

Souvenir

Yaadein: Preserving Memories

Project Report

**Submitted In Partial Fulfillment Of The Requirement For
Six Weeks Training
at
Testing and Consultancy Cell, GNDEC
(from June, 2013 to July, 2013)
Batch:2011-2015**



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Acknowledgement

I, student of Guru Nanak Dev Engineering College, Ludhiana, have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals and organizations. I would like to extend my sincere thanks to all of them.

The author is highly grateful to Dr. M.S. Saini Director, Guru Nanak Dev Engineering College, Ludhiana for providing him with the opportunity to carry out his Six Weeks Training at Testing and Consultancy Cell, Guru Nanak Dev Engineering College, Ludhiana.

The author would like to whole heartedly thank Dr. H.S. Rai Dean, Testing and Consultancy Cell, Guru Nanak Dev Engineering College, Ludhiana who is a vast sea of knowledge and without whose constant and never ending support and motivation, it would never have been possible to complete the project and other assignments so efficiently and effectively.

Abstract

Yaadein: Preserving Memories is a research and development project started with the sole objective of automating the making of the Souvenir booklet which is given to all passing out students. Research and Development refers to creative work undertaken on a systematic basis in order to increase the knowledge base regarding the knowledge of man, culture and society, and the use of this knowledge to devise new and improved applications. This project focuses on the automation and fast typesetting of the Souvenir making process along with easy to use options for customizing the look and feel as well as the layout of the souvenir.

Yaadein is a great application to produce web based as well as printed copies of souvenirs which are given to students when they pass out from schools and colleges. It contains every students personal details, photograph, contact details and the comments/views of other students about them.

Yaadein was made keeping in mind the various schools and colleges who spend several man hours, which often run into days and sometimes weeks, designing their souvenir. This project will not only help them significantly reduce the time consumed in the designing of the souvenir but will also make the overall process very simple and easy to use. The Yaadein project is a highly customizable application that allows the user to modify the look and feel of the souvenir as per their personal preferences.

The motive of the project is to reduce the time consumed and to enable fast and easy customization and even faster modifications when required as instead of typing and scaling, only values in the php script need to be changed.

Also, this project is completely open source and is made using PHP,L^AT_EX version L^AT_EX2e and MySQL and the entire code is available to the user ,for fast and easy customization, as and when required. This project is governed by the GNU General Public License v3.0 GNU-GPLv3.0.

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1 Introduction To Organisation



Figure 1: Guru Nanak Dev Engineering College

I had my Six Weeks Industrial Training at TCC-Testing And Consultancy Cell, GNDEC Ludhiana. Guru Nanak Dev Engineering College was established by the Nankana Sahib Education Trust Ludhiana. The Nankana Sahib Education Trust i.e NSET was founded in memory of the most sacred temple of Sri Nankana Sahib, birth place of Sri Guru Nanak Dev Ji. With the mission of Removal of Economic Backwardness through Technology Shiromani Gurudwara Parbandhak Committee i.e SGPC started a Poly technical was started in 1953 and Guru Nanak Dev Engineering College was established in 1956.

NSET resolved to uplift Rural areas by admitting 70of students from these rural areas ever year. This commitment was made to nation on 8th April, 1956, the day foundation stone of the college building was laid by Dr. Rajendra Prasad Ji, the First President of India. The College is now ISO 9001:2000 certified.

Guru Nanak Dev Engineering College campus is spread over 88 acres of prime land about 5 Km s from Bus Stand and 8 Km s from Ludhiana Railway Station on Ludhiana-Malerkotla Road. The college campus is well planned with beautifully laid out tree plantation, pathways, flowerbeds besides the well maintained sprawling lawns all around. It has beautiful building for College,Hostels,Swimming Pool,Sports and Gymnasium Hall Complex, Gurudwara Sahib, Bank, Dispensary, Post Office etc. There are two hostels for boys and one for girls with total accommodation of about 550 students. The main goal of this institute is:

- To build and promote teams of experts in the upcoming specialisations.
- To promote quality research and undertake research projects keeping in view their relevance to needs and requirements of technology in local industry.
- To achieve total financial independence.
- To start online transfer of knowledge in appropriate technology by means of establishing multipurpose resource centres.

1.1 Testing and Consultancy Cell

My Six Weeks Institutional Training was done by me at TCC i.e Testing And Consultancy Cell, GNDEC Ludhiana under the guidance of Dr. H.S.Rai Dean Testing and Consultancy Cell. Testing and Consultancy Cell was established in the year 1979 with a basic aim to produce quality service for technical problems at reasonable and affordable rates as a service to society in general and Engineering fraternity in particular.

Consultancy Services are being rendered by various Departments of the College to the industry,



Figure 2: Testing and Consultancy Cell

Sate Government Departments and Entrepreneurs and are extended in the form of expert advice in design, testing of materials & equipment, technical surveys, technical audit, calibration of instruments, preparation of technical feasibility reports etc. This consultancy cell of the college has given a new dimension to the development programmers of the College. Consultancy projects of over Rs. one crore are completed by the Consultancy cell during financial year 2009-10.

Ours is a pioneer institute providing Consultancy Services in the States of Punjab, Haryana, Himachal, J&K and Rajasthan. Various Major Clients of the Consultancy Cell are as under:

- Larson & Turbo.
- Multi National Companies like AFCON & PAULINGS.
- Power Grid Corporation of India.
- National Building Construction Co.
- Punjab State Electricity Board.
- Punjab Mandi Board.
- Punjab Police Housing Corporation.
- National Fertilizers Ltd.

2 Introduction

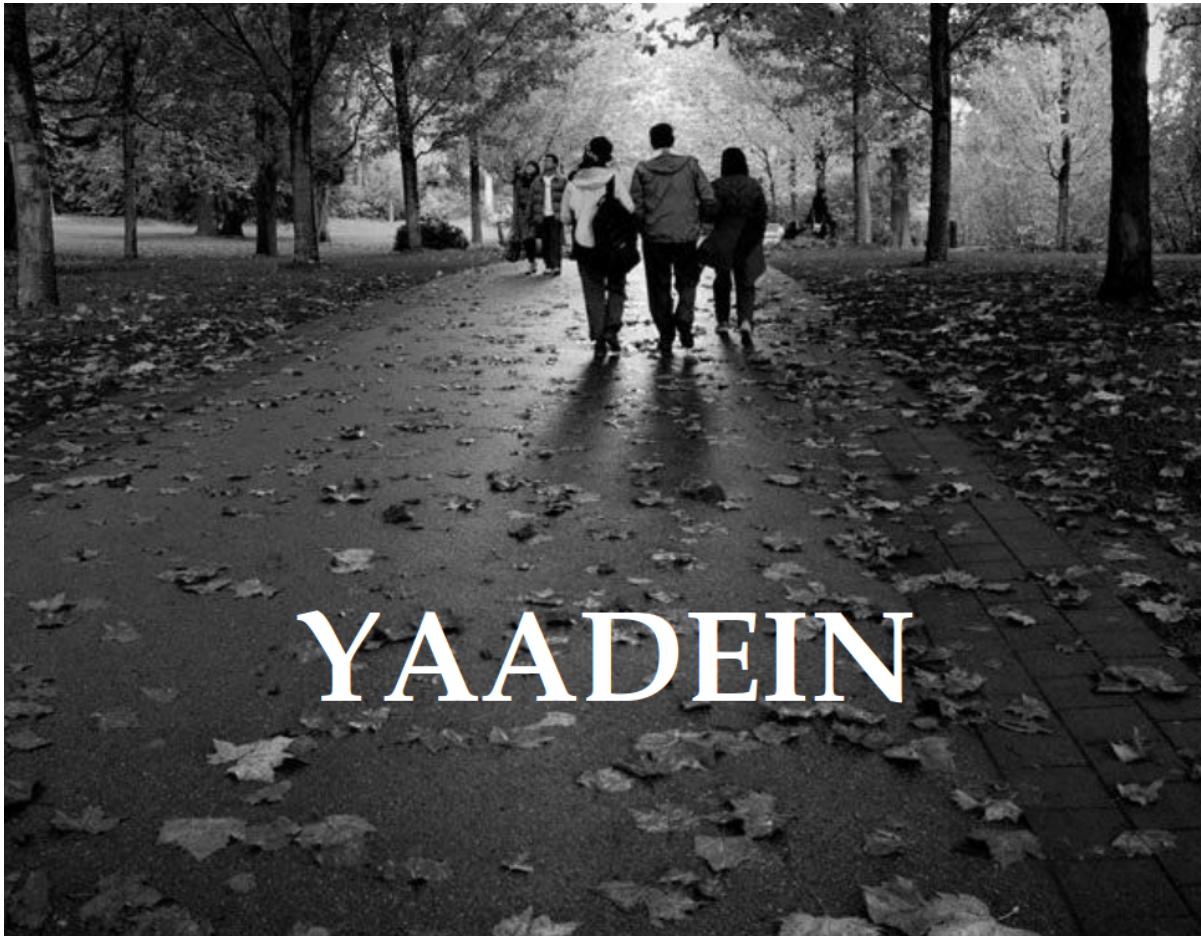


Figure 3: Yaadein

Yaadein or souvenir or memories is a great application to produce web based as well as printed copies of souvenirs which are given to students when they pass out from schools and colleges. It contains every student's personal details, photograph, contact details and the comments/views of other students about them.

A SOUVENIR from French, for a remembrance or memory, memento, keepsake or token of remembrance is an object a person acquires for the memories the owner associates with it.

Yaadein was made keeping in mind the various schools and colleges who spend several man hours, which often run into days and sometimes weeks, designing their souvenir. This project will not only help them significantly reduce the time consumed in the designing of the souvenir but will also make the overall process very simple and easy to use. The Yaadein project is a highly customizable application that allows the user to modify the look and feel of the souvenir as per their personal preferences.

Software developed not only automates the Typesetting of the Souvenir but also does the imposition and colour separation which are done by the printer before printing the souvenir.

Imposition is one of the fundamental steps in the prepress printing process. It consists in the

arrangement of the printed products pages on the printers sheet, in order to obtain faster printing, simplified binding and less waste of paper.

Correct imposition minimizes printing time by maximizing the number of pages per impression, reducing cost of press time and materials. To achieve this, the printed sheet must be filled as fully as possible.

