

Reviewing Code Review.

Improving the process of improving



... Hi. I'm Lee.



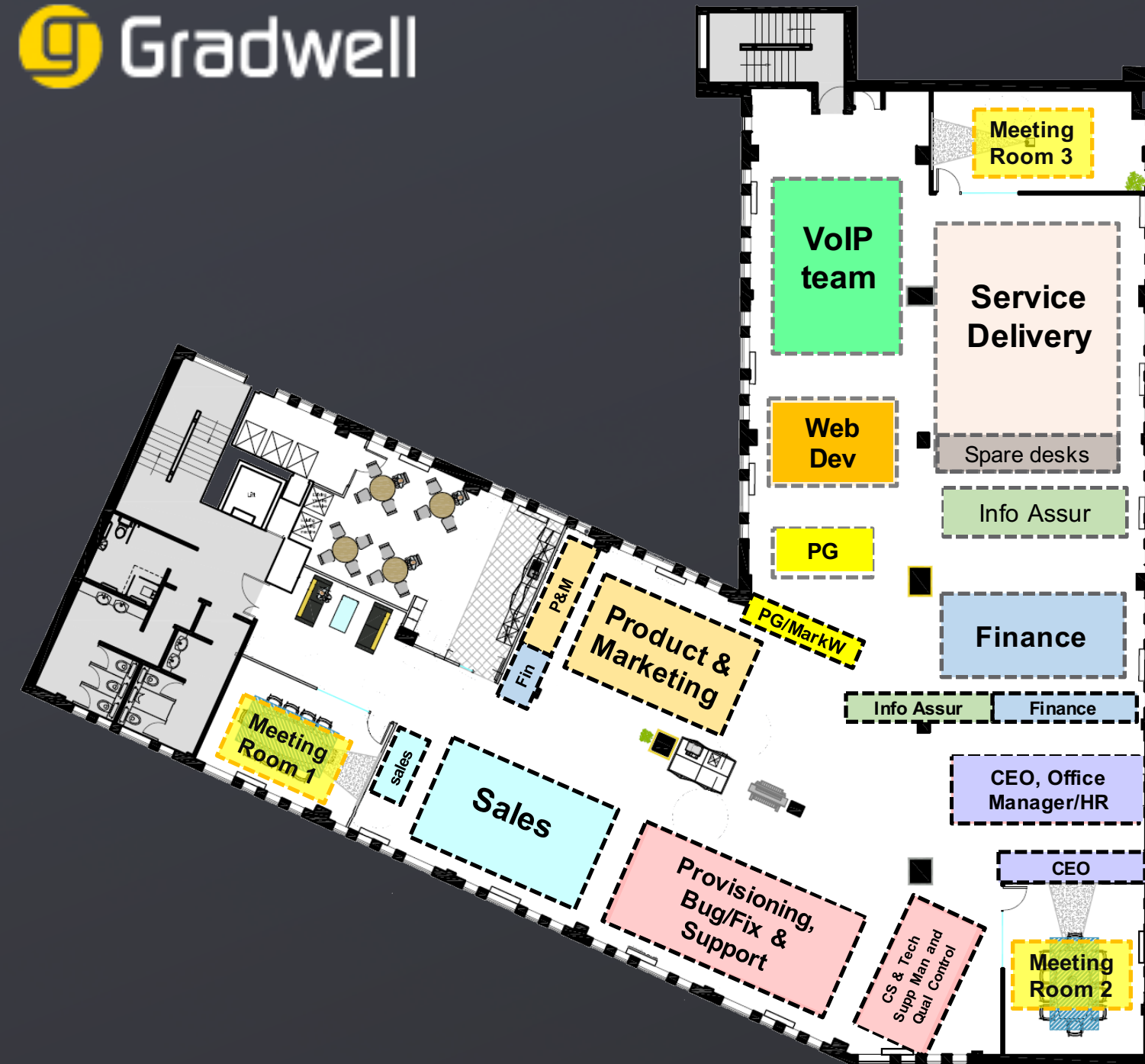
Organiser of PHPSW
One of a great team to make sure nights like tonight happen

