Code Reviews and How To Improve Them.

Improving the process of improving

Lee Stone @leesto

Reviewing Code Review.

Improving the process of improving

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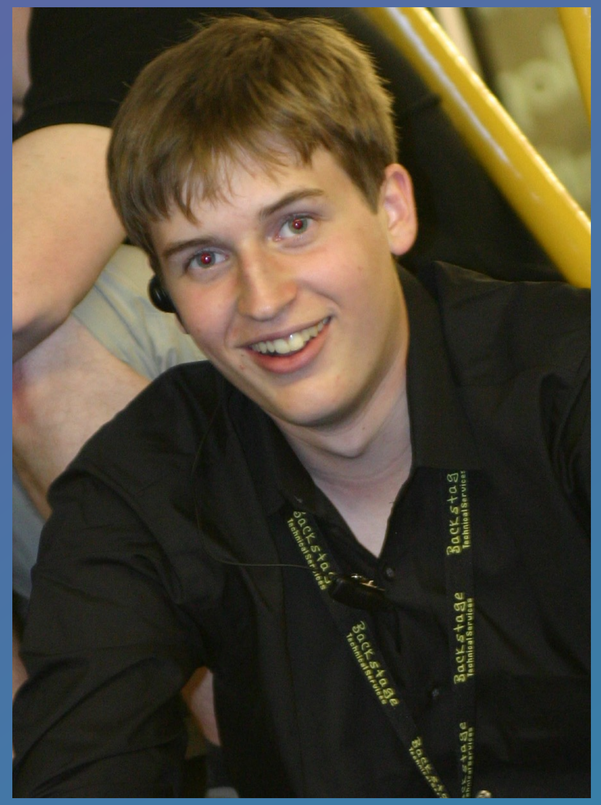


... Hi. I'm Lee.

Organiser of PHPSW
One of a great team to make sure nights like tonight happen

Web Team Lead at Gradwell
Lead a team producing web applications for selling & managing Gradwell services

Theatre Technician
Local Amdram, Glastonbury, edFringe

What is Code Review?

The activity of checking another developer’s code for defects and improvement opportunities

Checking code through a dedicated tool prior to merge upstream

Why Should We Review Code?

... Prevent Bugs Reaching Production.

- Security
- Business Logic
- Coding Standards

Knowledge Share

- Ideal to mentor new developers
- Shared business logic - Remove SPOFs
- Discover Technical Approaches

Lee Stone @leesto

... Other Benefits.

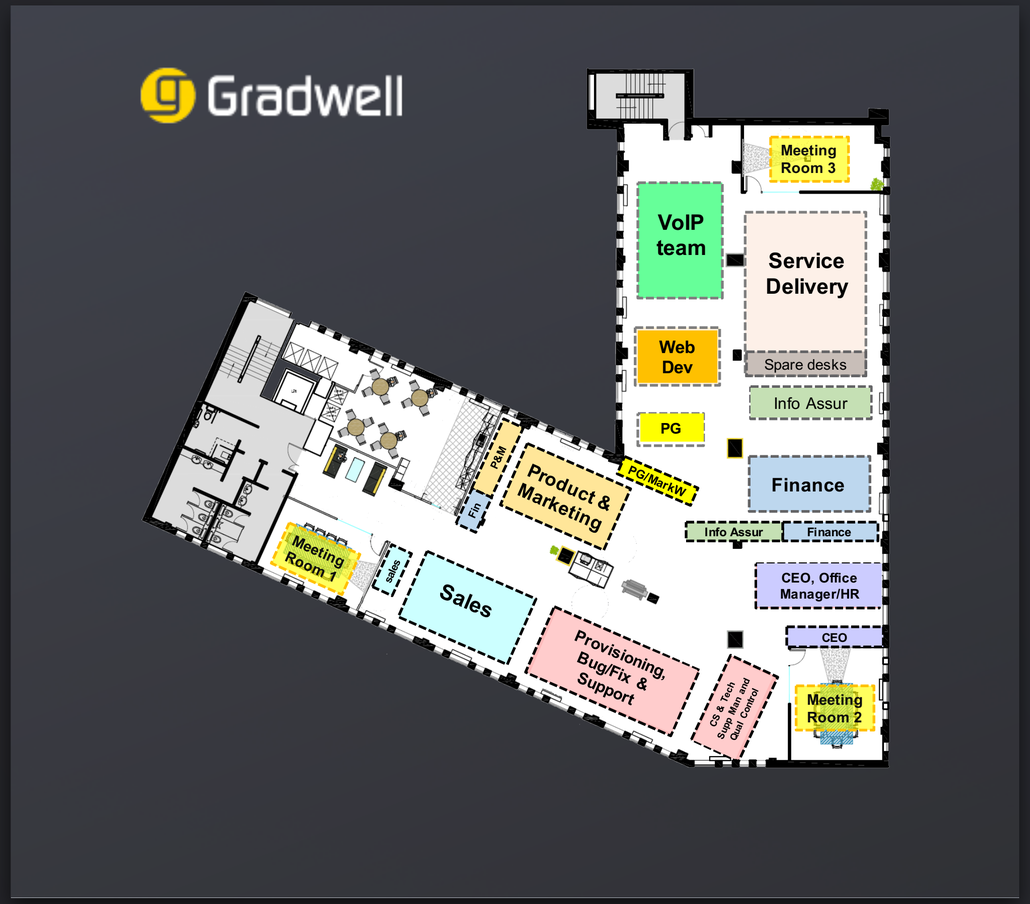
- Improve Estimates
- Making Sure Solutions Meet Requirements