Imposition is affected by five different parameters:

- Format of the product: The size of the finished page determines how many pages can be printed on a single sheet.
- Number of pages of the printed product: The compositor must determine how many sheets are to be printed to create a finished book.
- Stitching/binding method: The compositor must understand how the sheets are placed to form the signatures that compose the finished book.
- Paper fiber direction: Many papers have a grain, reflecting the alignment of the paper fibers. That these fibers must run lengthwise along the fold influences the alignment, hence the position, of the pages on the printed sheet.
- Finishing and binding

To understand how the pages are related to each other, an imposition dummy may be used. This is made by folding several sheets of paper in the way the press will print and fold the product. A little copy is then created, and this can help paginate the product.



Figure 4: Imposition of 16 pages

Also, this project is completely open source and is made using PhP, L^AT_EX version L^AT_EX2e and MySql and the entire code is available to the user as and when required. The project is governed by the GNU General Public License v3.0 i.e GNU-GPLv3.0.

Various tools used to develop the project are:

- phpMyadmin
- PHP
- MySQL
- L^AT_EX
- GIMP
- ImageMagick

2.1 Software requirements

- Operating System: Linux/Windows
- Programming Language: PHP
- Mysql
- L^AT_EX Typesetting Editor

2.2 Hardware Requirements

Hardware requirement of this project is any Desktop or Laptop machine for local use or a Server with minimum available configuration to make Project globally available. Hardware specifications of the machine used depends upon the hardware requirements of the Operating System installed on it. As such there are no special hardware requirements of this project.

3 Django

3.1 Introduction to Django



Figure 5: Django Logo

Django is an open source web application framework written in python. It lets you build high-performing, elegant Web applications quickly. Django focuses on automating as much as possible. Django's primary goal is to ease the creation of complex, database-driven websites. Django emphasizes reusability and "pluggability" of components, rapid development, and the DRY principle. Python is used throughout, even for settings, files, and data models. Django also provides an optional administrative create, read, update and delete interface that is generated dynamically through introspection and configured via admin models.

Django takes its name from the early jazz guitarist Django Reinhardt, a gypsy savant who managed to play dazzling and electrifying runs on his instrument even though two of the fingers on his left hand were paralyzed in an accident when he was young.

Thus, its a fitting name for the framework: Django can do some very complex things with less code and a simpler execution than you'd expect. It doesn't take a heavy hand to build with Django. The framework does the repetitive work for you, allowing you to get a working website up quickly and easily.

3.1.1 Installation of Django

Installation of Django is also very easy. The Django version is: Django 1.4. Type the commands in the terminal:

```
$ wget http://www.djangoproject.com/download/1.4.5/tarball  
$ tar xzvf Django-1.4.5.tar.gz  
$ cd Django-1.4.5  
$ sudo python setup.py install
```

This will install the django on your pc/laptop.

3.1.2 MTV

Django adopts the standard MVC called Model-View-Controller design pattern. But instead, their naming convention is the MTV called Model-Template-View.

- Model is an object relational mapping to your database schema. So each model is a class which represent a table in your database. Django models provide easy access to an underlying data storage mechanism, and can also encapsulate any core business logic, which must always remain in effect, regardless of which application is using it. Models exist independent of the rest of the system, and are designed to be used by any application that has access to them. In fact, the database manipulation methods that are available on model instances can be utilized even from the interactive interpreter, without loading a Web server or any application-specific logic.
- Template is simply HTML for your views. It also allows you to display different messages depending on whether or not a user logged in. Templates are Djangos provided way of generating text-based output, such as HTML or emails, where the people editing those documents may not have any experience with Python. Therefore, templates are designed to avoid using Python directly, instead favoring an extensible, easy-to-use custom language built just for Django.
- View could be a homepage or a page to display a user's information, for instance. A view accepts user input, including simple requests for information; behaves according to the applications interaction logic; and returns a display that is suitable for users to access the data represented by models.

3.1.3 Creating Project in Django

If this is your first time using Django, youll have to take care of someinitial setup. Namely, youll need to auto-generate some code that establishes a Django project a collection of settings for an instance of Django, including database configuration, Django-specific options and application-specific settings. From the command line, cd into a directory where youd like to store your code, then run the command

```
$ django-admin.py startproject mysite
```

This will create a mysite directory in your current directory.

3.1.4 Development Server in Django

Change into the outer mysite directory, if you haven't already, and run the command
\$ pythhon manage.py runserver

You'll see the following output on the command line:

Validating models...

0 errors found.

Django version 1.4.5, using settings 'mysite.settings'

Development server is running at <http://127.0.0.1:8000/>

Quit the server with CONTROL-C.

3.1.5 Database setup

In this we need to edit the settings.py file of the Project, that is the configuration file. It's a normal Python module with module-level variables representing Django settings. Change the following keys in the DATABASES 'default' item to match your database connection settings.

- ENGINE – Either ‘django.db.backends.postgresql_psycopg2’, ‘django.db.backends.mysql’, ‘django.db.backends.sqlite3’ or ‘django.db.backends.oracle’. Other backends are also available.
- NAME – The name of your database. If you’re using SQLite, the database will be a file on your computer; in that case, NAME should be the full absolute path, including filename, of that file. If the file doesn’t exist, it will automatically be created when you synchronize the database for the first time. When specifying the path, always use forward slashes, even on Windows e.g. C:/homes/user/mysite/sqlite3.db.
- USER – Your database username.
- PASSWORD – Your database password.
- HOST – The host your database is on. Leave this as an empty string if your database server is on the same physical machine.

If you’re new to databases, we recommend simply using SQLite by setting ENGINE to ‘django.db.backends.sqlite3’ and NAME to the place where you’d like to store the database. SQLite is included as part of Python 2.5 and later, so you won’t need to install anything else to support your database.

While you’re editing settings.py, set TIME_ZONE to your time zone. The default value is the Central time zone in the U.S.

Also, note the INSTALLED_APPS setting toward the bottom of the file. That holds the names of all Django applications that are activated in this Django instance. Apps can be used in multiple projects, and you can package and distribute them for use by others in their projects.

By default, INSTALLED_APPS contains the following apps, all of which come with Django:

- django.contrib.auth – An authentication system.
- django.contrib.contenttypes – A framework for content types.
- django.contrib.sessions – A session framework.
- django.contrib.sites – A framework for managing multiple sites with one Django installation.
- django.contrib.messages – A messaging framework.
- django.contrib.staticfiles – A framework for managing static files.

These applications are included by default as a convenience for the common case.

Each of these applications makes use of at least one database table, though, so we need to create the tables in the database before we can use them. To do that, run the following command:

```
$ python manage.py syncdb
```

The syncdb command looks at the INSTALLED_APPS setting and creates any necessary database tables according to the database settings in your settings.py file. You'll see a message for each database table it creates, and you'll get a prompt asking you if you'd like to create a superuser account for the authentication system. Go ahead and do that.

3.1.6 Django Applications used :

- **Django Registration**

It is an extensible user-registration application for Django. This is a fairly simple user-registration application for Django, designed to make allowing user signups as painless as possible. It requires a functional installation of Django 1.3 or newer, but has no other dependencies. Django Registration module can be installed easily using :

```
$ pip install django-registration
```

- **Django avatar**

To integrate django-avatar with your site, there are relatively few things that are required. A minimal integration can work like this:

- List this application in the INSTALLED_APPS portion of your settings file. Your settings file will look something like:

```
INSTALLED_APPS = (
    # ...
    'avatar',
```

- Add the pagination urls to the end of your root urlconf. Your urlconf will look something like:

```
urlpatterns = patterns('',
    # ...
    (r'^admin/(.*)', admin.site.root),
    (r'^avatar/', include('avatar.urls')),
)
```

- Somewhere in your template navigation scheme, link to the change avatar page:

```
<a href="{% url avatar_change %}">Change your avatar</a>
```

- Wherever you want to display an avatar for a user, first load the avatar template tags:

```
{% load avatar_tags %}
```

Then, use the `avatar` tag to display an avatar of a default size:

```
{% avatar user %}
```

Or specify a size explicitly:

```
{% avatar user 65 %}
```

- Optionally customize `avatar/change.html`, `avatar/save.html`, `avatar/crop.html` and `avatar/confirm.html` to conform to your site's look and feel.
- Django Profiles: This is a simple application which provides basic features for working with custom user profiles in Django projects. It implements the following:
 - Profile creation.
 - Profile editing.
 - Profile viewing, with controls on which profiles are publicly viewable. This application assumes that you are already have a working installation of Django 1.0 or newer, and that you are comfortable enough with Django to be able to, for example, create templates based on a description of what context variables are available to them, set up your own URL configuration and work with Django's forms system.

How to install

Using a package-management tool

The easiest way by far to install django-profiles and most other interesting Python software is by using an automated package-management tool, so if you're not already familiar with the available tools for Python, now's as good a time as any to get started.

```
$ pip install django-profiles
```

4 Python



Figure 6: *Python Logo*

Python is a dynamic language, as in python coding is very easy and also it require less coding and about its interpreted nature it is just excellent. Python is a high level programming language and Django which is a web development framework is written in python language. Python is an easy to learn, powerful programming language. Python runs on Windows, Linux/Unix, Mac OS X. Python is free to use, even for commercial products. Python can also be used as an extension language for existing modules and applications that need a programmable interface. Python is free to use, even for commercial products, because of its OSI-approved open source license.

Python supports multiple programming paradigms, including object-oriented, imperative and functional programming styles. It features a fully dynamic type system and automatic memory management, similar to that of Scheme, Ruby, Perl, and Tcl. Like other dynamic languages, Python is often used as a scripting language, but is also used in a wide range of non-scripting contexts. Python is intended to be a highly readable language. It is designed to have an uncluttered visual layout, frequently using English keywords where other languages use punctuation. Similar to other scripting languages, Python programmers are usually more productive than C, C++ and Java programmers.

Python uses whitespace indentation, rather than curly braces or keywords, to delimit blocks; a feature also termed the off-side rule. An increase in indentation comes after certain statements; a decrease in indentation signifies the end of the current block.

Installation of Python

Installation of python is a very easy process. The current python versions are: Python 2.7.1 and Python 3.2. Type the commands in the terminal:

```
$ wget http://www.python.org/ftp/python/2.7/Python-2.7.tgz
```

```
$ tar xzf Python-2.7.tgz
```

This will install the python on your pc or laptop.

