

CEDAR, part II

HepData, HepML and HepForge

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Outline

- 1 Re-introduction to CEDAR
- 2 HepData — the HEP reaction database
- 3 HepForge — a lightweight development environment for HEP
- 4 Summary

Re-introduction to CEDAR

CEDAR: Collaborative e-Science Data Analysis Resource

I expect Jon Butterworth will have already said this, but. . .

CEDAR is an e-Science project with several sub-projects:

- JetWeb: Monte Carlo generator tuning
- **HepData**: archival of published experimental data
- **HepML**: XML formats for data sets and MC config
- **HepForge**: development environment for HEP software
- **HepCode**: centralised repository of pheno code/programs



www.cedar.ac.uk  Durham University



HepData — the HEP reaction database

HepData's history

- Searchable ~30 years' worth of scattering data, PDFs etc.
- Stored in hierarchical BDMS database: very little modern support
- Data available as text files, PAW kumacs or GIF images
- Db stores pretty much everything as a string
- Adding records requires writing a Fortran routine
- Mirrors to SPIRES, PDG info

HepData in CEDAR (1)

HepData is undergoing active development:

- Migration to relational MySQL database
- Database sanitising e.g. uniform units. . .
- Database improvements e.g. axis-level properties, more searchable quantities. . .
- **Using HepML for I/O: XSLT transformations to data formats like HTML and AIDA**



HepData in CEDAR (2)

And more...

- Java object model for data abstraction: interface for JetWeb
- Java/JSP-based Web front-end using Apache Tomcat
- JBoss Hibernate used to abstract the object-relational binding
- Similar system planned for XML persistency
- **Grid authentication for expts. to submit data directly** (modulo sanity checking)



HepData HepML

HepML is a set of XML-based data format defns. for HEP

- XML representation for generator configs and HepData data sets (and more to come?)
- (I'll just mention the HepML data schema here)
- To be backed up with Python, Java (and C++?) interfaces
- Version for comment has been released. Please check it out: <http://hepforge.cedar.ac.uk/hepml/>
- Experiments will submit data to HepData: we need your comments on what HD and HepML should allow you to do. Abstracted interfaces to HepML (e.g. ROOT routine)?

HepML fragment (1)

```

<?xml version="1.0" encoding="UTF-8"?>
<hepml xmlns="http://www.cedar.ac.uk/hepml/hepdata/0.1/">
  <data timestamp="2006-04-07 13.09.27">
    <paper irn="3326047" paperId="3552">
      <dataset datasetId="1">
        <comment>
          FITTED, BACKGROUND SUBTRACTED, PEAK OMEGA CROSS SECTION,
          ...
        </comment>
        <property name="RE(Q=MU)" value="E+ E- --&gt; MU+ MU-" />
        <property name="RE(Q=HAD)" value="E+ E- --&gt; PI+ PI0 PI-" />
        <xaxis header="SQRT(S) IN GEV" xaxisId="1">
          <bins>
            <bin pointId="1" value="0.7726" />
            <bin pointId="2" value="0.7776" />
            ...
          </bins>
        </xaxis>
      </dataset>
    </paper>
  </data>
</hepml>

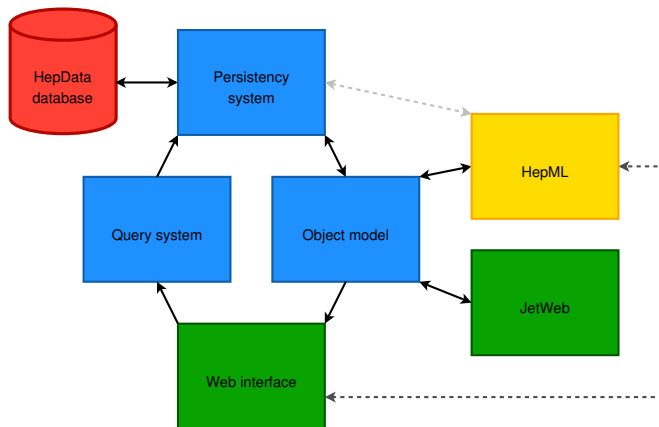
```

...