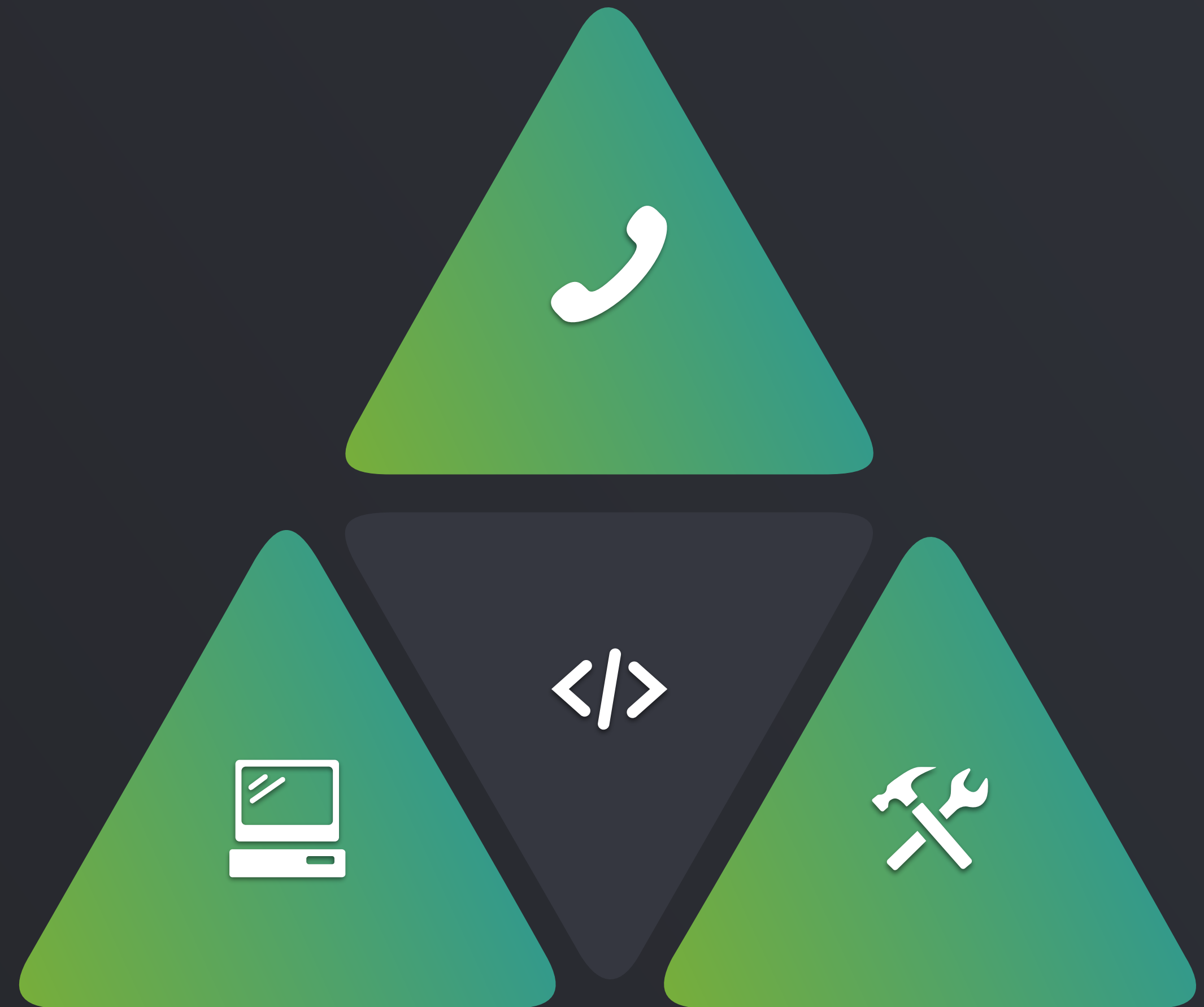
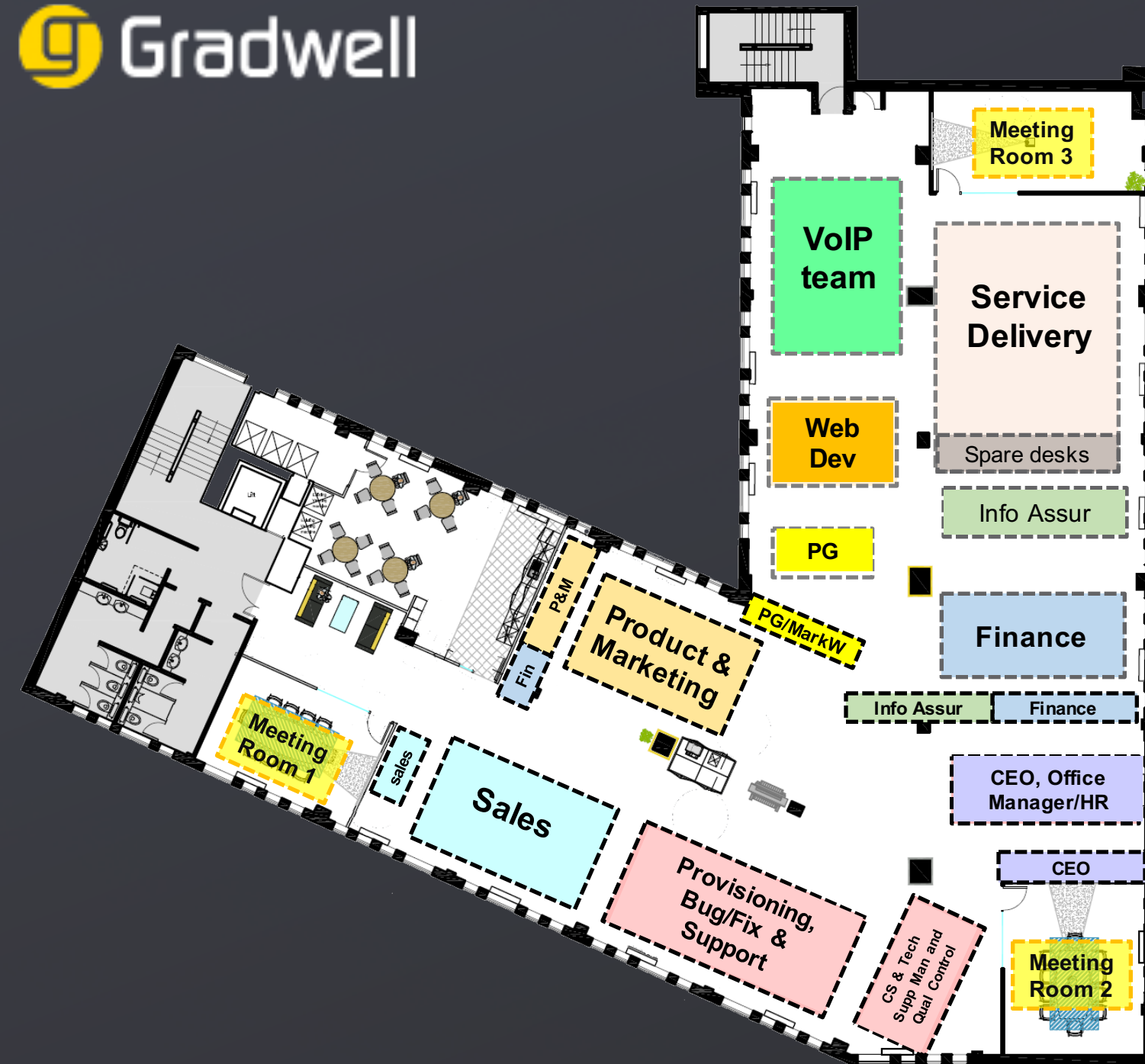


Web Team Lead at Gradwell
Lead a team producing web applications for selling & managing Gradwell services

