

SENG 275

SOFTWARE TESTING

DR. NAVNEET KAUR POPLI

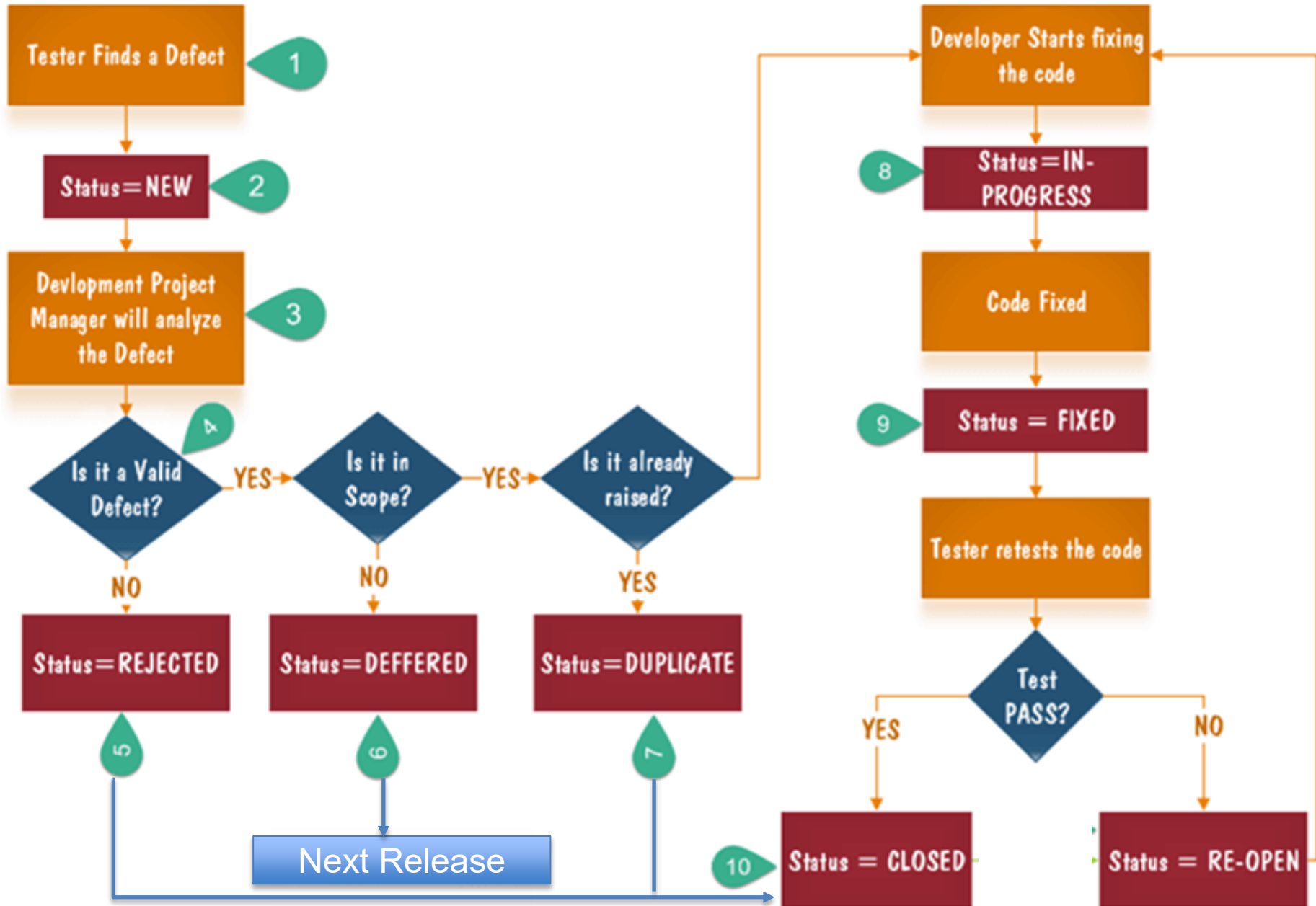


BUG

- LIFE CYCLE
- PRIORITY AND SEVERITY
- BUG REPORTING
- BETTER BUG COMMUNICATION



Defect Life Cycle



New status

- During the time of the testing phase, the bug or defect is identified by the tester, and it is logged in to the bug tracking tool such as Jira, Bugzilla, Zoho, Trello, Zephyr etc.
- The bug which is detected by the tester will be posted for the first time in a bug tracking tool.
- This status is assigned as a New status.



Assigned status

- Bug with **New** status is assigned to the software developers, and they will investigate the bug to check whether the bug is valid or invalid.
- If the bug is invalid, then they change the status to invalid.
- If the bug is valid then the status is changed to **assigned**, then the software developers start working on the defect to get fixed.



Open status

- When the bug is assigned to the software developers then they start analyzing it and works on the defect fix. The bug or defect can be opened in three stages:
- **Duplicate status**
If the defect is repeated twice or the defect corresponds to the same concept of the previous bug, then it changes the status to Duplicate.
- **Rejected status**
If the developer feels that the defect is not a genuine defect, then it changes the status to Rejected.
- **Deferred status**
If the bug is not of higher priority and can be solved in the next release, then the status changes to Deferred. The deferred state is also known as postpone state.



- **Fixed status**

When a developer makes a necessary code changes and verifies the change, then he/she can make the bug status as fixed. When the bug is fixed by the developers then the status is changed to either Reopened or Verified.

- **Retest status**

Once the bug is fixed by the software developers then it is assigned back to the testing team to check whether the bug has been fixed or not.

- **Reopen status**

If the bug persists even after the developer has fixed the bug, then tester changes the status to Reopen and once again bug goes through the whole bug life cycle.

- **Verified status**

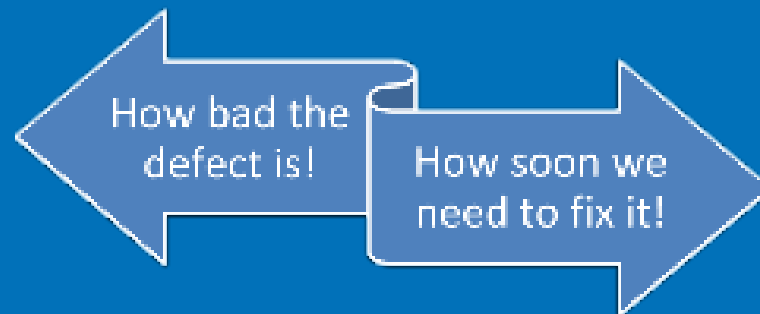
The tester retests the bug after it got fixed by the developer if no bug found then it changes the status to Verified.

- **Closed status**

If the bug is no longer exists (is fixed), then it changes the status to Closed.