HepML fragment (2)

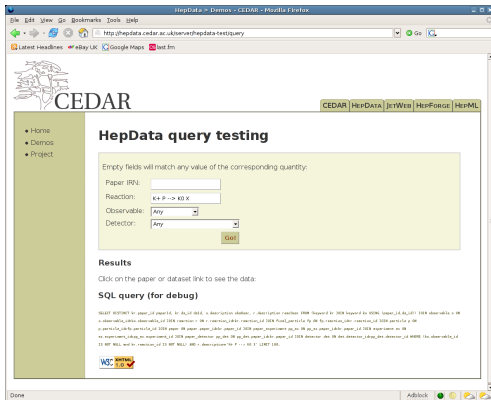
```
...
<yaxis header="SIG(Q=HAD) IN MUB" yaxisId="1">
  <points>
    <point pointId="1" value="0.269" />
    <point pointId="2" value="0.74" />
    ...
    <point pointId="7" value="0.065" />
  </points>
  <axiserror norm="percent" source="sys" plus="11.0" minus="11.0"
    description="FROM NUCLEAR ABSORPTION CORRECTION" />
  ...
  <pointerrors norm="abs" source="stat">
    <pointerror plus="0.096" minus="0.096" pointId="1" />
    <pointerror plus="0.192" minus="0.192" pointId="2" />
    ...
    <pointerror plus="0.036" minus="0.036" pointId="7" />
  </pointerrors>
</yaxis>
```

HepData behind the scenes



HepData demos (1)

Query interface (breaking the rules — spot the SQL!)



The screenshot shows a web browser window titled "HepData - Demos - CEDAR - Mozilla Firefox". The address bar contains "http://hepdata.cedar.ac.uk/server/hepdata-testquery". The page has a navigation menu with "CEDAR", "HepData", "JetWeb", "HepForge", and "HepML". A sidebar on the left contains "Home", "Demos", and "Project". The main content area is titled "HepData query testing" and contains a form with the following fields:

- Paper IRN:
- Reaction:
- Observable:
- Detector:

Below the form is a "Go!" button. Under the heading "Results", there is a note: "Click on the paper or dataset link to see the data." Below that, the heading "SQL query (for debug)" is followed by a small text block containing a complex SQL query.

HepData demos (2)

HepData → HepML $\xrightarrow{\text{XSL}}$ HTML

The screenshot shows a web browser window with the URL `http://hepdata.cedar.ac.uk/serve/hepdata-test.html`. The page title is "HepData XSL test". The content includes a navigation menu on the left, a breadcrumb trail at the top right, and a table of data for Paper 3552.

CEDAR | [HEPDATA](#) | [JETWEB](#) | [HEPFORGE](#) | [HEPML](#)

HepData XSL test

Reformatted HepML for HepData:

Paper 3552 (Spires ID: 3326047)

Dataset: 1

FITTED, BACKGROUND SUBTRACTED, PEAK OMEGA CROSS SECTION, CORRECTED FOR UNOBSERVED DECAYS, IS 1.82 ± 0.34 MUB. TABULATED ASSUMING CENTRAL ENERGY IS 782.6 MEV. VACUUM POLARIZATION AND RADIATIVE CORRECTIONS APPLIED.

RE(Q=MU): E+ E- -> MU+ MU-

RE(Q=HAD): E+ E- -> PI+ PI0 PI-

SQRT(S) IN GEV	SIG(Q=HAD) IN MUB $\pm 11\% \pm 5\% \pm 6.6\% \pm 7\%$	SIG(Q=HAD)/SIG(Q=MU) $\pm 11\% \pm 5\% \pm 6.6\% \pm 7\%$
0.7726	0.269 ± 0.096	1.85 ± 0.66
0.7776	0.74 ± 0.192	5.15 ± 1.34
0.7801	1.13 ± 0.225	7.92 ± 1.58
0.7826	1.63 ± 0.166	11.5 ± 1.17
0.7851	1.07 ± 0.226	7.59 ± 1.61
0.7876	0.625 ± 0.149	4.46 ± 1.06
0.8026	0.065 ± 0.036	0.48 ± 0.27

HepData demos (3)

