



# Meet Magento™

HO-CHI-MINH  VN

OCTOBER 15TH 2016



Practical insights into  
**Building a fully automated  
code analysis flow**  
for your Magento project

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# Scope

## Static code analysis



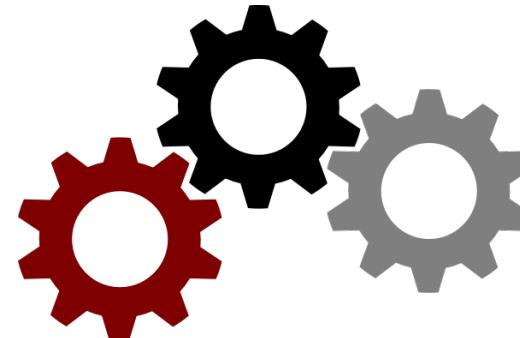
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Analysing various aspects  
(code style, performance, security etc.)



Problem



Code quality not measured

Don't know we're good or bad

Can't track the progress

Don't know what to improve

Don't know whom to mentor

Don't know who's the best

Team are not challenged



# Reasons for not measuring code quality

operations wise

- initial setup of code analysis tools is cumbersome
- nobody is responsible explicitly
- regular activities related to code analysis become a burden
- confusion about how to transform analysis results in a set of actions



# Reasons for not measuring code quality (2)

motivation wise

- no quick way to say quality is good or bad
- comparing code quality on different projects is difficult
- 3rd party code makes final result bad anyway
- customer is not explicitly interested in code quality
- no task about measuring code quality on developer's JIRA board



