RBTEX

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Abstract

Modern LaTeX distributions include a tool called **lualatex** that allows users to dynamically produce content via use of Lua code. Unfortunately, the Lua standard libraries do not have as much functionality as other popular scripting languages, such as Ruby. The goal of this project is to incorporate Ruby into LaTeX in a manner similar to **lualatex**, but with the power and simplicity of Ruby over Lua.

The RBTEX Package

Since the program unites Ruby and LaTeX, it is hard to find a common place to host the package. The policies of RubyGems are more lax than CTAN, so the package lives as a gem. However, this is not enough by itself. Since the **rbtex** gem only comes with the ruby side, users need to grab the install script from the official repository and run that instead. The install script provides users with both the Ruby gem *and* the LaTeX package. Users who want this package need to have an up-to-date Ruby version and TeXLive.

Working Examples

1 Getting a Word Count

In Rubylatex

```
\begin{rbtex}
def printWordCount
    numwords = `detex poster.tex`
    Tex.print "This file contains #{numwords} words"
end
\end{rbtex}
```

In Lualatex

```
\begin{luacode}
function printWordCount()
        local exitcode = os.execute("detex "..\jobname".." | wc -w > count.txt")
        if exitcode == 0 then
                local file = io.open("count.txt")
                if file ~= nil then
                        tex.print(""..file:read())
                        os.remove("count.txt")
            -- Now we have to read from the file :(
                end
        end
end
\end{luacode}
```

2 Grabbing Data from Twitter

```
client.search("#", result_type: 'recent', lang: 'en').take(10).each do |tweet|
    ntw = tweet.text.gsub('#','\\#')
    ntw = ntw.gsub('_','\\_')
    ntw = ntw.gsub('&','\\&')
    ntw = ntw.gsub('$','\\$')
    Tex.print ntw
    Tex.print ""
end
Tex.print tweetString
```

@Muzachan I'm planning to be in Japan this December. For now going through your blog for extra helps

Goodmorning!

@_theBROKE1 don't act brand new bye

@kaylapurnell12 come watch me pole vault

s/o to God for the free carwash

RT @clawhammer36: RT/FALLOW @worldclas_babes @Sapphire_Blue69 @xxshowgirlsx https://t.co/kRBUBlnbpj

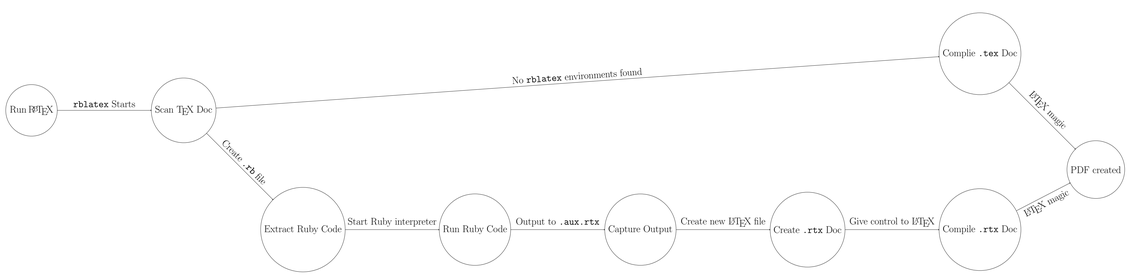
I nominate #JuliaBarretto for 100 Most Beautiful Faces of 2016 #TBWorld2016 DTopbeautyworld https://t.co/PYDZCMZtn7

RT @iIovenature: Need to go camping here https://t.co/7PG65z0pvJ

tell you what, @selftalkband are very impressive. Gaslight Anthem guitars here: https://t.co/jTLa3QZHGr https://t.co/t5hBk2avja

How It Works

In order to correctly compile a document using RBTEX, one must run the **rblatex** command on a valid LaTeX document. The workflow of RBTEX looks like



Unlike many LaTeX packages, RBTEX runs outside of TEX. This allows a user to have the ability to do what they are used to, rather than having to obey the rules of LaTeX. In fact, the **rblatex** program is removed from Ruby as well. The **rblatex** program parses both Ruby code and LaTeX code into it's own code, which it is then able to parse back into LaTeX code.