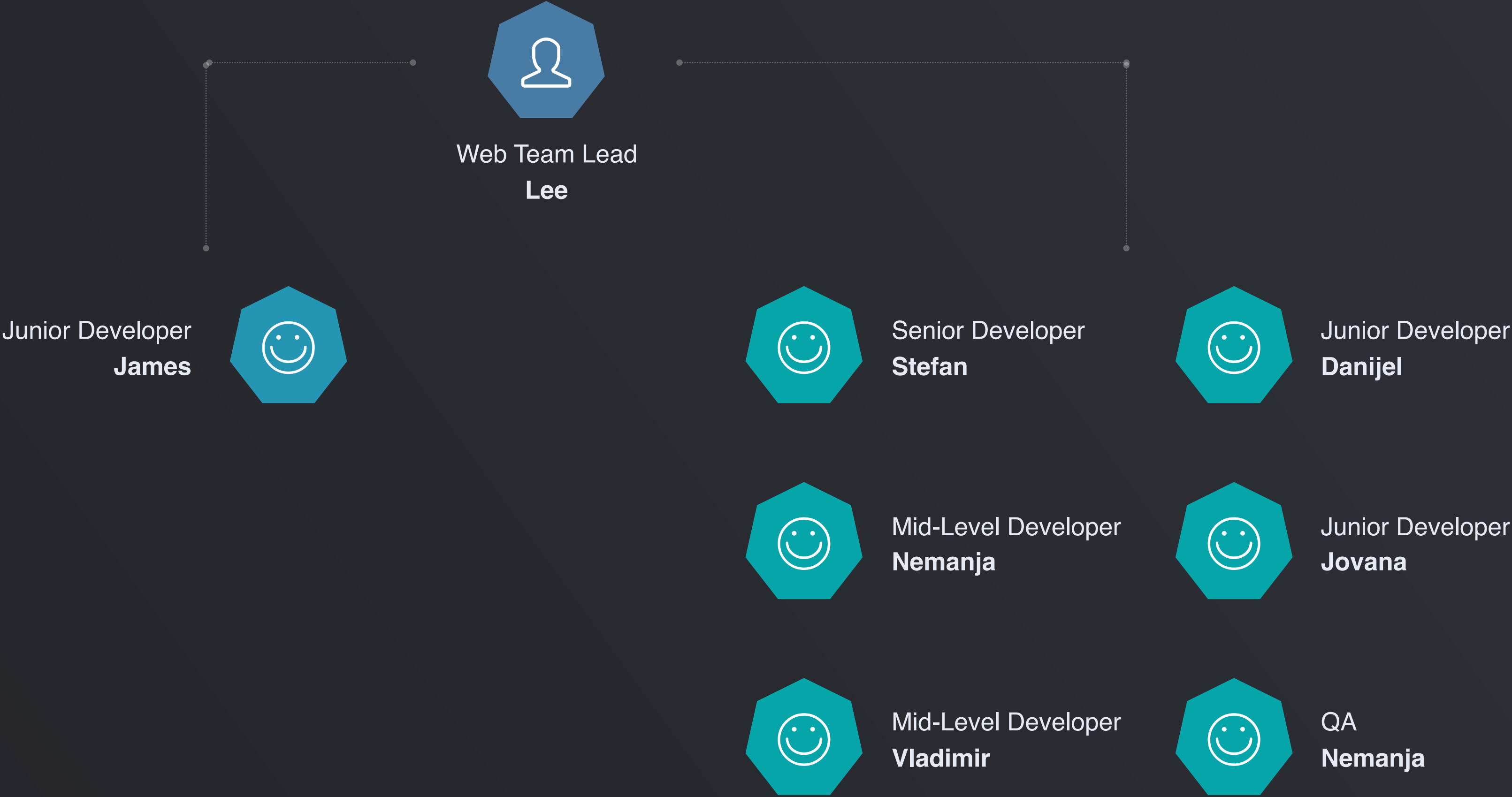


Theatre Technician
Local Amdram, Glastonbury, edFringe





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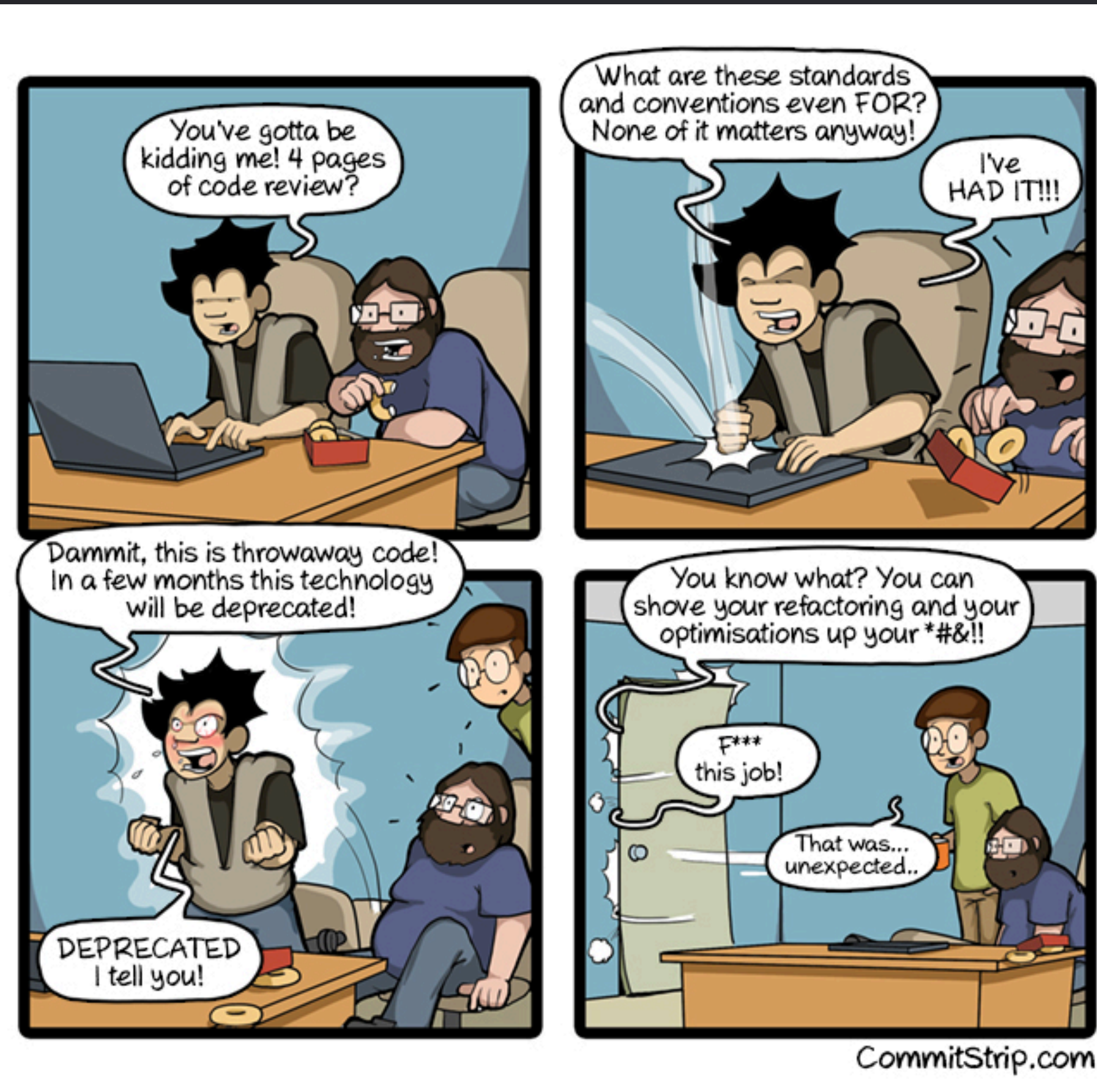