BUG SEVERITY AND PRIORITY

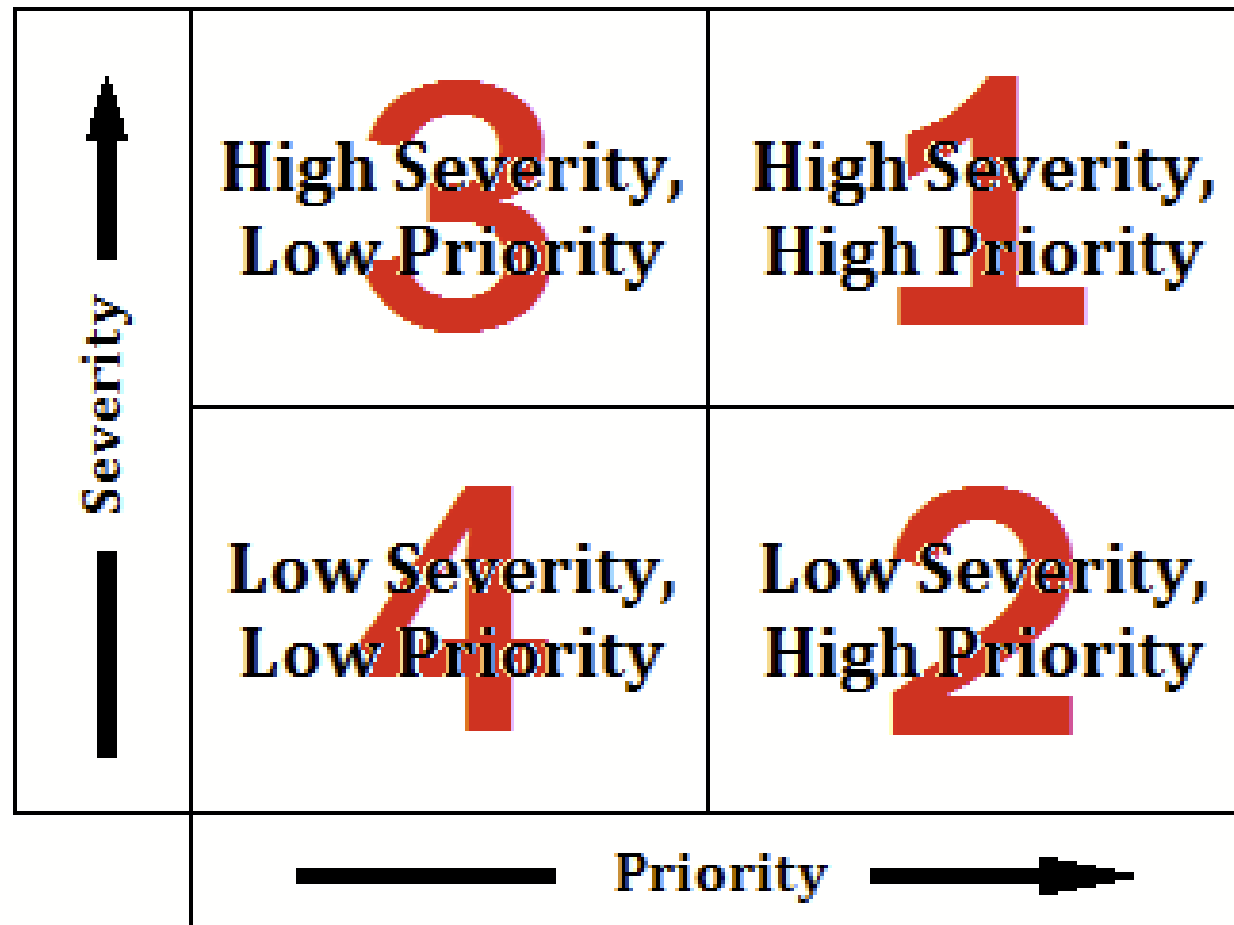


Bug severity and priority

- **Bug severity** is assessed from a **technical** perspective of the web-application workflow.
- **Bug priority** is assessed from a **user-experience** perspective on the application usage.
- **Priority** is defined as the **order in which a defect should be fixed**.
- Bug **Severity** is a **degree of impact** a bug has on the software application under test.
- **Priority** is driven by **business value** while **Severity** is driven by **functionality**.



Bug resolution



Example

The screenshot shows the Amazon.ca homepage. At the top, the navigation bar includes the Amazon logo, delivery location (Victoria V8X 4M3), a search bar, and links for account, orders, and returns. Below this is a dark banner with navigation links and a 'Shop Mother's Day gifts' promotion. The main hero section features a large blue background with the text: **"Alexa, ask CBC for today's news."** and **Echo Dot with Clock**, accompanied by an image of the device. Below the hero section are four promotional tiles: 'Hi, Navneet' with a user profile and links to orders and gift finder; 'Recently viewed' showing a Gatorade bottle; 'Shop gift ideas for Mom' with categories like Fitness and On the Go; and 'Customer Orders Update' with a message about delivery safety. A Windows taskbar is visible at the bottom.

amazon.ca Deliver to Navneet Victoria V8X 4M3 All Hello, Navneet Account & Lists Returns & Orders Cart

All Best Sellers Navneet's Store Prime Buy Again Deals Store Customer Service Gift Ideas New Releases Shop Mother's Day gifts

"Alexa, ask CBC for today's news."
Echo Dot with Clock

Hi, Navneet
Customer since 2021

Top links for you

Your Orders Gift Finder

<https://www.amazon.ca/gp/product/B01G96KG98>

Recently viewed

Shop gift ideas for Mom

Fitness On the Go

Customer Orders Update



We're working to deliver orders while keeping employees safe.

Questions? Contact Customer Service.

INTRODUCING


Windows taskbar: Type here to search, 10:37 AM, 21/04/2021

1. High priority, high severity-key feature does not work

amazon.ca Deliver to Nanaimo Victoria VBX 4M3 All  Hello, Navneet Account & Lists Returns & Orders 

≡ All Best Sellers Navneet's Store Prime Buy Again Deals Store Customer Service Gift Ideas New Releases Shop Mother's Day gifts



Today's Deals Watched Deals Outlet Deals Warehouse Deals Coupons eBook Deals Subscribe & Save


 Get a \$5 credit when you purchase \$25 or more in Amazon Gift Cards (restrictions apply) [Learn More](#)


Vous voulez voir cette page en français ? Cliquez ici.

