



An Evolving Worldview: Making Open Source Easy

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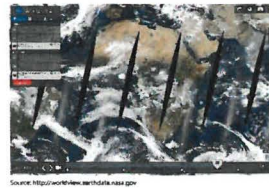


Abstract: NASA Worldview is an interactive interface for browsing full-resolution, global satellite imagery. Worldview supports an open data policy so that academia, private industries and the general public can use NASA's satellite data to address Earth science related issues. Worldview was open sourced in 2014. By shifting to an open source approach, the Worldview application has evolved to better serve end-users. Project developers are able to have discussions with end-users and community developers to understand issues and develop new features. New developers are able to track upcoming features, collaborate on them and make their own contributions.

Getting new developers to contribute to the project has been one of the most important and difficult aspects of open sourcing Worldview. A focus has been made on making the installation of Worldview simple to reduce the initial learning curve and make contributing code easy. One way we have addressed this is through a simplified setup process. Our setup documentation includes a set of prerequisites and a set of straight forward commands to clone, configure, install and run. This presentation will emphasize our focus to simplify and standardize Worldview's open source code so more people are able to contribute. The more people who contribute, the better the application will become over time.

What is NASA Worldview?

NASA Worldview is an **interactive interface for browsing full-resolution, global satellite imagery**. Worldview supports an open data policy so that academia, private industries and the general public can use NASA's satellite data to address Earth science related issues. Worldview was open sourced on GitHub.com in 2014.



Why Open Source?

As part of the government, NASA follows the GSA guidelines to release code with an "open first" approach. Our code can be found on code.gov and is hosted on GitHub.com for the general public to find. Not only is it our obligation to provide tax payers with a transparent view of the work we perform but this also allows developers across the globe to contribute back to the project. This creates a scenario where everyone benefits.



Benefits & Challenges of Open Sourcing Worldview

Benefits

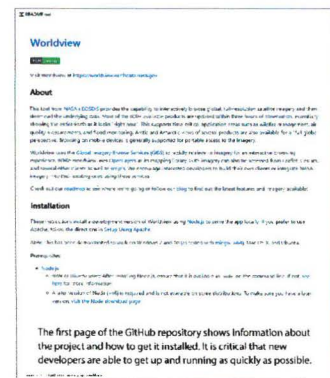
- Collaborate with individuals outside NASA
- Share tools with people & teams in NASA
- Work closer with our 3rd party dependencies
- Allow others to setup the application in new ways
- Bug fixes can be found and addressed quickly
- Collaboration enforces standards to be adopted
- Gather feedback about features people want to see
- New ideas about how to solve application issues
- Open source attracts & retains talented developers
- Accountability. Everything is open and tracked
- Smaller infrastructure is needed to maintain code
- Open source is free; additional help saves money

Challenges

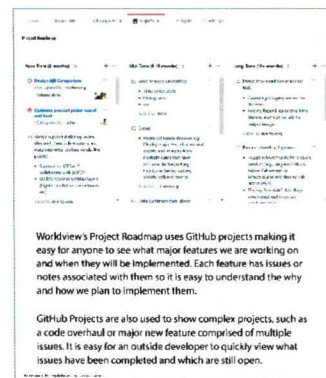
- Getting new developers to work on project
- Code can become messy with lots of developers
- Reviewing newly submitted code takes a lot of time
- Risk of leaking sensitive organizational information
- Vulnerabilities are easy to identify when code is open
- Risk of contributors introducing new bugs
- Goals and future vision can become obscured
- Confusion about certain aspects of the code
- Differing opinions about coding standards
- Converting from closed-source can be tedious
- Management may not understand open-source
- Deciding who works on what and when

Make Worldview's Open Source Code Easy!

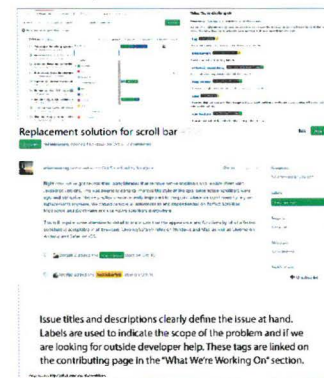
1. Make Installation Quick and Easy



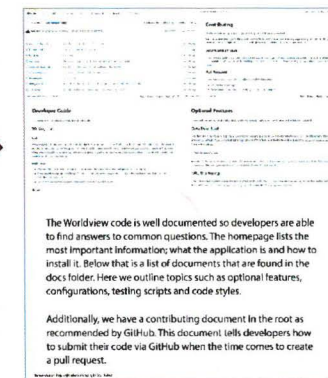
2. Showcase Upcoming Features



3. Clearly Label Issues to Work On



4. Document the Code



5. Automatic Code Checks