5 L^AT_EX

5.1 Introduction to L^AT_EX



Figure 7: L^AT_EX Logo

L^AT_EX, I had never heard about this term before doing this project, but when I came to know about its features, it is just excellent. L^AT_EX(pronounced /letk/, /letx/, /ltx/, or /ltk/) is a document markup language and document preparation system for the T_EX typesetting program. Within the typesetting system, its name is styled as L^AT_EX. Within the typesetting system, its name is styled



Figure 8: Donald Knuth, Inventor Of T_EX typesetting system

as L^AT_EX. The term L^AT_EX refers only to the language in which documents are written, not to the editor used to write those documents. In order to create a document in L^AT_EX, a .tex file must be created using some form of text editor. While most text editors can be used to create a L^AT_EX document, a number of editors have been created specifically for working with L^AT_EX.

L^AT_EX is most widely used by mathematicians, scientists, engineers, philosophers, linguists, economists and other scholars in academia. As a primary or intermediate format, e.g., translating DocBook and other XML-based formats to PDF, L^AT_EX is used because of the high quality of typesetting achievable by T_EX. The typesetting system offers programmable desktop publishing features and extensive facilities for automating most aspects of typesetting and desktop publishing, including numbering and cross-referencing, tables and figures, page layout and bibliographies.

L^AT_EX is intended to provide a high-level language that accesses the power of T_EX. L^AT_EX essentially comprises a collection of T_EX macros and a program to process L^AT_EX documents. Because the T_EX formatting commands are very low-level, it is usually much simpler for end-users to use L^AT_EX.

5.2 Typesetting

L^AT_EX is based on the idea that authors should be able to focus on the content of what they are writing without being distracted by its visual presentation. in preparing a L^AT_EX document, the author specifies the logical structure using familiar concepts such as chapter, section, table, figure, etc., and lets the L^AT_EX system worry about the presentation of these structures. it therefore encourages the separation of layout from content while still allowing manual typesetting adjustments where needed.

```
\documentclass[12pt]{article}
\usepackage{amsmath}
\title{\LaTeX}
\begin{document}
\maketitle
\LaTeX{} is a document preparation system
for the \TeX{} typesetting program.
\par
$E=mc^2$
\end{document}
```

L^AT_EX

August 10, 2013

L^AT_EX is a document preparation system for the \TeX{} typesetting program.

$$E = mc^2$$

Figure 9: Output

5.3 Installing L^AT_EX on System

Installation of L^AT_EX on personal system is quite easy. As i have used L^AT_EX on Ubuntu 13.04 so i am discussing the installation steps for Ubuntu 13.04 here:

- Go to terminal and type

sudo apt-get install texlive-full

- Your Latex will be installed on your system and you can check for manual page by typing.

man latex

in terminal which gives manual for latex command.

- To do very next step now one should stick this to mind that the document which one is going to produce is written in any type of editor whether it may be your most common usable editor Gedit or you can use vim by installing first vim into your system using command.

sudo apt-get install vim

- After you have written your document it is to be embedded with some set of commands that Latex uses so as to give a structure to your document. Note that whenever you wish your document to be looked into some other style just change these set of commands.
- When you have done all these things save your piece of code with .tex format say test.tex. Go to terminal and type

latex path of the file test.tex Or pdflatex path of the file test.tex

eg: pdflatex test.tex

for producing pdf file simultaneously.

After compiling it type command

evince filename.pdf

eg: evince test.pdf

To see output pdf file.

5.4 Graphical Editors for L^AT_EX

L^AT_EX is not restricted to command line only there are so many graphical based editors available to be used. These GUI based editors provide an easy interface to user so as to do typesetting in an efficient manner. Some of them are listed below:

- Texmaker

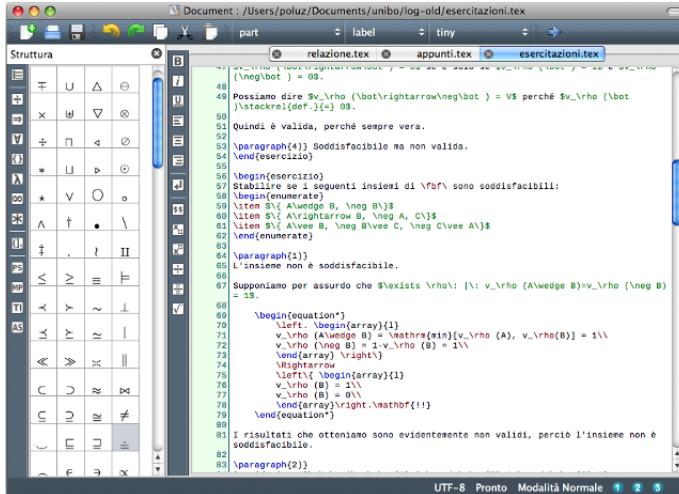


Figure 10: Texmaker, A Graphical L^AT_EX Editor

- LEd

And many more but the preferred method to produce L^AT_EX document is through console mode only.

5.5 Making Graphics in L^AT_EX

L^AT_EX is also known popularly for making complex graphics. One such example is shown below here:

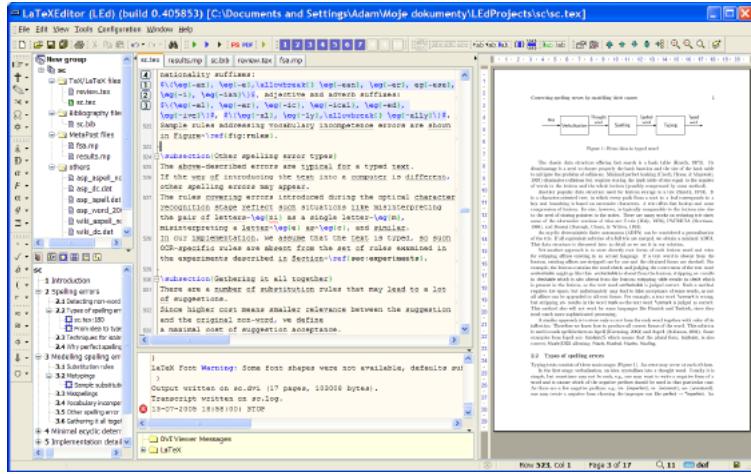


Figure 11: LEd, A Graphical LATEX Editor

```
\documentclass{article}
\usepackage{tikz}
\usetikzlibrary{calendar,shadings}
\renewcommand*\familydefault{\sfdefault}
\colorlet{winter}{blue}
\colorlet{spring}{green!60!black}
\colorlet{summer}{orange}
\colorlet{fall}{red}
\newcount\mycount
\begin{document}
\begin{tikzpicture}[transform shape,
every day/.style={anchor=mid,font=\tiny}]
\node[circle,shading=radial,outer color=blue!30,inner color=white,
minimum width=15cm] {\textcolor{blue!80!black}{\Huge\the\year}};
\foreach \month/\monthcolor in
{1/winter,2/winter,3/spring,4/spring,5/spring,6/summer,
7/summer,8/summer,9/fall,10/fall,11/fall,12/winter} {
\mycount=\month
\advance\mycount by -1
\multiply\mycount by 30
\advance\mycount by -90
\shadedraw[shading=radial,outer color=\monthcolor!30,middle color=white,
inner color=white,draw=none] (\the\mycount:5.4cm) circle(1.4cm);
\calendar at (\the\mycount:5.4cm) [
dates=\the\year-\month-01 to \the\year-\month-last]
if (day of month=1) {\large\color{\monthcolor!50!black}\tikzmonthcode}
if (Sunday) [red]
if (all) {
\mycount=1
\advance\mycount by -\pgfcalendarcurrentday
\multiply\mycount by 11
\advance\mycount by 90
\pgftransformshift{\pgfpointpolar{\mycount}{1.2cm}};}
```

```
\end{tikzpicture}
\end{document}
```



Figure 12: Graphics in L^AT_EX

L^AT_EX with just invoking few additional packages.

5.6 Pdfscreen L^AT_EX

There are some packages that can help to have unified document using L^AT_EX. Example of such a package is pdfscreen that let the user view its document in two forms-print and screen. Print for hard copy and screen for viewing your document on screen. Download this package from www.ctan.org/tex-archive/macros/latex/contrib/pdfscreen/.

Then install it using above mention method.

To test it the test code is given below:-

Just changing print to screen gives an entirely different view. But for working of pdfscreen another package required are comment and fancybox.

The fancybox package provides several different styles of boxes for framing and rotating content in your document. Fancybox provides commands that produce square-cornered boxes with single or double lines, boxes with shadows, and round-cornered boxes with normal or bold lines. You can box mathematics, floats, center, flushleft, and flushright, lists, and pages.

Whereas comments package selectively include/excludes portions of text. The comment package allows you to declare areas of a document to be included or excluded. One need to make these declarations in the preamble of your file. The package uses a method for exclusion that is pretty robust, and can cope with ill-formed bunches of text.

So these extra packages needed to be installed on system for the proper working of pdfscreen package.

5.7 Web based graphic generation using LATEX

LATEX is also useful when there is need of generating the graphics from browser. For example to draw a circle by just entering its radius in html input box. So this kind A of project can be conveniently handled using LATEX. Basic idea behind this generation process is that when user clicks on submit button after entering radius a script will run that enter the radius in already made .tex file and recompiles it on server and makes its pdf and postscript file. After that user can view those files by clicking on link provided to view the files. See some screen shots of such a graphic generation project made by Dr. H.S. Rai:

So here in the above input page which is also the index page user can enter input for length of rectangle, breadth of rectangle and for radius of circle after that user can submit the values. After the values get submitted a script get runs by php code at server side. This script first enters the dimensions of rectangle and circle that were selected by user in to an already existing .tex file and replace with the older dimensions there. After that script recompiles the the tex file and make it available for user.

In above figure it gets clear that .tex file has been compiled and pdf and postscript files are available to user and user can download the graphics so produced. Hence graphics can be generated in LATEX through web interface. s

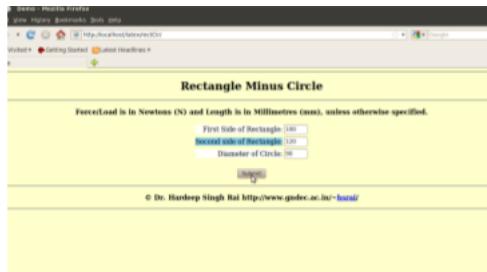


Figure 13: Web based graphic generation using LATEX(input page)

6 Introduction to PHP



Figure 14: PHP logo

A PHP scripting block always starts with

```
<?php
```

and ends with

```
?>
```

A PHP scripting block can be placed anywhere in the document. On servers with shorthand support enabled you can start a scripting block with <? and end with ?>. For maximum compatibility, the standard form

```
(<?php)
```

is used rather than the shorthand form.

