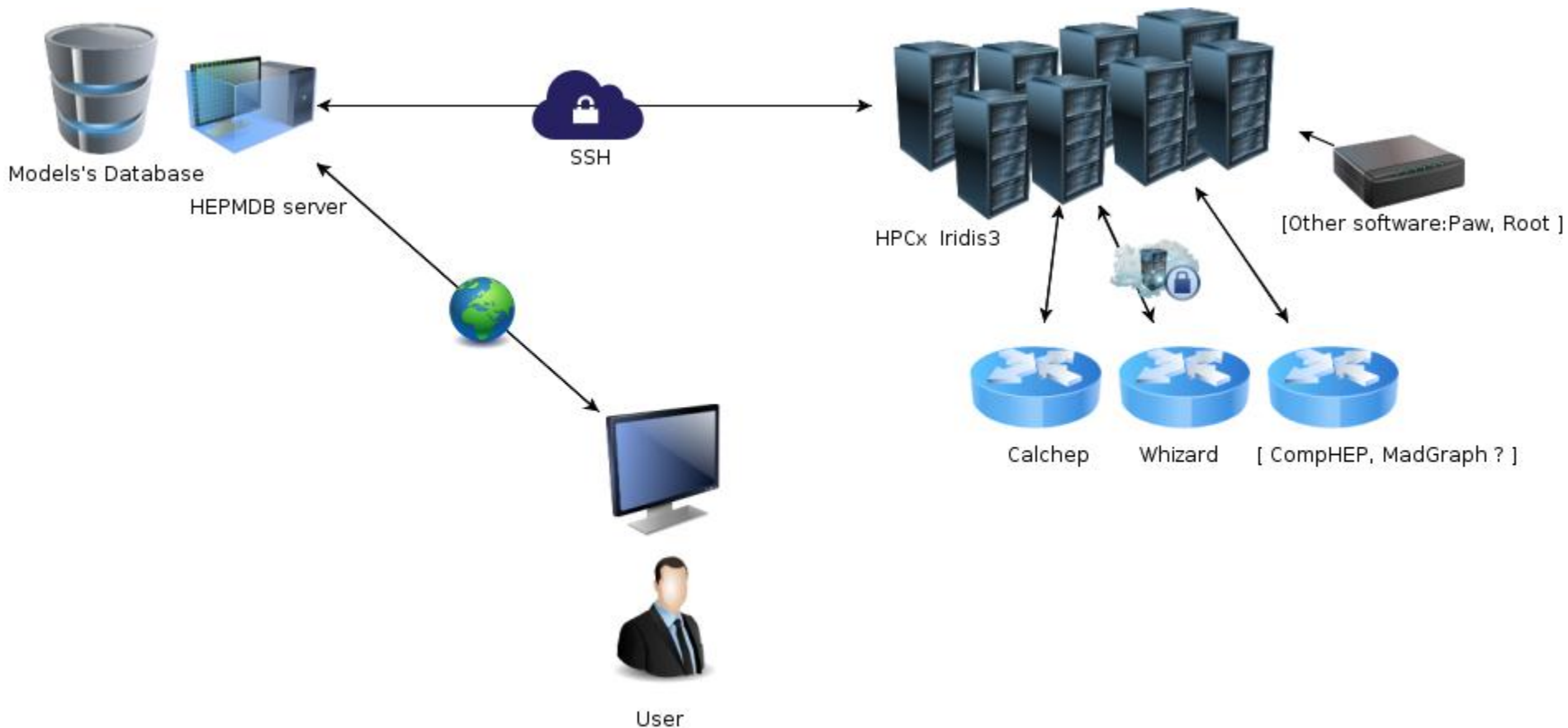