Shopping Cart

[Deselect all items](#)

	Price
 <p><input checked="" type="checkbox"/></p> <p>Ranphee Womens Summer Bow Tie Neck White A Line Fit and Flare Work Dresses(White+Black,S)</p> <p>Only 5 left in stock.</p> <p>Sold by RANPHEE and Fulfilled by Amazon.ca</p> <p>Eligible for FREE Shipping</p> <p><input type="checkbox"/> This will be a gift Learn more</p> <p>Qty: 1  Delete Save for later</p>	\$37.99

[Start](#)  **Gatorade 28oz Squeeze Bottle** \$12.31


 Your order qualifies for FREE shipping (excludes remote locations). Choose this option at checkout. [Details](#)

Subtotal (3 items): \$62.61

☐ This order contains a gift

[Proceed to Checkout](#)

Explore frequently repurchased items

 **Rio Roller Triple Pad...**

★★★★☆ 15

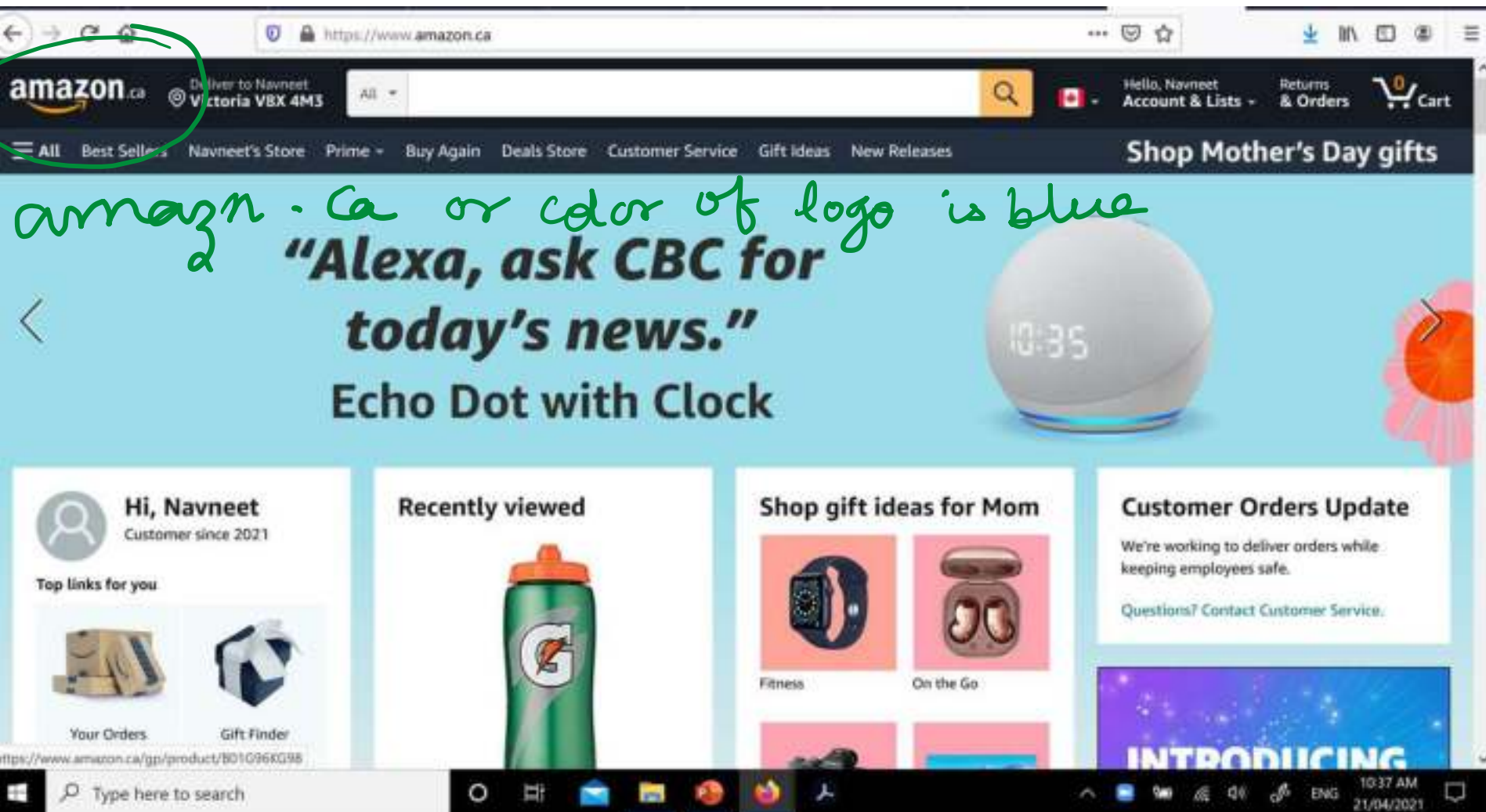
CDN\$49.99

when you make payments sys. crashes

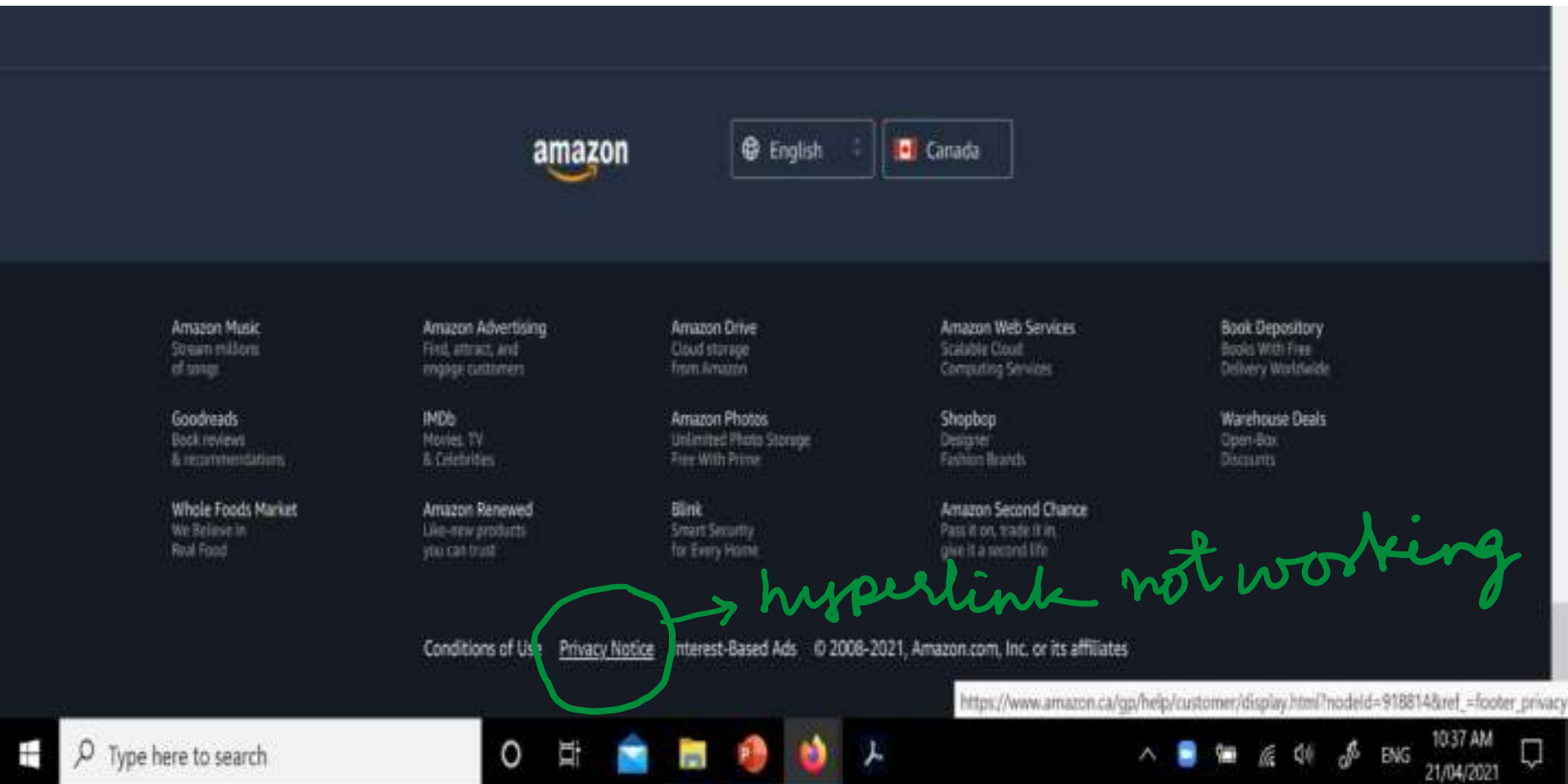
Type here to search

10:47 AM 21/04/2021

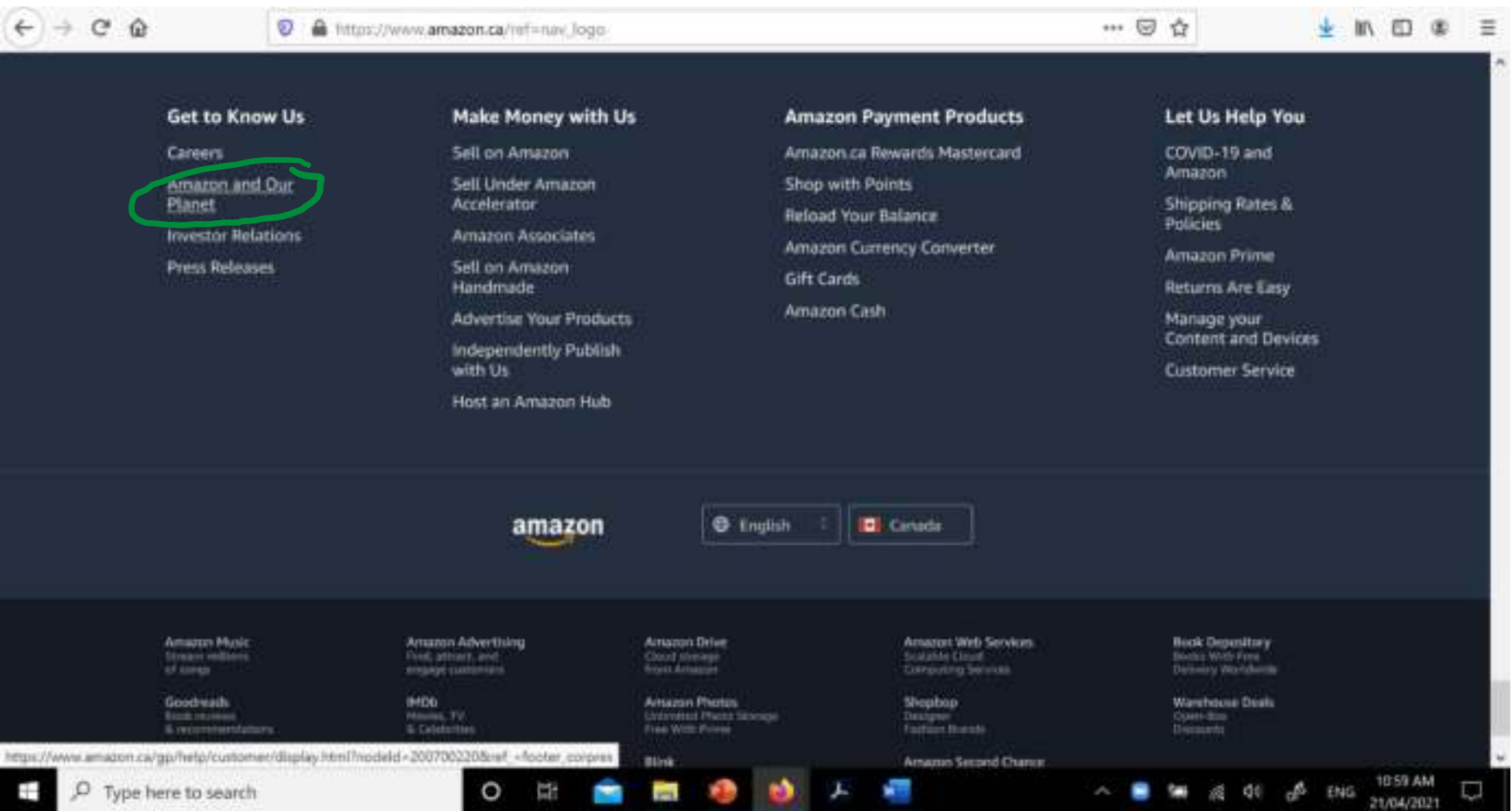
2. High Priority, Low severity-affects brand identity to the user



3. Low priority, high severity- rarely used feature not working



4. Low priority, low severity



4. Low priority, Low severity

The screenshot displays the Amazon.ca Help & Customer Service page. The URL in the browser is https://www.amazon.ca/gp/help/customer/display.html?nodeId=200700220&ref_=footer_corpres. The page features a navigation bar with links to 'All', 'Best Sellers', 'Navneet's Store', 'Prime', 'Buy Again', 'Deals Store', 'Customer Service', and 'Gift Ideas'. A search bar is present with the text 'Find more solutions'. Below this, there is a section titled 'Amazon And Our Planet' with a paragraph of text. A green handwritten note 'Alignment issue' with two arrows points to the search bar and the 'Amazon And Our Planet' section. The page also includes a sidebar with 'Site Features' and 'Quick solutions', and a shopping cart on the right showing a subtotal of \$62.61.