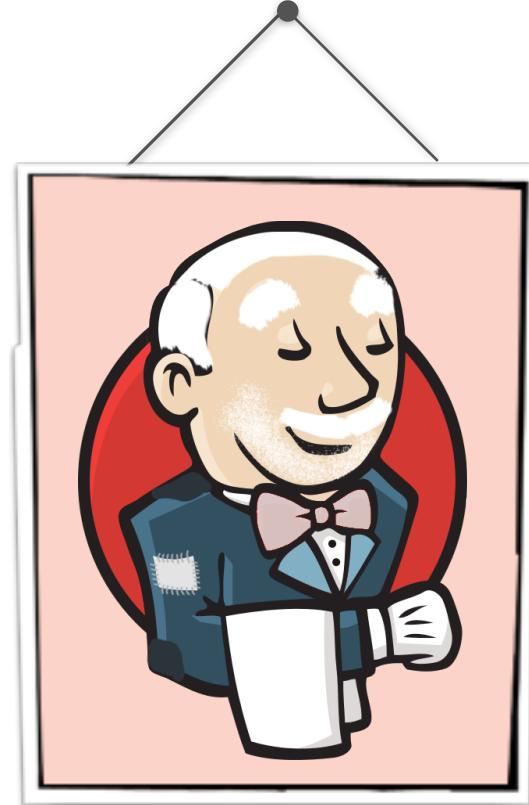
Solution →

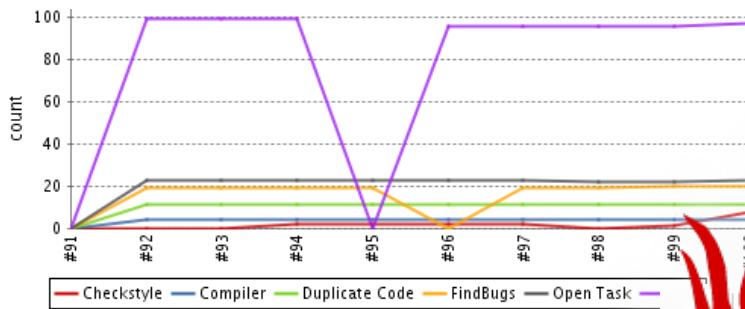
Implementing code analysis



# Why not Jenkins

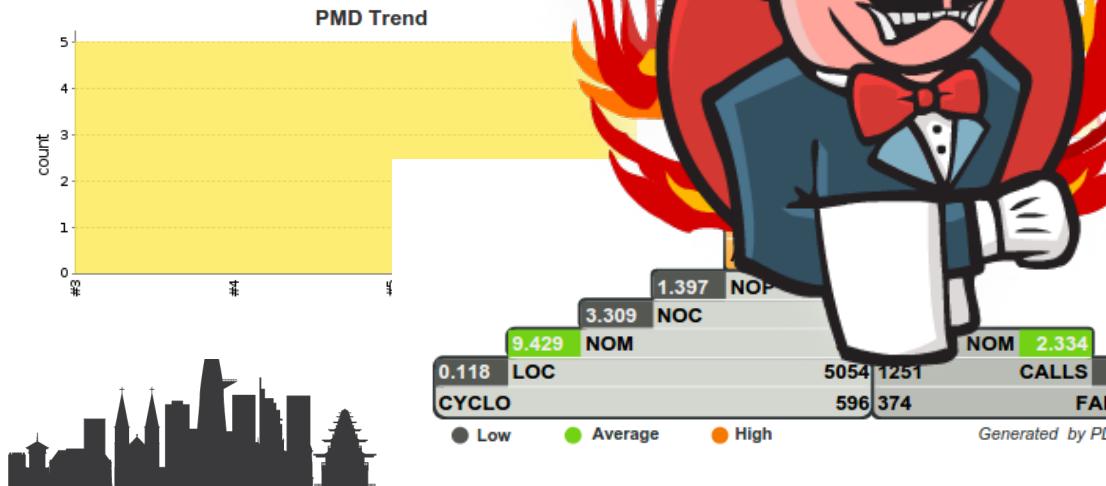
- poor usability
- cluttered interface
- complex configuration
  - no in-depth security check
  - no thorough performance check
  - no issues ranking
  - no issues ownership
  - single score missing



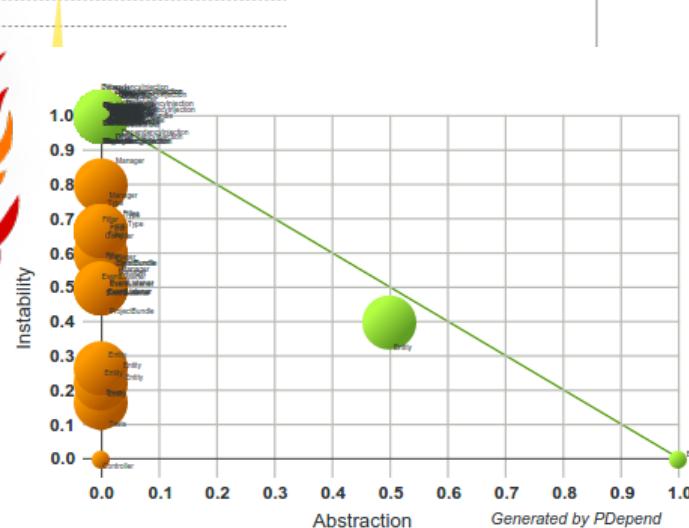


### UrF: Unread field: com.avalog.adt.ui.ihi

This field is never read. Consider removing



### Checkstyle Trend



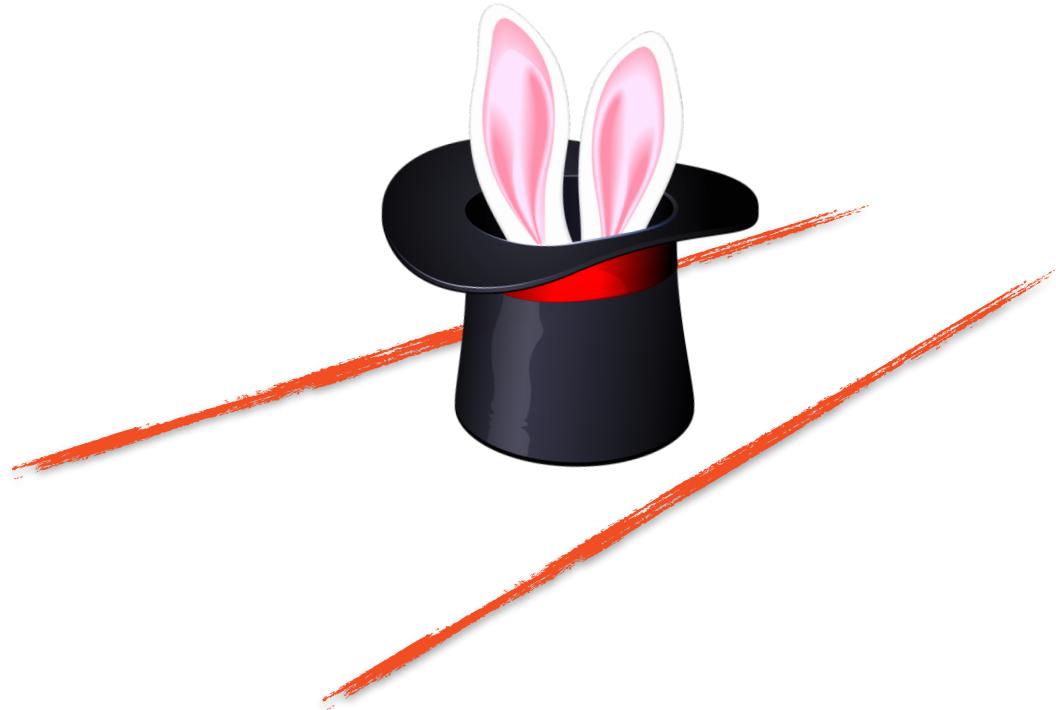
# No Jenkins at all?

