

# ReportLab Solutions

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# Topics

- Company
- Background
- Products
- Code
- Demos

# ReportLab, Inc.

- Founded 1999 by Andy Robinson (CEO)
- American-British
- 5+ People
- 50+ Enterprise Projects
- 200+ Individual Users

# People

In Alphabetical Order:

- Aaron Watters
- Andy Robinson (CEO)
- Dinu Gherman
- John Precedo
- Robin Becker

# Commitments

- Python
  - ◆ RAD, Flexibility, Ease-of-Use, License, Community
- Open Source
  - ◆ Quality, Feedback, Community
  - ◆ Paid Open Source
- Extreme Programming
  - ◆ Initial Efforts

# Activities

- “Enterprise Reporting Solutions”
- Generation of Documents and Document Components
  - ◆ High-Volume
  - ◆ Batch-Oriented
- Custom Development &
- Consulting

# Enterprise Reporting Issues

- Mostly on Windows
- Data only from RDBMS
- Often limited to only ONE
- Slow
- Straight to Printer
- Limits on Reuse, Formatting, Fonts
- Who cares?

# ReportLab's Approach

- Cross-Platform (Mac, too)
- Any Data Sources:
  - ◆ RDBMS, XML, Networks, COM / CORBA / Java Object Models
- Reusable, Scriptable, Fast
- PDF as Ubiquitous Format
- Unlimited Layout / Graphics

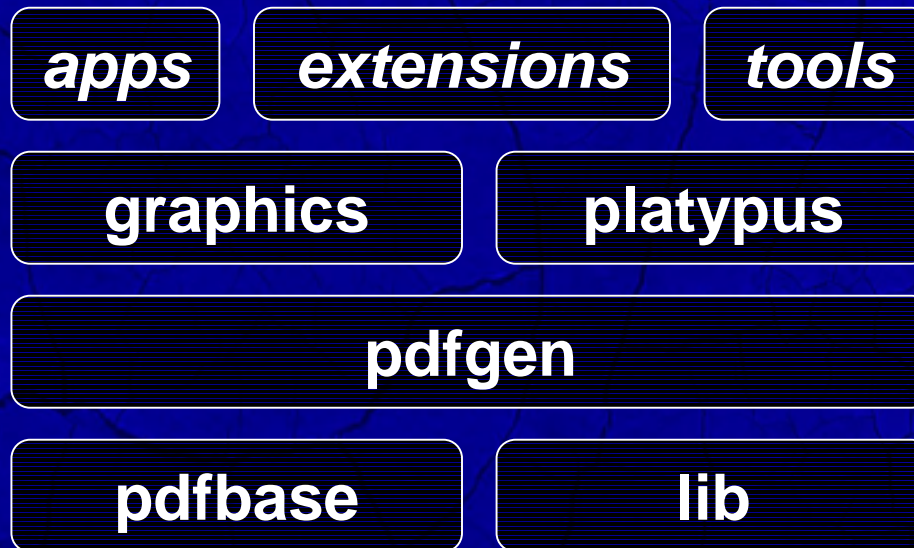


# Products

- Free
  - ◆ reportlab Core Library
  - ◆ preppy
  - ◆ Tools: PythonPoint, py2pdf, docpy
- Commercial (Resellers welcome!)
  - ◆ PageCatcher
  - ◆ RML2PDF
  - ◆ <YourApp>

# Architecture Overview

(intentionally vague)



# pdfgen

- Low-Level API for PDF
- Objects:
  - ◆ Canvas, Graphics, Strings, Text, Paths, Images, Colors, Fonts, Transforms, State Management
  - ◆ Page Transition Effects, Bookmarks, Outline Trees, Links, Forms
- “Anything Goes” – Manually!