HepData → HepML $\xrightarrow{\text{XSL}}$ HZTool Fortran

The screenshot shows a web browser window with the URL `http://hepdata.cedar.ac.uk/view/hepdata-test/header`. The page title is "HepData HZTool header generator" and the content is "Reformatted HepML for HZTool". The code is as follows:

```

c  Written by CEDAR Hepdata: 2006-06-03 21:27:25
c  Paper ID: 332047

c  Default 2
c  Declaration for p=axis 1
SYSTEM raxis_nz = 1
PARAMETER raxis_nz = 1
REAL raxis_nz_01(100000000)
REAL raxis_nz_02(100000000)
REAL raxis_nz_03(100000000)
REAL raxis_nz_04(100000000)
c  Data for p=axis 1
DATA raxis_nz_01 / 0.750, 0.751, 0.7505, 0.7505, 0.7505, 0.7505, 0.7505, 0.7505, 0.7505, 0.7505 /
DATA raxis_nz_02 / 0.200, 0.199, 0.199, 0.199, 0.199, 0.199, 0.199, 0.199, 0.199, 0.199 /
DATA raxis_nz_03 / 0.1420, 0.1418, 0.1418, 0.1418, 0.1418, 0.1418, 0.1418, 0.1418, 0.1418, 0.1418 /
DATA raxis_nz_04 / 0.04000, 0.04000, 0.04000, 0.04000, 0.04000, 0.04000, 0.04000, 0.04000, 0.04000, 0.04000 /

c  Declaration for p=axis 2
SYSTEM raxis_nz = 1
PARAMETER raxis_nz = 1
REAL raxis_nz_01(100000000)
REAL raxis_nz_02(100000000)
REAL raxis_nz_03(100000000)
REAL raxis_nz_04(100000000)
c  Data for p=axis 2
DATA raxis_nz_01 / 0.750, 0.751, 0.7505, 0.7505, 0.7505, 0.7505, 0.7505, 0.7505, 0.7505, 0.7505 /
DATA raxis_nz_02 / 1.00, 0.99, 0.99, 0.99, 0.99, 0.99, 0.99, 0.99, 0.99, 0.99 /
DATA raxis_nz_03 / 0.20074, 0.20074, 0.20074, 0.20074, 0.20074, 0.20074, 0.20074, 0.20074, 0.20074, 0.20074 /
DATA raxis_nz_04 / 0.28714, 0.28714, 0.28714, 0.28714, 0.28714, 0.28714, 0.28714, 0.28714, 0.28714, 0.28714 /

c  End of CEDAR Hepdata output

```

HepData summary

- HepData re-engineering in progress:demos at <http://hepdata.cedar.ac.uk>
- Not everything is finalised yet. . .
- Your chance to make sure that it can do everything you want!
- HepML is also incomplete: metadata is not yet fully handled, for example
- Do we need to provide special data set support like correlation matrices?
- **Get involved!**

HepForge — a lightweight development environment for HEP

Software engineering for small HEP projects

- Everyone has written code that might be re-used. . .
- But: “energy barrier” to tidying up / managing it as a project
- Small projects don't have resources for nice things like:
 - Use std. build/install systems e.g. **autotools**, **libtool**
 - Independence of build/run environment (e.g. **/cern!**)
 - “Formal” quality control, feedback and bug tracking
 - Version control systems (**Subversion**, CVS)

HepForge aims to reduce this barrier and encourage more publically released, well-developed HEP code

HepForge

- Collaborative development system for HEP
- Online at <http://hepforge.cedar.ac.uk>
- Features including:
 - Shell access with full set of dev tools
 - Web space (with several convenient features)
 - Subversion/CVS version control (+ Web viewers)
 - Wiki and bug tracker
 - Mailing lists for developers and users
 - Downloads manager
- We've done the "boring bits"!
- Many users already: Herwig++, Pythia6, LHAPDF... and ~25 others




Who should be interested in HepForge?

- Who's it for? Small–medium size projects
- *Probably* not experiments! But not necessarily. . .
- *You* should:
 - Stand-alone code preferred, since it aids **re-use**
 - Use standard methods, e.g. support **make install**
 - Intention to document properly
 - Support users
 - (General responsible development, essentially!)

In return, HF provides powerful **software development tools with a minimal learning curve**

HepForge tour

Home page



The screenshot shows a Mozilla Firefox browser window with the address bar displaying `http://hepforge.cedar.ac.uk/`. The page features the CEDAR logo (a tree-like structure) and the text "CEDAR" in large letters. Below this, there are navigation tabs for CEDAR, HEPDATA, JETWEB, HEPML, HEPFORGE, and DEV. A left sidebar contains a menu with the following items:

- Home
- About
- Register
- Projects
- SVN / CVS
- Downloads
- Documentation

The main content area is titled "CEDAR HepForge" and contains the following text:

HepForge is a development environment for high energy physics software development projects. Some of the benefits offered by HepForge are:

- Shell account with up to date development tools
- Web page hosting
- CVS and Subversion code management systems

Two illustrations of a hammer with a glowing yellow tip are shown, one above the text and one below it, both surrounded by a blue oval. The browser's status bar at the bottom shows "Done".