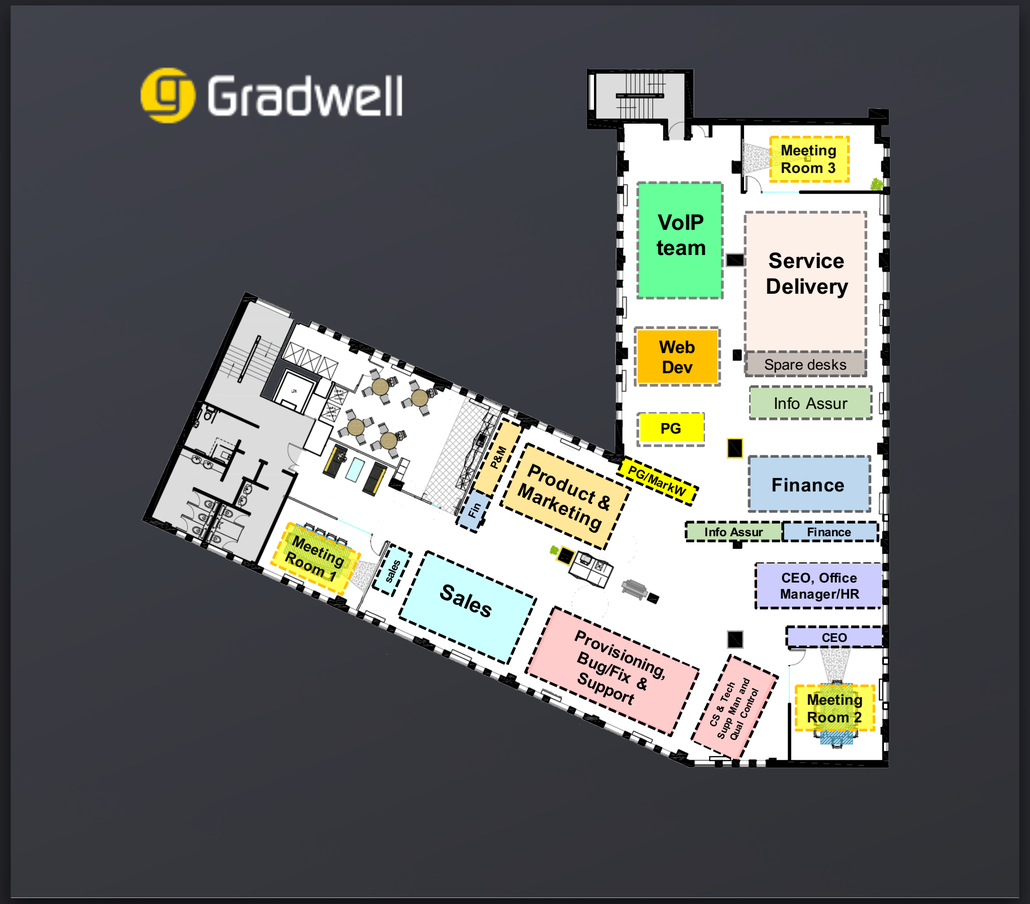
What Code Review Isn’t

It does not replace training

It does not replace demos

My Environment


Gradwell
Meeting Room 3
VoIP team
Service Delivery
Web Dev
Spare desks
Info Assur
PG
Finance
Product & Marketing
PG/MarkW
P&M
Fin
Info Assur
Finance
Meeting Room 1
Sales
Sales
CEO, Office Manager/HR
CEO
Provisioning, Bug/Fix & Support
CS & Tech Supp Man and Qual Control
Meeting Room 2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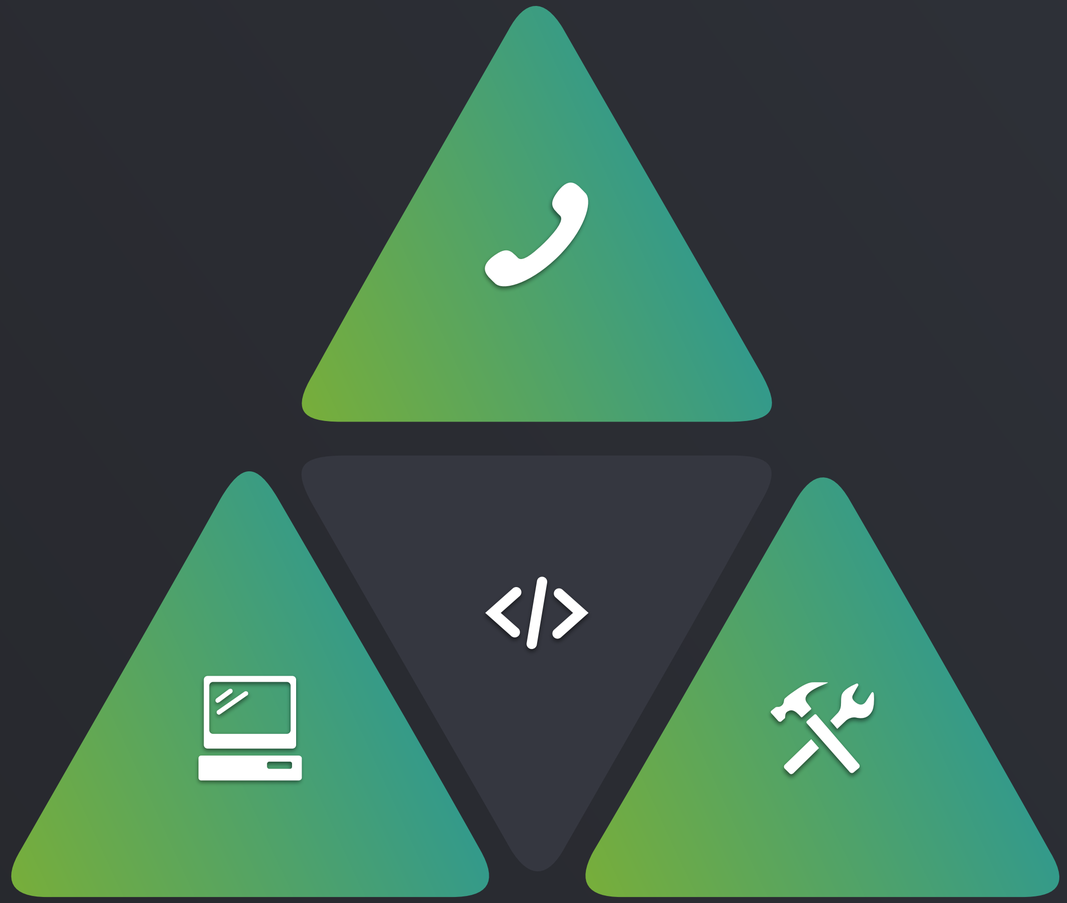


Web Team Lead
Lee
Junior Developer
James
Senior Developer
Vladimir
Junior Developer
Nebojsa
Senior Developer
Josip
Junior Developer
Jovana
Mid-Level Developer
Danijel
QA
Nemanja