at Vaimo we still use Jenkins as automation server

meaning that we utilize Jenkins a lot for building and deploying projects as well as for running numerous maintenance and infrastructure related jobs



# What instead?





CODE CLIMATE



PhpMetrics

SensioLabsInsight



C O D A C Y



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scrutinizer

sonarQube

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# Strategy

- make it "no actions required" feature available out of box
- make it possible to change analysis scope and rules per project
- ensure code quality level is communicated in a simplest form
- make it easy and fast to grasp current code quality level



## Strategy (2)

- deliver analysis results in a form of JIRA tasks on dedicated board
- filter out and sort code analysis tasks automatically
- make team responsible for the code quality JIRA board
- create competition around code quality score



# Requirements

- small setup and configuration efforts
- supporting numerous repositories at reasonable costs
- possibility to change the analysis scope
- possibility to influence results (filtering, sorting etc.)
- simple score indicating the code quality level



# Requirements (2)

- granular access granting system
- API access
- clean and intuitive interface
- mercurial support
- automatic analysis of dependencies





checks

- Best Practice
- Bug
- Coding Style
- Compatibility
- Comprehensibility
- Deprecated Code
- Documentation
- Duplication
- Naming
- Performance
- Security
- Unused Code
- Severity





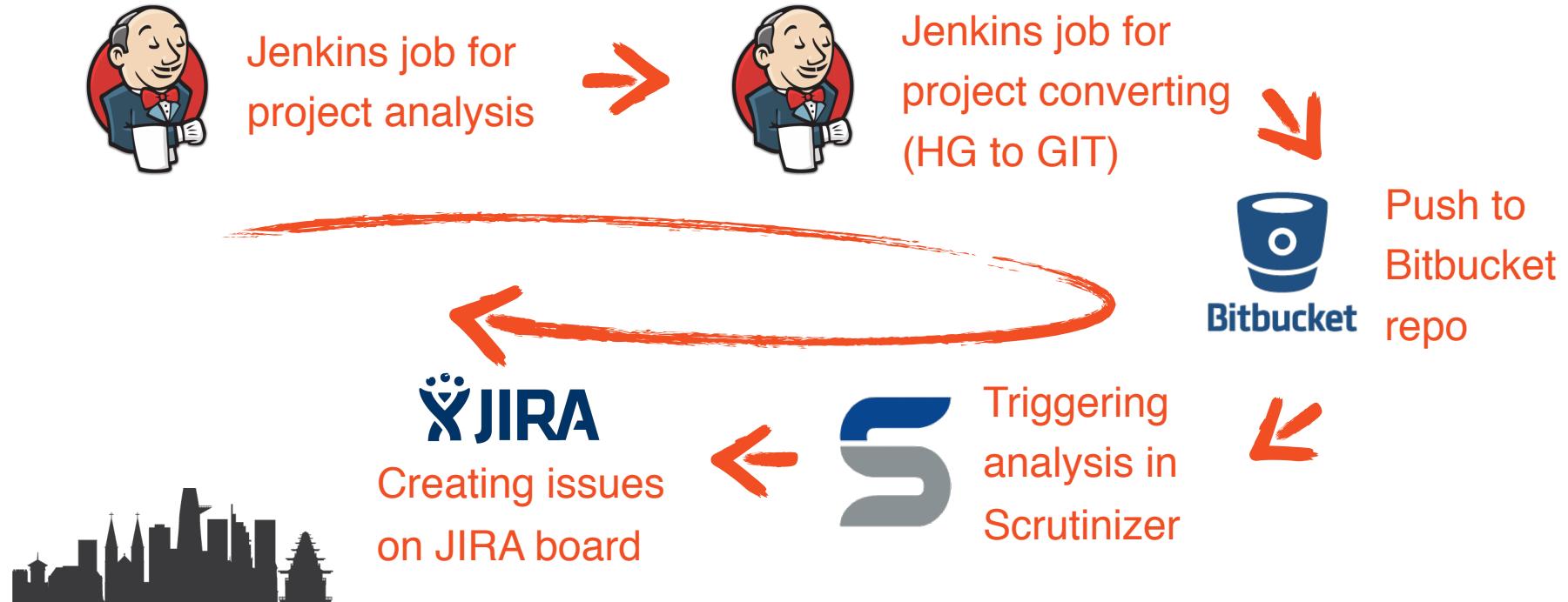
## other features

- introduced by
- hot spots
- severity levels
- quality score
- automatic patches
- filtering false-positives
- scheduled & hook based inspections
- 3rd party checks support
- automatic analysis of dependencies