amazon.ca Deliver to Navneet Victoria V8X 4M3

All Best Sellers Navneet's Store Prime Buy Again Deals Store Customer Service Gift Ideas

Shop Mother's Day gifts

Vous voulez voir cette page en français ? Cliquez ici.

Help & Customer Service

All Help Topics

Site Features

- Amazon Community
- Improve Your Recommendations
- Recommendations
- Remove Titles from Your Recommendations
- What is Look inside the book?
- What is Search inside the Book?
- Amazon Best Sellers Rank
- Manage Your Browsing History
- Edit Your Browsing history
- Amazon and Our Planet

Quick solutions

- Your Orders
- Track or cancel orders

Find more solutions

Search bar

Amazon And Our Planet

At Amazon, we believe that innovation has the power to change the world. As we strive to become Earth's most customer-centric company, we constantly look for new ways to innovate on behalf of our different customers: individuals who shop our global websites, merchants who sell on our platform, developers who use our infrastructure to create their businesses, and creators of the books, music, films, games and other content we sell through our websites. We believe that our greatest contribution to the good of society comes directly from these core business activities.

Page last updated in October 2020.

Subtotal \$62.61

18:59 AM 21/04/2021

Identify priority and severity- Give numbers

Valid
Sign in → 404

Logo
color



UNIVERSITY
OF VICTORIA

COVID-19

Library

A-Z

Find a person

Maps



Online tools

Sign out

University of Victoria

Admissions

Academics

Research

Campus

About UVic

Support UVic



Info for...