HepForge tour

Project list (1)

HepForge - CEDAR - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://hepforge.cedar.ac.uk/hf/projects

CEDAR

CEDAR HEPDATA JETWEB HEPML HEPFORGE DEV

- Home
- About
- Register
- Projects
- SVN / CVS
- Downloads
- Documentation

HepForge projects

Here is the current list of projects using HepForge to do their development. (We will be introducing keyword sorting of projects in time.)

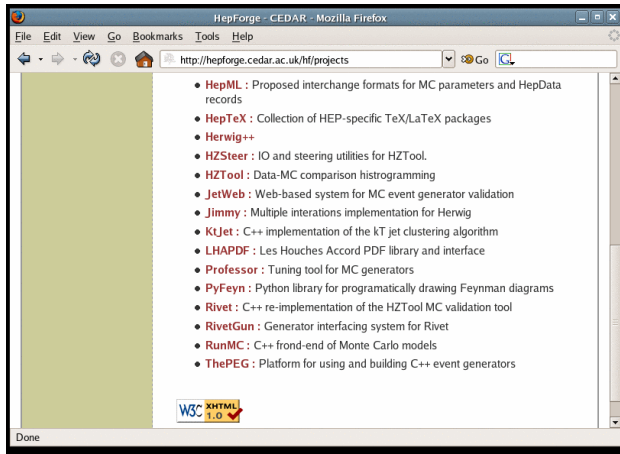
- **ExHuME** : C++ generator of central Exclusive Hadronic Monte-carlo Events
- **FastNLO**
- **FeynML**
- **Fortran Herwig** : Fortran-based Monte Carlo event generator with parton shower
- **HepData** : HepData database and Web interface development project
- **HepForge** : Project to build and maintain the HepForge system!

Done



HepForge tour

Project list (2)



The screenshot shows a Mozilla Firefox browser window with the address bar displaying `http://hepforge.cedar.ac.uk/ht/projects`. The page content is a list of project descriptions:

- **HepML** : Proposed interchange formats for MC parameters and HepData records
- **HepTeX** : Collection of HEP-specific TeX/LaTeX packages
- **Herwig++**
- **HZSteer** : IO and steering utilities for HZTool.
- **HZTool** : Data-MC comparison histogramming
- **JetWeb** : Web-based system for MC event generator validation
- **Jimmy** : Multiple interactions implementation for Herwig
- **KtJet** : C++ implementation of the kt jet clustering algorithm
- **LHAPDF** : Les Houches Accord PDF library and interface
- **Professor** : Tuning tool for MC generators
- **PyFeyn** : Python library for programmatically drawing Feynman diagrams
- **Rivet** : C++ re-implementation of the HZTool MC validation tool
- **RivetGun** : Generator interfacing system for Rivet
- **RunMC** : C++ front-end of Monte Carlo models
- **ThePEG** : Platform for using and building C++ event generators

At the bottom of the browser window, there is a status bar with the text "Done" and a W3C XHTML 1.0 logo.



HepForge tour

Project VC listing

HepForge > SVN / CVS > Subversion - CEDAR - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://hepforge.cedar.ac.uk/hf/vc/svn/hepdata/trunk/

HepForge version control

[hepdata] / trunk Project Root:

Current revision: **516 (of 516)**

Jump to directory revision:

Files shown: 0

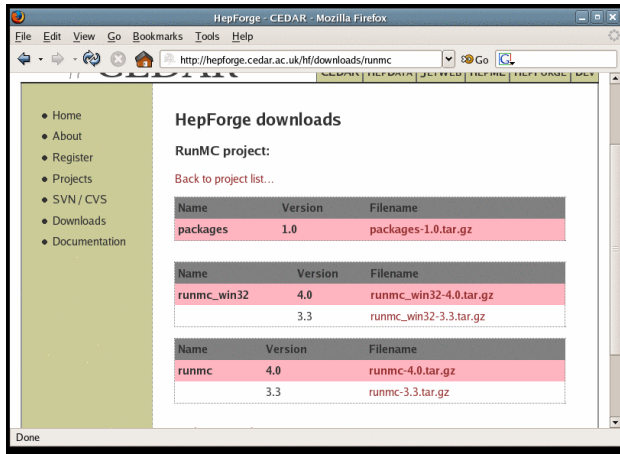
File	Rev	Age	Author	Last log entry
Parent Directory				
hdbdmsmigrate/	433	2 months	whalley	'changes since move to svn'
hdcommon/	498	12 days	buckley	Moving DBMatch back due to problems with pro
hdmigrate/	499	12 days	buckley	Moved DBMatch back for convenience
hdmodel/	512	8 days	buckley	Added hasZeroSize() method for determining w
hdxml/	488	12 days	buckley	Making a new package for HepData HepML wr
hepdata/	516	4 days	buckley	Adding errors as expected...

hepforge@cedar.ac.uk
Powered by ViewCVS 1.0-dev



HepForge tour

Project downloads listing (also personal copy via SSI)



The screenshot shows a Mozilla Firefox browser window displaying the HepForge website. The address bar shows the URL <http://hepforge.cedar.ac.uk/hf/downloads/runmc>. The page title is "HepForge downloads".

On the left side, there is a navigation menu with the following items:

- Home
- About
- Register
- Projects
- SVN / CVS
- Downloads
- Documentation

The main content area is titled "HepForge downloads" and lists the "RunMC project:". Below this, there is a link: "Back to project list...".

There are three tables of download information:

Name	Version	Filename
packages	1.0	packages-1.0.tar.gz

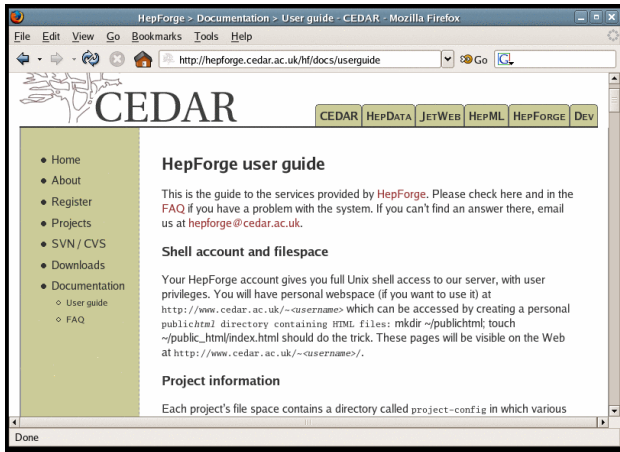
Name	Version	Filename
runmc_win32	4.0	runmc_win32-4.0.tar.gz
	3.3	runmc_win32-3.3.tar.gz

Name	Version	Filename
runmc	4.0	runmc-4.0.tar.gz
	3.3	runmc-3.3.tar.gz



HepForge tour

Documentation: user guide (note scrollbar!)



The screenshot shows a Mozilla Firefox browser window displaying the HepForge user guide. The address bar shows the URL `http://hepforge.cedar.ac.uk/hf/docs/userguide`. The page features the CEDAR logo at the top left and a navigation menu with buttons for CEDAR, HEPDATA, JETWEB, HEPML, HEPFORGE, and DEV. A left sidebar contains a list of links: Home, About, Register, Projects, SVN / CVS, Downloads, and Documentation (with sub-links for User guide and FAQ). The main content area is titled "HepForge user guide" and contains the following text:

This is the guide to the services provided by **HepForge**. Please check here and in the **FAQ** if you have a problem with the system. If you can't find an answer there, email us at hepforge@cedar.ac.uk.

Shell account and filesystem

Your HepForge account gives you full Unix shell access to our server, with user privileges. You will have personal webspace (if you want to use it) at `http://www.cedar.ac.uk/~<username>` which can be accessed by creating a personal `publichtml` directory containing HTML files: `mkdir ~/publichtml; touch ~/public_html/index.html` should do the trick. These pages will be visible on the Web at `http://www.cedar.ac.uk/~<username>/`.

