant to your application; indicate the class of membership when appropriate:

CADDS 4X Computervision
MEDUSA Computervision
EUCLID Matra Division
Numerical Command, DNC

10. PROFESSIONAL EXPERIENCE (see instruction 7)

A.

From: 1987 To: Present

Employer (Name and Address) and type of business:

Computervision Asia Pte Ltd
152 Beach Road #07-00, Gateway East, Singapore 0718

Title of post: Consultant (Senior Industry Technical)

Nature of duties:

Provide consultancy to the industry on CAD/CAM problems.

Number and kind of employees supervised:

B.

From: 1985 To: 1986

Employer (Name and Address) and type of business:

Salomon Group

Title of post: Director of CAD/CAM

Nature of duties:

Management of CAD/CAM systems from design to manufacture. Evaluation of CAD/CAM systems and implementation.

Number and kind of employees supervised: 8 employees

C.

From: 1985 To: 1986

Employer (Name and Address) and type of business:

SGA

Title of post: CAD/CAM Engineer

Nature of duties:

Software development and CAD/CAM consultancy.

Number and kind of employees supervised.

PROFESSIONAL EXPERIENCE (Continued)

D.

From: 1982 To: 1985

Employer (Name and Address) and type of business:

FRAMATOME

Title of post:

Design Engineer

Nature of duties:

Design of nuclears plant security systems using CAD/CAM software, e.g., Applicon.

Number and kind of employees supervised:

E.

From: To:

Employer (Name and Address) and type of business:

Title of post:

Nature of duties:

Number and kind of employees supervised:

F.

From: To:

Employer (Name and Address) and type of business:

Title of post:

Nature of duties:

Number and kind of employees supervised:

G.

From: To:

Employer (Name and Address) and type of business:

Title of post:

Nature of duties:

Number and kind of employees supervised:

Use additional sheet if you have held more posts.

UNIDO

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PERSONAL HISTORY STATEMENT
(Project Personnel)
(PRAS/3)

THIS INFORMATION MAY BE SUBMITTED TO MEMBER GOVERNMENTS

(see instruction 8)

ANALYSIS OF RELEVANT EXPERIENCE: Use this space to analyze your experience in relation to your statement concerning you specialization. Additionally, if you are applying for a specific post, please indicate the number of the Job Description of this post an analyze your experience in relation to the duties and requirements set out in the Job Description.

After having been in the engineering industry and using various CAD/CAM applications, have developed a wide knowledge on solution types. Present position is to provide high level consultation to CAD/CAM implementation, particularly in the field of manufacturing.

UNIDO

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PERSONAL HISTORY STATEMENT
(Project Personnel)
(PRAS/2)

THIS INFORMATION MAY BE SUBMITTED TO MEMBER GOVERNMENTS

Date: 1-Oct-1992 Signature of applicant: Martin Wright

1. Name: Martin Douglas Wright	2. Nationality: British
3. Present address: 54 Minbu Road #08-03 Minbu Court Singapore 1130	4. Date of birth: Day 10 Month 04 Year 1957
	5. Marital status: Married

6. Knowledge of languages Mother tongue: English

Other languages	Read		Write		Speak		Understand	
	Easily	Not easily	Easily	Not easily	Easily	Not easily	Easily	Not easily
French		X		X		X		X

7. Education: (see instruction 5)

Dates attended		Name and location of institution of learning	Academic degrees and certificates or diplomas obtained	Main field of study
From	To			
1975	1979	University of Aston (UK)	Production Management & Production Technology	Production Engineering
1973	1795	Solihull College of Technology	OND Technology	
		//		

8. List any significant publications or papers: (see instruction 6)

"Exploring alternative manufacturing techniques for great selective forks "

9. List special qualifications and skills confirmed by licenses held and membership in professional, civil, public or international societies or institutions relevant to your application; indicate the class of membership when appropriate:

10 PROFESSIONAL EXPERIENCE (see instruction 7)

A.

From Nov 1991 To: Present

Employer (Name and Address) and type of business:

Computervision Asia Pte Ltd, 152 Beach Road #07-00, Singapore 0718

Title of post: Senior Applications Engineer

Nature of duties:

Pre & Post Sales Support

Number and kind of employees supervised:

B.

From: August 1984 To: July 1991

Employer (Name and Address) and type of business:

Computervision (UK) Ltd, Sir William Lyons Road, Conventry, England

Title of post: Senior Applications Consultant

Nature of duties:

Pre & Post Sales Support

Number and kind of employees supervised:

C.

From: June 1975 To: August 1984

Employer (Name and Address) and type of business:

Rover Cars Ltd, Longbridge, Birmingham, England

Title of post: Project Specialist

Nature of duties:

Project Engineer in advanced technology department.

Number and kind of employees supervised

PROFESSIONAL EXPERIENCE (Continued)

D.

From: To:

Employer (Name and Address) and type of business

Title of post:

Nature of duties:

Number and kind of employees supervised:

E.

From: To:

Employer (Name and Address) and type of business:

Title of post:

Nature of duties:

Number and kind of employees supervised:

F.

From: To:

Employer (Name and Address) and type of business:

Title of post:

Nature of duties:

Number and kind of employees supervised:

G.

From: To:

Employer (Name and Address) and type of business.

Title of post:

Nature of duties.

Number and kind of employees supervised

(Use additional sheet if you have held more posts)

UNIDO

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PERSONAL HISTORY STATEMENT
(Project Personnel)
(PRAS/3)

THIS INFORMATION MAY BE SUBMITTED TO MEMBER GOVERNMENTS

(see instruction 8)

ANALYSIS OF RELEVANT EXPERIENCE: Use this space to analyze your experience in relation to your statement concerning your specialization. Additionally, if you are applying for a specific post, please indicate the number of the Job Description of this post and analyze your experience in relation to the duties and requirements set out in the Job Description.

Projects, consulting & support has been my career from start, so I find myself qualified for this any project/assignment.

UNIDO

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PERSONAL HISTORY STATEMENT
(Project Personnel)

(PRAS/2)

THIS INFORMATION MAY BE SUBMITTED TO MEMBER GOVERNMENTS

Date: 1-Oct-1992 Signature of applicant: Abdul Malik

1 Name: Abdul Malik	2 Nationality: Pakistani
3 Present address: 420, Azizabad Karachi Pakistan	4 Date of birth: Day / Month / Year: 1958
	5 Marital status: Married

6. Knowledge of languages — Mother tongue: URDU

Other languages	Read		Write		Speak		Understand	
	Easily	Not easily	Easily	Not easily	Easily	Not easily	Easily	Not easily
English	X		X		X		X	

7 Education (see instruction 5)

Dates attended		Name and location of institution of learning	Academic degrees and certificates or diplomas obtained	Main field of study
From	To			
	1980	University of Karachi	M.Sc.	Mathematics
	1982	Karachi Polytechnic	Certificate	Design & Drafting

8. List any significant publications or papers: (see instruction 6)

1. "I SAM FILES DESIGN IN BASIC"
2. "Design of Spread Sheets in Bali"
3. "UNIX TO UNIX Networks"

9 List special qualifications and skills confirmed by licenses held and membership in professional, civil, public or international societies or institutions relevant to your application, indicate the class of membership when appropriate.

1. Computer Society of Pakistan
2. Computer systems training from SORD Computer Japan.
3. Software designing course from Pergusons.
4. Primos, communications, networking by Prime Computer, Inc
5. Slo UNIX, Concepts, Communications, Applications by Santa Cruz Operations.

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10 PROFESSIONAL EXPERIENCE (see instruction 7)

A.

From 1989 To Todate

Employer (Name and Address) and type of business:

Title of post: Technical Specialist

Nature of duties:

System su;ggestion, migration/conversions consultancy, high level training, major installations support, porject management.