Students

Faculty & staff

Alumni

Indigenous

International

Business & industry

Community



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University of Victoria
3800 Finnerty Road
Victoria BC V8P 5C2
Canada

1-250-721-7211
Contacts

Maps
Hours

Terms of use Accessibility Emergency contacts

© University of Victoria Website feedback

Spelling
mistakes
in this
page

Link not
working

Bronwyn Hobson

Putting conservation into action
through co-op

Read story

Identify priority and severity

Valid
① Sign in → 404

② Logo color



UNIVERSITY
OF VICTORIA

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Canada

1-250-721-7211

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© University of Victoria Website feedback

④ Spelling mistakes in this page

Link not working ③

Bronwyn Hobson

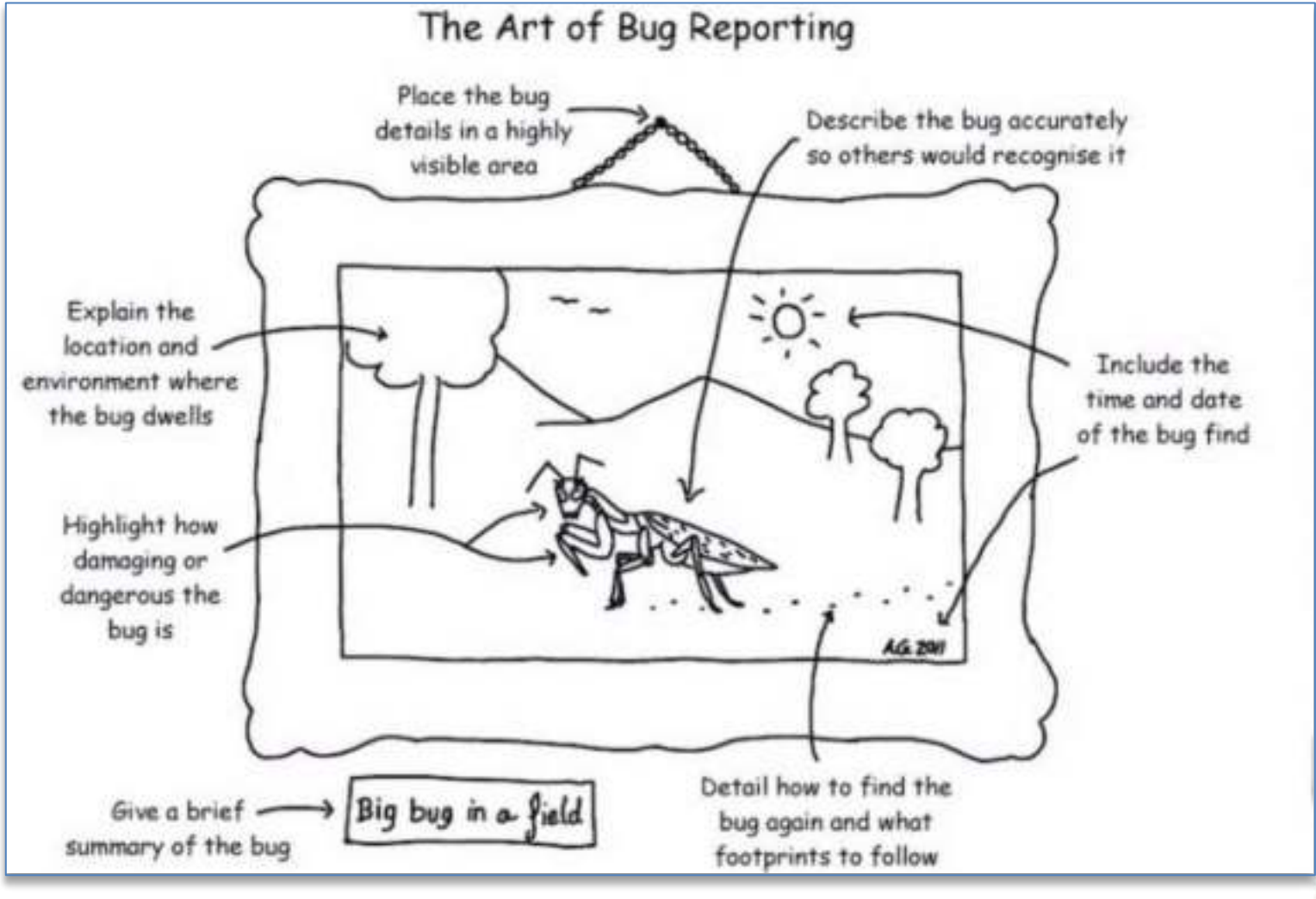
Putting conservation into action
through co-op

Read story

BUG REPORTING (IN JIRA)



Reporting a Bug



Reporting a bug-Say there is a bug – UK is not in locations

The screenshot shows the OrangeHRM web application interface. The main header is orange with the 'orangeHRM' logo and a tab labeled 'Employee List'. A sidebar on the left contains navigation links: Home, My Shortcuts, Admin, HRM, Configuration, Employee List (active), Add Employee, Reports, and Manage Data. The 'Add Employee' modal is open, displaying a form with fields for 'Employee Full Name*' (with sub-fields for First Name and Last Name), 'Employee Id' (containing '0136'), and a 'Create Login Details' toggle. A dropdown menu is open for the location field, showing options: Australia, Australian Regional HQ, Canada, Canadian Development Center, and Canadian Regional HQ. The form includes 'Cancel' and 'Next' buttons at the bottom right. The footer shows user information for 'Amadi Aowad' and system details like 'Full Time Permanent' and 'Development Team'. The Windows taskbar at the bottom indicates the date is 20/04/2021 at 10:30 AM.

orangeHRM

Employee List

Home

My Shortcuts

Admin

HRM

Configuration

Employee List

Add Employee

Reports

Manage Data

My Info

Leave

Amadi Aowad

Software Development Manager

Full Time Permanent

Development Team

0002 - Cost Center (Engineering)

South African Development Center

Peter Anderson

10:30 AM 20/04/2021

ENG

Type here to search

0136

Create Login Details

Cancel

Next

— Select —

Australia

Australian Regional HQ

Canada

Canadian Development Center

Canadian Regional HQ

— Select —

Employee Full Name*

First Name

Last Name

Employee Id

* Required

End to end process flow for a valid bug

1. Tester reports bug->assigns to developer
2. Developer accepts bug->starts working on it
3. Developer fixes bug->assign back to tester
4. Tester verifies bug->closes it



Create issue

Import issues | Configure fields

location UK is missing on Add employee page

Components

None

Description

Style | B | I | U | A | + | | | | | | |

While testing Add Employee functionality, UK location is missing.

Expected: UK location should be there in addition to other locations.
Actual: Canada , Australia and other locations are present but UK location is missing.

