

BERNARD SIMON

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SOFTWARE DEVELOPER

Problem solver, not just a coder.

Works successfully with teams and customers due to good communication skills. Delivers practical and secure solutions that meet customer requests.

Develops web applications in a Linux environment. Develops numerical applications and designs / implements databases. Strong programming skills with a thorough understanding of OO design. Familiar with front-end web technologies and network protocols. Builds large applications in multiple languages.

TECHNICAL AND SPECIALIZED SKILLS

Databases	MySQL, Sybase
Languages	bash, C, Javascript, Perl, and Python
Operating Systems	Linux, OS X, Solaris
Web Platforms	Apache, Zope
Version Control	CVS, Subversion, git

EXPERIENCE

SPACE TELESCOPE SCIENCE INSTITUTE / IT DIVISION, Baltimore MD

2001 - 2014

Senior Software Developer

Supported Space Telescope Institute and astronomical community through web application development, new products implementation in Zope, the Python based content management system, and adding user-requested enhancements to Institute web site.

- Supported Institute website by debugging and patching problems with Zope Python internals, a complex and poorly documented code base.
- Handled user requested changes to website content by writing HTML, CSS, and Javascript, meeting user needs.
- Developed application that collected conflict of interest reports and stored them in MySQL database for administrative review, delivering application bug free, with no users reporting problems after delivery.
- Wrote performance appraisal reporting application in Java with team members, requiring encoding complex business logic about who could view and edit appraisals and appraisal state transitions as Java classes.
- Reduced migration time from Zope to Confluence by transferring content of one Wiki to another by writing a parser that converted data format.

SPACE TELESCOPE SCIENCE INSTITUTE / IT DIVISION (Continued)

- Added telescope performance metrics and associated metadata to website through Perl program, allowing astronomers to view telescope behavior over time.
- Solved problem caused by reduction in Institute IP address range by modifying Zope address handling to support subnet masking.
- Generated photo gallery of Institute employees organized by department on a nightly basis, produced by a Perl program from information stored in LDAP and Active Directory.
- Developed web-based phone directory application that searched Active Directory for employees, becoming one of the most widely used pages on site.
- Kept astronomers informed of current research by writing web-scraping script that reported when Institute astronomers had uploaded preprints to Arxiv.
- Maintained status of website links by writing link-checking application, which parsed Apache log files and curators' webpage. Double-checked errors, emailing curators about them.
- Supported and enhanced registration tool, resolving problems during Institute conferences.
- Performed code reviews, assessing other employees' software for security vulnerabilities.

SPACE TELESCOPE SCIENCE INSTITUTE / SCIENTIFIC SOFTWARE GROUP, Baltimore, MD**Software Developer**

Wrote applications and libraries supporting data files and formats used by astronomical community to store and process observation data.

- Added calibration files to database by assisting with designing and writing Calibration Database system, including C code.
- Initialized user environment for using astronomical software by writing bash scripts and installing new software versions.
- Wrote statistics package for astronomers, converting a statistician's code into production quality code. Package allowed astronomers to analyze data that was incomplete because of telescope performance limits.
- Designed and wrote synthetic photometry (synphot) package, a large software package widely used by astronomers to plan proposed telescope observations.

EDUCATION

Bachelor of Science, University of Maryland, College Park, MD

PORTFOLIO

Professional software portfolio hosted at <https://github.com/Jinzang/>