

**NEPAL**

**BASIC AND PRIMARY EDUCATION PROGRAMME PHASE II  
DEVELOPMENT OF DURABLE TEXTBOOK PILOT PROJECT**

**Training of JEMC staff in Electronic Pre-Press Applications  
22nd May – 2nd June 2000**

**Martin Hendrick**

**NEPAL**

**BASIC AND PRIMARY EDUCATION PROGRAMME PHASE II  
DEVELOPMENT OF DURABLE TEXTBOOK PILOT PROJECT**

**Training of JEMC staff in Electronic Pre-Press Applications  
22nd May – 2nd June 2000**

**Martin Hendrick**

International Book Development Ltd  
305–307 Chiswick High Road  
London W4 4HH  
tel: + 44 (0)20 8742 7474  
fax: + 44 (0)20 8747 8715  
e-mail: [ibdLtd@compuserve.com](mailto:ibdLtd@compuserve.com)

## CONTENTS

	page	
1	INTRODUCTION	1
	Abbreviations	1
2	HARDWARE ASSESSMENT	2
	2.1 JEMC	2
	2.2 Primary Publishing Cell	2
3	SOFTWARE ASSESSMENT	3
	3.1 JEMC	3
	3.2 Primary Publishing Cell	3
4	TRAINING AT JEMC	4
	4.1 Adobe Pagemaker 6.5	4
	4.2 Adobe Illustrator	4
	4.3 Adobe PhotoShop	4
	4.4 Microsoft Word	4
	4.5 Basic Colour theory	4
5	WORKFLOW	5
6	CONCLUSION & RECOMMENDATIONS	6
	6.1 Conclusion	6
	6.2 Recommendation	6

The consultant visited Nepal for BPEP II from 22 May to 2 June to train three members of Janak Education Materials Centre to a skill level in the use of new equipment and be able to output film from digital files supplied by the Primary Publishing Cell and the in-house designer at JEMC. In addition, various troubleshooting exercises were carried out to ensure that the new equipment was set-up consistently. A meeting was held with Mr Ashok Bhattachan of MIPS Pvt. Ltd, a supplier of pre-press equipment, and a visit made to the Primary Publishing Cell. Discussions were held with the Programme Advisory Team in Keshar Mahal.

#### Abbreviations

CRC	Camera Ready Copy
JEMC	Janak Education Materials Centre
PPC	Primary Publishing Cell

## **2                    HARDWARE ASSESSMENT**

### **2.1                 Hardware Assessment at JEMC**

The installation consists of the following equipment:

- Apple Macintosh G4 computers with 256MB of RAM (random access memory). One of the Macintosh computers is used as a fileserver.
- 2 x 21 inch monitors, one 17 inch monitor attached to fileserver.
- 1 Epson Stylus Photo 1200 A3/A4 colour inkjet printer.
- 1 Epson GT2000 A3/A4 flatbed colour scanner with ability to scan transparencies and existing negative film. It is also possible to digitally descreen existing halftones.

The equipment in the office of Mr Tarzan Rai, JEMC designer, will need to be upgraded for him to provide files for output without problems.

Equipment with cause for concern:

- 1 Apple Macintosh G3/233MHZ with 128MB of Memory.
- 1 Apple Macintosh 7200/90MHZ with 128MB of Memory.
- 1 A4 only scanner which is slow.
- 1 printer which is slow and unreliable. This needs correct printer drivers installed.

Current MHZ (computer processor) speeds are 400–500MHZ. It is possible to upgrade the internal processor on the G3/233 but there is no upgrade option for the 7200/90

After a meeting with Mr Ashok Bhattachan of MIPS Pvt. Ltd, the hardware supplier for JEMC, the consultant recommended the Heidelberg Ultra RIP (raster image processor). This supports PostScript level 3 and will be suitable for film output for quite some time into the future. However, this equipment comes with some very powerful features including ability to output fully imposed film, so further training is essential for JEMC staff.

### **2.2                 Hardware Assessment at Primary Publishing Cell**

The office of Mr Navindra Rajbhandari has a number of new Apple Macintosh G4s, a good colour scanner and colour printer. The installation appears to be good.

### **3 SOFTWARE ASSESSMENT**

The software installation was checked on the three Macintosh machines and any inconsistencies were changed. There was a problem with outputting accented characters from PageMaker. The consultant therefore checked this and left it working correctly.

#### **3.1 Software Assessment at Jemc**

- Adobe PageMaker 6.5
- Adobe Illustrator 8.01 and 6
- Adobe PhotoShop 5.5
- Microsoft Word 98 and 6
- Macromedia Freehand 9.0 (not on original specification)

#### **3.2 Software Assessment at PPC**

- Adobe PageMaker 6.5
- Adobe Illustrator 8.01
- Adobe PhotoShop 5.5
- Microsoft Word 6.0
- Macromedia Freehand

PPC and JEMC use different versions of Illustrator and Word. JEMC will not have problems with PPC files, but PPC could have backward compatibility problems accepting files from JEMC due to older versions of software in the office of designer Tarzan Rai.

## **4 TRAINING AT JEMC**

The trainees were Rajan Sharma, Shyam Bahadar Srestha and Surenda Sarya. Training was given from 22nd May to 2nd June using the four specific Graphic Arts software programs. PageMaker is the main page-makeup program, Illustrator is a drawing program, PhotoShop is a 'high-end' Image editing and retouching program. Textbooks will be sent to JEMC in Microsoft Word format to be output to final film. At present PPC and the JEMC designer send material as CRC (camera ready copy). This can be in the form of a laser proof, which is very poor quality.