How We Complete Code Reviews

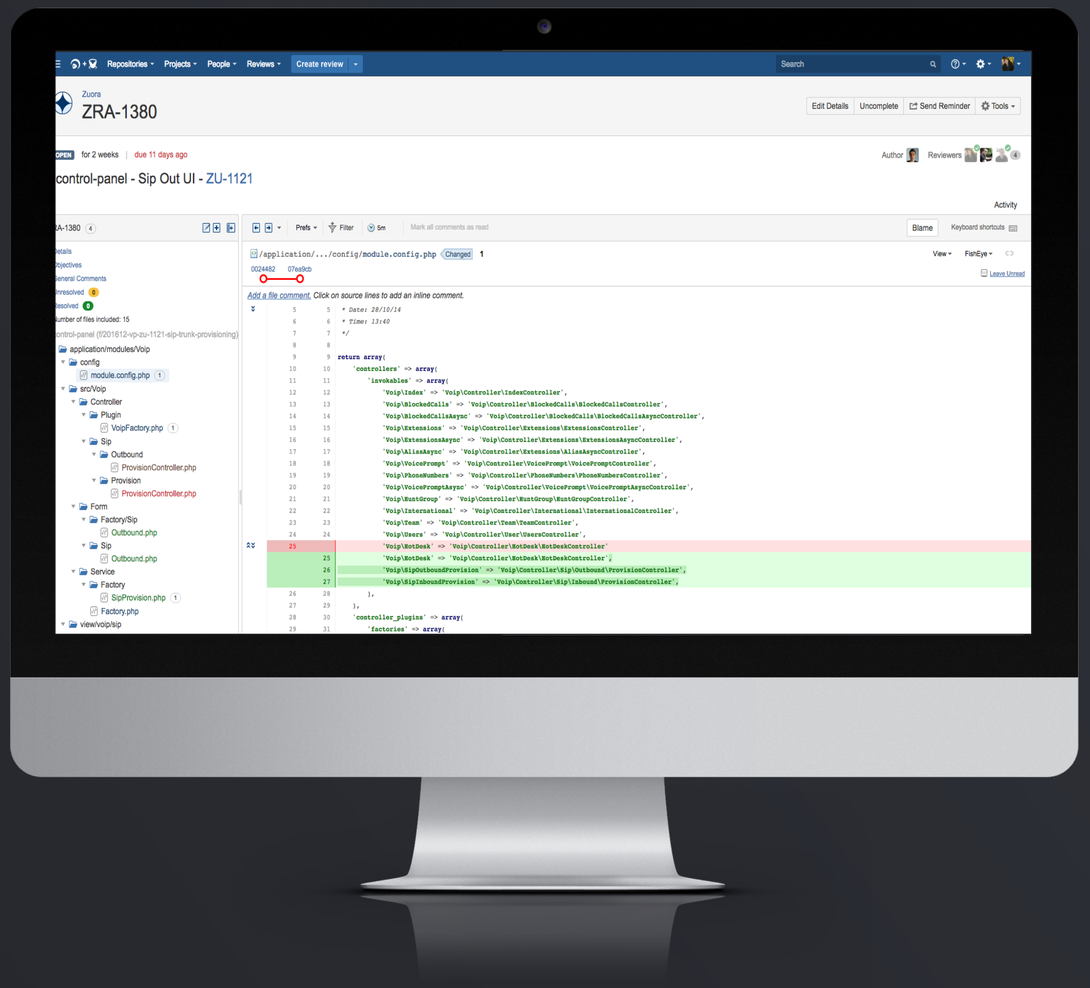
Crucible.

Links with Atlassian Suite
See the reviews on Jira tickets
‘One Stop Shop’ for us

Indicate Defects
On a comment, can mark it is a defect which is shown separately

Easily See Differences Between Commits
Highlights added/removed lines
Can drag between commits to see history

Auto Update for Changes on Branch
Developer doesn’t have to update review on making changes & can’t forget



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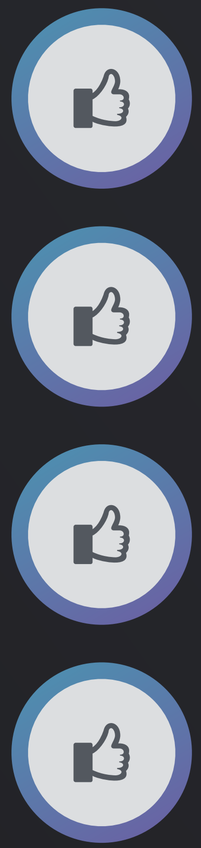

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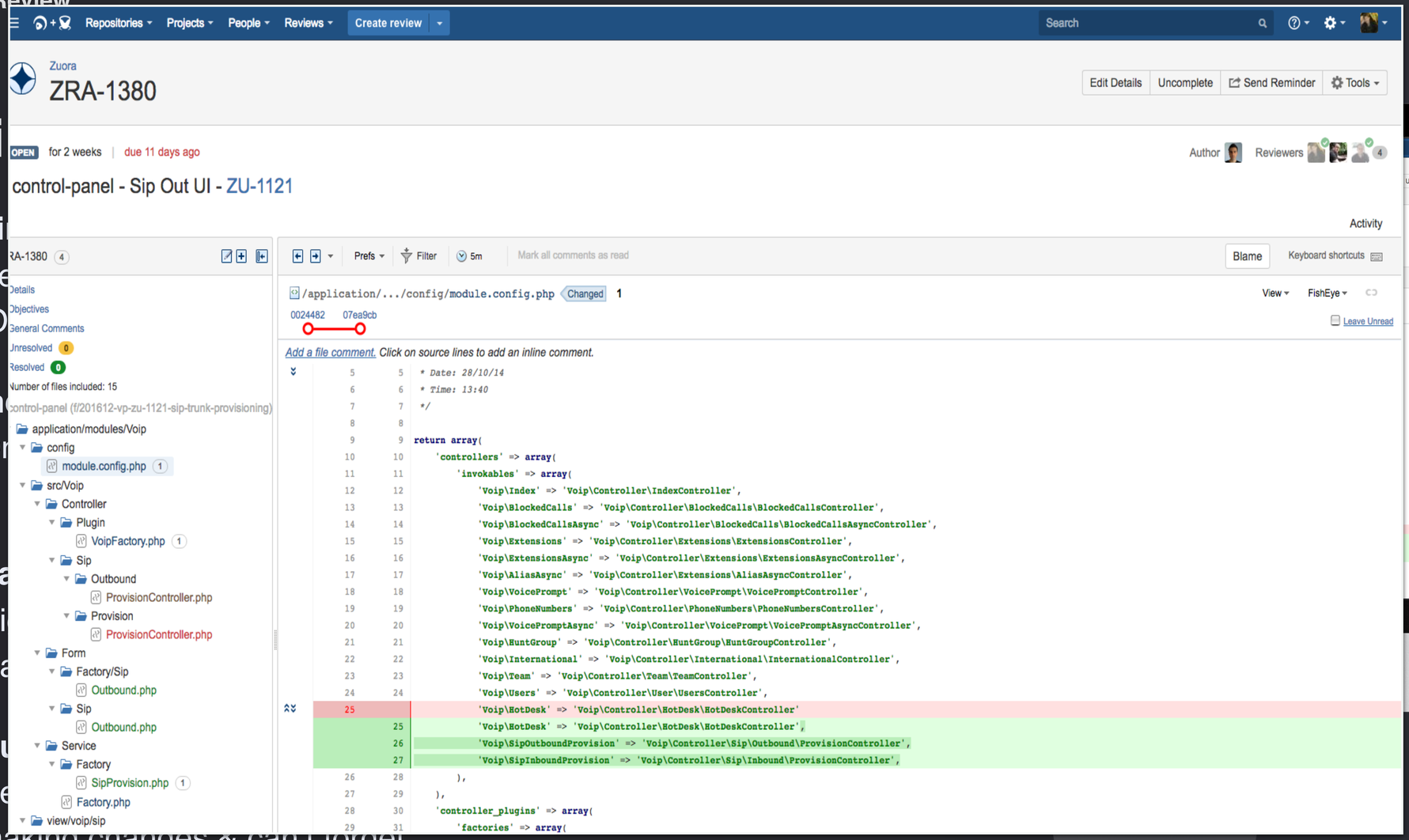