A PHP file normally contains HTML tags, just like an HTML file, and some PHP scripting code. Below, we have an example of a simple PHP script which sends the text Hello World to the browser:

```
<html>
<body>
<?php
echo "Hello World";
?>
</body>
</html>
```

Each code line in PHP must end with a semicolon. The semicolon is a separator and is used to distinguish one set of instructions from another. There are two basic statements to output text with PHP: echo and print. In the example above we have used the echo statement to output the text Hello World.

6.1 Overview

PHP only parses code within its delimiters. Anything outside its delimiters is sent directly to the output and not parsed by PHP. The most common delimiters are

```
<?php and ?>
```

, respectively open and close delimiters. The first form of delimiters,

```
<?php&ndgt;
```

,in XHTMLand other XMLdocuments, creates correctly formed XMLprocessing instructions. Therefore, in either of these two cases, the resulting mixture of PHP and other markup is well-formed, and so probably valid, as XML and XHTML on the server before PHP processing. This may be helpful if the source code documents ever need to be processed in other ways during the life of the software. Short opening tags

```
(<?or<?=)
```

are also available for use, but are, along with ASP style tags

```
(<%or<%=)
```

,less portable as they can be disabled in the PHP configuration. For this reason the use of Short tags and ASP style tags is discouraged.The purpose of these delimiters is to separate PHP code from non-PHP code (notably HTML). Everything outside the delimiters is ignored by the parser and is passed through as output.

One of the language characteristic features is implicit variable declaration. Variables are pre-fixed with adollar symboland atypedoes not need to be specified in advance. Unlike function and class names, variable names are case sensitive. Both double-quoted () andheredoc strings allow the ability to embed a variables value into the string.PHP treatsnewlinesaswhitespace, in the manner of a free-form language(except when inside string quotes). Statements are terminated by a semicolon.PHP has three types ofcomment syntax:`/* */`which serves as block comments, and `//`as well as 'hash' which are used for inline comments.Many examples use theprintfunction instead of theechofunction. Both functions are nearly identical; the major difference being thatprintis slower thanecho because the former will return a status indicating if it was successful or not in addition to text to output, whereas the latter does not return a status and only returns the text for output. The usual Hello Worldcode example for PHP is:

```
<?php
echo "Hello World!";
?>
```

The example above outputs the following: Hello World!

6.2 Colon Syntax

PHP offers an alternative syntax to the standard curly-brace syntax. This syntax is called colon syntax and affects the following control structures: if, while, for, foreach, and switch.The syntax varies only slightly from the curly-brace syntax. In each case the opening brace () is replaced with a colon (:) and the close brace is replaced with endif;, endwhile;, endfor;, endforeach;, or endswitch;, respectively.An example of the syntax for an if/elseif statement is as follows:

```
if (condition) :
// code here
elseif (condition) :
// code here
else :
// code here
endif;
```

6.3 Data types

PHP stores whole numbers in a platform-dependent range. This range is typically that of 32-bit signed integers. Integer variables can be assigned using decimal (positive and negative), octal and hexadecimal notation, or two forms of scientific notation. PHP has a native Boolean type, named boolean, similar to the native Boolean types in Java and C++. Using the Boolean type conversion rules, non-zero values are interpreted as true and zero as false, as in Perl. The null data type represents a variable that has no value. The only value in the null data type is NULL. Variables of the resource type represent references to resources from external sources. These are typically created by functions from a particular extension, and can only be processed by functions from the same extension. Examples include file, image and database resources. Arrays can contain elements of any type that PHP can handle, including resources, objects, and even other arrays. Order is preserved in lists of values and in hashes with both keys and values, and the two can be intermingled. Objects can syntactically be used as Arrays.

6.4 Functions

PHP has hundreds of base functions and thousands more from extensions. Functions are not first-class functions and can only be referenced by their name prior to PHP version 5.3.0, whereas PHP 5.3.0 introduces closures. User-defined functions can be created at any time and without being prototyped. Functions can be defined inside code blocks, permitting a run-time decision as to whether or not a function should be defined. There is no concept of local functions. Function calls must use parentheses with the exception of zero argument class constructor functions called with the PHP new operator, where parentheses are optional. An example function definition is the following:

```
<?php
function hello()
{
    echo "Hello World";
}
hello();
?>
```

7 Introduction to MySQL



Figure 15: MySQL Logo

What is MySQL?

MySQL is a relational database management system (RDBMS) that runs as a server providing multi-user access to a number of databases. It is named after developer "Michael Widenius" daughter, My. The SQL phrase stands for Structured Query Language.

The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements. MySQL was owned and sponsored by a single for-profit firm, the Swedish company MySQL AB, now owned by Oracle Corporation.

Free-software-open source projects that require a full-featured database management system often use MySQL. For commercial use, several paid editions are available, and offer additional functionality. Applications which use MySQL databases include: Joomla, WordPress, MyBB, phpBB, Drupal and other software built on the LAMP software stack. MySQL is also used in many high-profile, large-scale World Wide Web products, including Wikipedia, Google (though not for searches) and Facebook. The data in MySQL is stored in database objects called tables.

A table is a collection of related data entries and it consists of columns and rows. Databases are useful when storing information categorically. A company may have a database with the following tables: Employees, Products, Customers and Orders.

7.1 Queries

A query is a question or a request.

With MySQL, we can query a database for specific information and have a recordset returned.

7.2 Create a Connection to a MySQL Database

Before you can access data in a database, you must create a connection to the database.

In PHP, this is done with the mysql connect() function. Syntax mysql connect(servername,username)
Example:

In the following example we store the connection in a variable (\$con) for later use in the script. The die part will be executed if the connection fails:

```
<?php
$con = mysql_connect("localhost","username","password");
if (!$con)
{
die(Could not connect: . mysql_error());
}
// some code
?>
```

7.3 Closing a Connection

The connection will be closed automatically when the script ends. To close the connection before, use the mysql close() function:

```
<?php
$con = mysql_connect("localhost","username","password");
if (!$con)
{
die(Could not connect: . mysql_error());
}
// some code
mysql_close($con);
?>
```

8 Project Work

8.1 Feasibility Study

- Technical Feasibility As this whole project is based on L^AT_EX programming language and PHP scripting language, technical feasibility of this project revolves around the technical boundaries and limitations of the L^AT_EX and PHP. But as L^AT_EX is much powerful Typesetting tool and PHP is powerful server side scripting language, so these languages are perfect to design the software under this project.
- Economic Feasibility Almost all the softwares used in this project are Open source and the software released under this project are Open source too and are released under GNU GPLv3 (General Public Licence). So this project is fully economic feasible.
- Operational Feasibility This project is also operational feasible as it automates the work of printing of Souvenir which not only saves time but also saves money as most the work done by printing press is done by this software.

8.2 System Design

Based on the user requirements and the detailed analysis of a new system, the new system must be designed. This is the phase of system designing normally, the design proceeds in two stages:-

- Preliminary or general design.
- Structure or detailed design.

Preliminary or general design

In the preliminary or general design, the features of the new system are specified.

Structure or Detailed design

In the detailed design stage, computer oriented work begins in earnest. Input, output and processing specifications are drawn up in detail.

There are several tools and techniques used for designing

- Data flow diagram (DFDs).
- ER Diagram.

Design is the first step into the development phase for any engineered product or system. Design is a creative process. A good design is the key to effective system. The term "design" is defined as "the process of applying various techniques and principles for the purpose of defining a process or a system in sufficient detail to permit its physical realization". It may be defined as a process of applying various techniques and principles for the purpose of defining a device, a process or a system in sufficient detail to permit its physical realization. Software design is the technical kernel of the software engineering process and is applied regardless of the development paradigm that is used. The system design develops the architectural detail required to build a system or product. As in the case of any systematic approach, this software too has undergone the best possible design phase fine tuning all efficiency, performance and accuracy levels.

8.3 Implementation Of Project



Figure 16: Souvenir

Yaadein software works in following different steps

- Fetching of data from the database.
- Typesetting of data.
- Including graphics.
- Creating DVI file.
- Creating post script file.
- Creating pdf file.
- Imposition of the pdf.
- Color separation of the pdf(Optional)

Now let us discuss above points in detail

8.3.1 Fetching of data from the database

As for making SOUVENIR all the information required like student personal information, contact details,etc. were needed to be stored somewhere so phpMyAdmin was used for this purpose.

phpMyAdmin is a free software tool written in PHP intended to handle the

administration of MySQL over the World Wide Web. phpMyAdmin supports a wide range of operations with MySQL. The most frequently used operations are supported by the user interface (managing databases, tables, fields, relations, indexes, users, permissions, etc), while you still have



Figure 17: phpMyAdmin logo

the ability to directly execute any SQL statement.

phpMyAdmin had already become one of the most popular PHP applications and MySQL administration tools, with a large community of users and contributors. In order to coordinate the growing number of patches, a group of three developers registered The phpMyAdmin Project at SourceForge.net and took over the development in 2001. Features.

- Web interface.
- MySQL database management.
- Import data from CSV and SQL.
- Export data to various formats: CSV, SQL, XML, PDF (via the TCPDF library), ISO/IEC 26300 - OpenDocument Text and Spreadsheet, Word, Excel, L^AT_EX and others.
- Administering multiple servers.
- Creating PDF graphics of the database layout.
- Creating complex queries using Query-by-example (QBE).
- Searching globally in a database or a subset of it.
- Transforming stored data into any format using a set of predefined functions, like displaying BLOB-data as image or download-link.
- Active query monitor (Processes).