Number and kind of employees supervised:

B.

From: 1986 To: 1989

Employer (Name and Address) and type of business:

Title of post: Software Executive

Nature of duties:

Software manager, incharge total software development, support, etc.

Number and kind of employees supervised: 9 programmers/analysts

C.

From: 1984 To 1986

Employer (Name and Address) and type of business:

Title of post: Sr. Analyst

Nature of duties:

Analysis of systems, designing, project coordination, team leader.

Number and kind of employees supervised: 3 programmers

PROFESSIONAL EXPERIENCE (Continued)

D.

From 1982 To 1984

Employer (Name and Address) and type of business

Title of post: Analyst Programmer

Nature of duties:

System Design/System Support/Training

Number and kind of employees supervised: 3 Trainee Programmer

E.

From: 1981 To: 1982

Employer (Name and Address) and type of business:

Title of post: Programmer

Nature of duties:

Developing software

Number and kind of employees supervised:

F.

From: To:

Employer (Name and Address) and type of business:

Title of post:

Nature of duties:

Number and kind of employees supervised:

G.

From. To:

Employer (Name and Address) and type of business:

Title of post:

Nature of duties

Number and kind of employees supervised

Use additional sheet if you have held more posts.

UNIDO

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PERSONAL HISTORY STATEMENT
(Project Personnel)
(PRAS/3)

THIS INFORMATION MAY BE SUBMITTED TO MEMBER GOVERNMENTS

(see instruction 6)

ANALYSIS OF RELEVANT EXPERIENCE: Use this space to analyze your experience in relation to your statement concerning yo specialization. Additionally, if you are applying for a specific post, please indicate the number of the Job Description of this post a analyze your experience in relation to the duties and requirements set out in the Job Description.

With all the relevant experience from all these years of association in software and hardware, I feel confident in being considered for UNIX training and implementation of networking and system management.

UNIDO

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PERSONAL HISTORY STATEMENT
(Project Personnel)
(PRAS/2)

THIS INFORMATION MAY BE SUBMITTED TO MEMBER GOVERNMENTS

Date 1-Oct-1992 Signature of applicant: Hafiz-Ur-Rehman

1. Name: Hafiz-Ur-Rehman
2. Nationality: Pakistani
3. Present address: Block No. 142, House No. 4
Area 5-In, North-Karachi
Karachi 75850, Pakistan
4. Date of birth: Day 12 Month 11 Year 1961
5. Marital status: Married

6. Knowledge of languages Mother tongue: URDU

Other languages	Read		Write		Speak		Understand	
	Easily	Not easily	Easily	Not easily	Easily	Not easily	Easily	Not easily
English	X		X		X		X	

7. Education. (see instruction 5)

Dates attended		Name and location of institution of learning	Academic degrees and certificates or diplomas obtained	Main field of study
From	To			
1963	1986	University of Karachi	MSc.	Phys/Electronics

8. List any significant publications or papers: (see instruction 6)

Paper on "Design of 'IC' placement system".

9. List special qualifications and skills confirmed by licenses held and membership in professional, civil, public or international societies or institutions relevant to your application, indicate the class of membership when appropriate:

- Attended 10 weeks of formal and 8 weeks of CAD/CAM courses on design, drafting and NC software.
- From Computervision Singapore
- Membership of Computer Society of Pakistan.

10 PROFESSIONAL EXPERIENCE (see instruction 7)

A.

From: 1988 To: 198

Employer (Name and Address) and type of business:

Computer Application Research Laboratory
Dept of Physics, University of Karachi

Title of post:

Nature of duties:

Design & Research work on Microprocessor based design & draughting system - Designed basics 'IC' placement software.

Number and kind of employees supervised:

B.

From: 1987 To: August 1990

Employer (Name and Address) and type of business:

Selling Business Systems

Title of post: Hardware Design Engineer

Nature of duties:

Responsible for design of networks/installations of Micro/Mini computers and its peripherals. Commissioning and installation of multiuser system (UNIX) the customer premises.

Number and kind of employees supervised:

C.

From: August 1990 To: December 1990

Employer (Name and Address) and type of business:

Pakistan Machine Tool Factory (Ltd)
(PMTF) Landhi, Karachi.

Title of post: Asst. Manager (CAD)

Nature of duties:

- Computer Aided Drafting of disk in association with Japanese expert Mr K Yoshida (UNIDO Consultant)

- Tooling drawing and made a program for Gear Calculation.

Number and kind of employees supervised:

PROFESSIONAL EXPERIENCE (Continued)

D.

From: Jan 1991 To: till todate

Employer (Name and Address) and type of business:

Selling Business Systems

Title of post: Technical Specialist

Nature of duties:

Looking after support of CAD/CAM FOR Computervision's software. Operating system (SUNOS/UNIX/PRIMOS)

Number and kind of employees supervised:

E.

From: To:

Employer (Name and Address) and type of business:

Title of post:

Nature of duties:

Number and kind of employees supervised:

F.

From: To:

Employer (Name and Address) and type of business:

Title of post/

Nature of duties:

Number and kind of employees supervised:

G.

From: To:

Employer (Name and Address) and type of business:

Title of post:

Nature of duties:

Number and kind of employees supervised:

Use additional sheet if you have held more posts

UNIDO

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PERSONAL HISTORY STATEMENT
(Project Personnel)

(PRAS/3)

THIS INFORMATION MAY BE SUBMITTED TO MEMBER GOVERNMENTS

(see instruction 8)

ANALYSIS OF RELEVANT EXPERIENCE: Use this space to analyze your experience in relation to your statement concerning your specialization. Additionally, if you are applying for a specific post, please indicate the number of the Job Description of this post and analyze your experience in relation to the duties and requirements set out in the Job Description.

As I have worked with design of CAD software at University level, laid a foundation for this technology in my career.

With the variety available in my jobs involving training and implementation of networks and computer systems. With later training on CAD/CAM applications by Computervision Singapore and UNIDO consultant from Japan at PMTF I have been involved in training and train the trainer courses for local training institute plus a lots of support/consulting activities - gives me enough confident of having relevant experience in implementation of their project of PMTF.

(PRAS/2)

THIS INFORMATION MAY BE SUBMITTED TO MEMBER GOVERNMENTS

Date: 19 May 1993 Signature of applicant:

1. Name: YEOW CHIAO LIN, DIANA	2. Nationality: SINGAPOREAN
3. Present address: 21 TAN KIM CHENG RD #10-21 LUTHERAN TOWERS S'PORE 1026	4. Date of birth: Day 6 Month 10 19[illegible]
	5. Marital status: MARRIED

6. Knowledge of languages Mother tongue: ENGLISH

Other languages	Read		Write		Speak		Understand	
	Easily	Not easily	Easily	Not easily	Easily	Not easily	Easily	[illegible]
MANDARIN	✓		✓		✓		✓	

7. Education: (see instruction 5)

Dates attended		Name and location of institution of learning	Academic degrees and certificates or diplomas obtained	Main field of study
From	To			
Jan 73	Dec 78	TANGLIN GIRLS SCHOOL	PSLE	
Jan 79	Dec 82	RAFFLES GIRLS SECONDARY	GCE 'O' LEVEL	
Jan 83	Dec 84	ST ANDREWS JUNIOR COLLEGE	GCE 'A' LEVEL	
July 85	April 89	NATIONAL UNIVERSITY OF S'PORE	B.ENG.	MECHANICAL ENGINEERING

8. List any significant publications or papers: (see instruction 6)

9. List special qualifications and skills confirmed by licences held and membership in professional, civil, public or international societies or institutions relevant to your application; indicate the class of membership when appropriate:

- GRADE 8 IN BOTH PIANOFORTE PLAYING & THEORY OF MUSIC FROM 'ASSOCIATED BOARD OF THE ROYAL SCHOOLS OF MUSIC'.
- MEMBER OF INSTITUTE OF ENGINEERS, SINGAPORE

From: DEC 1992 To: PRESENT

A. Employer (Name and Address) and type of business:
COMPUTERVISION ASIA PTE LTD — CAD/CAM INDUSTRY

Title of post: CAD/CAM TRAINING CONSULTANT

Nature of duties: PROVIDE TRAINING & CONSULTANCY SERVICES TO CUSTOMERS IN ASIA REGION.