Project information

Each project's file space contains a directory called `project-config` in which various



HepForge tour

Project Web page: LHAPDF

LHAPDF :: HepForge - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://hepforge.cedar.ac.uk/lhapdf/

LHAPDF the Les Houches Accord PDF Interface

- LHAPDF Home
- Installation
- PDF sets
- User manual
- Theory review
- C++ wrapper
- Mailing list
- ChangeLog
- Contact

• hepforge

Home

LHAPDF provides a unified and easy to use interface to modern PDF sets. It is designed to work not only with individual PDF sets but also with the more recent multiple "error" sets. It can be viewed as the successor to PDFLIB, incorporating many of the older sets found in the latter, including pion and photon PDFs. In LHAPDF the computer code and input parameters/grids are separated thus allowing more easy updating and no limit to the expansion possibilities. The code and data sets can be downloaded together or individually as desired. From version 4.1 onwards a configuration script facilitates the installation of LHAPDF.

Contents:

- Installing LHAPDF.
- List of all available PDF sets.
- On-line user manual.
- A wrapper for C++.
- A little bit of theory.

Downloads:

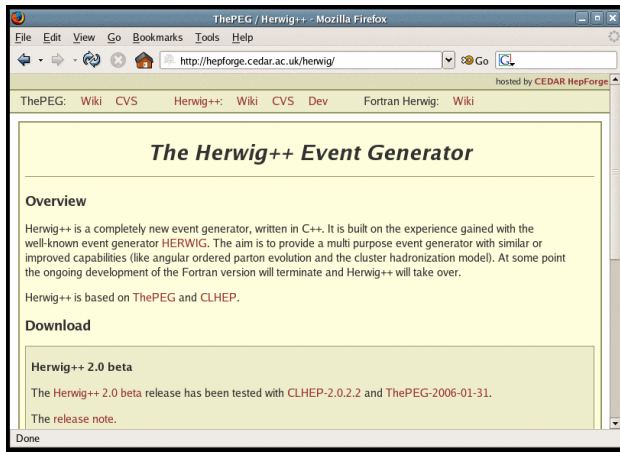
- Latest released version:
- 4.2 (full): [lhpdf-4.2.tar.gz](#)
- 4.2:(no pdfsets):
- [lhpdf-4.2-nopdf.tar.gz](#)

Done



HepForge tour

Project Web page: Herwig++



ThePEG / Herwig++ - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://hepforge.cedar.ac.uk/herwig/

hosted by CEDAR HepForge

ThePEG: Wiki CVS Herwig++: Wiki CVS Dev Fortran Herwig: Wiki

The Herwig++ Event Generator

Overview

Herwig++ is a completely new event generator, written in C++. It is built on the experience gained with the well-known event generator **HERWIG**. The aim is to provide a multi purpose event generator with similar or improved capabilities (like angular ordered parton evolution and the cluster hadronization model). At some point the ongoing development of the Fortran version will terminate and Herwig++ will take over.

Herwig++ is based on **ThePEG** and **CLHEP**.

Download

Herwig++ 2.0 beta

The **Herwig++ 2.0 beta** release has been tested with **CLHEP-2.0.2.2** and **ThePEG-2006-01-31**.

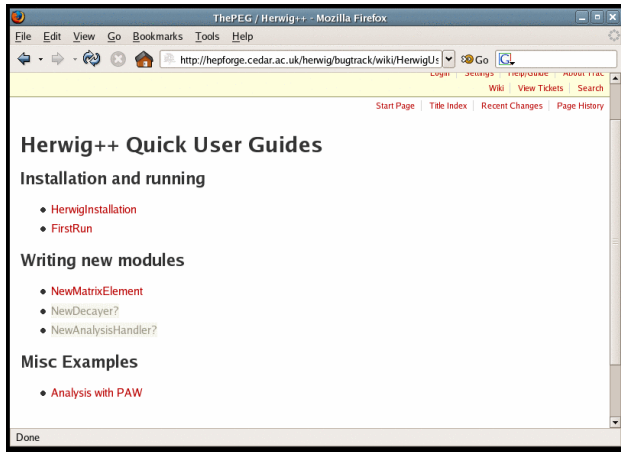
[The release note.](#)

Done



HepForge tour

Project wiki



The screenshot shows a Mozilla Firefox browser window with the address bar displaying `http://hepforge.cedar.ac.uk/herwig/bugtrack/wiki/HerwigU...`. The page content includes:

- Herwig++ Quick User Guides**
- Installation and running**
 - [HerwigInstallation](#)
 - [FirstRun](#)
- Writing new modules**
 - [NewMatrixElement](#)
 - [NewDecayer?](#)
 - [NewAnalysisHandler?](#)
- Misc Examples**
 - [Analysis with PAW](#)

The browser's status bar at the bottom shows "Done".