Fetching data from the database and this is done through php programming. PHP initially makes a connection with database before fetching the data.

```
<?php  
$conn = mysql_connect("localhost", $userName, $passWord);  
mysql_select_db($DB);  
?>
```

8.3.2 Typesetting of data

Second step after fetching data was indeed to fit that at right place for which L^AT_EX was used. L^AT_EX is Type Setting editor. Lots of things were tried to make the look of the document better from tables to frame alast psframebox were used to set the data.

```
\psframebox*[par]{stuff}
```

A simple frame (perhaps with rounded corners) is drawn using

```
\psframe
```

The * option is of particular interest. It generates a solid frame whose color is fillcolor (rather than linecolor, as with the closed graphics objects). Recall that the default value of fillcolor is white, and so this has the effect of blotting out whatever is behind the box. Small example

The screenshot shows the phpMyAdmin interface for a database named 'deepak'. The left sidebar lists various database tables: auth_group, auth_group_permissions, auth_permission, auth_user, auth_user_groups, auth_user_user_permissions, django_admin_log, django_content_type, django_session, django_site, student_profile, userprofile_avatar, and userprofile_emailvalidation. The main area displays a table titled 'student_profile' with the following columns: id, user_id, date, country, latitude, longitude, location, firstname, middlename, lastname, and gender. The table contains 16 rows of student data. The first few rows are:

	Edit	Inline Edit	Copy	Delete	id	user_id	date	country	latitude	longitude	location	firstname	middlename	lastname	gender
37					7		2013-07-12 05:13:50	India	NULL	NULL		Gurjot	Singh	Bhatti	M
40					28		2013-07-12 05:28:57	India	NULL	NULL		Amanjot	Kaur	Cheema	F
41					37		2013-07-12 05:28:58	India	NULL	NULL					
42					39		2013-07-12 05:29:27	India	NULL	NULL		amitoj		signingmail	M
43					41		2013-07-12 05:30:10	India	NULL	NULL		Sukhdeep		Singh	M
44					40		2013-07-12 05:30:53	India	NULL	NULL					
45					42		2013-07-12 05:31:07	India	NULL	NULL		Devinder		Kaur	F
46					45		2013-07-12 05:31:33	India	NULL	NULL		Nadar	jot	Singh	M
53					10		2013-07-12 05:52:16	India	NULL	NULL		Jasvir	Singh	Grewal	M
54					27		2013-07-12 06:18:03	India	NULL	NULL		Rubneev	Singh		M

Figure 18: Record of students

```
\rput(1.2;35){\psframebox*{\small\$9.0M}}
\uput{2.2}[45](0,0){Oreos}
\rput(1.2;135){\psframebox*{\small\$16.7M}}
\uput{2.2}[135](0,0){Heath}
\rput(1.2;280){\psframebox*{\small\$23.1M}}
\uput{2.2}[280](0,0){M\&M}
\endpspicture
```

8.3.3 Creating a DVI file

The Device independent file format (DVI) is the output file format of the TeX typesetting program, designed by David R. Fuchs in 1979.[1] Unlike the TeX markup files used to generate them, DVI files are not intended to be human-readable; they consist of binary data describing the visual layout of a document in a manner not reliant on any specific image format, display hardware or printer. DVI files are typically used as input to a second program (called a DVI driver) which translates DVI files to graphical data. For example, most TeX software packages include a program for previewing DVI files on a users computer display; this program is a driver. Drivers are also used to convert from DVI to popular page description languages (e.g. PostScript, PDF) and for printing.

DVI differs from PostScript and PDF in that it does not support any form of font embedding. (Both PostScript and PDF formats can either embed their fonts inside the documents, or reference external ones.) For a DVI file to be printed or even properly previewed, the fonts it references must be already installed. Also, unlike PostScript, DVI is not a full, Turing-complete programming language, though it does use a limited sort of machine language.

Command :\$ latex file name

8.3.4 Creating a postscript file

PostScript (PS) is a dynamically typed concatenative programming language created by John Warnock and Charles Geschke in 1982. PostScript is best known for its use as a page description language in the electronic and desktop publishing areas.

The concepts of the PostScript language were seeded in 1976 when John Warnock was working at Evans & Sutherland, a computer graphics company. At that time John Warnock was developing an interpreter for a large three-dimensional graphics database of New York harbor. Warnock conceived the Design System language to process the graphics.

Command: \$ dvips file name -o

8.3.5 Use In Printing

Prior to the introduction of PostScript, printers were designed to print character output given the text typically in ASCII as input. There were a number of technologies for this task, but most shared the property that the glyphs were physically difficult to change, as they were stamped onto typewriter keys, bands of metal, or optical plates.

PostScript printing

PostScript went beyond the typical printer control language and was a complete programming language of its own. Many applications can transform a document into a PostScript program whose execution will result in the original document. This program can be sent to an interpreter in a printer, which results in a printed document, or to one inside another application, which will display the document on-screen. Since the document-program is the same regardless of its destination, it is called device independent.



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Figure 19: Type-setting using tables

8.3.6 Creating a PDF file

Portable Document Format (PDF) is an open standard for document exchange. This file format created by Adobe Systems in 1993 is used for representing documents in a manner independent of application software, hardware, and operating systems. Each PDF file encapsulates a complete description of a fixed-layout flat document, including the text, fonts, graphics, and other information needed to display it.

The PDF combines three technologies:

- A subset of the PostScript page description programming language, for generating the layout and graphics.
- A font-embedding/replacement system to allow fonts to travel with the documents.
- A structured storage system to bundle these elements and any associated content into a single file, with data compression where appropriate.

Command: \$ ps2pdf file name.ps

8.3.7 Imposition of the pdf

Imposition is one of the fundamental steps in the prepress printing process. It consists in the arrangement of the printed products pages on the printers sheet, in order to obtain faster printing,

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Good to use this website. One stays connected with the alma-mater. I love being at GNDEC.



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Figure 20: Type-setting using psframebox

simplify binding and reduce paper waste.

Correct imposition minimizes printing time by maximizing the number of pages per impression, reducing cost of press time and materials. To achieve this, the printed sheet must be filled as fully as possible.

Below code will convert and merge two pdf files on single page eg:

```
\documentclass{article}
\pdfpagewidth 283mm
\pdfpageheight 460mm
\usepackage[pdftex]{color,graphicx,epsfig}
\usepackage[paperwidth=283mm,paperheight=460mm,left=0cm,top=0cm,bottom=0cm,right=0cm]{geometry}
\usepackage[final]{pdfpages} %for including pdf files
\begin{document}
\includepdf[pages=-, signature=8,landscape]{cover8.pdf} %Cover8 folder contains all pdf
\end{document}
```

After merging two pdf pages on single page, next we have to do imposition of pages in such a way that after folding that pdf sheet front-inside,front-outside,back-inside and back-outside goes to their respective position.

```
\documentclass{article}
\pdfpagewidth 460mm
\pdfpageheight 566mm
\usepackage[pdftex]{color,graphicx,epsfig}
\usepackage[paperwidth=460mm,paperheight=566mm,left=0mm,top=0mm,bottom=0mm,right=0mm]{geometry}
\usepackage[final]{pdfpages}
```

	<p>Ravneet Kaur Jassal (7506) D/o Mrs. Jasbir Kaur Jassal and Mr. Bawa Singh Jassal DoB: 29th July 1990 er.ravneet29@yahoo.com Ph. 07837788332 C/o Jassal General Store Main Bazar, Pul Sudhar, Ludhiana, 141104, Punjab</p> <p>Chuui- Sab k tiffin mein se khati hai ,phir bhi fit rehti hai, official cut manager of class, mixes all languages as she speaks, sweet and caring girl.</p>
	<p>Gurleen Kaur (7509) D/o Smt. Ravinder Kaur and S. Raminder Singh DoB: 15th September 1989 gurleenk.chawla@gmail.com Ph. 9463753501 H.No. 1142, Harnam Nagar, Near Model Town, Ludhiana, 141002, Punjab</p> <p>Has sweet and caring nature, look super duper cool, source of practical notebooks for group-I, emotional and has great artistic skills.Sophistication is her surname.</p>
	<p>Jagroop Kaur (7511) D/o Smt. Daljit Kaur and S. Majar Singh DoB: 15th June 1989 jagroop.khaira@yahoo.co.in Ph. 946459946 Village : Sangar Kot, P.O & Tehsil: Khadoor Sahib, TarnTaran, 143117, Punjab</p> <p>Jaggu- most famous & wanted personality of hostel, people blame her for all mishaps in hostel, friendly by nature,</p>
	<p>Manvir Kaur (7507) D/o Smt. Balwinder Kaur and S. Hardip Singh DoB: 3rd February 1990 manvir_08@yahoo.com Ph. 9779857673 VPO Rampur , Tehsil Payal, Ludhiana, 141418, Punjab</p> <p>Manu- most gutsy girl, songipedia for Punjabi songs, good dancer and has max. no. of Veer-jis in college & has beautiful eyelashes, best quote for her Beauty lies in simplicity.</p>

Figure 21: Device Independent File



Figure 22: Imposition of pdf files

```
\begin{document}
\includepdf[pages=-, signature=4, landscape]{imp.pdf}
\end{document}
```

This will typeset the pages on their respective position eg:



Figure 23: Final Imposition

8.3.8 Color separation of the pdf

Color printing or Colour printing is the reproduction of an image or text in color (as opposed to simpler black and white or monochrome printing). Any natural scene or color photograph can be optically and physiologically dissected into three primary colors, red, green and blue, roughly equal amounts of which give rise to the perception of white, and different proportions of which give rise to the visual sensations of all other colors. The additive combination of any two primary colors in roughly equal proportion gives rise to the perception of a secondary color. For example, red and green yields yellow, red and blue yields magenta (a purple hue), and green and blue yield cyan (a turquoise hue). Only yellow is counter-intuitive. Yellow, cyan and magenta are merely the "basic" secondary colors: unequal mixtures of the primaries give rise to perception of many other colors all of which may be considered "tertiary."

8.3.9 RGB

The RGB color model is an additive color model in which red, green, and blue light are added together in various ways to reproduce a broad array of colors. The name of the model comes from the initials of the three additive primary colors, red, green, and blue.

The main purpose of the RGB color model is for the sensing, representation, and display of images in electronic systems, such as televisions and computers, though it has also been used in conventional photography. Before the electronic age, the RGB color model already had a solid theory behind it, based in human perception of colors.

8.3.10 CMYK

The CMYK color model (process color, four color) is a subtractive color model, used in color printing, and is also used to describe the printing process itself. CMYK refers to the four inks used in some color printing: cyan, magenta, yellow, and key (black). Though it varies by print house, press operator, press manufacturer, and press run, ink is typically applied in the order of the abbreviation. The "K" in CMYK stands for key because in four-color printing, cyan, magenta, and yellow printing plates are carefully keyed, or aligned, with the key of the black key plate.