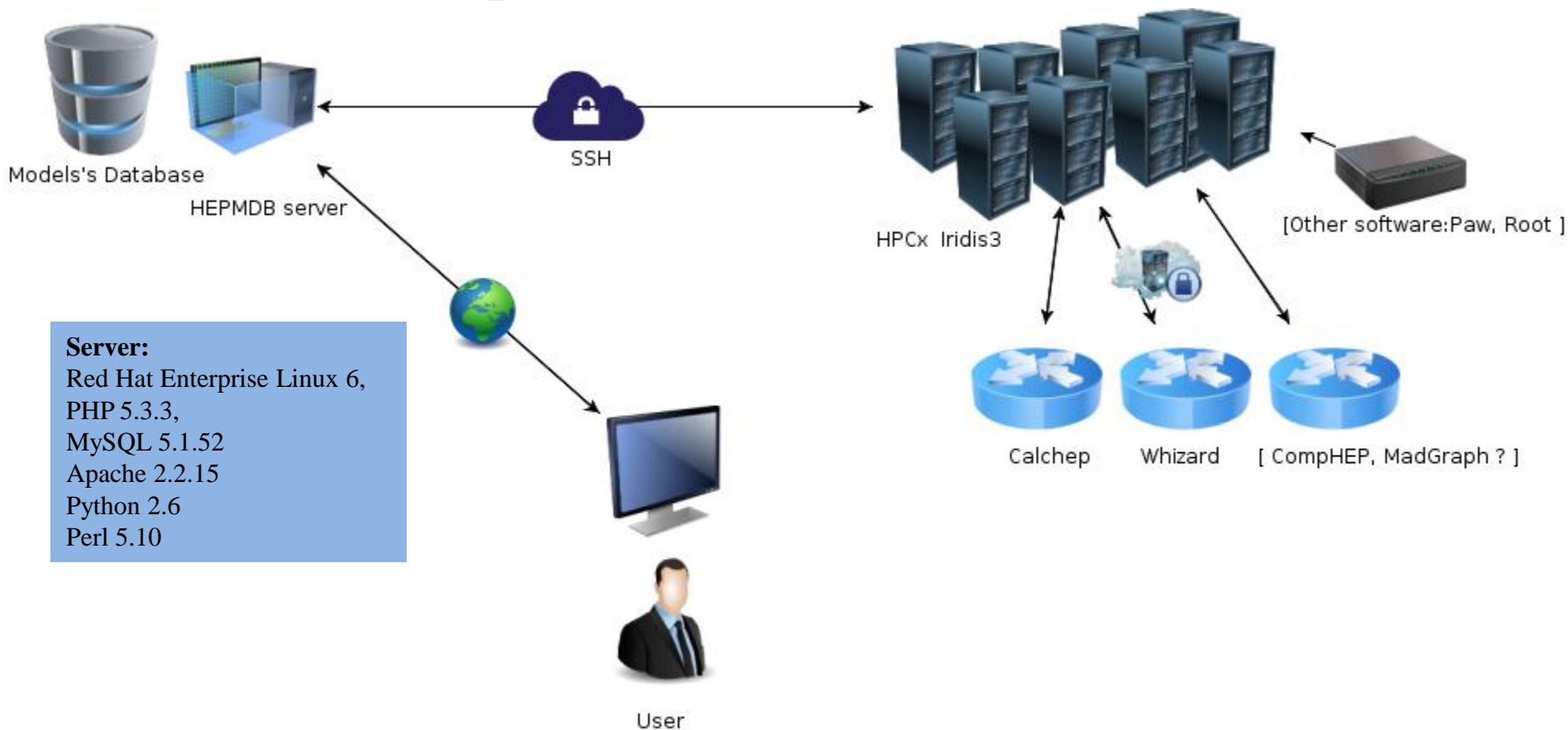