Number and kind of employees supervised: —

From: MAY 1989 To: JULY 1992

B. Employer (Name and Address) and type of business:
SEAGATE TECHNOLOGY INTERNATIONAL — HARD DISK INDUSTRY

Title of post: ENGINEER

Nature of duties: MANAGE THE CALIBRATION LABORATORY & STATISTICS SECTION. ENSURE EQUIPMENTS ARE PROPERLY & TIMELY CALIBRATED ACCORDING TO INTERNATIONAL STANDARDS. FOR STATISTICS GROUP, PREPARE & PRESENT ANALYTICAL REPORTS ON YIELD PERFORMANCE TO WHOLE COMPANY.

Number and kind of employees supervised: 15 EMPLOYEES — BOTH TECHNICAL & ADMINISTRATION

From: To:

C. Employer (Name and Address) and type of business:

Title of post:

Nature of duties:

Number and kind of employees supervised:

D.

Employer (Name and Address) and type of business:

Title of post:

Nature of duties:

Number and kind of employees supervised:

E.

From: To:

Employer (Name and Address) and type of business:

Title of post:

Nature of duties:

Number and kind of employees supervised:

F.

From: To:

Employer (Name and Address) and type of business:

Title of post:

Nature of duties:

Number and kind of employees supervised:

G.

From: To:

Employer (Name and Address) and type of business:

Title of post:

Nature of duties:

Number and kind of employees supervised:

Use additional sheet if you have held more posts.

UNIDO

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PERSONAL HISTORY STATEMENT

(Project Personnel)

(PRAS/3)

THIS INFORMATION MAY BE SUBMITTED TO MEMBER GOVERNMENTS

(see instruction 6)

ANALYSIS OF RELEVANT EXPERIENCE: Use this space to analyze your experience in relation to your statement concerning specialization. Additionally, if you are applying for a specific post, please indicate the number of the Job Description of the post and analyze your experience in relation to the duties and requirements set out in the Job Description.

UNIDO

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PERSONAL HISTORY STATEMENT
(Project Personnel)
(PRAS/2)

THIS INFORMATION MAY BE SUBMITTED TO MEMBER GOVERNMENTS

Date: 6-9-93 Signature of applicant: Lai

1. Name: LAI CHI HUNG
2. Nationality: BRITISH
3. Present address:
4. Date of birth: Day 02 Month 05 Year 64
5. Marital status: Married

6. Knowledge of languages. Mother tongue: CHINESE

Other languages	Read: Easily	Read: Not easily	Write: Easily	Write: Not easily	Speak: Easily	Speak: Not easily	Understand: Easily	Understand: Not easily
ENGLISH	✓		✓		✓		✓	

7. Education (see instruction 5)

Dates attended: From	Dates attended: To	Name and location of institution of learning	Academic degrees and certificates or diplomas obtained	Main field of study
1983	1986	Hong Kong Polytechnic	Higher Diploma	Production & Industrial Eng

8. List any significant publications or papers. (see instruction 6)

List special qualifications and skills confirmed by licenses held and membership in professional, civil, public or international societies or institutions relevant to your application, indicate the class of membership when appropriate

10. PROFESSIONAL EXPERIENCE (last employment 1)

A.

From: 1986/7 To 1988/4

Employer (Name and Address) and type of business

ASTEC COMPONENTS LIMITED

Title of post: Industrial Engineer.

Nature of duties

Tool design, Plant layout, Work study

Costing.

Number and kind of employees supervised: 2 Technicians

B.

From: 1988/4 To: 1991/12

Employer (Name and Address) and type of business

Mansfield Manufacturing Co. Ltd.

Title of post: Tooling Manager.

Nature of duties

CAD/CAM consultation, scheduling;

Technical support to production.

Number and kind of employees supervised: 20 (5 tool designers, 3 NC programmers, 11 craftsmen, 1 secretary)

C.

From: 1992/1 To

Employer (Name and Address) and type of business

Computervision Asia Ltd.

Type of post: Application Engineer

Nature of duties

CAD/CAM consultation.

Number and kind of employees supervised:

UNIDO

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PERSONAL HISTORY STATEMENT
(Project Personnel)
(PRAS/2)

THIS INFORMATION MAY BE SUBMITTED TO MEMBER GOVERNMENTS

Date: Oct. 22, 93 Signature of applicant: TE Tsang

1. Name: TSANG TZE KAN (JAMES)
2. Nationality: BRITISH
3. Present address: 11D, ~~BLK 2, SITE G~~ WHAMPOA GARDEN, HUNGHOM KOWLOON, HONG KONG
4. Date of birth: Day 26 Month 11 Year 1967
5. Marital status: SINGLE

6. Knowledge of languages Mother tongue: CHINESE

Other languages	Read		Write		Speak		Understand	
	Easily	Not easily	Easily	Not easily	Easily	Not easily	Easily	Not easily
ENGLISH	✓		✓		✓		✓	

7. Education: (see instruction 5)

Dates attended		Name and location of institution of learning	Academic degrees and certificates or diplomas obtained	Main field of study
From	To			
Sept. 86	June 89	UNIVERSITY OF HONG KONG	B.Sc. (Eng.)	Mechanical Engineering
Sept. 92	Now	CHINESE UNIVERSITY OF HONG KONG	M.B.A. (Will be obtained in 1995)	

8. List any significant publications or papers: (see instruction 6)

9. List special qualifications and skills confirmed by licenses held and membership in professional, civil, public or international societies or institutions relevant to your application; indicate the class of membership when appropriate:

12. PROFESSIONAL EXPERIENCE (see instruction 7)

A.

From: July, 89 To: March, 92

Employer (Name and Address) and type of business: CAD SYSTEM ENGINEERING LTD.
Rm 2205-8, HANG SENG BANK BLDG, 339 CING'S ROAD
HONG KONG.

Title of post: CAD CONSULTANT

Nature of duties:
- CAD CONSULTATION
- TECHNICAL SUPPORTS TO MAJOR ACCOUNTS.

Number and kind of employees supervised: 3

B.

From: April, 92 To: present.

Employer (Name and Address) and type of business: COMPUTERVISION ASIA LTD.
SUITE 3807, ONE CHUNG HOUSE.
213 QUEEN'S ROAD EAST, WANCHAI
HONG KONG

Title of post: APPLICATION ENGINEER.

Nature of duties:
- TECHNICAL SUPPORTS TO RESELLERS AND USERS ON PERSONAL DESIGNER AND PERSONAL MACHINIST IN ASIA.

Number and kind of employees supervised: —

C.

