

# Java Drawing Tool for PGF

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# Outline

- Introduction
- Review of PGF
- Requirements and Related work
- Design
- Conclusion



# Introduction

## Problem Definition

- “Java Drawing tool for pgf” is a front-end for pgf drawing.
- We extend the functionality of jPicEdt.
- We aim to provide templates and user customization.



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# What is PGF ?

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- PGF stands for *Portable Graphics Format*.
- It's a TEX macro package used to create graphics in TEX documents
- It uses special pgf picture environment & special macros.

## Advantages over Pstricks

- pgf is less powerful than pstricks.
- Advantage - it can generate both PostScript output and pdf output from the same file.
- The pgf package works with dvips, pdftex, pdftex, pdflatex.



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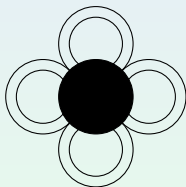
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# One simple Diagram





## PGF code for previous Diagram

```
\begin{pgfpicture}{0cm}{0cm}{4cm}{4cm}  
  \pgfcircle[fillstroke]{\pgfxy(2,2)}{14pt}  
  \pgfcircle[stroke]{\pgfxy(2,1.3)}{10pt}  
  \pgfcircle[stroke]{\pgfxy(2,1.3)}{14pt}  
  \pgfcircle[stroke]{\pgfxy(2,2.7)}{10pt}  
  \pgfcircle[stroke]{\pgfxy(2,2.7)}{14pt}  
  \pgfcircle[stroke]{\pgfxy(1.3,2)}{10pt}  
  \pgfcircle[stroke]{\pgfxy(1.3,2)}{14pt}  
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\end{pgfpicture}
```



## Various PGF Commands....

Command	Description
<code>pgflable</code>	Yields a position for placing a lable
<code>pgfusershade</code>	Inserts a previously declared shading into text.
<code>pgfnodecircle</code>	Creates a circular node with given radius
<code>pgfnoderect</code>	Creates a rectangular node with width and height
<code>pgfnodecenter</code>	Yields a center of an node
<code>pgfarrowcombine</code>	Yields an arrow type



# Need of front-end for pgf

- Use of textual interface for drawing is tedious.
- Front-end can ease drawing.
- Even complex diagrams can be drawn easily.



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# Existing front-end for Pstricks

**jPicEdt is front-end for pstricks/eepic.**

- It provides
  - Necessary graphical objects in a toolbar
  - Curves, polygons, ellipse, etc.
  - Resizing, Rotation, Moving, Reshaping.
  - Color Palette.



# Functionality of jPicEdt

- A User - Interface for drawing.
- Saves the drawing in latex/pstricks/epic formats.
- Opens drawing from any pstricks/epic/latex files.



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# Limitations of jPicEdt

- No integration of Pgf.
- No Customization . eg customized toolbar.
- No export to other image formats like png,gif,etc.



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# Basic Functionality of our drawing tool

- Saves the drawing in pgf format files.
- Opens drawings from latex/pstricks/pgf files.
- Various Templates are included.
- Eg: templates for logic,civil,Uml,flowchart diagrams,etc.