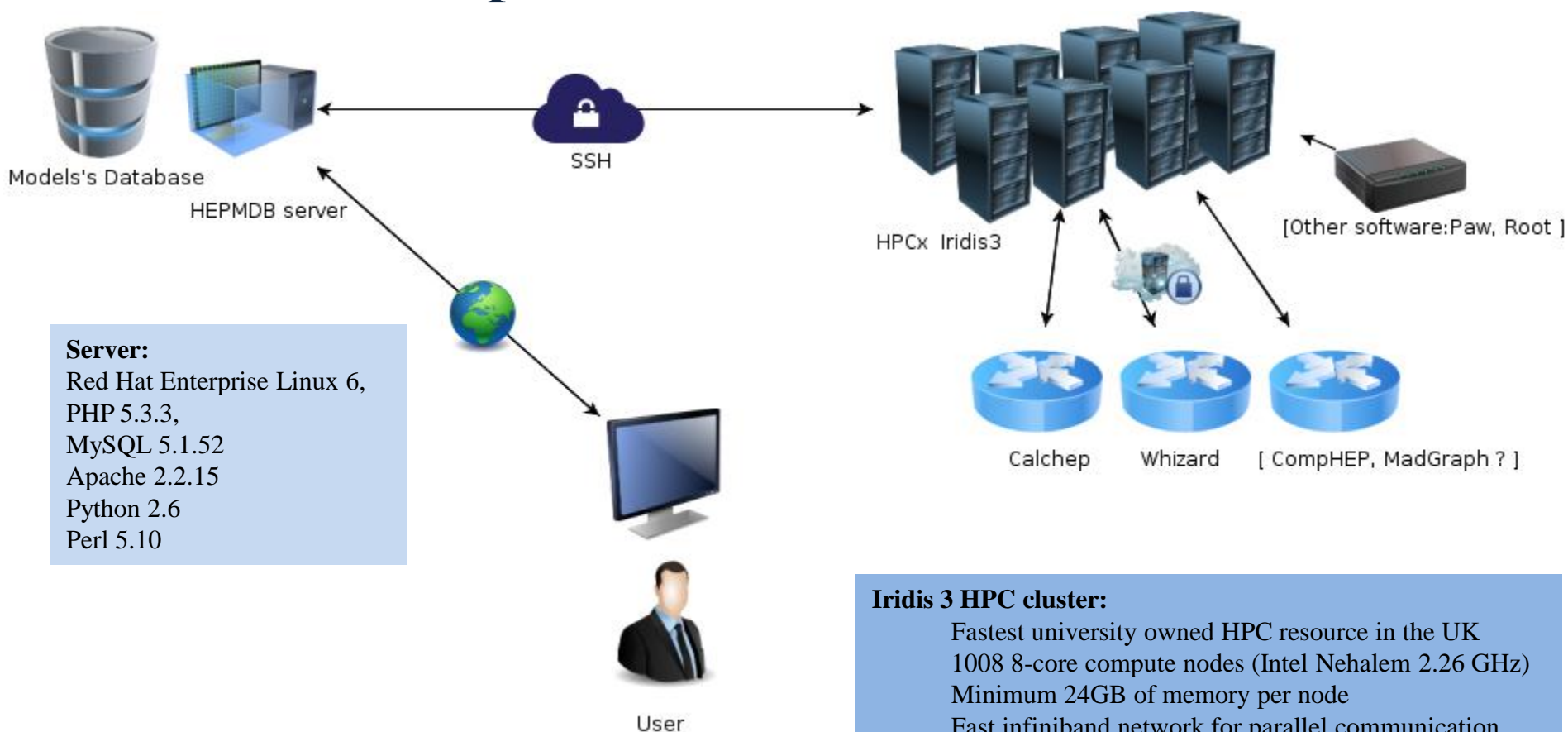
General Concept



General Concept



General Concept



Motivation

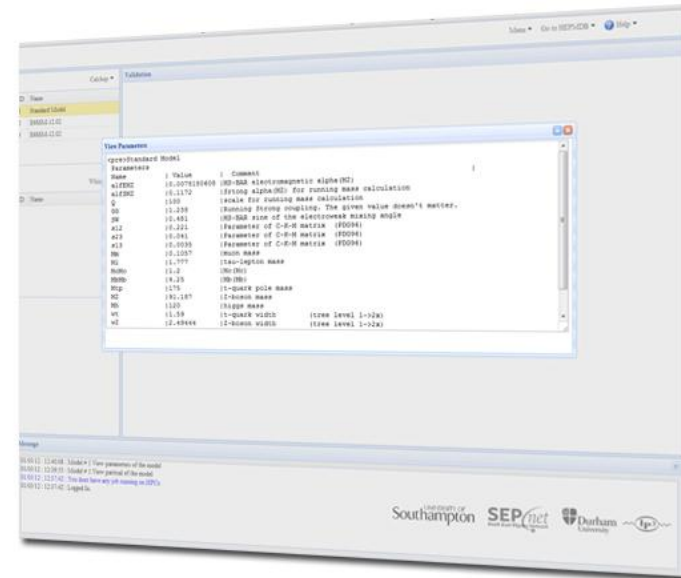
- Create a central storage, calculation and dissemination point for the data produced by High Energy Physics (HEP) tools .
- Allowing researchers to access previously computed runs and to avoid re-calculations within the research community
- Create a standardised format for the data that is created during simulations.
- Parallelising and optimising the HEP tools to improve efficiency and speed.