From: — To: —

Employer (Name and Address) and type of business:

Title of post: —

Nature of duties:

Number and kind of employees supervised:

UNIDO

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PERSONAL HISTORY STATEMENT
(Project Personnel)
(PRAS/2)

THIS INFORMATION MAY BE SUBMITTED TO MEMBER GOVERNMENTS

Date: SEP 6, 93 Signature of applicant: [signature]

1. Name: TANG, KJOC IENG, FRANCISCO
2. Nationality: PORTUGUESE
3. Present address: 21/F Flat G, Tower 4, South Horizons Apleichau, Hong Kong
4. Date of birth: Day Month Year SEP 10, 1962
5. Marital status: SINGLE

6. Knowledge of languages Mother tongue: CHINESE

Other languages	Read: Easily	Read: Not easily	Write: Easily	Write: Not easily	Speak: Easily	Speak: Not easily	Understand: Easily	Understand: Not easily
ENGLISH	YES		YES		YES		YES	

7. Education (See instruction 5)

Dates attended: From	To	Name and location of institution of learning	Academic degrees and certificates or diplomas obtained	Main field of study
1981	1985	University Of Toronto, Toronto, Canada	B. Applied Sciense	Electrical Engineering

8. List any significant publications or papers. (See instruction 6)

None

9. List special qualifications and skills confirmed by licenses held and membership in professional, civil, public or international societies or institutions relevant to your application. Indicate the class of membership when appropriate.

MEMBER of IEEE
MEMBER of SME

10. PROFESSIONAL EXPERIENCE (see instruction 7)

A.

From: MAY 1985 To Nov 1986

Employer (Name and Address) and type of business

Inter-City Communications Ltd., Hong Kong

Title of post: Telecom Engineer

Nature of duties

Support in Telecommunication & Computer systems

Number and kind of employees supervised: Two technical staff

B.

From: Nov 1986 To: Present

Employer (Name and Address) and type of business

Computervision Asia Ltd., Hong Kong

Title of post

Application Engineer

Nature of duties

Support in system & applications software.

Number and kind of employees supervised.

C.

From. To

Employer (Name and Address) and type of business

Title of post

Nature of duties

Number and kind of employees supervised.

UNIDO

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PERSONAL HISTORY STATEMENT

(Project Personnel)

(PRAS/3)

THIS INFORMATION MAY BE SUBMITTED TO MEMBER GOVERNMENTS

(See Instruction 6)

ANALYSIS OF RELEVANT EXPERIENCE: Use this space to analyze your experience in relation to your statement concerning specialization. Additionally, if you are applying for a specific post, please indicate the number of the Job Description of this post analyze your experience in relation to the duties and requirements set out in the Job Description.

UNIDO

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PERSONAL HISTORY STATEMENT
(Project Personnel)
(PRAS/2)

THIS INFORMATION MAY BE SUBMITTED TO MEMBER GOVERNMENTS

Date: 8 November 93   Signature of applicant: [signature]

1. Name: TAN BOON KIAT.
2. Nationality: Singaporean
3. Present address: Blk 64, Telok Blangah Dr, #10-184 S(0410) Republic of Singapore.
4. Date of birth: Day 17 Month 11 Year 66
5. Marital status: Single.

6. Knowledge of languages   Mother tongue: CHINESE

Other languages	Read: Easily	Read: Not easily	Write: Easily	Write: Not easily	Speak: Easily	Speak: Not easily	Understand: Easily	Understand: Not easily
English	✓		✓		✓		✓	
German		✓		✓		✓		✓
Chinese	✓		✓		✓		✓	

7. Education: (see instruction 5)

Dates attended: From	To	Name and location of institution of learning	Academic degrees and certificates or diplomas obtained	Main field of study
1/1/87	31/12/88	German – Singapore Institute	Diploma in Production Technology	Production Technology – Tool & Die Design.

8. List any significant publications or papers: (see instruction 6)

9. List special qualifications and skills confirmed by licenses held and membership in professional, civil, public or international societies or institutions relevant to your application; indicate the class of membership when appropriate:

10. PROFESSIONAL EXPERIENCE (see instruction 7)

A.

From: 1/1/89 To: 30/12/91

Employer (Name and Address) and type of business:
Precision Engineering Institute.
15, Ayer Rajah Crescent #01-33 Republic of Singapore.

Title of post: Training officer.

Nature of duties:

CAD/CAM Applications – Projects.
including Manufacturing & Fabrication
of tool & die for industries.

Training of CAD/CAM applications – AutoCAD
EZ-CAM
DUCT 4.0.

Number and kind of employees supervised: — N.A. —

B.

From: 10/2/92 To: Current date.

Employer (Name and Address) and type of business:
Computervision Asia Pte Ltd.
K2, Gateway East, Beach Road #07-00.

Title of post: Applications Engineer.

Nature of duties:

Customer support.
of CV's line of CAD/CAM products

Pre-sales
Demonstration of CV's line of CAD/CAM products.

Training.
Involved in train of CV's CNC products.

Number and kind of employees supervised: — N.A. —

C.

From: To:

Employer (Name and Address) and type of business:

Title of post.

Nature of duties.

Number and kind of employees supervised:

To : Mr David Wadsworth - United Nation Coordinator for PMTF project
Fm : Bernard CONTI - Senior Technical Industry Consultant - CV asia
Cc : Lawrence LI - CV Hong Kong
Diana Yeow - CV asia

SJ : PMTF consultancy - 20/11/93 - 26/11/93
Dated : 27/11/93

This week of consultancy has been focused on the technics of parametric design and the interface procedures between the the parametric softwares and the detailing softwares.

Day 1

Review of the basic Cadds5 parametric command.
Review of the Cadds5 parametric interface.
Tips on the on-line documentation , Use of the "?" to create a command syntax
Review of the Customizer. Creation of new icons.

Hands on work on a casting part.
How to create a same model with less commands and less parameters

Day 2

Hands on work on a casting part and a gear box and a bearing.
Practicing of the part conversion from Cadds5 to PD5 and plotting procedures

Day 3

Lecture on the Parametric feature modeling. Use of the predefined features to generate models.
How features will reduce the time of creation a model.
Hand on work on the previous model but using features.

Day 4

How to insert new features in a customized library.
Define features, teach features
Use of insertion of a feature with "NO apply" modifier to emulate the INSERT PART functionnality in parametric design.

Start of the generation of a PMTF library of features

Day 5

Explicit mode of Cadds5. Review of the available functionalities :
- View management
- Part management
- Render Solid

Review of the Explicit interface and description of the Premium enginnering functionalities.

How to use DesignView as a front end parametric tool to PD5.
Defining the procedure to convert a part from DV to PD5 (Dxf interface) and from PD5 to DV.

Screenload - Screendump command

Meeting with PMTF management :

1 - Response time issue

The user considers that the software has slow response time. But the users considers now that a better pratice of the parametric modeller as reviewed during this week will globally reduce the time of part creation by 2.

At the hardware level the local memory could be increased to 64 megabytes. The next step would be to replace the Sun IPX by a faster machine.

2 - Software requierement

.ıe productivity of the site would be increased by the implementation of the Premium engineering package

To: Mr. David Wadsworth - United Nation Coordinator for PMTF project
Fm: Francisco Tang - Computervision Hong Kong
Cc: Lawrence Li - Computervision Hong Kong
Diana Yeow - Computervision Singapore
Hafiz Ur Rehman - Selling Business Systems
Sj: PMTF trip report (Nov 13 - Nov 18)
Dt: Nov 24, '93.

Mr. Wadsworth, I am asking Mr. Hafiz to copy this report to you.

Mr. Hafiz, I am faxing this report to you & please make a copy to Mr. Wadsworth. Thank.

DAY 1:

In the morning there was a meeting with Mr. Stevan Burani, the coordinator for PMTF from UN, Mr. Qasi Aslam, the CAD centre manager from PMTF, & Mr. David Wadsworth, CAD centre coordinator from UN.

During the meeting Mr. Burani briefed on what had been done so far for the CAD centre project.

After the meeting Mr. Wadsworth presented a list of existing issues. A decision was made to prioritize the issues & to solve all the issues in the coming two days time. That also implied the original agenda for this trip would have to be delayed.

In the afternoon, some of the issues were tested, which included database interchange between CADDS5 & PD, insert part command, & feature setup.