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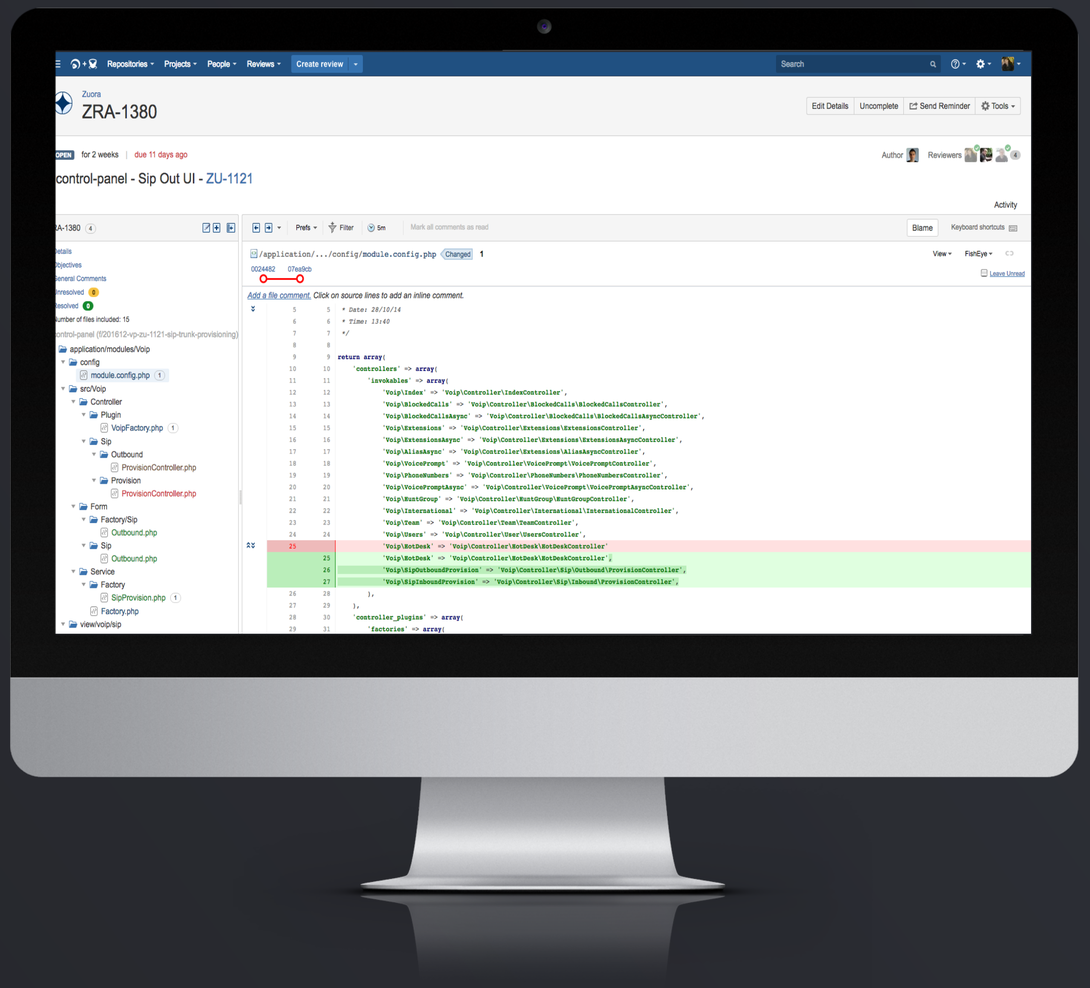

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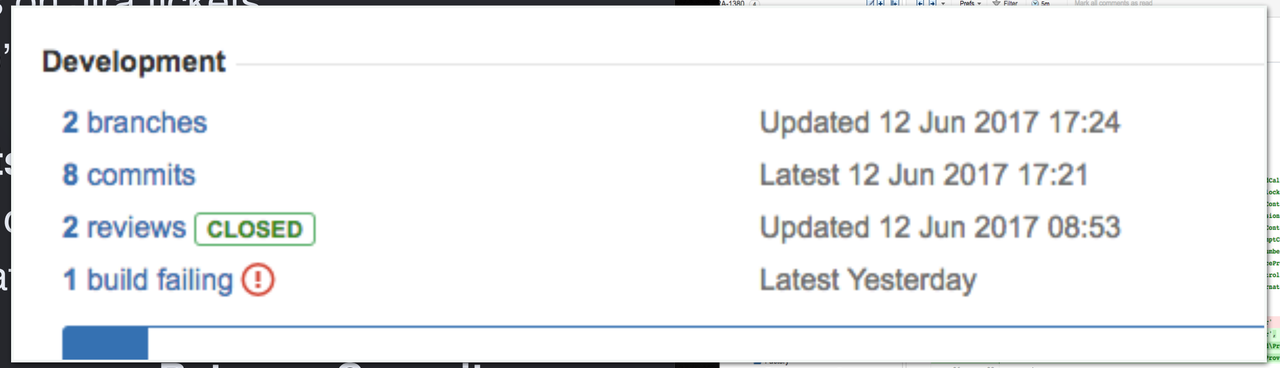