HEPMDB structure

HEPMDB has two levels



1. HEPMDB database



2. Web Interactive Computing and Exchange of Data

HEPMDB

- Register
- Upload/download and Edit models.
- Unique link <http://hepmdb.soton.ac.uk/hepmdb:0611.0024>
- Feedback system.



HEPMDB

High Energy Physics Models DataBase

Search in HEPMDB



Show All Models

Model : Littlest Higgs Model with T-parity

<http://hepmdb.soton.ac.uk/hepmdb:0611.0024>

Authors

Alexander Belyaev, Chuan-Ren Chen, Kazuhiro Tobe, C.-P. Yuan

Web Interactive Computing and Exchange of Data

Matrix Element generators

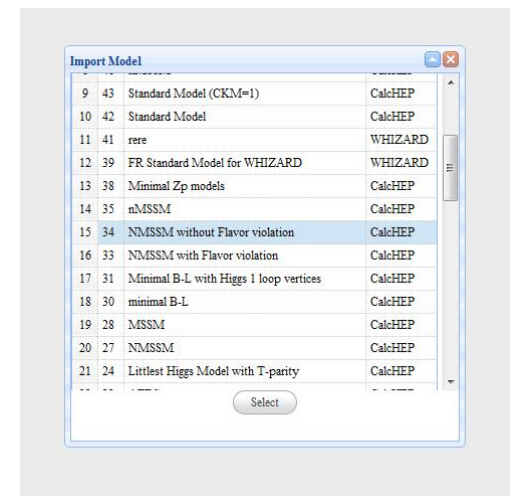
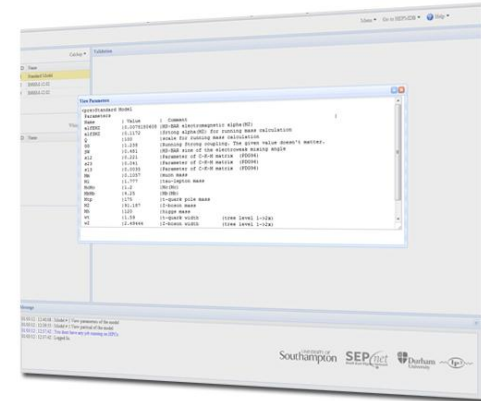
- Calcchep
- Whizard
- *MadGraph, CompHEP, Sherpa*

Visualisation

- Paw
- *Root*

User Interface

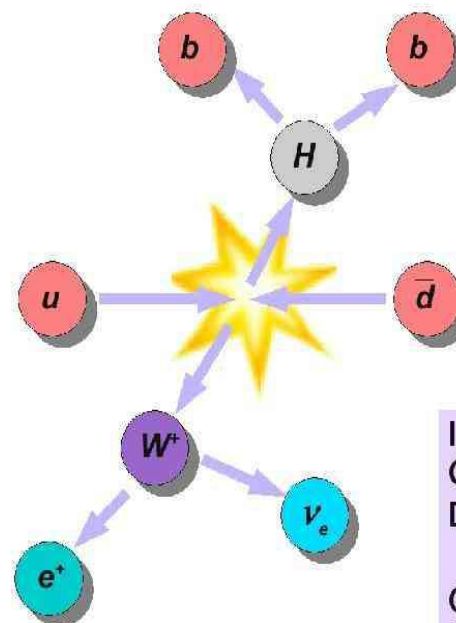
- Edit Batch file
- Scheduler submission
- Notification by email
- Download LHE and NT files.



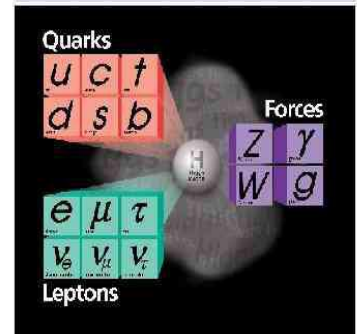
Scientific Outreach

The main idea is to create a web site which would allow students and all other visitors to interactively explore Particle and Nuclei Physics within different modern theories by simulating collisions of selected particles.