In addition the filing problem as listed in the issue list was found caused by lock files left over due to previous crash out. Removing the lock files solved the problem. PMTF engineers were informed on this.

During my test, SBS people was attending the various PC printing & plottering issues.

A group discussion was held with PMTF engineers with subjects: difference between CADDS5 & CADDS4X, parametric & explicit environments, various part format, & CADDS5/PD database interchange procedures.

DAY 2:

Further explaination & try out for interchanging CADDS5 & PD database was carried out.

The usage of floppy diskette drive on SUN workstation in UNIX & PC modes were described. Floppy diskette was used to illustrate transfer files between PD & CADDS5, in addition to TCP/IP network.

A copy of HPGL plotter driver was installed on the SUN workstation for future testing the HP plotter connection.

DAY 3:

In the morning there was no power supply. A recap on all previous discussed subjects was done. Then an in-depth clarification on directory/file path searching was discussed. An introduction on file system in UNIX was also given.

In the afternoon a way of backing up files in UNIX using tar command was demonstrated. The same archive was then packed & passed to Novell server. The rest of the time was devoted in setting up the tape drive on the Novell server as a backup unit.

DAY 4:

Today working together with SBS engineer the UNIX & CADDS5 s/w were reinstalled on both IPX workstations.

The reason for the reinstallation was mainly due to: previous crashes due to power lost caused some files corrupted, & a larger swap space would be configured to accomodate possible more complex design.

HPGL & HPGL/2 plotter drivers were installed on both SUN workstations to demonstrate plotting on CADDS5. Also both workstations were configured to support text printing to directly attached HP LaserJet 4 printer.

SBS engineers reviewed all PC workstation configuration ensuring printing, plotting, & networking capabilities were in place. The usage of tape drive on the PC was also looked into.

DAY 5:

.. discussion with the PMTF engineers was carried out to understand the existing project naming convention. From then a naming scheme would be implemented on both PD & CADDS5. Further discuesion leaded to tailoring appropriate environment files for all PMTF engineers. Examples were presented, eg. assigning an alias to find all lock & temp files in the parts directory & to delete them.

In the afternoon the way of inserting parts & creating features were given. A few custom made shell script files were described.

SBS helped PMTF to deinstall 32MB memory from an IPX & installed them to another to configure a 64MB memory IPX workstation for performance testing. This allowed PMTF engineer to feel the difference in speed.

PMTF engineer was told to use MODEL STATE saving to help speeding up UNDO in parameteric mode.

SBS engineers also completed configuring the tape drive on the PC NOVELL servers & tested the backup facility.

DAY 6:

This was the last half day for this trip. The list of outstanding issues were checked against ensuring all were completed. A backup of the custom all scripts, user environment files, and plotting setup files were given to the two departments, who would be using the systems. A demonstration on extracting the files was also given. Users were also told that when they reported problem to SBS, the users should include adequate information so that their problems could be reproduced by SBS engineers.

Comments:

Regarding plotting from workstation, there are several options.

With the existing configuration, PMTF engineers can pass the CADDS5 database

to PD & plot it out from PD. In this case PMTF need to to buy any additional software.

PMTF may also consider buying the appropriate plotter driver for CADDS5. Then a plotter can be hooked up to the workstation for direct plotting. If the plotter is going to be installed on the NOVELL server only, a switch box may be added to connect the plotter between the NOVELL server & the SUN workstation. Otherwise, the plot file has to be captured on the workstation & passed to the server before plotting can be done.

Regarding increasing the performance of the workstation, PMTF may consider of adding more memory (say add to 64MB). Another possible consideration is having a faster machine. That will also help in calculation performance. For shading aspect having a graphic accelerator will definitely boost the speed. However, only starting from CADD65 revision 3 the graphic accelerator advantage is utilized. The latest version of CADD65 is Rev 4.1, which is released this month.

Regarding additional training in the future for the PMTF users may include more system administration & shell programming. Thi is, of course, from a system point of view.

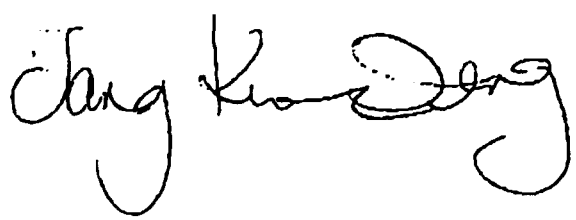
Talking about addition of software in the future, on the workstation side, Parameteric Multi-part Design (PMD) for single user assembly design, rameteric Toolmaker (if CNC is installed), analysis software, Engineering Database Management (EDM) for data management, & CV Conferencing should be considered. On the pC side Network File System (NFS) option for Novell network can be considered.

From the networking side, connecting the two department should be considered. Installing modem is another possible consideration, especially if CNC is consdiered & networking between workshop & design office is not implemented.

Having a modem connection may also help speeding up servicing for SBS, so that SBS engineer may dial in to attend the problem call from PMTF before they take the 45 min trip to PMTF & find it is a simple problem. This can save PMTF down time.

In addition to modem, PMTF may also consider purchaing X-terminal emulation software on the PC in the future so that user may see the CADDS5 graphic without sitting in front of the workstation. Having CV Conferencing s/w running on the workstation & the PC emulating X-terminal a conferencing session may be carried out.The project leader may sit in his own office using a PC while the engineer may be sitting in front of the workstation & both (or more) of them can view the same graphic screen & discuss the design in front of the screens.

This concludes this trip report.



From: James Tsang, CV Asia Ltd. Date: 11/19/93 Time: 17:44:49

FAX FAX FAX FAX FAX FAX FAX FAX FAX FAX

TO: Diana Yeow, COMPUTERVISION ASIA PTE. LTD (FAX:002-65-2980755)
cc: Hafiz-ur-rehman, SBS COMPUTERS (FAX: 002-9221-5685097)
FROM: James Tsang, Computervision Asia Ltd.
Tel: (852)-8314612 Fax: (852)-8314694 or 8919235
DATE 11/19/93
Subj: REPORT OF THE WEEK IN PMTF

PAKISTAN MACHINE TOOL FACTORY

THINGS TO REMEMBER

1. AUTOFILE - make sure it is enable all the time use configurator to set the AUTOFILE on, i.e. 1

2. CHAIN - use it carefully, the position of "dig" controls direction of the chain
   - SET EPSILON CHAIN is critical to get the chain right if the chain cannot work properly,
   SET EPSILON CHAIN value is too high or too low

3. JOURNAL FILES - use SEL JOURNAL ON to start to record commands
   - JOURNAL file has the extension .SGX
   - use SEL JOURNAL OFF to stop recording
   - use EXEC journal file name to execute journal file
   - AUTOEXEC.SGX is special journal file name whenever PD is started, AUTOEXEC.SGX is loaded from the current directory or the directory C:\PD5

   For example, AUTOEXEC.SGX file can be written as:- (--: comment lines)
   SET SCR 6 -- 6 LINES IN COMMAND AREA
   SEL LAYER 1 -- select current layer to 1
   SEL COLOR 9 -- select current color to 9
   SEL TEXT HGT 4 WIDTH 3 FONT 1
   (or similar thing can be done in PD CONFIGURATOR)

5. If you want to insert the text string "CV & PMTF" in PD, you have to use INS TEXT "CV && PMTF". && means a single "&".

6. When a drawing is brought up in the screen or a ZOOM command is used, "Ctrl-C" can be used to interrupt the zooming process. This can reduce the time to wait for the screen to refresh.

7. If the dimension text has to be changed in a drawing, EDIT TEXT: should be used If only some symbols are needed to added to the dimension texts, use ATXT or PTXT in CHA DIM ATXT "XXX" : to append and prepend text strings to the dimension texts.