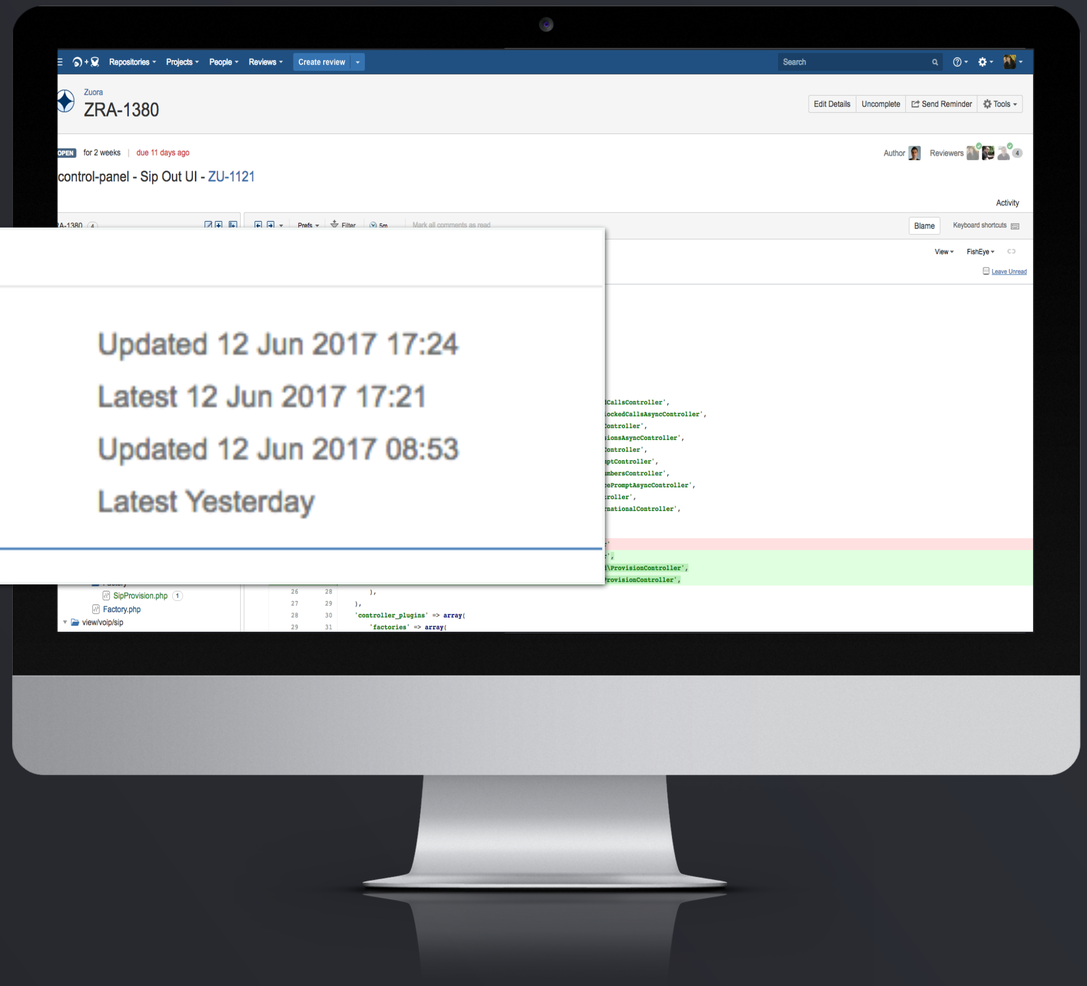

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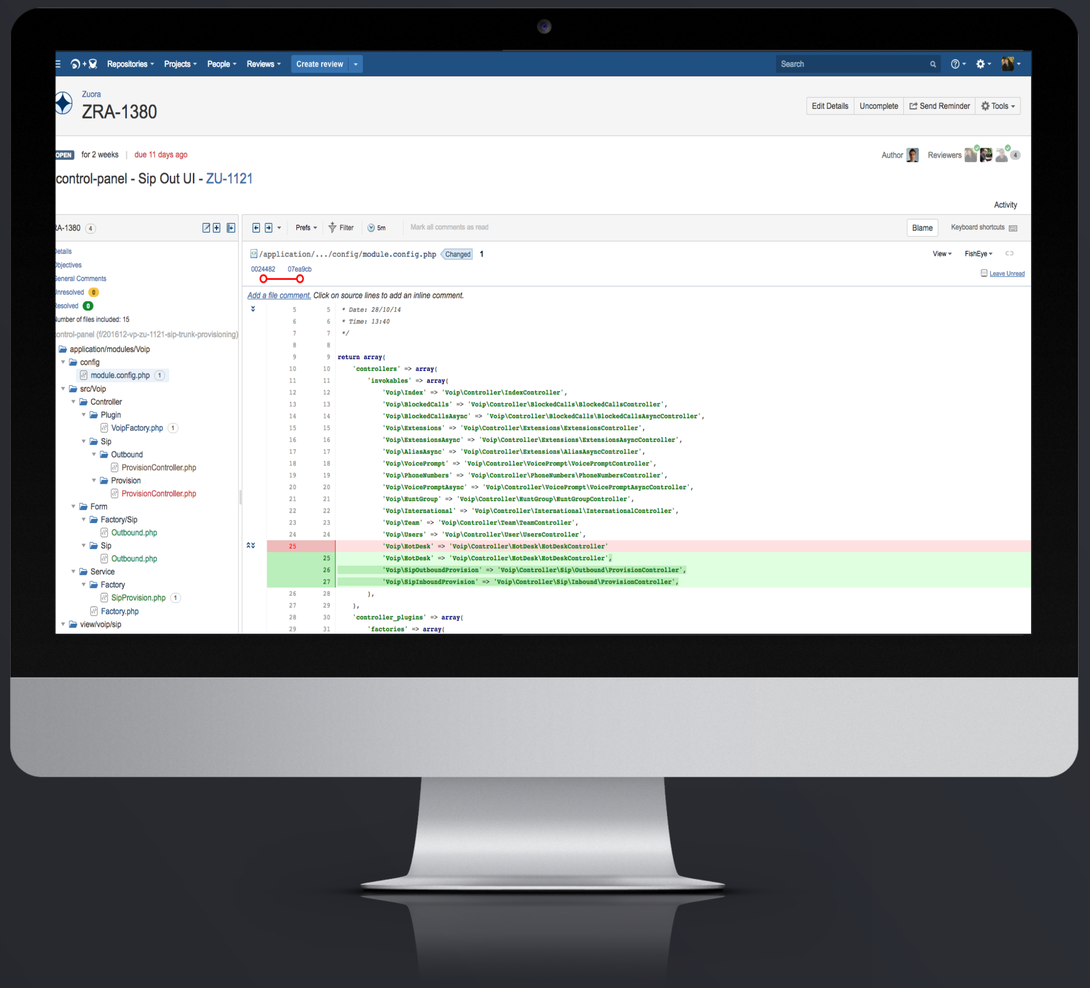

Everything is Reviewed.