What is Code Review?

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



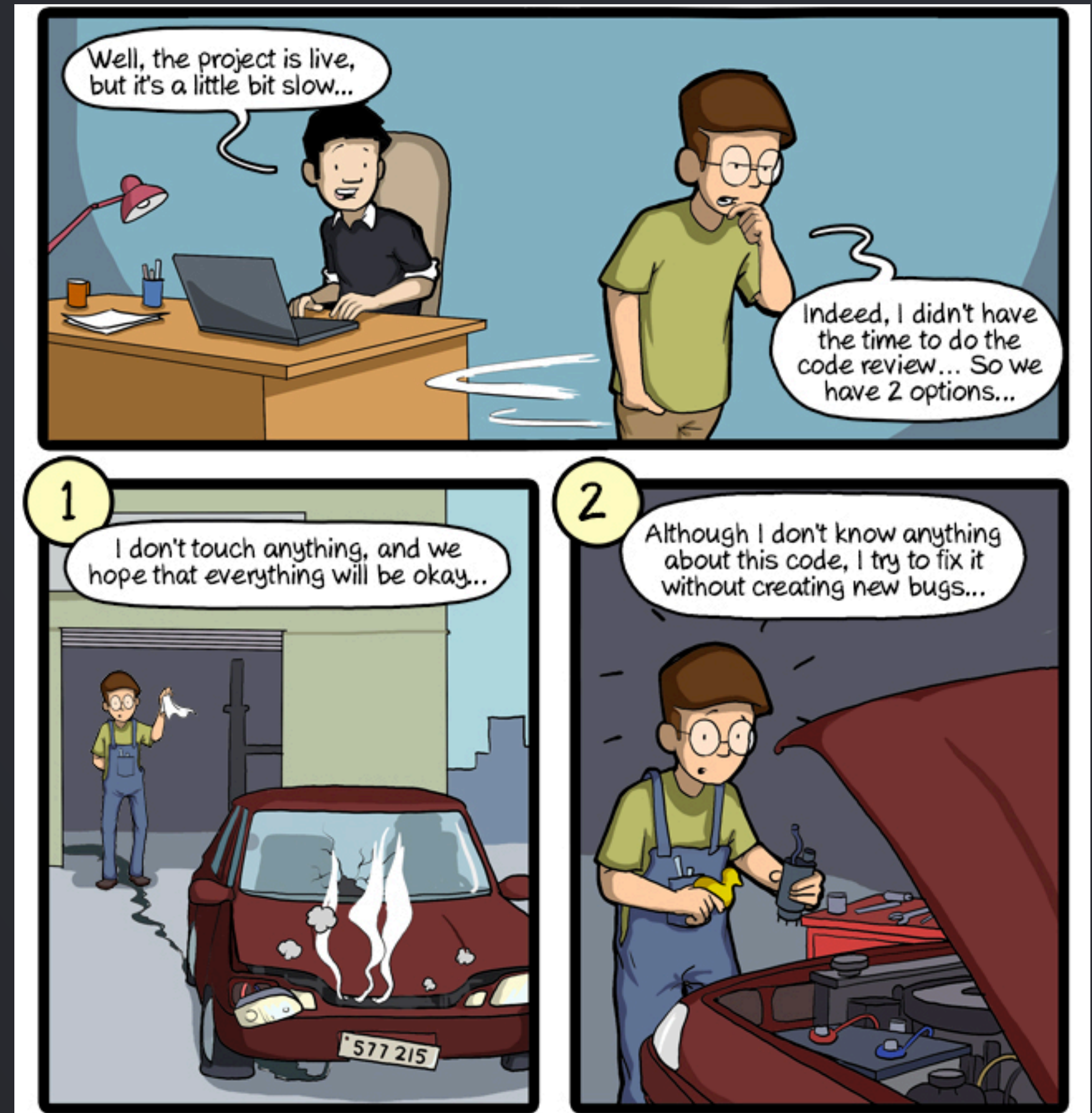
Ideal to mentor new developers



Shared business logic - Remove SPOFs



Discover Technical Approaches





... Other Benefits.