MACRO/SHORTHANDS in PERSONAL DESIGNER

1. DEFINE MACRO STRING - to define short-hand in Personal Designer
   For example, DEF MACRO STRING
   RL --> "INS LINE COLOR 9:"
   F5 --> "INS FILLET RADI 5:"
   To get the macro, use &RL to get the command

   also see LIST MACRO STRING, EDIT MACRO STRING, DEFINE MACRO CHARACTER

2. "F7" keyboard macro - Press "F7", then insert the text for the macro, then use "F7" again to stop the keyboard macro.

Then if you want to get the macro, use "F8" to recall the macro. The macro in "F7" can only be saved up in the current session. If PD is exited, the macro will be lost.

3. HOT-KEY macro - if hot-keys like, "alt-E", are needed to be a macro, the file PD_MAC.DEF should be edited.
The following is an example of the change in the file PD_MAC.DEF:-

"–" means the line is remarked (like UPL programs).

```
–Macro "#0##18#" "#5"        –Alt E --> ^E
Macro "#0##19#" "#18"        –Alt R --> ^R
Macro "#0##20#" "#20"        –Alt T --> ^T
Macro "#0##21#" "#25"        –Alt Y --> ^Y
```

Don't change "#0##18", don't change the content in "xxx" after Macro.

If we want to get "DELETE ENT:" by alt-e, the line should be changed to
Macro "#0##18#" "#13#delete ent:" –Alt E --> ^E

"#13#" means "a carriage return"

CUSTOMIZATION OF SCREEN MENU

The screen menu of Personal Designer Rev. 5 can be customized in the following procedure:-

1. go to the directory C:\PD5 or make a directory, say, C:\PMTF and put PD.MNU and PDMENU.DRW to this directory
2. open the file PDMENU.DRW and use SEL VALL, REGEN --> rectangular strings in dark red (color 1) will appear
3. use LIST PROP: to verify the property on the string (remember the layer of the string at this point)
4. use EDIT PROP NAME CMD_1: to change the value (remember to end with "END" key)
5. change the graphical representation of the screen menu (by EDIT TEXT or drawing some entities)
6. SEL VCON, REGEN to turn off the dark red rectangles
7. SEL MENU OFF to turn off the current screen menu
8. ZOOM ALL P 0 UR TOTAL SCR to maximize the drawing to the upper right of the screen
9. If the screen menu name is PD.MNU and the layer changed is 99, use BUILD MENU PD OLD SAVEFILE BLAY 99 ELAY 99 compile the layer only.
10. ***Don't forget to file the part PDMENU.drw***

ORGANISATION STANDARDS

LAYER - "relative" layers for designs are recommended,
For example,
LAYER 1 to 50 are used for profiles or sections which consists of LINES, ARCS, STRINGS, etc.....
LAYER 51 (1+50) is used in reference to the layer 1, which has the annotation for layer 1.

COLOR - 2 PEN THICKNESS should be setup.
For example, color 9 - 11 for thin pen thickness
color 12 - 15 for thick pen thickness
- PEN files, HPLASER4.PEN, HP7586.PEN should be setup for the pen thickness

COLOR	THICKNESS (MM/100)
9	25
10	25
11	25
12	25
13	50
14	50
15	50

TEXT & DIMENSION default settings should be set through the configurator and the journal files.
SUGGESTION:-
TEXT SIZE = 3.5
TOLERANCE TEXT HGT PERCENTAGE = .6

DRAWING FORMS - A4 to A0 drawing forms should be made so that they can be input into the parts directly (by INS PART:). Special layer (such as 255) should be used to put the drawing form.

DIRECTORY STRUCTURE FOR ORGANISING PARTS

```
C:\—PD5
 \—LIBRARY
 \—PMTF
   —PROJECT1
   —PROJECT2
```

DRAWING NAMING SYSTEM - To name drawings starting with project name, then the drawing no. For example, project is called H201. Then directory H201 should be setup, i.e., C:\PMTF\H201. Drawings created should be called H201-01.DRW in the directory.

A directory called library should be setup. Standard drawings and UPL programs should be placed there. Therefore if a UPL program, say, XXX.UCD, is needed, RUN C:\LIBRARY\XXX is used to call up the UPL program.

CHECKLIST FOR FACTORY STANDARDS

The following system should be setup in the factory:-
1. LAYER SYSTEM
2. COLOR SYSTEM
3. FILE NAMING SYSTEM
4. STANDARD PART LIBRARY - UPL programs and part libraries

It is suggested one or two persons (called them CAD team leader) in each department (Product Design & Tool Design) to help to setup the factory standards. Not every one should help to setup the factory standards but only the assigned people will help to setup the system.

Other people should start to do real jobs. At the same time, they should follow the factory standards on CAD. If there are special requests on UPL programs or part libraries, they should report the reqest to the CAD team leader.

In short term, part library should be setup by using .DRW and stored them in the directory C:\LIBRARY. For example, for hexagon head screw, different drawings can be setup, M6S.DRW, M8S.DRW, M10S.DRW - for the side-view and M6T.DRW, M8T.DRW, M10T.DRW - for the top-view. As team leaders are getting skillful in using UPL, they should start to use UPL to help to create some parametric libraries.

A log-book should be setup in a team so that a drawing created will be described in the log-book (with the directory, PC in the system).

Bi-weekly backup of drawing files should be made so as to provent the loss of data. This should also be the duty of the CAD team leader.

REVIEW - WORK FOR THE WEEK (Nov. 6 to 11, 1993)

1. The technique of engineers in PMTF were examined
2. Proper use of dimensioning
3. Develop examples of use of macros to enhance productivity
4. Use of UPL in solving day-to-day engineering problems
   - use UPL program to make spur gears
   - use UPL program to setup part libraries
   - use UPL to make some enhancement tools to increase productivity
5. Method of setup of factory standards by using part library, layer standard and color standard
7. Concepts of drawing scales, plotting scales, drawing forms
6. Use of pen thickness in plotting drawings was described in details.
7. Proper use of the 3D commands was introduced to engineers
8. Short-cuts in using Personal Machinist - turning

COMMENTS ON THE SKILLS OF ENGINEERS IN USING PERSONAL DESIGNER

The standard of the engineers in both the TOOL DESIGN and PRODUCT DESIGN department is above the average. However, because they do not have enough actual experience in put what they learned to use in their work.

Some points in using the software were clarified so that the engineers could thoroughly understand the interrelationships of the commands and features of Personal Designer.

Most of the questions asked by the engineers during the week could be found in the documentation. In the week, the proper use of the on-line help in the software and the documentation was highlighted.

The engineers should not rely on trainings but they should try to learn by experimenting in the software and reading the documentation of Personal Designer

The engineers in PMTF wanted to know everything in Personal Designer. However, it is not necessary to know every command and trick in using the software. Only a small portion of the commands are used in everydays work. Proper use of these frequently-used commands are far more important. In the examinations of these engineers' CAD drawings, I found that they have got the skills to do real projects.

Works should be assigned to these engineers to use the CAD skills in real-life work. Otherwise, they may start to forget what they have learnt in the training.

Report for PMTF visit

Objective: To investigate the exiting system from production to manufacturing and then study the implementation of CAD/CAM system.

1. Introduction

PMTF (Pakistan Machine Tool Factory) is a machine tool and parts manufacturer. Gear and shaft manufacturing dominate 60% of their revenue and 30% from Die casting product and 5% from Convention Machines like milling machine and lathe. The CAD/CAM project is funded by UNIDO and aims at improving PMTF's technology and increasing their competitive strength.

