

RaveScienceGatewayExt

Science gateways enable researchers and students to use distributed scientific computing infrastructure (cyberinfrastructure) through Web browsers and Web-enabled desktop clients. This describes the use of the open source, open community Apache Rave project as the basis for developing science gateways. Building on Apache Shindig (for [OpenSocial](#) Gadgets) and Apache Wookie (for W3C Widgets), Rave provides an out-of-the box deployment that can be used to host reusable social Web components. Rave is based on the Spring MVC framework and so can also be extensively customized or extended with (for example) custom database back-ends and authentication modules. In this extension we consider Rave as a development platform for science gateways and discuss how the source code may be extended through three use cases that focus on gateway security requirements. A major consideration of this paper is how to design Rave as a development environment so that developers can make local customizations and extensions freely on both a rapidly changing code base (during Rave's initial development), and (later) between stable code bases during version upgrades. We conclude with a discussion of the implications of developing science gateways and other cyberinfrastructure software within the Apache Software Foundation and present its potential advantages.