Improve Estimates



Making Sure Solutions Meet Requirements

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



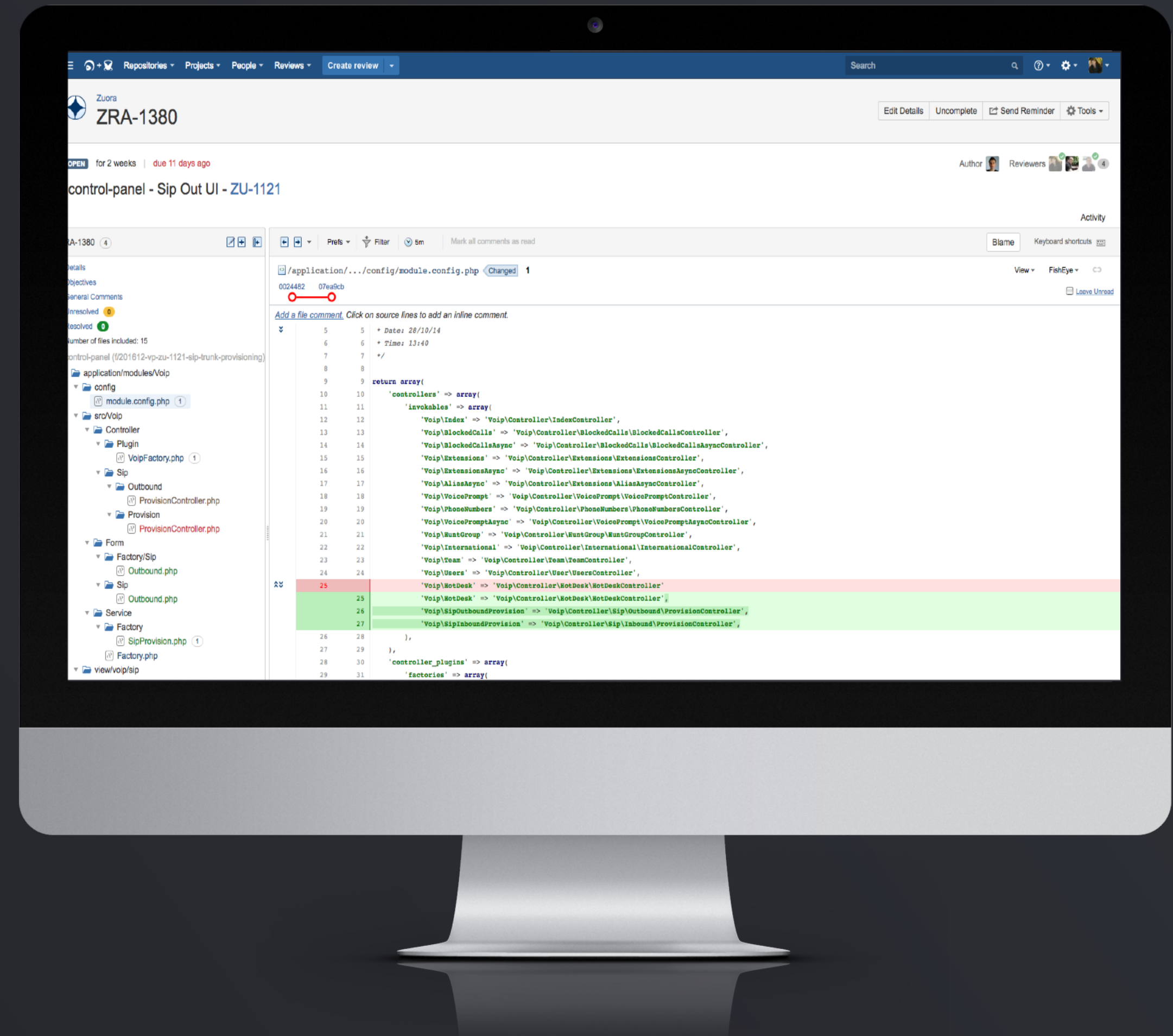
Easily See Differences Between Commits

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



Everything is Reviewed.