Everything Should be Reviewed Within 2 Days

Everyone is invited to the review

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1 x Senior must sign off

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1 x Other must sign off

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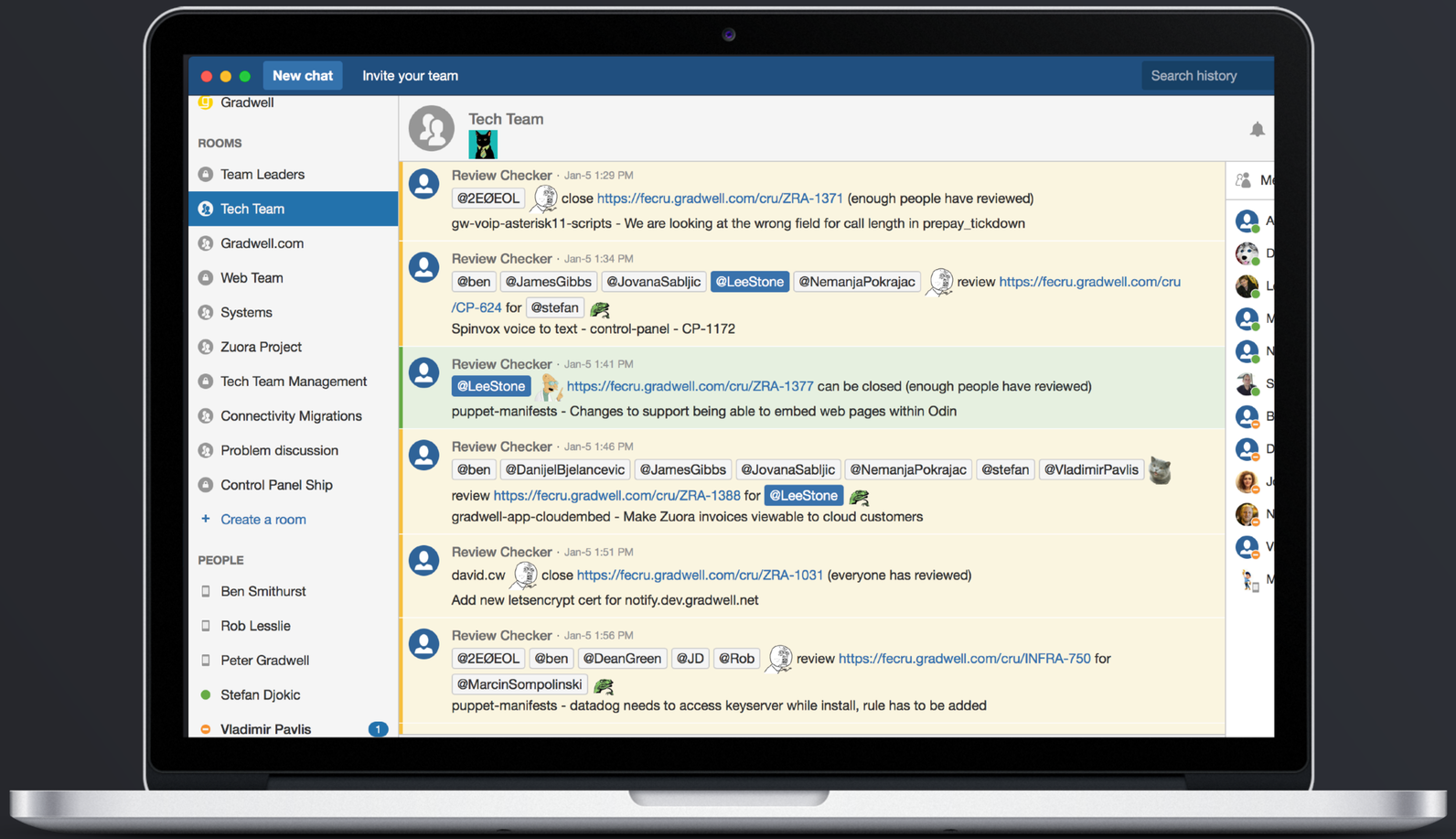
No defects

HipChat Bot

Because we all forget

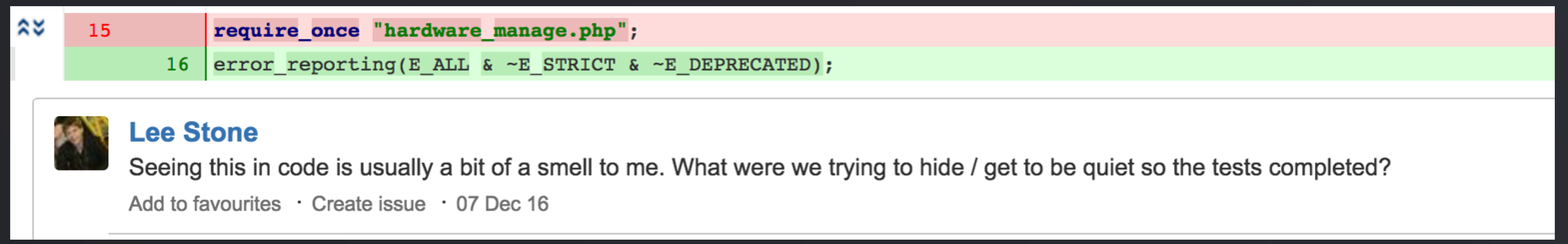


Effective Code Reviews

◦◦◦ Don’t Make it Personal.