HepForge tour

Project bug tracker: milestones

The screenshot shows a web browser window with the URL `http://hepforge.cedar.ac.uk/hepdata/bugtrack/roadmap/`. The page title is "Roadmap". On the left, there is a navigation menu with the following items: Home, Subversion, Tracker (with sub-items: Milestones, All tickets, MS tickets, Timeline), Wiki, and Contact. The main content area displays two milestones:

- Milestone: JetWeb Accessing HepData**
 - Due in 2 months
 - Progress bar: 80%
 - Closed tickets: 6, Active tickets: 1
 - Buttons: "Show already completed milestones" (checked), "Update"
- Milestone: JetWeb and HepData development version**
 - Due in 5 months
 - Progress bar: 100%
 - Closed tickets: 3, Active tickets: 0

At the bottom of the browser window, the status bar shows "Done".



HepForge tour

Project timeline (integrated with SVN)

The screenshot shows a Mozilla Firefox browser window displaying the HepForge project timeline. The address bar shows the URL `http://hepforge.cedar.ac.uk/hepdata/bugtrack/timeline`. The page title is "HepData :: HepForge - Mozilla Firefox". The browser's menu bar includes File, Edit, View, Go, Bookmarks, Tools, and Help. The page content includes a search bar, navigation links (Wiki, Timeline, Roadmap, Browse Source, Login, Settings, HelpGuide, AboutTrac, View Tickets, New Ticket, Search), and a sidebar with a navigation menu:

- Home
- Subversion
- Tracker
 - ◊ Milestones
 - ◊ All tickets
 - ◊ MS tickets
 - ◊ Timeline
- Wiki
- Contact

The main content area is titled "Timeline" and shows a list of changesets:

- 10/02/06:**
 - 17:34 **Changeset [516] by buckley**
Adding errors as expected...
 - 15:19 **Changeset [515] by buckley**
Making progress, thanks to new use of XSLT 2.0 rules and the Saxon ...
- 07/02/06:**
 - 15:57 **Changeset [514] by buckley**
Getting HzTool? Fortran headers working

A filter box is visible, showing "View changes from 150206 and 30 days back." with checkboxes for Milestones, Ticket changes, Repository checks, and Wiki changes. The browser's status bar at the bottom shows "Done".



HepForge tour

Project bug listing

HepData :: HepForge - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://hepforge.cedar.ac.uk/hepdata/bugtrack/report/3

JetWeb Accessing HepData

Ticket	Summary	Component	Version	Type	Owner	Created
#2	Create XSL transformer for data HepML -> HzTool Fortran headers	hepdata	1.0	task	buckley *	01/11/05

Object model and db persistency refactoring

Ticket	Summary	Component	Version	Type	Owner	Created
#42	Refactor the object model / db interaction	model	1.0	task	buckley *	17/01/06
#54	Improve error representation in the object model	model	1.0	task	buckley *	01/02/06
#46	Consider using SQL double for data values	migration	1.0	enhancement	buckley *	21/01/06
#26	Separate HepData model from migration code	hepdata	1.0	defect	buckley *	25/11/05
#53	Use enums for error type	model	1.0	enhancement	buckley *	01/02/06
#56	Separate stat/sys and	model	1.0	enhancement	buckley *	02/02/06

Done



HepForge tour

Project bug details (1)

The screenshot shows a Mozilla Firefox browser window with the address bar containing `http://hepforge.cedar.ac.uk/hepdata/bugtrack/ticket/2`. The page title is "Ticket #2 (task)". The main content area has a yellow background and contains the following information:

Create XSL transformer for data HepML -> HzTool Fortran headers
Opened 4 months ago
Last modified 2 weeks ago

Status: assigned

Reported by:	buckley	Assigned to:	buckley (accepted)
Priority:	major	Milestone:	JetWeb Accessing HepData
Component:	hepdata	Version:	1.0
Keywords:		Cc:	jmb

HZTool requires a Fortran header file for each paper. The existing XSLT stylesheet for the HepML -> Fortran transformation is very incomplete and needs work.

The browser's left sidebar shows a navigation menu with items: Subversion, Tracker (selected), Milestones, All tickets, MS tickets, Timeline, Wiki, and Contact.