Everything Should be Reviewed Within 2 Days

Everyone is invited to the review



Everyone is invited to the review



1 x Senior must sign off

Everyone is invited to the review



1 x Senior must sign off



1 x Other must sign off

Everyone is invited to the review



1 x Senior must sign off



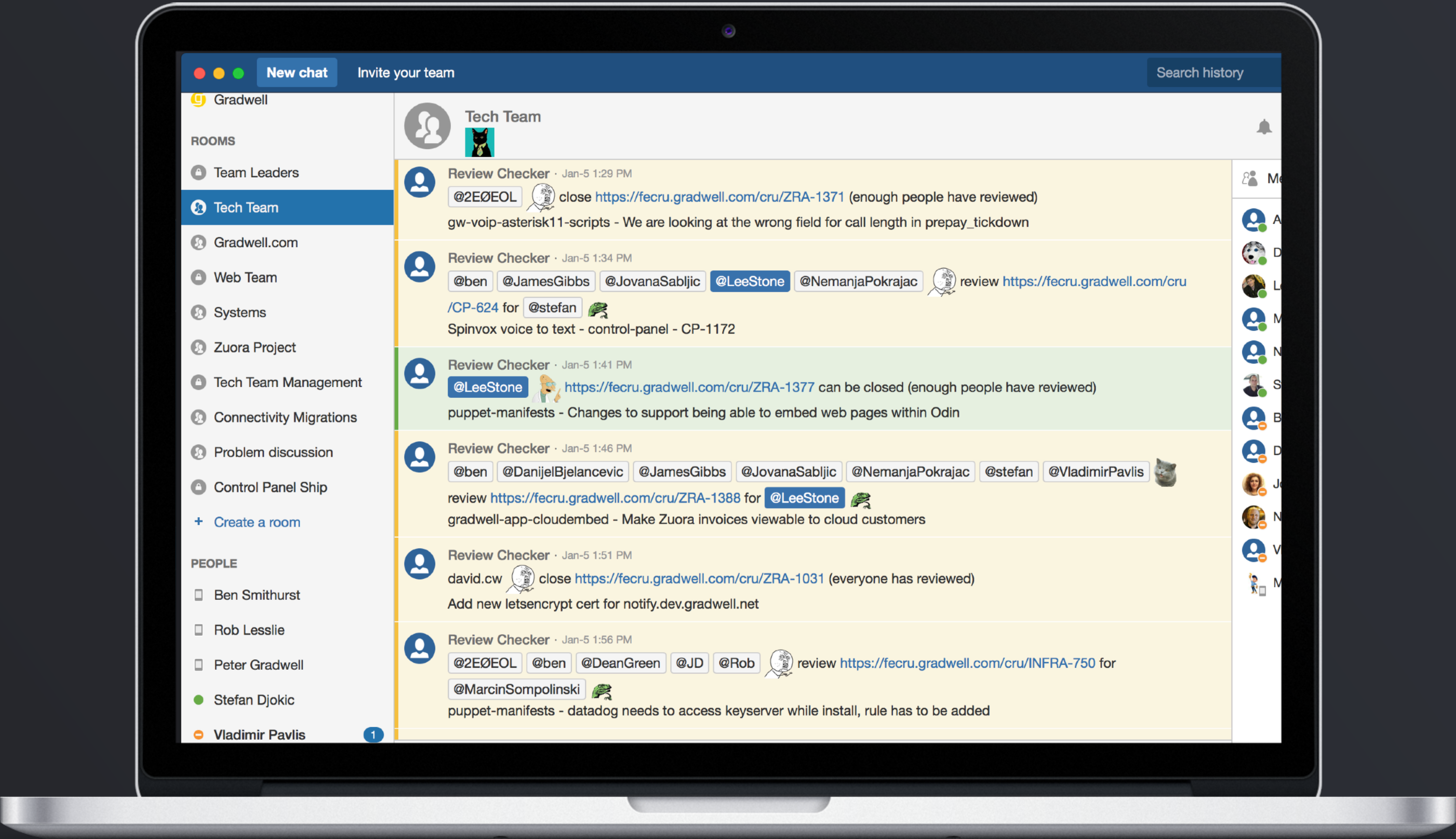
1 x Other must sign off



No defects

HipChat Bot

Because we all forget



Effective Code Reviews

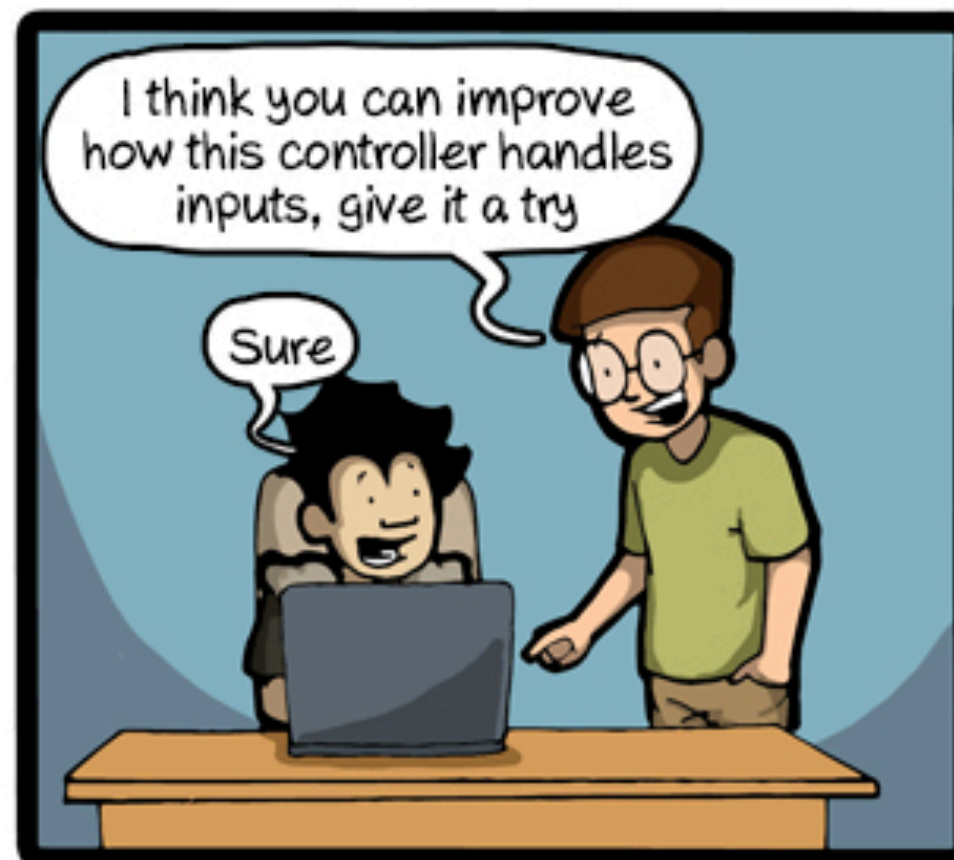
WHAT WE SAY



WHAT WE THINK



WHAT WE SAY



WHAT WE THINK



... Don't Make it Personal.

WHAT WE SAY



WHAT WE THINK



WHAT WE SAY

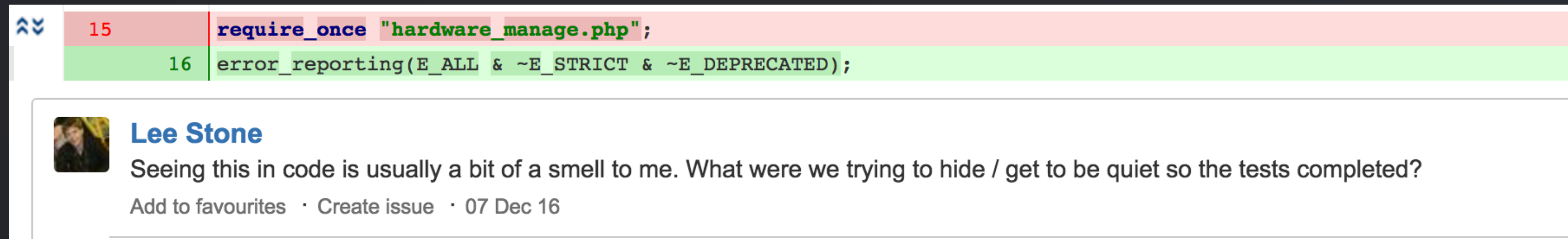


WHAT WE THINK



... Don't Take it Personally.