# pdfgen (cont'ed)

- “Hello World“ Demo

# Platypus

- “Page Layouting and Typography Using Scripts“
- High-Level API for PDF
- “Layouting Engine“
- Document “Story“
- Templates
  - ◆ Document, Page, Frame

# Platypus (cont'ed)

- Flowables
  - ◆ Headers, Paras, Spacers, Images, Tables, TOC
  - ◆ Wrapping, Splitting
- docpy Demo

# Graphics

- Vector-Graphics
- Multiple Renderers
  - ◆ PDF, EPS (color-separating, \$)
  - ◆ Bitmaps
- Different Platforms
- Shapes, Widgets, Charts

# Graphics Demos

- graphdocpy
- Sample Charts
- ReportLab Drawing Editor



# Report Markup Language

- Page Layout Description
- RML
- RML2PDF (Black Box)
- No Programming
- PDF Output

# RML Basics

- What it is
  - ◆ XML
  - ◆ Cross-platform
  - ◆ Simple to use!
- What it is NOT
  - ◆ “XML-like“
  - ◆ XSLT
  - ◆ Free

# RML Features

- Separates Content from Layout:
  - ◆ Stylesheet, Template, Story
- Integrates with Other RL Products (e.g. PageCatcher)
- Allows Multiple:
  - ◆ Frames on a Page
  - ◆ Templates in a Document

# Graphics vs. Flowables

- Graphics:  
appear at a specific, defined location  
on the page
- Flowables:  
appear in the “story“, which flows  
down the page

# Examples

- Graphics:  
drawString, rect, circle,  
ellipse, lines, path,  
curves, forms
- Flowables:  
para, blockTable, title,  
h1, h2, h3, spacer, pre

# Examples (cont'ed)

- More Graphics  
grid, Translate, Scale, Rotate,  
Skew, Transform, Image
- PageNumber
- Name and getName
- Seq and seqReset
- plugInGraphics and plugInFlowables
- Aliases
- outlineAdd

# RML Sample Code

```
<!DOCTYPE document SYSTEM "rml_1_0.dtd">  
<document filename="example_1.pdf">  
  
<stylesheet></stylesheet>  
  
<pageDrawing>  
  <drawCentredString x="4in" y="6in">  
    Hello World!  
  </drawCentredString>  
</pageDrawing>  
  
</document>
```

# RML Example

- Space Station Demo



# Invoking RML

- **Command Line**

```
rml2pdf filename.rml
```

- **CGI-Script**

(*e.g.* Web / Application Server)

- **Within Python**

```
def go(xmlInputText,  
outputFileName=None, outDir=None,  
dtdDir=None):
```

# PageCatcher Basics

- Takes an external PDF file
- Extracts single or multiple pages (“catches” them)
- “Cans” them as a data file

# PageCatcher Features

- Allows you to re-use single/multiple pages from existing PDF files
- Lets designers use their favorite tools...
- Can re-order pages without having to totally redesign
- Can overprint new info on old documents
- Integrates with RML!  
Using the <catchForms> tag

# PageCatcher Examples

- Standard Demos

# Enterprise Apps

- Financial Key Feature Documents
- Application Forms
- Evaluations
- Visualisation
- ASPs (e.g. Zope.org)

# Non-Corporate Apps

- Criteria:
  - ◆ Automated Generation
  - ◆ Entire PDF Documents or Components
  - ◆ Bitmap Output
  - ◆ Little Postprocessing
- Samples:
  - ◆ PythonPoint, imgindex, py2pdf, docpy
- Ideas:
  - ◆ Conference Websites
  - ◆ Python Documentation

# Resources

- Download
  - ◆ <http://www.reportlab.com>
  - ◆ <http://reportlab.sourceforge.net>
- Compiled Shared Libs
  - ◆ <ftp://ftp.reportlab.com/win32-dlls/>
  - ◆ <ftp://ftp.reportlab.com/mac-dlls/>

# Resources (cont'd)

- Presentation Background

Using a color-modified version of  
“Clay Wall“ by Andy Goldsworthy from:

“Time“, Andy Goldsworthy, Thames  
and Hudson, London, 2000,  
ISBN 0-500-51026-1



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