



# The Computerworld Honors Program

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## Final Copy of Case Study

**LOCATION:**  
*Andover, MA, US*

**ORGANIZATION:**  
Borlaug Global Rust Initiative

**YEAR:**  
*2011*

**PROJECT NAME:**  
Borlaug Global Rust Initiative Community Portal

**STATUS:**  
*Laureate*

**CATEGORY:**  
*Collaboration*

### PROJECT OVERVIEW

Thought to be all but extinct for 50 years, the world is facing a new pandemic of wheat rust -- Ug99, a highly virulent stem rust variant. This strain could potentially be responsible for the destruction of more than a third of worldwide wheat production. Such a failure could be devastating as wheat is the world's most widely planted crop and accounts for a fifth of humanity's calorie intake. Currently, only a handful of organizations have expertise on the subject of wheat rust. The Borlaug Global Rust Initiative (BGRI) needed a way to bring these experts as well as a dispersed community of wheat scientists, universities and agricultural research organizations in more than 40 countries together to collaborate, educate a broader community and disseminate details on wheat rust research and best practices to prevent its spread. Further, within the scientific community knowledge is typically spread through the publication of research within peer-reviewed scientific journals – a process that can slow the exchange of knowledge by months and years. However, the BGRI could not afford to operate on that kind of timeline. Ug99 isn't just on the march; it's mutating, and has developed the ability to overcome resistance genes that were being used to combat it. The project leaders needed a collaboration platform that could be easily organized, easily updated and accessible from anywhere in the world. The BGRI created a community portal where research could be published, shared and collaborated upon. Further, the site would offer resources and training for the scientists who have never witnessed wheat rust first hand. The project organizers, led by Cornell University, selected Traction Software's TeamPage, a social software solution that combines wiki, blog, tagging, activity streams, discussion and social networking capabilities in a secure, scalable Enterprise 2.0 Social Software platform. Additionally, the Traction TeamPage Attivio module, which includes Attivio, Inc.'s Active Intelligence Engine (AIE), was selected to power search and information access, which are considered vital functions for the website. AIE is a unified information access platform that aggregates content in all forms – structured, unstructured and semi-structured. The Attivio Module and underlying platform gives researchers and other wheat rust community stakeholders easy access to relevance ranked search, guided by advanced entity extraction as well as further drill down based on explicit facets including tags on the content, and implicit facets, such as derived key words and phrases, that occur prominently in the content. The Global Rust team leverages TeamPage

“sections” to dynamically display key content and easily reorganize the content. Meanwhile, with increasing content, the relevance engine in Attivio’s AIE improves results and user efficiency via keyword facets and other advanced features. In a short period of time (less than a month), the BGRI launched Global Rust ([www.globalrust.org](http://www.globalrust.org)), a publicly available web-based knowledge source for wheat scientists, agricultural research organizations, policymakers and others. As part of the newly-launched community there is a public domain for information sharing as well as private communities where researchers can come together to collaborate in a more focused manner.

## **SOCIETAL BENEFITS**

With the immediacy in which research and data are available, farmers in the field are provided with access to information which helps prevent the spread of this killer virus. Collaborations have resulted in studies and reports enabling additional funding opportunities for research projects and sustainable defenses against wheat rust fungus.

## **PROJECT BENEFIT EXAMPLE**

The site is used for knowledge-sharing as well as cultivating a rust community to combat Ug99. The combination of Traction’s TeamPage and Attivio’s Active Intelligence Engine has enabled the Global Rust site to be user-friendly and to deliver key content to more than 300 researchers daily. In addition to the aggregation of data and content, at any given time, there are more than 25 people on the site working collaboratively to combat the rust threat. For example, the “bible” of wheat rust – the “Wheat Rust Atlas” published more than 50 years ago (and since out of print) offers more than 200 pages of wheat rust information. Previously, getting copies of this book circulated was difficult and expensive. The leaders of the BGRI community struck a deal with the publishers to put a PDF of the entire book onto the site. Through Attivio’s AIE, users can conduct searches to hone in on key excerpts, paragraphs and chapters, without having to read the full 200 pages.

## **IS THIS PROJECT AN INNOVATION, BEST PRACTICE?** Yes

## **ADDITIONAL PROJECT INFORMATION**

Today, the site coordinators and users alike have noted that the site is an excellent resource of news and critical research information on wheat rust. Through Traction TeamPage’s access control features, leaders are able to more easily disseminate information that has been appropriately vetted and scientists can collaborate privately and securely on grant proposals to secure future funding. Effectively, the site satisfies their need for a virtual intranet; project management and collaboration tools; private communities; and a public wiki resource. Once blind to the full community of researchers, institutions, NGOs and other wheat research advocates, all stakeholders can now quickly navigate the wiki table of contents to build navigation into continent and country-based lists of people, projects and institutions focused on the rust problem. Exposing the community opens up new lines of communications, allows better sharing of best practices across country and continent borders and enables the community to better leverage scarce expertise. Since the site’s initial launch, content has increased multiple fold. With more content, there comes a driving need to constantly improve site navigation and information retrieval capabilities. The Global Rust team leverages the technology available within the portal to dynamically display key content and easily reorganize the content. Meanwhile, with increasing content, the relevance engine in Attivio’s AIE improves results and user efficiency via keyword facets and other advanced features.



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