... many more at  
<https://scrutinizer-ci.com>



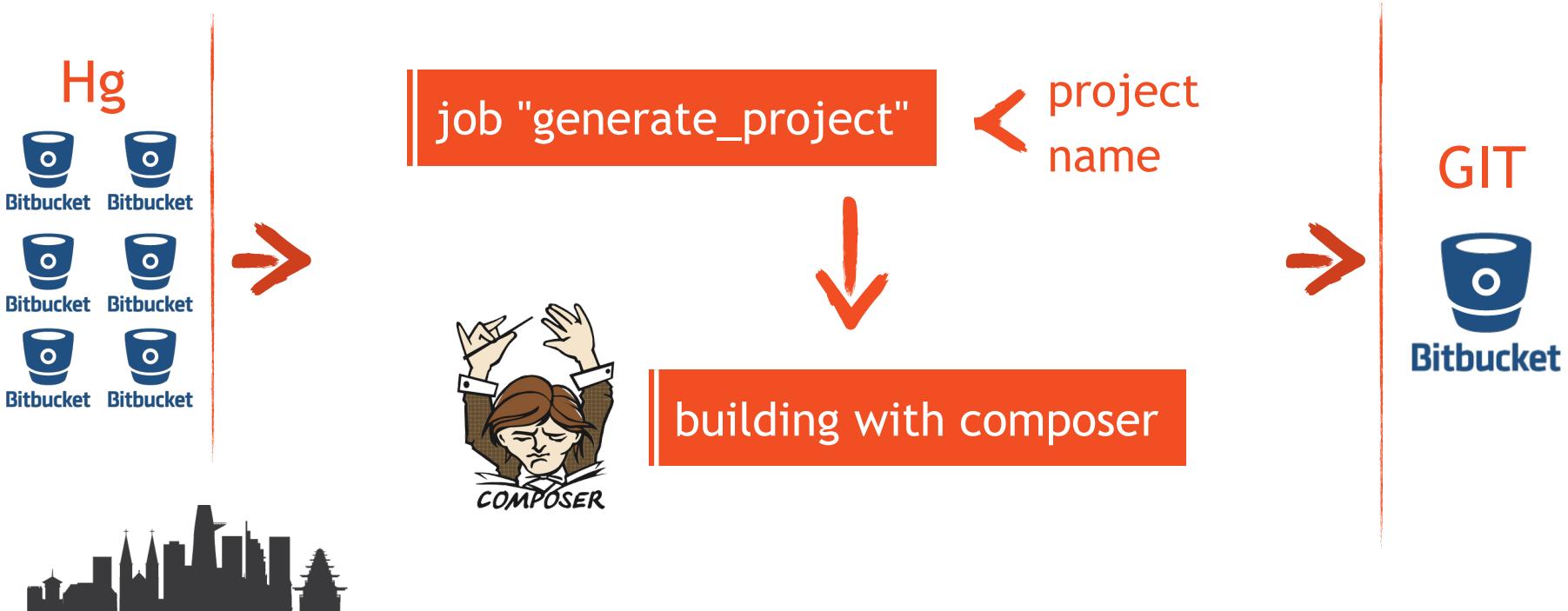
# Fully automated analysis flow





Controlled  
by Jenkins

# Fully automated analysis flow



# Fully automated analysis flow

GIT



Bitbucket



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(via "Push Tracking")



starts analysis



generates report

Scrutinizer  
& JIRA API



Jenkins job



issues on board

# Glossary

phploc can quickly measure the size of a PHP project

phpmd scans PHP source code and looks for potential problems such as possible bugs, dead code, suboptimal code, and overcomplicated expressions



## Glossary (2)

phpcpd is a Copy/Paste Detector (CPD) for PHP code. It scans a PHP project for duplicated code

phpDox is the documentation generator for PHP projects. This includes, but is not limited to, API documentation

phpcs tokenises PHP, JavaScript and CSS files and detects violations of a defined set of coding standards. It is an essential development tool that ensures your code remains clean and consistent. It can also help prevent some common semantic errors made by developers



# Resources

- <https://wiki.jenkins-ci.org>
- <https://www.sitepoint.com/analyzing-php-project-jenkins/>
- <http://phpqatools.org/>
- <http://www.4dxbook.com/>
- <https://scrutinizer-ci.com>





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