Steps to Reproduce:
1. Go to application(<https://navssupport-trials71.orangehrmlive.com/client/#/pim/employees>).
2. Click on 'location'
Expected: UK location should be there in addition to other locations.
Actual: Canada , Australia and other locations are present but UK location is missing.

☐ Create another

Tester

Generate a bug report for all bugs

The screenshot shows the Jira Software interface for the 'DocumentManagement' project. The browser address bar displays the URL: <https://hnm2.atlassian.net/jira/software/c/projects/DOC/issues/>. The page title is 'DocumentManagement - Issues'. The left sidebar contains navigation links: 'DocumentManagement Software project', 'Back to project', and a 'Filters' section with links to 'All issues', 'My open issues', 'Reported by me', 'Open issues', 'Done issues', 'Viewed recently', and 'Resolved recently'. The main content area shows the 'Issues' list for the 'DocumentManagement' project. The list has columns for 'Type', 'Key', 'Summary', 'Assignee', and 'Reporter'. There are three issues listed:

Type	Key	Summary	Assignee	Reporter
DOC-1	DOC-1	captcha not coming	Navneet-Developer	Navneet-Testing
DOC-2	DOC-2	No welcome page after login	Navneet-Developer	Navneet-Testing
DOC-3	DOC-3	location UK is missing on Add employee page	Navneet-Developer	Navneet-Testing

A context menu is open over the first issue, showing the following options:

- Print details
- Export XML
- Export RSS
- Export RSS (with comments)
- Export Word
- Export HTML report (all fields)
- Export Excel CSV (all fields)
- Create dashboard gadget

The bottom of the page shows '1-3 of 3' and a 'Give feedback' link.

jira-defects - Excel

navneet popli

File Home Insert Draw Page Layout Formulas Data Review View Help Acrobat Tell me what you want to do

Clipboard Font Alignment Number Styles Cells Editing

AutoSum Fill Clear Sort & Filter Find & Select

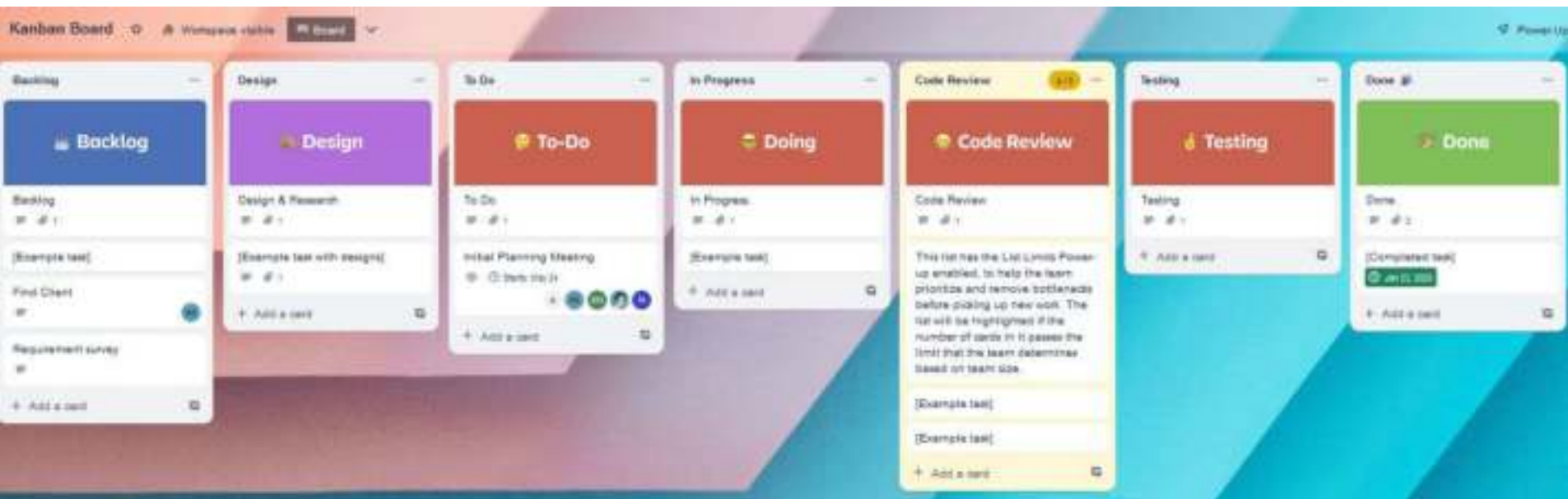
A1 Issue Type

	A	B	C	D	E	F	G	H	I	J	K
	Issue Type	Key	Summary	Assignee	Reporter	Priority	Status	Resolution	Created	Updated	Due date
2	Story	DOC-4	Test Story		Navneet-Develope	Medium	To Do		26/04/2021 3:42	26/04/2021 3:42	
3	Bug	DOC-3	captcha not coming	Navneet-Developer	Navneet-Testing	Medium	To Do		21/04/2021 3:20	21/04/2021 3:20	
4	Bug	DOC-2	No welcome page after login	Navneet-Developer	Navneet-Testing	Medium	To Do		20/04/2021 19:20	20/04/2021 19:26	
5	Bug	DOC-1	location UK is missing on Add employee p	Navneet-Developer	Navneet-Testing	Medium	Closed	Done	20/04/2021 18:13	20/04/2021 21:30	
6											
7											



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A typical Trello Kanban board



BETTER BUG COMMUNICATION (CASE STUDY-FROSTBITE-EA)



Workflow Improvement Methods For Frostbite

- Content creators are the clients of the Frostbite Engine.
- Initially there was just one game created by using Frostbite therefore the clients were very close, and it was easy to get feedback from them.
- When the number, distance, diversity etc. of the clients increased, the feedback process in its current form was not effective.
- The average turnaround time for issue resolution was 150 days.





