ReportLab Solutions

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Topics

- Company
- Background
- Products
- Code
- Demos

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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

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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

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Products

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

Architecture Overview

(intentionally vague)

apps	*extensions*	*tools*

graphics	**platypus**

pdfgen

pdfbase	**lib**

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

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Report Markup Language

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

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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

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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

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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

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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

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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

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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

Contact

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  http://www.yahoogroups.com/group/reportlab-users