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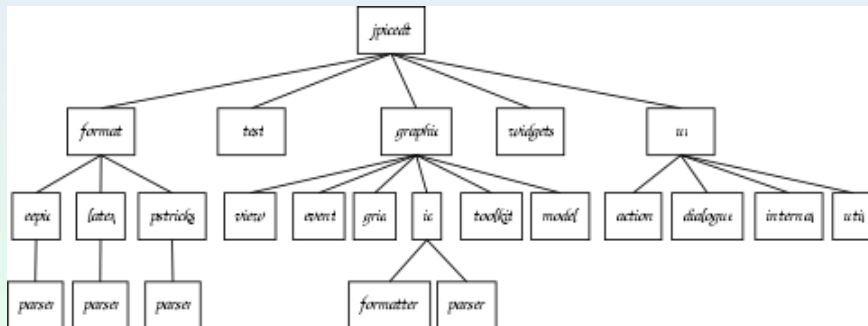
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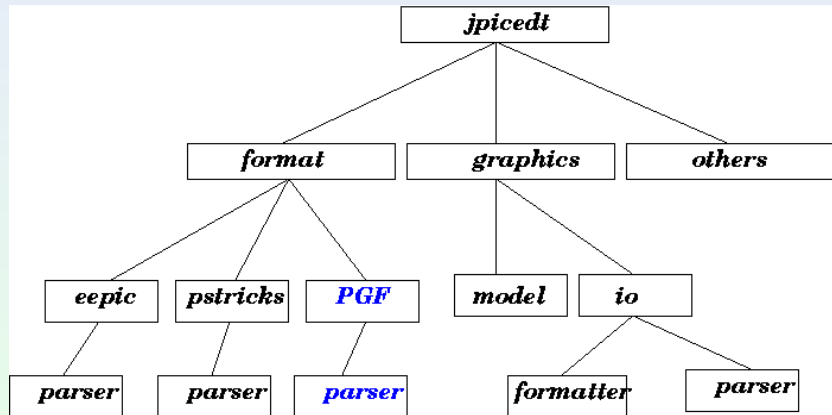