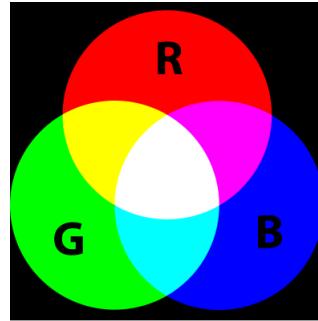


Figure 24: RGB color

The CMYK model works by partially or entirely masking colors on a lighter, usually white, background. The ink reduces the light that would otherwise be reflected. Such a model is called subtractive because inks "subtract" brightness from white. In additive color models such as RGB, white is the "additive" combination of all primary colored lights, while black is the absence of light. In the CMYK model, it is the opposite: white is the natural color of the paper or other background, while black results from a full combination of colored inks.

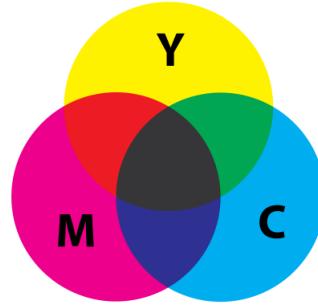


Figure 25: CMYK color

8.3.11 RGB to CMYK

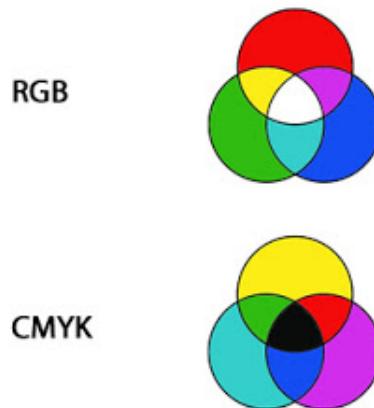


Figure 26: RGB and CMYK difference

A comparison of RGB and CMYK color spaces. The image demonstrates the difference between the RGB and CMYK color gamuts. The CMYK color gamut is much smaller than the RGB color

gamut, thus the CMYK colors look muted. If you were to print the image on a CMYK device (an offset press or maybe even a ink jet printer) the two sides would likely look much more similar, since the combination of cyan, yellow, magenta and black cannot reproduce the range (gamut) of color that a computer monitor displays. This is a constant issue for those who work in print production. Clients produce bright and colorful images on their computers and are disappointed to see them look muted in print.

How to convert RGB to CMYK?

First we need imagemagick. Install it using following command:

```
$ sudo apt-get install imagemagick
```

Following commands convert the rgb pdf file to cmyk

1. Check whether the final.pdf is rgb or cmyk
- ```
$ identify -verbose final.pdf
```

It displayes the many properties. Check colorspace: rgb /cmyk

```
Data:Retrieving final.pdf
dkgdk-Inspiron-N5110:~/Music$ identify -verbose 'final.pdf'
Image: final.pdf
 File: final.pdf (Portable Document Format)
 Class: DirectClass
 Geometry: 652x802+0+0
 Print size: 9.0556x11.389
 Units: Undefined
 Type: Image with alpha
 Endianess: Undefined
 Colorspace: sRGB
 Depth: 8-bit
 Channel depth:
 red: 8-bit
 green: 8-bit
 blue: 8-bit
 alpha: 8-bit
 Channel statistics:
 Red:
 min: 0 (0)
 max: 6600 (1)
 mean: 5664.1 (0.855483)
 standard deviation: 20204.4 (0.3883)
 kurtosis: 2.24019
 skewness: -1.93181
 Green:
 min: 0 (0)
 max: 6600 (1)
 mean: 54929.9 (0.838176)
 standard deviation: 21844.0 (0.333331)
 kurtosis: 1.47391
 skewness: 1.78702
 Blue:
 min: 0 (0)
 max: 65535 (1)
 mean: 54213.7 (0.827248)
 standard deviation: 22592.5 (0.34474)
 kurtosis: 0.937481
 skewness: -1.04898
 Alpha:
```

Figure 27: RGB Check

If it displayes cmyk, then its ok. Otherwise need to convert into cmyk

2. To convert rbg to cmyk use following command:

```
$ gs -dSAFER -dBATCH -dNOPAUSE -dNOCACHE -sDEVICE=pdfwrite -sColorConversionStrategy=CMYK
-dProcessColorModel=/DeviceCMYK -sOutputFile=output.pdf input.pdf
```

**NOTE:-** `input.pdf = your_file_name.pdf`

`output.pdf = output_pdf_file.pdf`

It displays the following output:

Replace the `input.pdf` with your test pdf file

3. Now again check the properties of pdf file by following command:

```
$ identify -verbose 'test.pdf'
```

It displays the following output:

```

Transparent color: none
Copyright: © 2013 Artifex Software, Inc.
Page geometry: 652x802+0+0
Dispose: Undefined
Interpolate: false
Scene: 2 of 3
Compression: Undefined
Orientation: Undefined
Program: /usr/bin/convert
date:create: 2013-07-28T23:22:44+06:00
date:modify: 2013-07-28T23:22:44+06:00
pdf:compression: 0.9337940612+0+0
pdf:version: PDF-1.4
signature: 9323d0bd3daaae570c26579b36ce7ef21c34c7a5b8a3a7133eebf34f81c49a
Profile: srgb.icc
filename: final.pdf
verbose: true
interlace: true
Filesize: 223kB
Number pixels: 523K
Pixels per second: 2.179MB
User time: 0.01s
Elapsed time: 0.01.239
Version: ImageMagick 6.7.7-10 Q16 http://www.GraphicsMagick.org
dekgdk:~/Inspirion-NS110-/Music$./gsfe -g -DATCH -DNPAUSE -DNOCACHE -DDEVICE=pdf
fwrite -sColorConversionStrategy=CMYK -dProcessColorModel=DeviceCMYK -sOutputFile
leoutput.pdf final.pdf
CPU: 0.01s (2013-02-14)
Copyright (C) 2013 Artifex Software, Inc. All rights reserved.
This software comes with NO WARRANTY; see the file PUBLIC for details.
Processing pages 1 through 3.
Page 1
Page 2
Page 3
dekgdk:~/Inspirion-NS110-/Music$

```

Figure 28: RGB to CMYK page conversion

```

dekgdk:~/Inspirion-NS110-/Music$ identify -verbose output.pdf
Image: output.pdf
Format: PDF (Portable Document Format)
Class: DirectClass
Geometry: 652x802+0+0
Pages: 3
Print size: 9.05559x11.1389
Units: Undefined
Type: ColorSeparation
Base type: ColorSeparation
Endianess: Undefined
Colorspace: Gray
Depth: 16-bit
Channel depth:
cyan: 8-bit
magenta: 8-bit
yellow: 8-bit
black: 8-bit
Channel statistics:
Cyan:
 min: 0 (0)
 max: 4095 (1)
 mean: 4635.11 (0.0707273)
 standard deviation: 12586.7 (0.19984)
 kurtosis: 5.7993
 skewness: 2.79207
Magenta:
 min: 0 (0)
 max: 4764 (0.988235)
 mean: 6122.99 (0.0933439)
 standard deviation: 19868.8 (0.242142)
 kurtosis: 5.24231
 skewness: 2.56085
Yellow:
 min: 0 (0)
 max: 65535 (1)
 mean: 7283.11 (0.111134)
 standard deviation: 17922.2 (0.273476)
 kurtosis: 3.98469
 skewness: 2.33783

```

Figure 29: CMYK converted pages

## 8.4 Evaluation and Maintenance

Implementation is the process of having systems personnel check out and put new equipment into use, train users, install the new application and construct any files of data needed to use it. This phase is less creative than system design. Depending on the size of the organization that will be involved in using the application and the risk involved in its use, systems developers may choose to test the operation in only one area of the firm with only one or two persons. Sometimes, they will run both old and new system in parallel way to compare the results. In still other situations, system developers stop using the old system one day and start using the new one the next. Evaluation of the system is performed to identify its strengths and weaknesses. The actual evaluation can occur along any of the following dimensions:

- Operational Evaluation: Assessment of the manner in which the system functions, including case of use, response time, overall reliability and level of utilization.
- Organizational Impact: Identification and measurement of benefits to the organization in such areas as financial concerns, operational efficiency and competitive impact.
- User Manager Assessment: Evaluation of the attitudes of senior and user manager within the organization, as well as end-users.
- Development Performance: Evaluation of the development process in accordance with such yardsticks as overall development time and effort, conformance to budgets.

```

Overfull \hbox (0.56894pt too wide) in paragraph at lines 42--28
[][]
Overfull \hbox (0.56894pt too wide) in paragraph at lines 42--28
[]

Underfull \vbox (badness 10000) has occurred while \output is active [15]
Underfull \vbox (badness 10000) has occurred while \output is active [16]
(./fileelectrical.tex) (./fileelectronics.tex <headfoot/sgeachcehead.eps>
<files/S201313127.eps> <headfoot/footer.eps>)
Overfull \hbox (0.56894pt too wide) in paragraph at lines 16--30
[][]
[17] (./fileit.tex <headfoot/sgeachithead.eps> <files/S201396181.eps>
<files/S2013106011.eps> <files/S2013106050.eps> <files/S2013106098.eps>
<files/S2013116043.eps>
Underfull \vbox (badness 1418) in paragraph at lines 29--29
[])(OT1/cmr/m/n/8 I am Nitivit pal singh, currently pur-su-ing B.tech IT at GN-
<files/S2013116091.eps> <files/S2013116100.eps> <headfoot/footer.eps>)
Overfull \hbox (0.56894pt too wide) in paragraph at lines 36--31
[][]
[18] (./filemechanical.tex) (./fileproduction.tex) (./filemba.tex)
AED: lastpage setting LastPage (./final.aux (./filecivil.aux)
(./filecomputer.aux) (./fileelectrical.aux) (./fileelectronics.aux)
(./fileit.aux) (./filemechanical.aux) (./fileproduction.aux) (./filemba.aux)
(see the transcript file for additional information)
Output written on final.dvi (4 pages, 24816 bytes).
Transcript written on final.log.

::::::::::::::::::
Dvi file created !!
::::::::::::::::::

```

Figure 30: Device Independent File Created

and standards and other project management criteria.