Below is a brief overview of some features of the software taught.

### **4.1 AdobePageMaker 6.5**

Creating a File or Document • Saving a File or Document • Creating a custom page size (JEMC and PPC will standardise on a 250mm x 182mm page size) • Working with style sheets • Working with Colours • Printing • Importing a graphic • Cropping and scaling a graphic.

### **4.2 Adobe Illustrator**

Creating graphics to a set shape • Painting a graphic • Working with type • Drawing complex shapes.

### **4.3 Adobe PhotoShop**

This is probably the most complex program. For PhotoShop and Illustrator training the consultant used printed tutorials and Microsoft PowerPoint presentations as well as 'hands-on' demonstrations using the software. PhotoShop is also used as the interface to the scanner and instruction was given on scanning new and existing materials including negatives.

### **4.4 Microsoft Word**

Microsoft Word has some features that, although useful, need to be found and switched off for the program to be used in Nepal. For example, one feature checks grammar as you type and underlines 'errors', and another automatically changes two capital letters keyed together to one capital followed by lowercase automatically. The menus and their sub-menus were demonstrated and the Macintosh equipment was left consistently configured.

### **4.5 Basic Colour Theory**

The RGB and CMYK colour spaces were explained as were the problems that can occur when outputting final film. Three files with 100% **CYAN**, **MAGENTA**, **YELLOW** and **BLACK** elements were created in PageMaker, Illustrator, and PhotoShop. This was then output to the inkjet printer to demonstrate how each program interprets colour differently. The Macintosh software, monitors, scanner and output devices will all need to be calibrated using ICC colour profiles before accurate colour can be output. This would also have to be done on the PPC equipment.

Workflow discussions were held with PPC and the JEMC designer on the best way to present files to JEMC for film output.

**Book Covers**

Four colour book covers from Navindra Rajbhandari's department will be supplied as flattened TIFF format for output.

**Text**

Textbooks from PPC and JEMC will be supplied in either PageMaker or Word format. The document size should be 250mm x 182mm with trim marks and an allowance for bleed of at least 3mm.

**Images either supplied to JEMC or scanned in-house**

Grey scale pictures should be scanned at 300dpi (dots per inch dependent on subject matter).

Line Art should generally be scanned at 1200dpi 1bit, and up to 2400dpi but expect file sizes to increase dramatically.

Colour pictures should be scanned 300dpi and must be saved within PhotoShop as CMYK (Cyan Magenta Yellow & Black) and not RGB (Red Green and Blue). The imagesetter should be able to convert badly saved files to four colour process. However, any conversion at this stage could cause degradation of final picture.

**Image file formats**

Image files should be saved as either bitmap, TIFF or single file EPS. JPEG or GIF should only be used for the internet. Any image compression algorithms applied in PhotoShop should be discussed with the supplier of the imagesetter as some compressions are 'lossy' and can give bad results on output.

Data will be supplied on Zip disk (100MB) or Floppy disk (1.44MB). If the use of colour increases the consultant would recommend the purchase of a CD writer to handle the large file sizes. CDs can hold 650MB. The cost is minimal at around \$300 for the writer and \$1 per blank CD.

## **6 CONCLUSION AND RECOMMENDATIONS**

### **6.1 Conclusion**

The three members of the department at JEMC have reached a reasonable skill level in the four main programs that they will use, PageMaker, Illustrator, PhotoShop and Microsoft Word. They work well as a team and are enthusiastic. The main role of the team is final film output more than hands-on construction of new textbook pages. When the imagesetter is delivered it is essential that adequate training will be given for final film output. The software supplied with the imagesetter is over-specified for the current job that it will need to do, but over time it will be adaptable for its role in the future with four colour output and imposition.

### **6.2 Recommendations**

(a) It is crucial that JEMC staff are trained in film output from PageMaker and Microsoft Word to cut out any film wastage. 'Pre-Flighting'<sup>1</sup> should be introduced at JEMC and PPC to ensure that digital files are delivered correctly. The best software is 'FlightCheck' by Markzware at a cost of £250. This will pay for itself in a matter of weeks by checking for output errors before outputting film. Initially it is recommended that JEMC staff should output a colour separated paper proof prior to running film in order to cut out any wastage.

(b) PageMaker 6.5 is the current DTP package for JEMC and PPC. This program has not been enhanced for some years and is no longer being developed by the makers, Adobe. The consultant has had discussions with Adobe, the upshot of which was that they cannot guarantee that PageMaker will still work with future Macintosh operating systems. The next major upgrade to the Macintosh operating system known as OSX is expected to be launched in the first quarter of 2001.

The two alternatives are:

- Adobe Indesign. This has been out for a year and has yet to make inroads into the publishing market and has not sold very well. The consultant expects Adobe to offer PageMaker users an upgrade directly to InDesign.
- Quark Xpress 4.11. This is an industry standard and won the battle with PageMaker.

JEMC and PPC would have to switch to one of these products simultaneously with any major hardware upgrade. The consultant has been on the beta testing program with both products and can provide training from intermediate to advanced level if needed in the future.

---

1. Pre-flighting software checks what is sent and received for film output is correct, saving on costly mistakes in both time and money. FlightCheck analyses files for colour, fonts, output resolution and image quality in a simple 'drag & drop' process independently of the complex programs used to create the files.