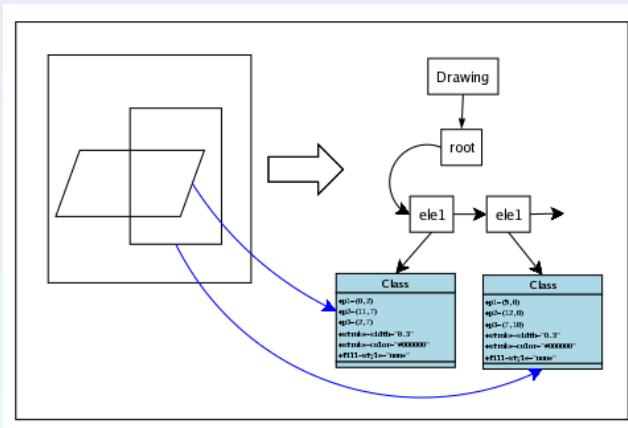
## Package hierarchy diagram of jPicEdt



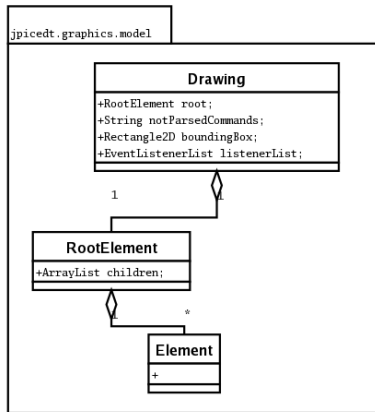
## Extra Packages for pgf



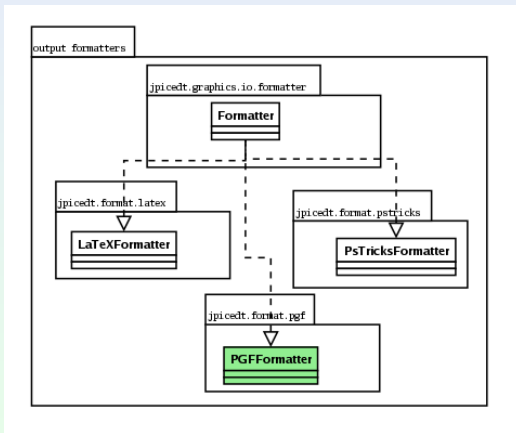
## Data Structures used



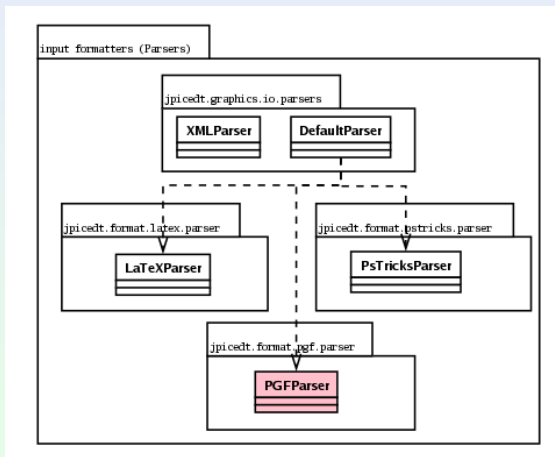
# Class diagram of jPicEdt



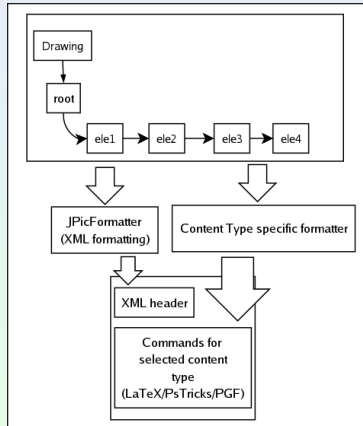
## Class diagram of jPicEdt(Continued..)



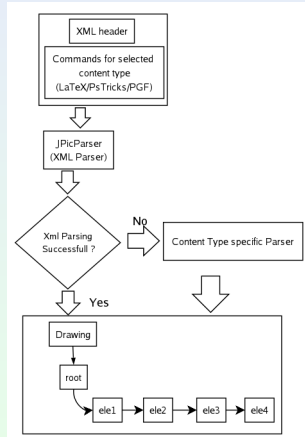
## Class diagram of jPicEdt(Continued..)



# Saving Drawing to File



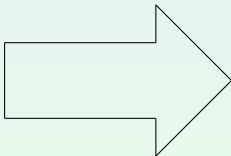
# Opening Drawing from file





# Templates

- Templates for various commonly used figures are written and included in our software.
- User can dynamically add/remove templates.



# Conclusion

- “Java Drawing Tool for PGF”, allows the user to draw various kinds of graphics objects.
- We aim to make it more user friendly.
- Enjoy using “Java Drawing Tool for PGF”

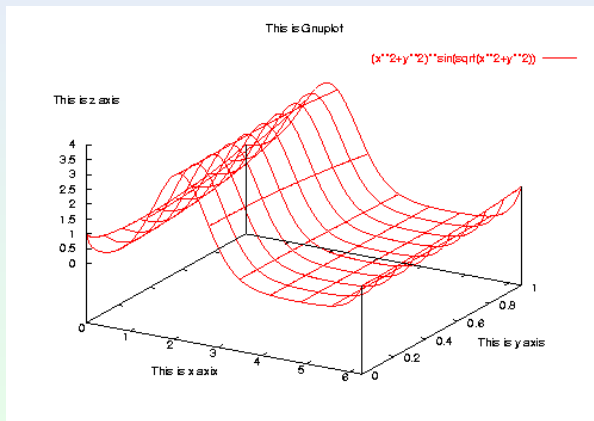


# References

- *Pgf Userguide*, <http://www.ctan.org/tex-archive/graphics/pgf/pgfuserguide.pdf>
- *jPicEdt*. <http://jpicedt.sourceforge.net/>
- *Sylvain Renyal . Design issues suggestion.*
- *Till Tantau*. User's Guide to the Beamer Class.  
<http://latex-beamer.sourceforge.net>



# Graph with Gnuplot



# Multicolumn Table

A	B	C	D	E
username	char(15)		PRI	0
password	char(15)			0
description	char(30)	YES		NULL

AcademicInfo			
Examination	School/College	Year	Result
S.S.S	Z.P.S.School	1998	77%
Intermediate	Saankary Jr College	1998	89.3%
B.Tech 3 <sup>rd</sup> Yr	JB Institute of Engg.	2002	67%
B.Tech 4 <sup>th</sup> Yr	JB Institute of Engg	2003	81%
GATE	-	2004	99.82
M.Tech 1 <sup>st</sup> Yr	IIT, Bombay	2004	-