- Simple and intuitive web interface
- Different colour spheres will represent the different particles
- Drag-and-drop interface
- The colourful graphic animations

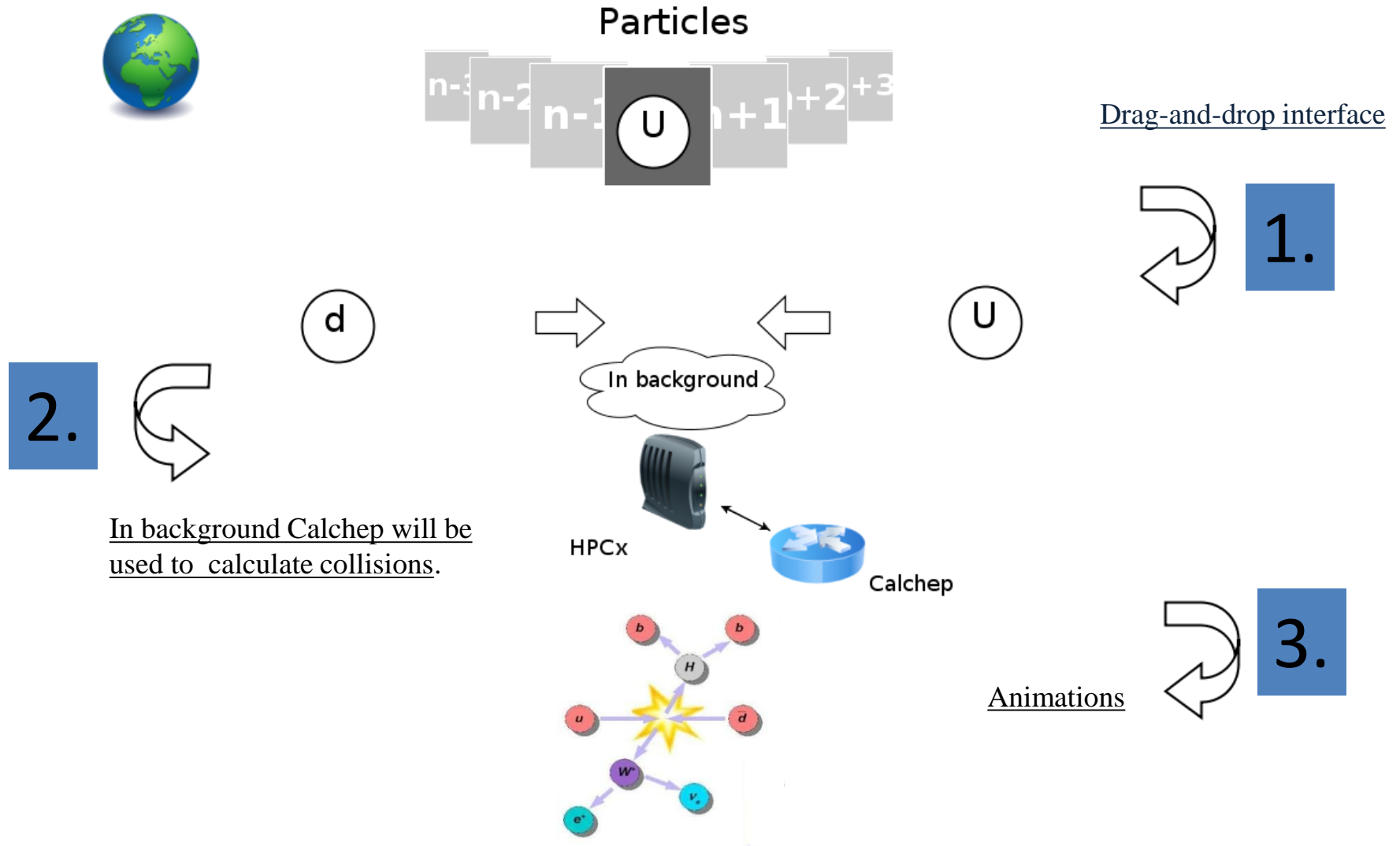


Standard Model



In particles: u, \bar{d}
 Out particles: W^+, H
 Decay: $W^+ \rightarrow e^+, \nu$
 $H \rightarrow b, \bar{b}$
 Colliding energy: 500 GeV
 Higgs boson mass: 120 GeV

General Concept of Scientific Outreach



Summary

- Collecting and running various HEP software packages at HEP-WICED.
- Collecting and validating HEP models against different software packages and against the experimental results from LHC.
- Working out the strategy to create a standardised format for comparison of Theoretical Model predictions with data, this will be in discussion with different research groups and especially the LHC.
- Using HEP-WICED for educational purposes. With special HEP-WICED section designed to give access to school students via a simplified GUI, permitting them to learn about and experiment with basic HEP.

Thank you !