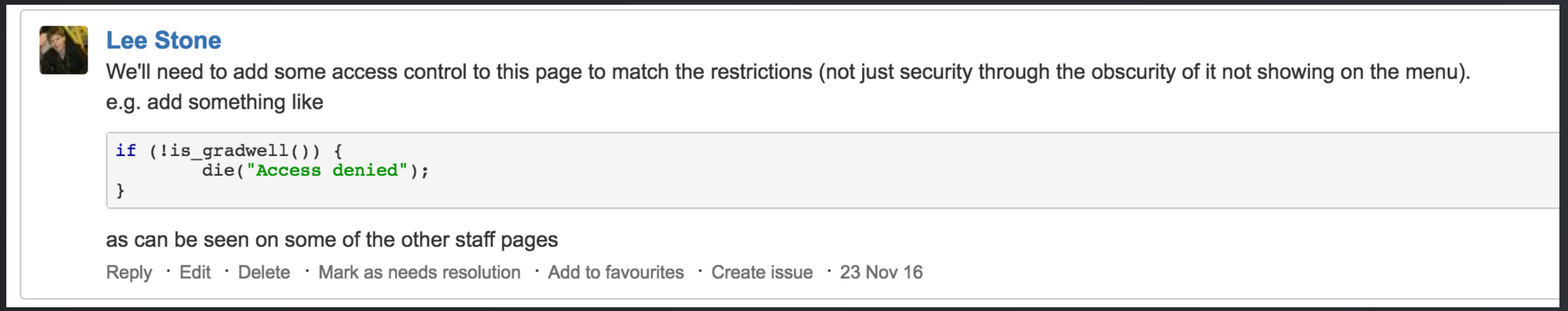
◦◦◦ Don’t Take it Personally.

I find using “we” rather than “I” or “You” helps



Provide Solutions

Don’t just point out the error or problem and move on



Lee Stone

We'll need to add some access control to this page to match the restrictions (not just security through the obscurity of it not showing on the menu).
e.g. add something like

```
if (!is_gradwell()) {
        die("Access denied");
}
```

as can be seen on some of the other staff pages

Reply · Edit · Delete · Mark as needs resolution · Add to favourites · Create issue · 23 Nov 16

Put whitespace only changes into separate commits

Put ‘library’ code and ‘application’ code into separate reviews

What Has Gone Well For Us?

Increased knowledge of similar work at sprint planning sessions.

Tended towards standard approaches
in a quicker fashion.

Seen opportunities to refactor and produce more generic libraries earlier.

Caught Security Issues Before Hitting Production

SQL Injection

Modifying Other Customer's Settings

Producing a List of Customer Emails

Partners Seeing Gradwell Only Pages

Improved In-line Documentation

The business is completely on-board

Increased Confidence From The Rest of The Business

Given Individual Developers More Freedom

Where Do I Have To Encourage The Team?

What are the most difficult reviews to get feedback on?

Anything by

This Guy

How to Encourage Newer Developers.

A new developer to the team is more cautious about commenting on anyone else’s code.

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Start Small.

Typos and coding styles are still important and are ‘less risky’ to comment on.

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Say If You Don't Understand.

We all have to maintain the code and readability is one of our most important considerations.

If you don't understand what is happening, we have probably done something wrong. Even if the code works.

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Bring Fresh Ideas

Everyone can bring different experiences and suggest new and improved ways of approaching something.

Move Beyond Coding Standards

Move Beyond Coding Standards

```
2221    public function getBounceListService()
2222    {
2223        if($this->_bounceListService === null)  {
```

Danijel Bjelancevic

I don't want to be PITA, but you should have a space between if and opening parenthesis.

Add to favourites · Create issue · 21 Nov 16

```
105         $stmt->bindValue(':email_to', $logEntry->getEmailTo());
106         $stmt->bindValue(':template', $logEntry->getTemplate());
107         $stmt->bindValue(':formattedDate', $formattedDate);
```

Vladimir Pavlis

I see a mixture of snake case and camel case.
We prefer camel case.

Reply · Leave unread · Mark as needs resolution · Add to favourites · Create issue · 08 Dec 16

```
108
```

Don’t stick to giving the same feedback

Especially on a ‘minor benefit’ point

What Do We Need To Improve?

Introduce Code Coverage Reports

Ben Smithurst

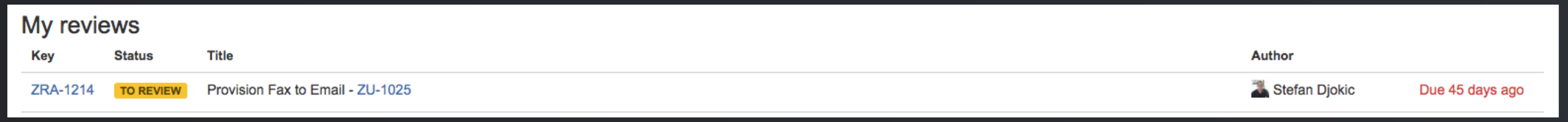
Comparing f/201608-bs-maint-window against develop

File	stmt	bran	cond	sub	pod	time	total
.../LSM/Automation/Puppet.pm	100.0	100.0	n/a	100.0	25.0	0.1 >> 0.0	95.8
...Gradwell/Infra/Misc/HG.pm	100.0	87.5	66.6	100.0	100.0	1.4 >> 1.9	96.4
...Infra/Misc/IssueLogger.pm	100.0	100.0	n/a	100.0	0.0	5.2 >> 3.8	93.9
...adwell/Infra/Misc/Jira.pm	96.7	75.0	n/a	100.0	0.0	0.4 >> 0.5	87.1
...ell/Infra/Misc/Command.pm	94.1	62.5	80.0	100.0	0.0	57.1 >> 42.8	83.9
...ell/Infra/Misc/HipChat.pm	100.0	100.0	n/a	100.0	0.0	6.1 >> 5.2	95.7
...ion/BlockSipAttackerIp.pm	96.5	91.6	100.0	100.0	25.0	5.2 >> 7.3	94.0
...ra/LSM/Automation/Base.pm	95.5 >> 96.6	88.4 >> 90.0	77.7 >> 83.7	100.0	9.0 >> 33.3	7.8 >> 7.9	90.7 >> 92.5
...tion/DeploymentProfile.pm	100.0	90.0	83.3	100.0	16.6	3.3 >> 2.5	93.0
...tomation/DebianPackage.pm	100.0	100.0	97.2	100.0	87.5	13.0 >> 27.7	99.3

Old report: http://docs.dev.gradwell.net/coverage/gw-infra-lsm-automation-develop-a8748a409556-1049/coverage.html
New report: http://docs.dev.gradwell.net/coverage/gw-infra-lsm-automation-f-201608-bs-maint-window-4539bf5e95e0-1049/coverage.html

Reply · Mark as unread · Mark as needs resolution · Add to favourites · Create issue · 23 Aug 16

Get Reviews Completed Quicker



My reviews

Key	Status	Title	Author	
ZRA-1214	TO REVIEW	Provision Fax to Email - ZU-1025	Stefan Djokic	Due 45 days ago

	Author	
	Stefan Djokic	Due 45 days ago

Why so Long?