Content Creators



Animation



Audio



Characters



Worlds



Level Design



Lighting



Cinematics



VFX



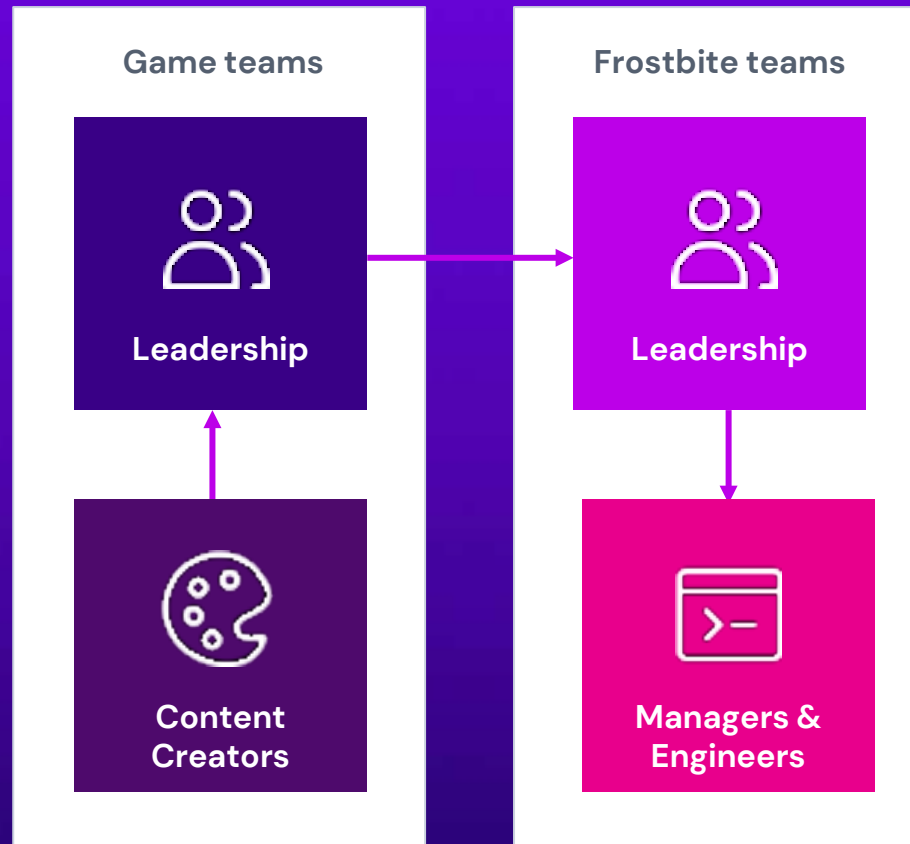
Technical Art

Electronic Arts

Frostbite



Context



Difficult communication



Difficult communication result

30% 

Small workflow issue
completion rate

~150 

Average Turnaround time /
Days*

🔍  An Engineer in the EU 13/Mar/19 1:04 PM

Need a bit more info here I'm afraid. When you say "updating parallax" do you mean modifying/adding a "ParallaxOffset" shader node?

Can you provide actual repro steps on an asset in Dataset?



🔍  [A North American Workflow Issuer](#) 13/Mar/19 2:19 AM

Hi,

It's not about modifying/adding the shader node. Any property updates of the shader or UI or FrostEd Gameview responsiveness becomes very slow when we are dealing with a very complex shader (for example, parallax shader we created in game).

The steps are —

find an object blueprint with expensive shader/material attached

Gameview object blueprint. In the material tab, try to adjust some values of the material

Notice UI becomes slow.

I have to look into the example data to see if I can reproduce this. I will look into this tomorrow or so.

Thanks.

Workflow Improvement Issuer



🔍  A QA following up 13/Mar/19 4:40 PM

🔍  An Engineer in the EU 16/Apr/19 12:44 PM

Any update here?



🔍  A North American Workflow Issuer 17/Apr/19 4:37 AM

sorry i haven't had time to get to this and most likely not going to be able to do this in the next couple of weeks. I will update here when this happens. Thanks




🔍  An Engineer in the EU 23/Apr/19 1:04 PM

This has been open and idle for quite some time and we still don't have enough information to take any action. I am closing for the time being, please open another bug with a repro case in dev/ExampleGame if the problem persists.



Typical bug communication

- 
- An abstract graphic on the left side of the slide. It features a large, glowing pink sphere in the center. To its left is a blue, faceted geometric shape, possibly a cube or a prism, rendered in a 3D style. To the right of the sphere is a pink, triangular shape. The background is a light gray gradient.
- Communication between an Engineer in the EU and a North American workflow suggestion issuer
 - In **March**, shortly after the ticket was made, the engineer says, “I need more info, what do you mean by “updating parallax”? Can you provide actual repro steps in Dataset?”
 - The workflow issuer then clarifies after a day, says they will look more into it tomorrow
 - QA follows up AFTER A FEW DAYS if there is any update
 - Engineer then comes back, after a MONTH to check if there is any update
 - More communication attempts were made
 - And in **AUGUST**, -- **5 months after!** The engineer decides to close the ticket for no activity or info

Engineer 10/14/18 1:00 AM

Need some more details on this I'm afraid.

Is this a regression, or just a general problem that "shader compiles are slow"? If it's a regression, what change/version introduced it?

Regarding the repro, could you please provide exact steps (what fmod commands to run, which levels to build, exactly which asset to edit and what to change in it, is the edit done in FrostEd or a text editor, etc.)



Content Creator 10/14/18 1:12 PM

Engineer 10/14/18 1:01 AM

Hey, sorry to bounce this back again, but I still need more precise info I'm afraid.

As I said, I need exact repro steps - please detail exactly what I need to do to reproduce the problem (see questions in my first comment). Assume I have never run the game before 🙄 (which I have not).



Content Creator 10/14/18 2:11 PM

Repro Steps:

- Launch Editor with picnic data
- Find (club_region_Dreadwood in the data explorer
- Open the level, once open run game view  for log active
- Change an asset, world prefabs would work best
- Build/Gameview again
- While the editor takes a long time to build, notice the Shader Build messages display in the editor log



Engineer 10/14/18 4:25 PM

Can you be more specific than "Change an asset, world prefabs would work best"? Like, name a specific asset and what edit you are performing on it?

And do you close gameview before editing it or is it a live-edit?



Engineer 10/14/18 1:01 AM

Any update on this?



A PM 10/14/18 4:00 PM

Can someone from please continue where the conversation left off? Thanks!



Engineer 10/14/18 2:31 PM

Needed more information, so we did a walk through together over call. Submitted an update, however this ticket should be a separate, bigger talk





- Engineer asks for more details, asking for exact steps in **FEB**
- Content creator attempts at more details
- The engineer says still can't reproduce, not enough info
- Lots of back and forth between engineer, QA and PM and **THROUGH MAY**
- Eventually in **JUNE**, the engineer updates that they just had to get on a **call**.