The study of CAD/CAM implementation is based on 3 catagories:

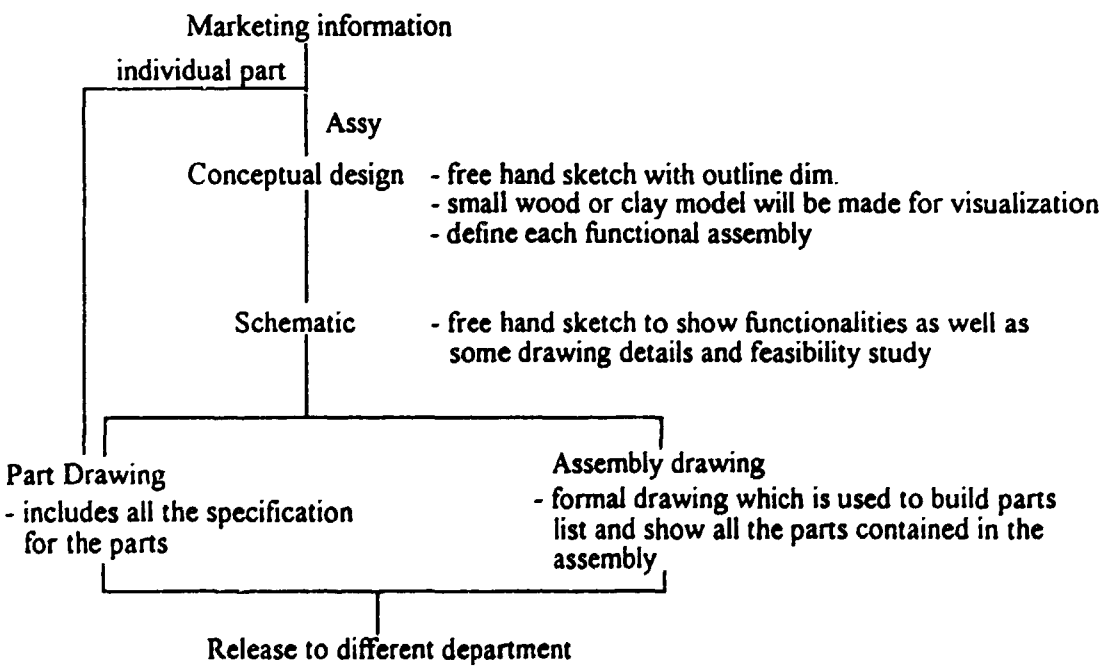
- Product Design
- Tool design and manufacturing
- CNC machine shop

2. Observations

2.1 Product design

Product design is the responsibility of Drawing office in PMTF and they produce all engineering drawing and specifications.

2.1.1 Operation Flow for production design



2.1.2 Specifications

- Dimensioning conforms to ISO standard
- Coding system conforms to internal specifications
- All drawing contain a form with all related information like drawing no revision note

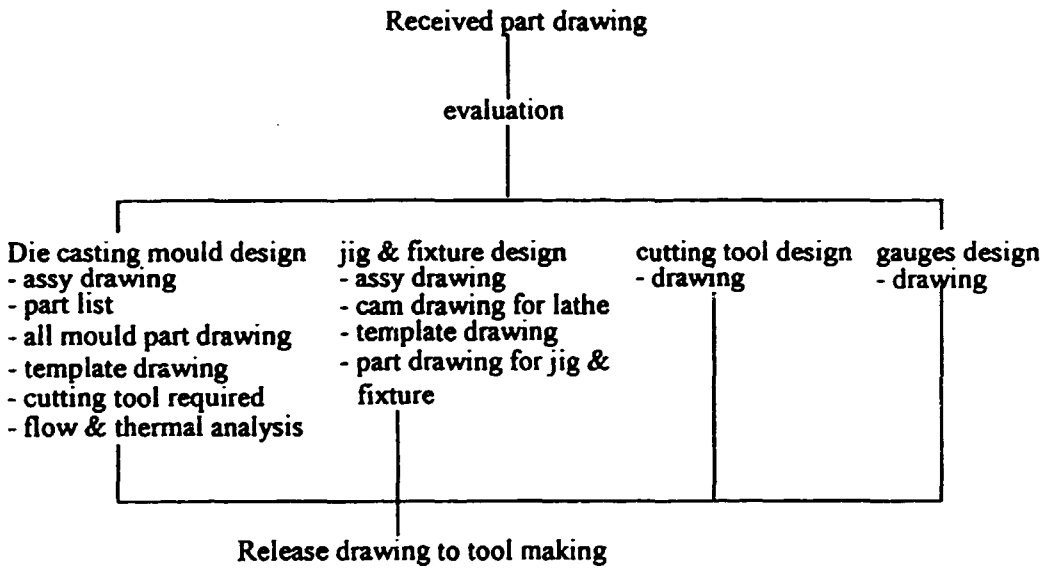
2.1.3 Other related documents

a) Part list
It lists all the parts inside an assembly, the quantity used

b) Alteration report
This report is issued for design modification which is initiated by varies parties. e.g Production department request the change of shaft diameter to ease assembly.

2.2 Tool Design

2.2.1 Operation flow



Note: With the combination of template and form cutter, 3D shape can be machined.

2.3 Tool manufacturing

They got a lot of conventional machine tool and some special machine tools for tool making.

2.3.1 Machine tool

a) Die sinking machine
For machining of die part by copying a profile or 3D prototype.

b) EDM
Electrical discharge machining by an electrode. The workpiece will follow the shape of electrode.

c) Pentograph
For template machining,engraving and precision holes positioning.

d) Engraving machine

e) Tape grinding machine

f) Other common machines like milling, lathe, grinding ...

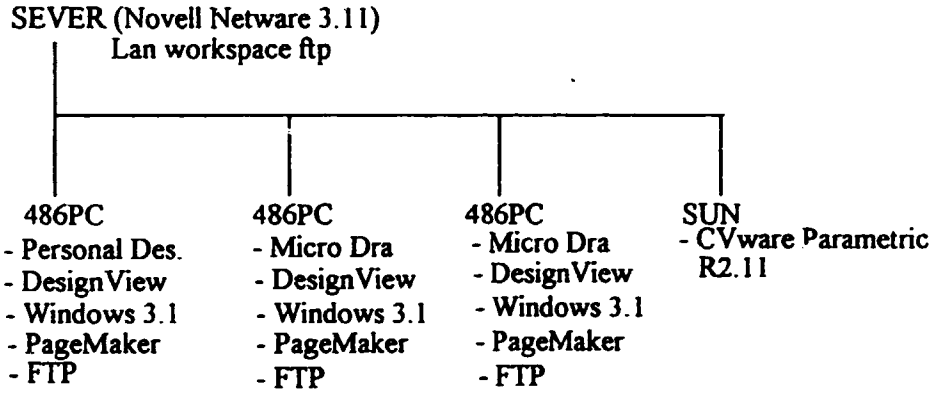
2.4 CNC shop

The CNC shop have 1 machining center and 5 types of CNC lathe. All those machines are for part production like shaft, casting ...

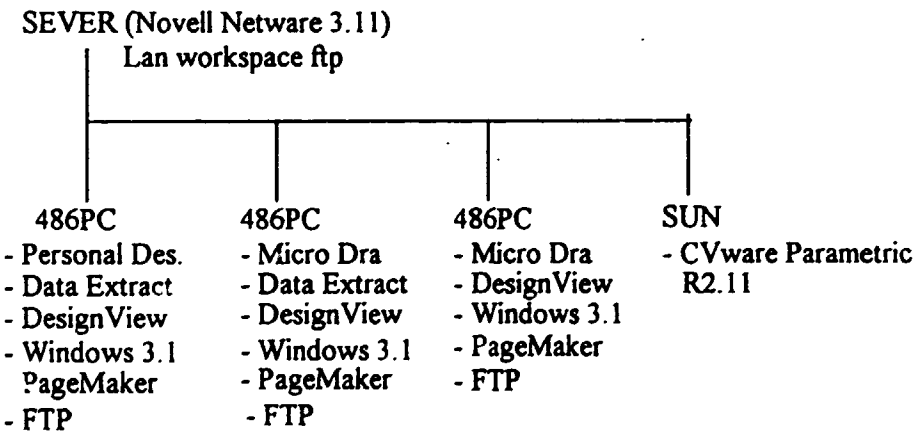
3. CAD/CAM system

The CAD/CAM system will be assigned to the Drawing office, Tool design and CNC shop according to the following configuration. Each department have their own LAN system, the inter-department data transfer is by diskette.