Reviewers Don’t Want to Interrupt Flow

Other developers don’t look until they have finished their task, or at an ideal break point

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Resistant to context switch back to make any suggested changes

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People see ’67 files changed’ and delay

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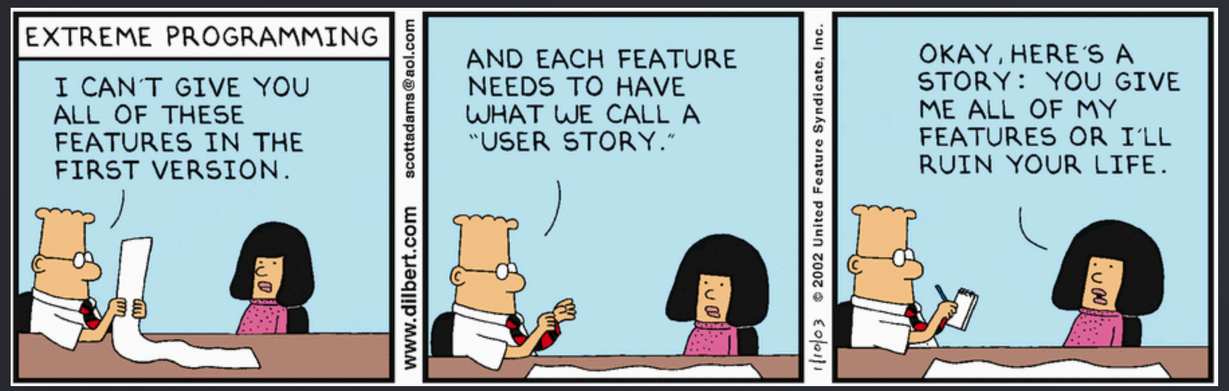
It Gets Worse
The more cycles, the longer since the code was written, the longer it takes to switch

These Delays Hurt Our Release Pace

How to Speed Up?

Encourage Smaller Reviews

- More partial reviews early on
- Fundamentally create smaller stories to work on



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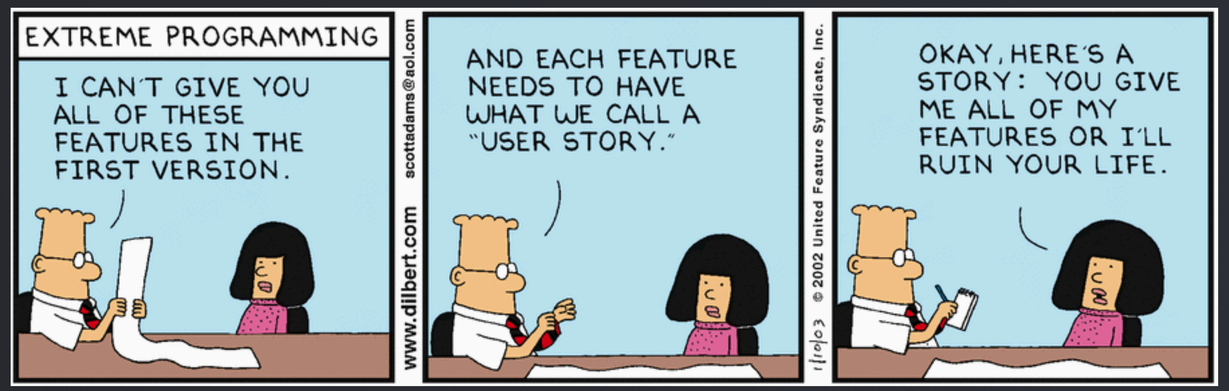
Encourage Use of Small Time Periods

- Before / after meetings
- Before / after lunch.
- End of day



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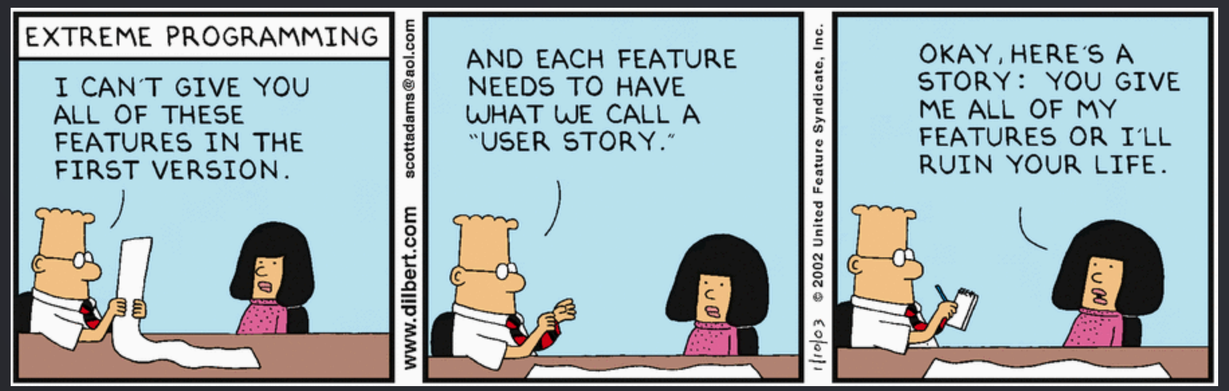
‘Fixed’ Review Times

I want to avoid this



How to Speed Up…. Completion?

Ownership of Work

- Although we work as a team, we need a ‘champion’
- Encouraging others to do reviews & acting on feedback

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Increase Recognition of Shipping

- Verbal Recognition
- How to handle for a remote team?

More Business Logic Feedback

Lets Recap

In Summary…

Code reviews take time, but bring benefits to teams.

Your approach needs to be customised to suit your team.

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Think About….

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How Do You Not Considerably Slow Your Release Pace?

Thank You.

Any Questions?

Lee Stone @leesto

https://joind.in/talk/e62d8