Contribution ID: **6** Type: **Short Talk**

Phoenix Event Display

Tuesday, 24 November 2020 16:05 (10 minutes)

Visualising HEP experiment data is vital for physicists trying to debug their reconstruction software, to examine detector geometry or to understand physics analyses, and also for outreach and publicity purposes. Traditionally experiments used in-house applications which required installation (often as part of a much larger experiment specific framework). In recent years, web-based event/geometry displays have started to appear, which dramatically lower the entry-barrier to use, but typically were still per-experiment.

Phoenix was adopted as part of the HSF visualisation activity: a TypeScript-based event display framework, using the popular three.js library for rendering. It is experiment agnostic by design, with shared common tools (such as custom menus, controls, propagators) and the ability to add experiment specific extensions. It consists of two packages: a plain TypeScript core library (phoenix-event-display) and an Angular application (a React example is also provided in the documentation).The core library can be adapted for any experiment with some simple steps. It has been selected for Google Summer of Code the last two years, and is ATLAS' officially supported web-event display. This talk will focus on the status, as well as recent developments, such as WebXR prototypes, interface improvements and the Runge-Kutta propagator.

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Session Classification: Software