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



The screenshot shows a code review interface. At the top, two lines of PHP code are displayed: line 15, `require_once "hardware_manage.php";`, and line 16, `error_reporting(E_ALL & ~E_STRICT & ~E_DEPRECATED);`. Below the code, a comment from Lee Stone is visible. The comment text is: "Seeing this in code is usually a bit of a smell to me. What were we trying to hide / get to be quiet so the tests completed?". Below the comment text are three links: "Add to favourites", "Create issue", and "07 Dec 16".

```
15 require_once "hardware_manage.php";
16 error_reporting(E_ALL & ~E_STRICT & ~E_DEPRECATED);
```

Lee Stone
Seeing this in code is usually a bit of a smell to me. What were we trying to hide / get to be quiet so the tests completed?
Add to favourites · Create issue · 07 Dec 16

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

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.

ooo

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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Ask Why.

Code reviews don't have to be just for pointing out problems.

Asking why an approach was taken can be a good learning opportunity.

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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

```
104  
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
```

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

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



... Why so Long?



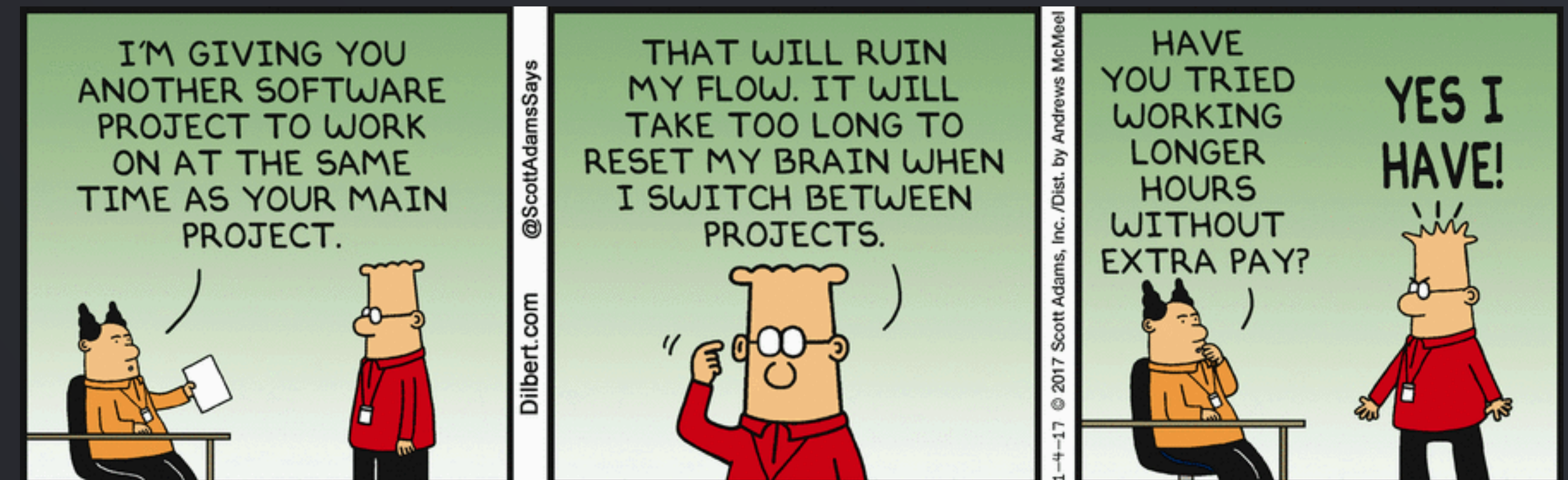
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Developers Move on to Something New

Resistant to context switch back to make any suggested changes



Why so Long?



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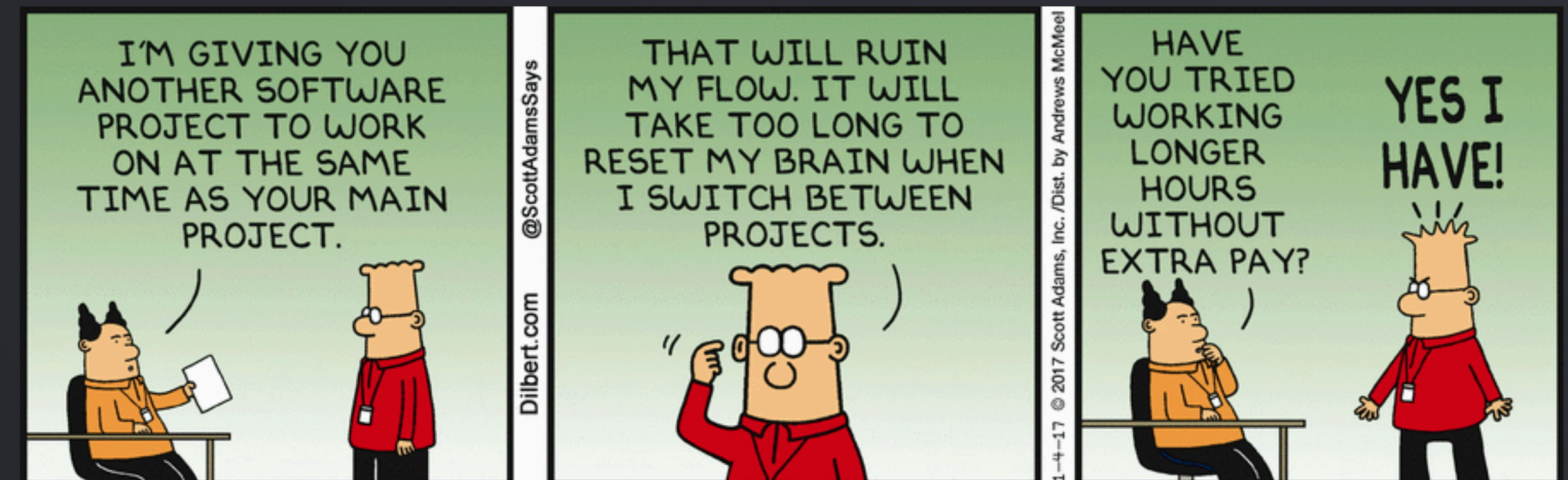
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Large Reviews are Harder to Start