Maintenance is necessary to eliminate errors in the working system during its working life and to tune the system to any variations in its working environment often small system deficiencies are found as a system is brought into operations and changes are made to remove them. System planners must always plan for resource availability to carry out these maintenance functions. The importance of maintenance is to continue to bring the new system to standards.

```

This is dvips(k) 5.98 Copyright 2009 Radical Eye Software (www.radicaleye.com)
' TeX output 2013.08.11:0203' -> final.ps
</usr/share/texmf-texlive/dvips/base/tex.pro>
</usr/share/texmf-texlive/dvips/pstricks/pstricks.pro>
</usr/share/texmf-texlive/dvips/pstricks/pst-algparser.pro>
</usr/share/texmf-texlive/dvips/pstricks/pst-dots.pro>
</usr/share/texmf-texlive/dvips/base/tefps.pro>
</usr/share/texmf-texlive/dvips/base/special.pro>
</usr/share/texmf-texlive/dvips/base/color.pro>
</usr/share/texmf-texlive/fonts/type1/public/amsfonts/cm/cmr8.pfb>[15
<./headfoot/sgeachcehead.eps><./files/S2013104.eps>
<./files/S2013111199.eps><./files/S2013115003.eps><./files/S2013115067.eps>
<./files/S2013115068.eps><./files/S2013115081.eps><./files/S2013115085.eps>
<./files/S2013115090.eps><./files/S2013115098.eps><./files/S2013115301.eps>
<./headfoot/footer.eps>] [16<./headfoot/sgeachcehead.eps>
<./files/S2013115375.eps><./headfoot/footer.eps>] [17
<./headfoot/sgeachcehead.eps><./files/S201313127.eps><./headfoot/footer.eps>]
[18<./headfoot/sgeachithead.eps><./files/S201396181.eps>
<./files/S2013106011.eps><./files/S2013106050.eps><./files/S2013106098.eps>
<./files/S2013116043.eps><./files/S2013116091.eps><./files/S2013116100.eps>
<./headfoot/footer.eps>]

::::::::::::::::::
postscript file created !!
::::::::::::::::::

```

Figure 31: Post Script File Created

## 8.5 RGB To CMYK Example :-



Figure 32: RGB To CMYK

## 9 Results and Discussions

- The results of the project work have been depicted in the Figure below. The results depict that almost ninety percent of the time is being saved when we use automation. This not only helps to increase efficiency but also enhances the work experience of the user.
- The graphics used in the application are made using GIMP v2.6 which supports batch processing of images and thus acts as a great added advantage when several image files have to be processed simultaneously. This saves time and effort required to modify each file individually. Also by setting the properties of the various layers of the images during making the graphics for the souvenir, we can increase or decrease the quality of the images according to our requirements.
- Use of very high quality graphics increases the running time of the application as such graphics have large file sizes and thus affect the processing time immensely especially during the making of the adobe postscript format file which is further converted to the pdf format after highly compressing the file. In case of the test data used by us, we used 20 MB graphics for covers(8 pages) and 40 MB files for backgrounds(78 pages) and thus ended up with a 2 GB postscript file which was further compressed to a 35 MB PDF file. In another instance, we used 2 MB graphics for both cover pages as well as separator pages. This gave us a 180 MB postscript file which was further compressed to a 3.1 MB pdf file. Thus, size of the graphics plays a major role in the processing time and disk space usage requirements.

```

<./headfoot/footer.eps>] [6->./headfoot/speachchead.eps>
</files/S2013115375.eps><./headfoot/footer.eps>] [7-
[./headfoot/speachchead.eps><./files/S201313127.eps><./headfoot/footer.eps>
</files/S2013116601.eps><./files/S2013106955.eps></files/S2013106998.eps>
</files/S2013116643.eps><./files/S2013116691.eps></files/S2013116108.eps>
<./headfoot/footer.eps>]

::::::::::::::::::
postscript file created !
::::::::::::::::::

::::::::::::::::::
PDF created
::::::::::::::::::

./souvenirl.php:run: 30: ./souvenirl.php:run: pdfmk final.pdf cat 14-21 output c
lvi1.pdf
pdfmk final.pdf cat 22-29 output computer.pdf
pdfmk final.pdf cat 30-37 output electrical.pdf
pdfmk final.pdf cat 38-45 output electronics.pdf
pdfmk final.pdf cat 46-53 output information.pdf
pdfmk final.pdf cat 54-61 output mechanical.pdf
pdfmk final.pdf cat 62-69 output production.pdf
pdfmk final.pdf cat 07-73 output mba.pdf: File name too long
./souvenirl.php:run: 30: ./souvenirl.php:run: pdfmk final.pdf cat 1-8 output clv
il.pdf
pdfmk final.pdf cat 10-17 output computer.pdf
pdfmk final.pdf cat 17-24 output electrical.pdf
pdfmk final.pdf cat 25-32 output electronics.pdf
pdfmk final.pdf cat 33-40 output information.pdf
pdfmk final.pdf cat 41-48 output mechanical.pdf
pdfmk final.pdf cat 49-56 output production.pdf
pdfmk final.pdf cat 54-60 output mba.pdf: File name too long

::::::::::::::::::
Your Files are Ready For Viewing.
::::::::::::::::::

deepak@experimental:~/public_html/souvenir$

```

Figure 33: All Files Created

- postscript file which was further compressed to a 3.1 MB pdf file. Thus, size of the graphics plays a major role in the processing time and disk space usage requirements.
- The application can also be made light weight by using small sized graphics which will not only reduce running time but also save time on making them as not much effort will be needed to make them. Application of pictures of students can be done through a simple code snippet that might be included in the main script itself or might be added as a separate utility that has to be run by the user before the main script is run.
- The time measurements and comparisons have been done in seconds and thus the accuracy of these might vary under different test conditions.



Figure 34: Cover Page

## 10 Conclusion and Future Scope

### 10.1 Conclusion

Yaadein is a very efficient application which helps in generating booklet for pass out students. It can be used by schools, colleges, universities, etc. It is less time consuming and user friendly. It has been successfully used in our college.

### 10.2 Current status

Yaadein is web based application. It will generate booklet passing through various stages:

- Web based user Interface for filling user-name, room, roll no, address, comments etc.
- Data retrieved by using php connectivity with database.
- Typesetting of pages using L<sup>A</sup>T<sub>E</sub>X.
- Imposition of pages using L<sup>A</sup>T<sub>E</sub>X.
- Color separation i.e RGB to CMYK.

### 10.3 Scope

- The Yaadein project has already improved the Souvenir making experience to a huge extent by automating the making process, reducing the time tremendously from several weeks to a few minutes (may vary depending on the processor of the system in use) and cutting costs hugely.

- By the use of complete open source technologies and cutting dependence on proprietary software such as the ever so expensive Adobe Photoshop, Microsoft Windows, Microsoft SQL, Microsoft office, etc. among others.
- Although automated to a large extent, Yaadein is still in its initial development stages and there is still scope for a lot of development.
- We plan to add a lot of other features some of which are automated imposition and colour separation for printing press requirements, automated design templates for improving the aesthetic beauty of the souvenir, graphical interface for the non-terminal savvy users who will be able to make the souvenir without the use of the terminal.
- We plan to provide hosting and remote access facilities for those users who do not have supporting hardware and software for running the application.

# 11 Coding

## 11.1

### 11.2 PHP coding

```

<?
include("db.php");
include("raiSED.php");

function correct_address($wrong_address) {
$add1_arr = explode(",",$wrong_address);
foreach($add1_arr as $addr) {
$add_vpo = explode(" ",$addr);
foreach($add_vpo as $add_vp) {
if($add_vp=='V.P.O' or $add_vp=='vpo' or $add_vp=='VPO' or $add_vp=='Vpo' or $add_vp=='V
$add_vpt = str_replace(".","", $add_vp);
$add_vptt = strtoupper($add_vpt);
}
else {
$add_vptt=$add_vp;
}
$add_VP[] = $add_vptt;
}
$add_VPO = implode(" ",$add_VP);
unset($add_VP);
$add1[] = ucwords($add_VPO);
}
$address1 = implode(",",$add1);
unset($add1);
return $address1;
}

$OneBranch ='information';
//echo"\section{{\$OneBranch}}";
//echo"\\";
//echo"\section{ \$OneBranch } \\\\";
$PrintFlag = 0 ; // Print message

$PageWidth = 17.8; $PageHeight = 22.13; //Page specific

$CommentX = 0; $CommentY = -6; $CommentWidth = "8.5cm"; //Comment Specific

$PerInfoWidth = "5.5cm"; //Basic Info. Width

$GapX = "0.0"; $Gap2X = "1.2" ;
$CoorX ="-1.2" ;