3.1 Design office



3.2 Tool Design



3.3 CNC Shop

486PC
-Personal Des.
-Personal Machinist

3.4 Network system

Drawing Office and Tool Design department are installed a identical but separated LAN system by Novell Netware V3.11. Inter-departments data transfer is acheived by floppy diskette.

The system serves the following functions:

- share a common storage area, data are homogeneouse
- share hard ware e.g. plotter & printer
- data transfer to and fro Unix OS to DOS

4 Implementation Procedure

4.1 Stage I (2D drafting only)

At this stage, the company will only concentrate on 2D drafting and work out ways to improve efficiency.

4.1.1 Product Design

4.1.1.1 Mimic the existing hand drafting system

It is a simple procedure just replacing their drawing board by a PC to run a certain period of time to find out those area which require customization and work out a better system.

Advantages

- Drawing produced will be more accurate
- Reduce human mistake
- More intricate part can be designed

Disadvantages

- Poorer efficiency then manual drafting in the begining

4.1.1.2 Method study and customization

Based on their CAD application experience and manual drafting experience, work out a system to improve efficiency by using UPL & template drawings.

a) Drawing management:
   - Drawing Form for different paper size; the contents should be able to extracted.

   Note: Contents includes drawing no.; qty; material; make or bug; date ....

b) Define a global layer structure to efficient drawing and management
   e.g Layer 1-10 for drawing entites
   Layer 51 for detailing
   Layer 65 for revision notes
   Layer 74 for Drawing Notes

c) Define a standard operation flow to reduce redundancy
   e.g Schematic Design should be done before part drawings in which some of the geometry can be copy from Schematic drawing file.

d) Identifying Standard Parts:
- Socket Head Screws
- Bolt and Nut
- Washers
- Bearings
- Bushes
- Guide Pins
- Springs
- Dowel Pin ....

e) Identifying Design Features:
- Counter Bore holes
- Thread Holes
- Different kind of slots
- Shapes likes rectangle, square
- dowel holes....

e.g Counter bore hole
They can prepare the most common dimension by just creating the drawing in PD. By taking the following group as an example. They need to producing 5 drawing files in PD. When an existing design require a M8 c'bore feature; they can insert the M8.drw to the existing drawing.

- M8.drw
- M10.drw
- M12.drw
- M16.drw
- M20.drw

f) Identifying tedious work and work out solution for improvement:
- Generation of Parts list can be automated by appending each drawing form contents to a text file.
- Automation dimensioning of hole diameters and positions

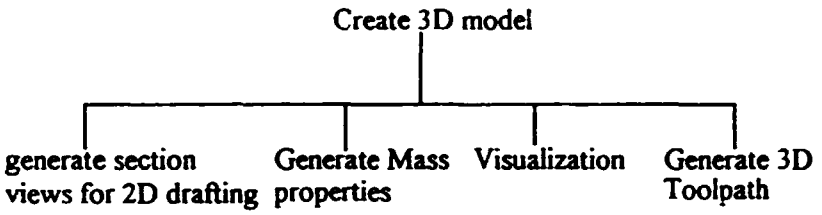
Advantages :
- better efficiency than manual drafting
- more accurate

4.1.2 *Tool Design*
The method employed here is the same as that of Product design but producing different output.

4.1.3 *CNC shop*
If the post-processor is well customized, the CNC programmer can make use of the geometry from design office and create the toolpath with ease, no more customization is required but get more practice.

4.2 Stage II (3D modelling)

3D modelling inside CVware and Peraonal Design provide a tool for design more complicated parts which is hard to accomplished by 2D CAD.



5. Conclusions

It is an ironic fact that after employing the CAD/CAM system, the efficency as well as the quality of the work done by the relavant departments can be improved. However, what I observed now is that there is a big gap between CAD/CAM and Tool making section which plays a very important role in marketing. CNC machines like CNC milling, Wire-EDM and machining center should be recruited to replace most of the manual job as well as to shorten tool making lead time and improving quality of tools.

TO: Mr Qazi Muhammad Aslam
Deputy General Manager
Training & Projects
PMTF

CC: Mr David Wadsworth
UNIDO Consultant

Ms Diana Yeow
CV Singapore

Mr Lawrence Li
CV Hong Kong

FROM: Keith Tan
CV Singapore

DATE: 2nd December 1993

SUBJ: PMTF CONSULTANCY (Dated 27/11 to 2/12/93)

Here is a rundown of what has been done during my one week of consultancy in PMTF.

DAY 1: An overview of the current system setup was given by David and the software aspect with Bernard Conti. This setup was to be changed in the following week as the systems were to be split into three separate sites.

DOS utilities were introduced to them and how they would be useful to them in PC setup.

There was a discussion with Mr Evert Kok of UNIDO (ENGINEERING INDUSTRIES BRANCH). It was about how to best improve the current CAD/CAM setup in PMTF. Bernard and I agreed that Precision Engineering (CADDS5) should be the first thing that PMTF should have because the current setup is lacking in the most basic of CADDS5 functionalities i.e. EXPLICIT mode Modelling and Drafting. It is important that they have good grounding of the basics of CADDS5 because that will give them the confidence to carry on using CADDS5 for all types of Production Work when all the consultants have left.

DAY 2: Guidance was given to how to set up the PC systems to have a better organization of software applications and data files. A friendly user interface was devised so that all applications could be initialized with batch files and all data files would be created in the respective data directories.

A meeting with Mr Qazi was most fruitful. Discussions as to how the system and security would be setup. Other discussions include systems backup, requirements of manuals, software maintenance and training. A system administrator was identified (Mr Aftab Iqbal) and more systems training would be given to him.

CADDS administrative tasks were explained to four selected users.

DAY 3: Further instructions were given to the four users with the system administration commands. In particular, the system environment files (dotfiles). A full instruction was given for the .caddsrc (CADDS5) environment file.

In the afternoon, a visit to where the three systems would be placed was arranged. [redacted] workshop. The manager there (Mr Serwar Janjua) was very interested in implementing DNC. A discussion was held to find out whether DNC was possible. As details like whether the NC controller is capable of receiving electronic data, was not available, a list of considerations for DNC was given to him.

The last of the three Personal Machinist Post-processor files was given to him. These Post-processors were tested and verified.

DAY 4: Further system administration tasks were explained, but this time, only to Mr Malik (SBS Support) and Mr Aftab. These topics were relevant only to root-superuser-system administrator.

A full-fledged test of file transfers was conducted: CADDS5 to PD, CADDS5 to DesignView, DesignView to CADDS5, PD to CADDS5. Explanation of IGES and DXF file formats were also given to them.

Animation on CADDS5 was also introduced to them.

DAY 5: A full discussion of layer management suitable for both CADDS5 and PD was held. Standardisation of both layer and plotting conventions were also discussed. The idea of implementing the correct drafting standards for CAD/CAM was emphasized.

Further instructions were given on system administration to Aftab and Malik. These include CADDS loading and CADDS software licensing.

DAY 6: Half day of tidying the system and generating reports for users and meeting with UNIDO co-ordinator Mr Stefan Buranj.

This concludes my report.

REGARDS,