People see '67 files changed' and delay



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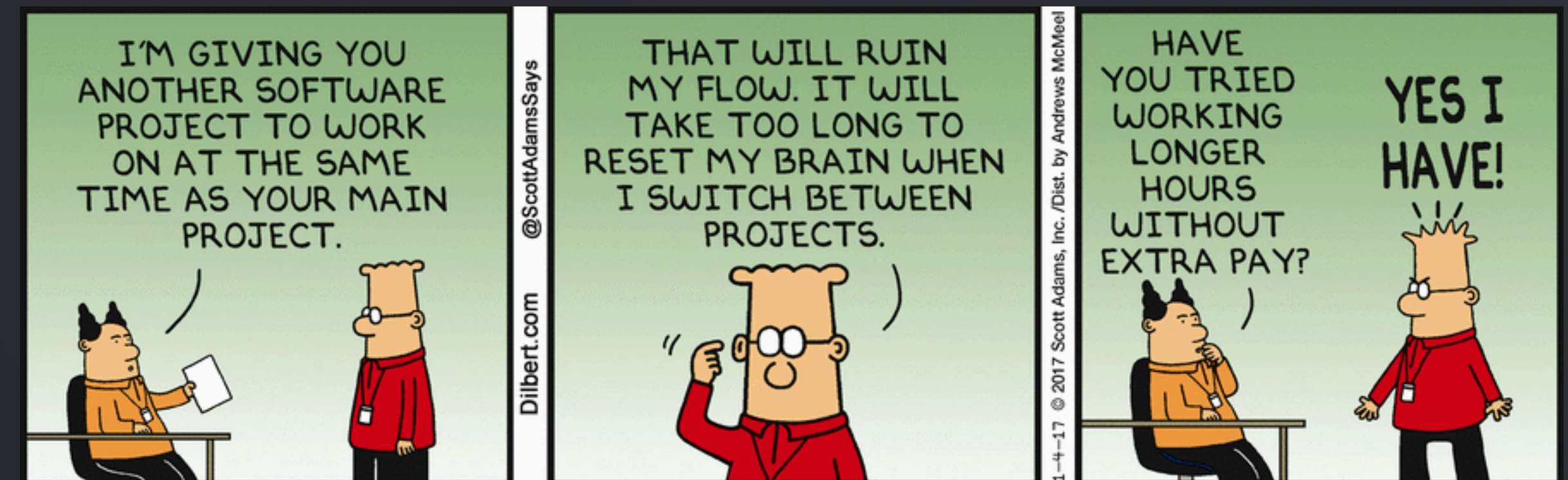
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It Gets Worse

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



How to Speed Up?



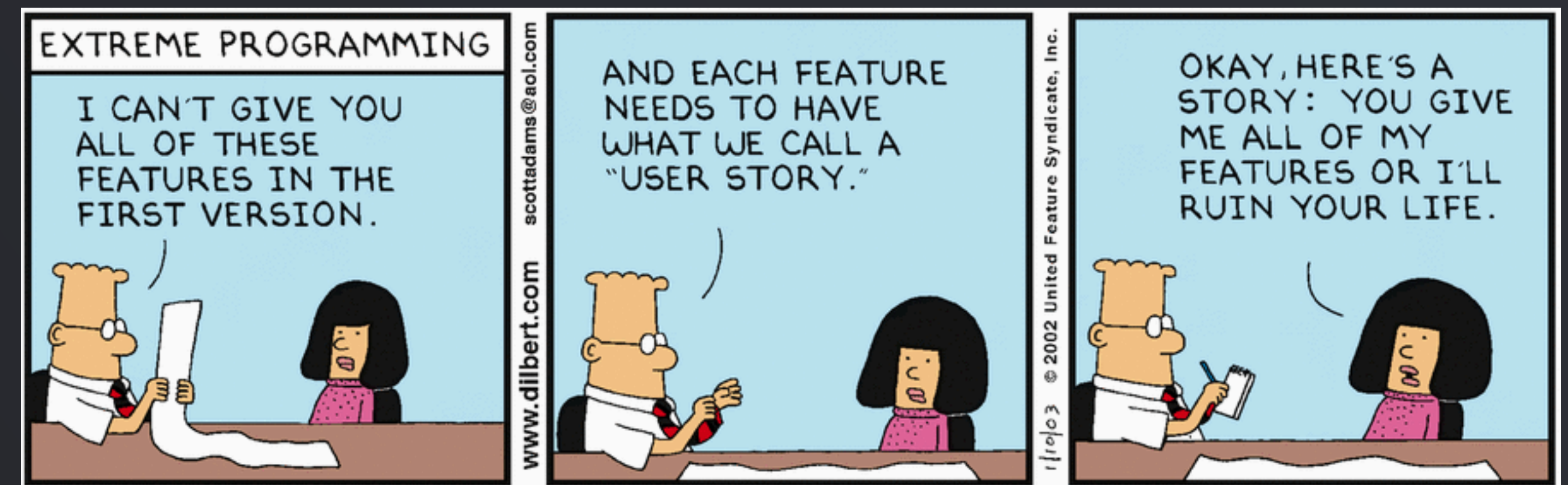
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Encourage Use of Small Time Periods

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



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'Fixed' Review Times

I want to avoid this



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....

**What Do You Want To Get
Out Of The Reviews?**

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**What Tooling Can Fit Into
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Think About....

**How Do You Not
Considerably Slow Your
Release Pace?**

Thank You.

Any Questions?