```

```
$PhotoX = 1; $PhotoY = 0; $PhotoWidth = "2.2cm";$PhotoHeight="3.5cm"; //Photo specific

$itemInSequence = 8 ; // Name, FN, MN, etc

$pagecounter=48;
$tox= 0; $toy = 0;

$OffSetX = 0; $StartX = 0 ; $ScaleX = 1; //X-coord of the first box
$OffSetY = 0; $StartY = $PageHeight; $ScaleY = 1; //Y-coord of the first box

$Columns = 2; $Rows = 5; $RecordPerPage = $Columns * $Rows; //No. of rows,cols

$RecordFrom = 0;

$BoxX = $PageWidth / $Columns; $BoxY = $PageHeight / $Rows; // X and Y coord. of a box or row

for ($i = 0 ; $i < 20 ; $i++)
{
 $flagSED[$i] = 0;
}

$flagSED[5] = 1; // Perfoem SED on address1
$flagSED[6] = 1; // Perfoem SED on email
$flagSED[7] = 1; // Perfoem SED on contact
$flagSED[8] = 1; // Perfoem SED on comments
$flagSED[9] = 1; // Perfoem SED on Photo

$PhotoPath = "/home/dk/Documents/so/souvenir/files/";

include("querydav.php");
// $sqlquery .= "limit 10 ";
// $Onebranch=$row[11];
// echo"\chapter*{$OneBranch}";
// echo"\pagebreak";

// echo $sqlquery;

$result = mysql_query($sqlquery);
$rows = mysql_num_rows($result);
$cols = mysql_num_fields($result);

$PagePerBranch = ceil($rows / $RecordPerPage);
```

```
for ($page = 0; $page < $PagePerBranch; $page++)
{
 // $RecordPerPage = 2;

 $sqlQP2 = " order by class_roll_no limit $RecordFrom , $RecordPerPage ";
 $sqlQP1 = $sqltmp . $sqlQP2 ;

 $result = mysql_query($sqlQP1);

 $rows = mysql_num_rows($result);
 $cols=mysql_num_fields($result);
 if ($PrintFlag !=0) echo $sqlQP1;
 if ($PrintFlag !=0) {echo "\n Row $rows \n $cols \n Page $page \n"; echo "";}

 echo "\\begin{pspicture}($PageWidth,$PageHeight)";
 //echo "\\includegraphics[width=\\textwidth,height=0.9cm]{sgeacheehead.eps}";
 echo "\\rput[c](8.9,22.7){\\includegraphics[width=22.2cm]{headfoot/sgeachithead.eps}}";
 echo "\\\\\\\";

if($pagecounter%2==0)
{
 echo "\\psline{-}(-2.8,-1.73)(-2.2,-1.73)";
 echo "\\\\\\\";
 echo "\\psline{-}(-1.5,-2.33)(-1.5,-2.93)";
 echo "\\\\\\\";
}
else
{
 echo "\\psline{-}(20,-1.73)(20.6,-1.73)";
 echo "\\\\\\\";
 echo "\\psline{-}(19.4,-2.33)(19.4,-2.93)";
 echo "\\\\\\\";

}

$i = 0;
while ($i<$Rows)
{
$j = 0;
while ($j<$Columns)
{
 if ($PrintFlag !=0) echo "row: $i col : $j";
```

```

$BoxI1 = ($StartX +$j * $BoxX + $OffSetX)*$ScaleX ;
$BoxJ1 = ($StartY - $i * $BoxY + $OffSetY)*$ScaleY ;
$BoxI2 = ($StartX +($j+1) * $BoxX + $OffSetX)*$ScaleX ;
$BoxJ2 = ($StartY - ($i+1) * $BoxY + $OffSetY)*$ScaleY ;
$ii=$i+1; $jj=$j+1;
//echo "\rput($BoxI1,$BoxJ1){((($ii) X($jj)))}";
echo"\n";
// echo"\psframe[fillcolor=lightgray]($BoxI1,$BoxJ1)($BoxI2,$BoxJ2)"; echo "\n";
$j++;
}
$i++;
}

echo "\n";
$i = 0; $j=0;
while (
$row = mysql_fetch_row($result)
// $row = mysql_fetch_assoc($result)
)
{
//$SEDi = 0;
//while ($row[$SEDi]) // for each field
for ($SEDi = 0; $SEDi < $cols; $SEDi++)
{
 $rowRai[$SEDi] = $row[$SEDi];
 if ($flagSED[$SEDi] != 0)
 {
// $SEDj = 0;
//echo " $row[$SEDi] \n";
// while ($OrgText[$SEDj])
 for ($SEDj=0; $SEDj < 14 ; $SEDj++)
 {

 if ($PrintFlag !=0) echo " SEDj $SEDj | inside sed \n";
 $rowRai[$SEDi] = str_replace($OrgText[$SEDj] , $ReplacedText[$SEDj] , $rowRai[$SEDi]);
// $SEDj++;
 }
 if ($PrintFlag !=0) echo " $rowRai[$SEDi] outside sed \n";
// $SEDi++ ;
}

}
// ===== Basic personal info

echo "\\\\\";
```

```

if ($PrintFlag !=0) echo "row: $i col : $j";

$BoxI1 = ($StartX +$j * $BoxX + $GapX + $OffSetX)*$ScaleX ;
$BoxJ1 = ($StartY - $i * $BoxY + $OffSetY)*$ScaleY ;
$BoxI2 = ($StartX +($j+1) * $BoxX + $OffSetX)*$ScaleX ;
$BoxJ2 = ($StartY - ($i+1) * $BoxY + $OffSetY)*$ScaleY ;
$ii=$i+1; $jj=$j+1;

$item = 0;

$Bx[$item] = $BoxI1+$tox + $PhotoWidth + ((($PageWidth / $Columns) - $PhotoWidth) / 2 .
$By[$item] = $BoxJ1+$item * $toy;
$tempCorr = $Bx[$item] + $CoorX ;
//echo "\rput[t|]($tempCorr ,$By[$item])";
//echo "{\psframebox{\parbox[1]{$PerInfoWidth}}{\raggedright ";
for ($item = 0; $item < $itemInSequence; $item++)
{
//echo $rowRai[$item];
echo " ";
//echo " \\\n";
}
//echo "}}}\n";

$Ix=$BoxI1+$PhotoWidth+2.5;

$Iy=$BoxJ1+$toy;

//echo "\rput[t|]($Ix ,$Iy)";
//echo "{\psframebox*{\parbox[1]{$PerInfoWidth}}{\raggedright ";
$linegap=0.3;
$Bxx = $BoxI1+$PhotoWidth+3.; $Byy = $BoxJ1+$toy; //NAME
$Gy=$Byy-2*$linegap; //Gender
$Fy=$Gy-2*$linegap; //Fname
$My=$Fy-2*$linegap; //Mname
$Rx=$Bx; $Ry=$Fy-0.8; //ROLL NO.
$ADy=$Ry-0.8; //Address
$Dy=$ADy-0.8; //DOB
$Ey=$Dy-0.6; //Email
$CNy=$Ey-0.6; //Cntctno.

$row[2]=ucwords(strtolower($row[2]));
$row[2] = str_replace(" ","~",$row[2]);

$row[1]=ucwords(strtolower($row[1]));
$row[1] = str_replace(" ","~",$row[1]);

echo "\rput[t|]($Bxx,$Byy){";
echo "{\psframebox[linecolor=white,linestyle=dotted,dotsep=100pt,linewidth=0pt]{\parbox[1]{$PerInfoWidth}}{\raggedright ";
//echo "Name: ";

```

```

echo ucwords(strtolower($row[0])); echo " ("; echo $row[3] ; echo ")";
if ($row[10]=="M")
echo " S/o ";
else
echo " D/o ";echo $row[2] ; echo " and "; echo $row[1] ;
echo "\\\DoB: " ; echo date(' jS F Y ', strtotime($row[4])); echo " ";
echo"\mbox{";echo $rowRai[6],"}"; echo " "; echo"\\\Ph. "; echo $rowRai[7]; echo "\\\\";

$address_correct = correct_address($rowRai[5]);
echo $address_correct;
//echo $rowRai[11];
echo "}";
echo "}}}\n";

// Coordinates of Photo and Comment =====
$Cx = ($Bx[0]+$CommentX + $OffSetX) * $ScaleX ;
$Cy = ($By[0]+$CommentY + $OffSetY) * $ScaleY ;
$Cnewx=$BoxI1+$PhotoWidth+$PhotoWidth/2.+1.;
$Cnewy=$BoxJ1-3.45;
$Px = ($Bx[0]+$PhotoX + $OffSetX) * $ScaleX ;
$Py = ($By[0]+$PhotoY + $OffSetY) * $ScaleY ;
// $P1x=$Px+1.4;
// $P1y=$Py+0.1;
$Py1=$BoxJ1-3.5;
$Px1=$BoxI1+2.55;
// Photo here

$PhotoName = $rowRai[3];
$PhotoName = $row[3];
$PhotoNE = explode(".", $PhotoName);
$PhotoEPS = "files/S2013" . $PhotoNE[0] . ".eps" ;
// ===== Photo =====
// $PhotoURL = $PhotoPath . $PhotoEPS ;
$PhotoURL = $PhotoEPS ;
//echo"\psframe*($Px1,$Py1)($BoxI1,$BoxJ1)";
//echo "\n";

$Pnew1=$BoxI1+$PhotoWidth/2. ;
$Pnew2=$BoxJ1-0.02;
echo "\rput[t|]($Pnew1,$Pnew2)";
echo "{\psframebox[framesep=0pt,boxsep=false,linecolor=white]{\parbox[c]{$PhotoWidth}{";
echo "{$includegraphics[width=$PhotoWidth]{$PhotoURL}}";

//echo "{$includegraphics[width=$PhotoWidth]{$PhotoURL}}";
//echo "{$includegraphics[width=$PhotoWidth]{$files/kinda.eps}}";
echo "}}";
echo "}\n";

```

```

// ===== Comment =====
echo "\rput[t|]($Cnewx,$Cnewy)";
//echo "{\psframebox[framesep=1pt,boxsep=false,linewidth=0pt,linestyle=dotted,linecolor=
echo "{\psframebox[framesep=1pt,boxsep=false,linecolor=white,linestyle=dotted,dotsep=100
echo $rowRai[8];
echo "}}}\n";
$j++;
if ($j >= $Columns) { $j = 0; $i++; }
}
echo "\rput[c|](8.9,-0.63){{\includegraphics[width=22.2cm]{headfoot/footer.eps}}}";
//echo $pagecounter;

echo "\end{pspicture}";
//$pagecounter = $pagecounter++;
if (($page + 1) != $PagePerBranch) {echo "\n \pagebreak \n";}

$RecordFrom += $RecordPerPage;
$pagecounter = $pagecounter + 1;
}

mysql_close();

?>

```

### 11.3 Main L<sup>A</sup>T<sub>E</sub>X Code

```

\documentclass[8pt,twoside]{extarticle}
\pdfpagewidth 230mm
\pdfpageheight 283mm

\usepackage{graphicx}
\usepackage{pstricks}
\usepackage{color}
\selectcolormodel{cmyk}
\usepackage[paperwidth=230mm, paperheight=283mm, left=16.1mm, top=26.85mm, bottom=34.85m
\usepackage{lastpage}
\usepackage{fancyhdr}
\usepackage{wallpaper}
\usepackage{shapepar}
\usepackage{layouts}
\usepackage{verbatim}
\usepackage{eso-pic}
\usepackage{xcolor}
\usepackage{blindtext}
\definecolor{maroon}{RGB}{185,0,0}
\setcounter{page}{15}

\begin{document}

```

```
\pagecolor{white}
\parindent=0pt

\include{filecivil}
\include{filecomputer}
\include{fileelectrical}
\include{fileelectronics}
\include{fileit}
\include{filemechanical}
\include{fileproduction}
\include{filemba}

\end{document}
```

## 12 Bibliography

### References

- [1] R.L. Graham, D.E. Knuth, and O. Patashnik, Concrete mathematics, Addison-Wesley, Reading, MA, 1989.
- [2] Donald E. Knuth, The TeXbook, AddisonWesley, Boston, 1986, p. 1.
- [3] Leslie Lamport (April 23, 2007). The Writings of Leslie Lamport: LaTeX: A Document Preparation System.
- [4] Welcome to the TeX Users Group web site
- [5] Comprehensive TeX Archive Network (CTAN)