HepForge tour

Project bug details (2)

HepData :: HepForge - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://hepforge.cedar.ac.uk/hepdata/bugtrack/ticket/2

Attachments

Attach File

Change History

17/01/06 17:55:28: Modified by buckley

- description changed.
- milestone set to *JetWeb Accessing HepData*.

I've re-written the XSL transformer classes somewhat.
The next steps are:

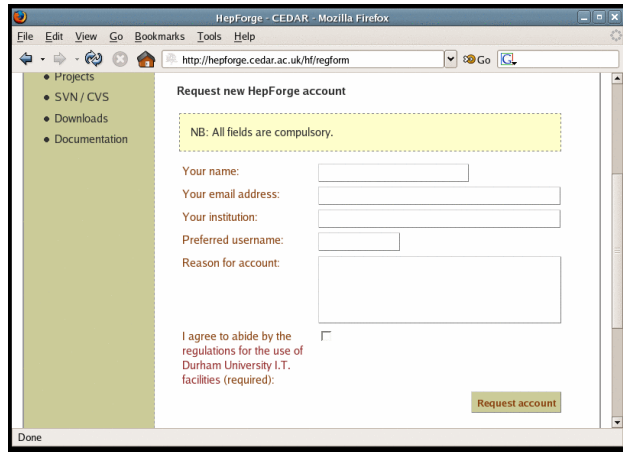
- abstract the re-formatter classes to be more generic: HepMLReformatter, HepMLSplitReformatter, HepMLTextReformatter etc. (need better names)
- provide a superclass/interface common to

Done



HepForge tour

The HepForge registration form! **Think about it . . .**



The screenshot shows a Mozilla Firefox browser window titled "HepForge - CEDAR - Mozilla Firefox". The address bar contains "http://hepforge.cedar.ac.uk/hf/regform". The page content is titled "Request new HepForge account". A yellow dashed box highlights the text "NB: All fields are compulsory." Below this, there are five input fields: "Your name:", "Your email address:", "Your institution:", "Preferred username:", and "Reason for account:". At the bottom left, there is a checkbox for "I agree to abide by the regulations for the use of Durham University I.T. facilities (required):". A green "Request account" button is located at the bottom right of the form area. The browser's status bar at the bottom left shows "Done".



Features still to come

- **Keyword and category project metadata**
(for HepCode & general user convenience)
- **Web interface to project metadata**
(keywords, description, “pretty” project name. . .)
- FAQ, news, \LaTeX . . . filters
- SSL-encryption of protected project areas
- And many others (see HepForge’s own HF project!)

Registration

Please think about using HepForge!

- Requirements:

- has to be for a **re-useable** HEP project
- not for processor-intensive use
- commitment to document and support your project
- encouraged to use standard build procedures etc.

We can and will help with this!

Visit **<http://hepforge.cedar.ac.uk>** to register

HepForge summary

- Designed to be easy to use, pick those features useful to you and ignore the rest
- Designed to encourage modular, reuseable, well-documented HEP software
- If you have a project which fits those descriptions, think about using HepForge, it could save you a lot of hassle
- Herwig, Pythia, ThePEG, SoftSusy, LHAPDF, Hoppet, FastNLO, ExHuME. . . already do!
- (Plus all the CEDAR sub-projects, of course)

Summary

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- CEDAR is primarily a generator tuning system, combining JetWeb and HepData
- HepData in its new incarnation will use HepML and other standard interfaces
- We need user (expt) input about what you want us to be do for LHC data!
- **HepForge is available for HEP software development now!**
- Eventually will be used to implement the HepCode repository
- Feedback has been very positive: system is powerful but very easy to use
- Consider HepForge for *your* re-useable HEP code!

HepForge backend (1)

For the interested...

- Python-based with shell scripts for acc. management
- Various Subversion things, e.g.
 - re-write of CVS: almost complete UI compatibility
 - support for symlinks, metadata, dirs, **mv/cp!**
 - anon read access over HTTP; rw dev access over SSH
 - **use it!** Migration from CVS is easy.
- ViewVC with multi-site hack

HepForge backend (2)

For the interested...

- Trac bug tracker and wiki:
 - SQLite backend and SVN integration
 - Moin-compatible wiki
 - excellent tool!
- Web system with post-processing scripts
 - HTML Tidy
 - transparent header and footer handling
 - code highlighting, Markdown...
- Download manager (personalisable)