Progress with Carrot
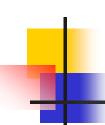
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Plan of the talk

- ## What is Carrot?
- ## What's new in the coming release?
- ## The future of the project

What is Carrot?

- Carrot is a module for Apache web server which enables the use of C++ as an HTML-embedded scripting language as well as executing C++ macros. It is similar to PHP, in functionality:

  http://carrot.cern.ch/index_C.so?about

What's new in the coming release?

- File uploads
- Improved TApacheBrowser
- SVG graphics and animation
- New configuration options
- Code correction and optimization
- Automated Garbage Collection
- More examples

File uploads

- Carrot is capable of receiving file uploads from browser

  - the code was mainly "borrowed" from PHP and follows their "ideology"

  ```
  <form enctype="multipart/form-data" action="resp.C" " method="post">
  <input type="hidden" name="MAX_FILE_SIZE" value="1000">
  Send this file: <input name="userfile" type="file">
  <input type="submit" value="Send File">
  </form>
  ```

  - calling gSystem->Getenv("userfile") in resp.C macro will returns a name of uploaded file

Improved TApacheBrowser

- Possibility to make a query on a TTree and "scan" the result of query
- Possibility of file download while browsing
- Possibility to switch on/off popup canvas
- Browsing other types of TFile (TNetFile, TRFIOFile, TDCacheFile)

SVG graphics and animation

- An example added how to save TPad in SVG format and display it on the web
- An example how to create SVG file with frame based animation added
  - similar to   <u>animated GIF example</u>

New configuration options

- ## $ROOTSYS/etc/system.rootrc
  - Carrot.CanvasPopup: on/off
  - Carrot.TmpDir: path to TMP directory
  - Carrot.CacheSize: size in Mbytes
  - Carrot.UploadFiles: on/off
  - Carrot.DefaultImageProgram: program name
  - …

Code correction and optimization

- Processing cookies now follows RFC2965, RFC2109 standard

- Speed optimization of the code was done

- Separate GET,POST,Cookies,FILES lists were introduced

Automated Garbage Collection

- While processing client request server allocates memory (pool) which is freed when request is over. Overloading "new" operator which allocates memory in request's memory pool enables to have "Automated Garbage Collection".

The future of the project

- Testing on different platforms

- Creation Apache-2 module

- Improving TApacheBrowser

  - add possibility to browse relational databases

- What else?