Problem Attributes



Highly distributed
Content Creators



Communication gap between
the engineers
and the content creators



Lengthy process to figure
out the "need"
of the content creator

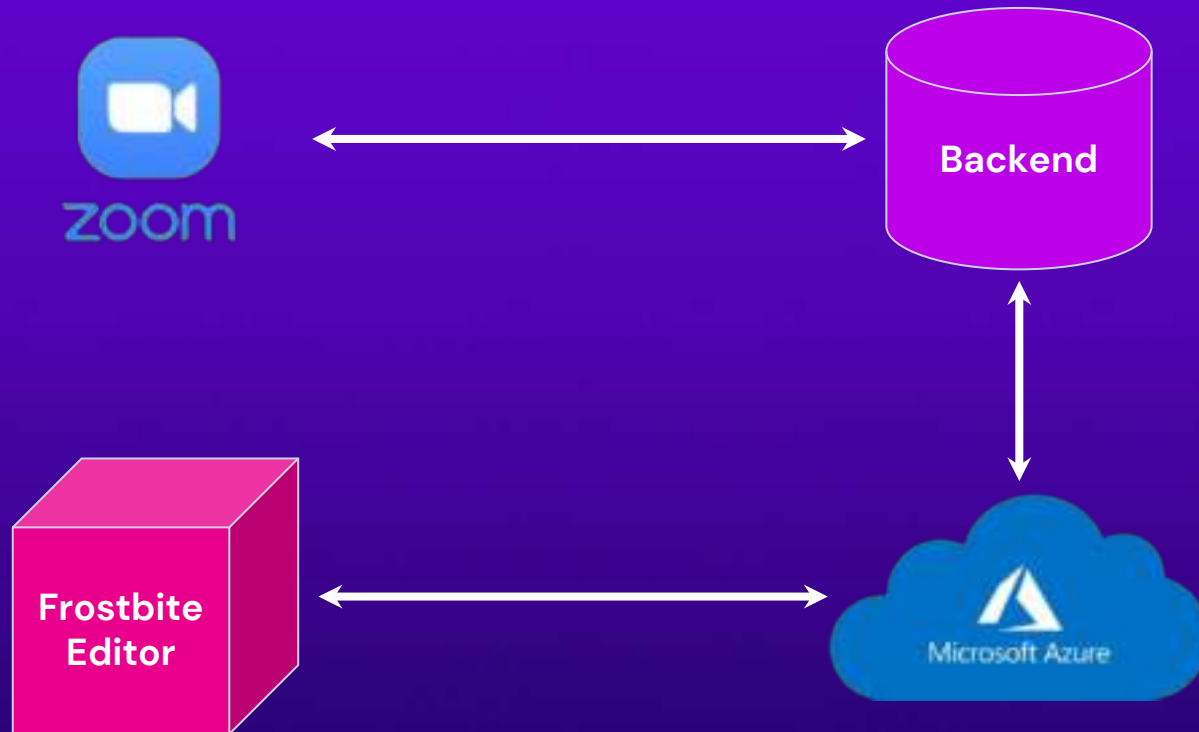


Slow, inconsistent
feedback loop

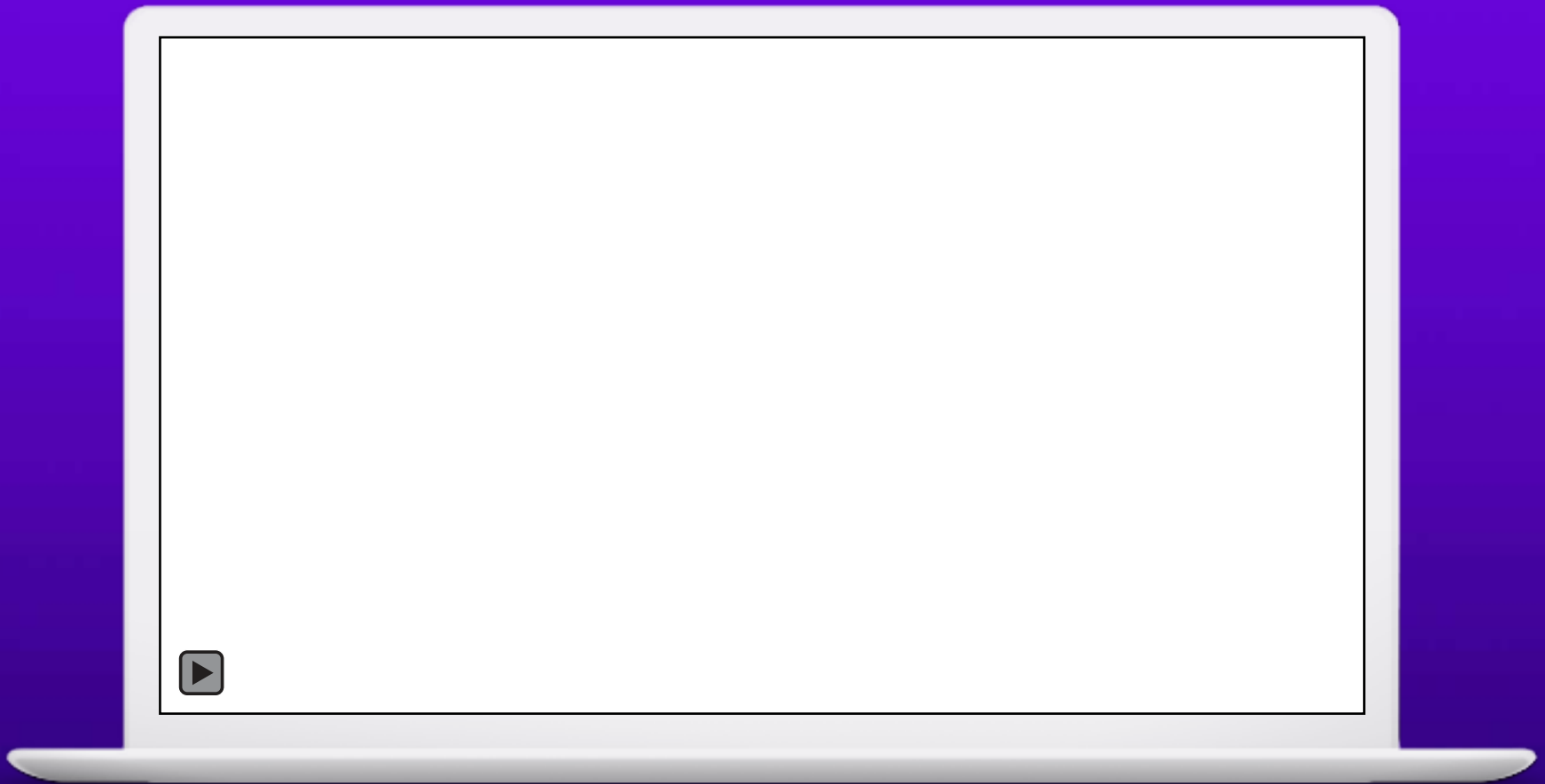
SWIFT

Small Workflow Improvements For Teams

Architecture



Video recording with transcripts was provided



Video recording with transcripts was provided

Description

Diagnostic information

- 2020.0
- Deployed from main
- Built from CL 650234
- Using the database

When generating a thumbnail using the right click on asset method the resulting thumbnail does not zoom in enough and makes too small a thumbnail

VIDEO [Watch Video](#)

AUDIO TRANSCRIPT

Oh hey there, I just wanted to show.

The generated thumbnails in the editor itself.

I find that when I generate them, it takes a while and the when they show up they're kind of small so to show an example here on this asset, so I right click on this guy.

thumbnails.

It's going to go.

And so yeah so did the process in your thumbnail as we can see, this is really small considering how big the asset is.

So if I did it by men as men, we did a nice little closer.

To my game, do you.

do that.

Also, what happens is doesn't actually updated do this and go back see this is actually filling the space.

I'm just rebuild it again just for clarity sake.

click.

See here, I guess, in this view it's not even really zooming into the full extent that's capturing the middle.

So we end up with a much smaller than this is so much harder to view than it would be otherwise so yeah that's just my notes that you have to get zoom in a little more so if I click the asset, for example.

it'd be good zoom in closer to this for it's you know, does that person doesn't have collisions or Did it really fill the screen with this question so when it capture the thumbnail it would take more space yeah.

that's my name alright thanks very much.

Timeline for issue completion and average turnaround time

SWIFT issue completion rate



Average Turnaround time



*Issues of similar magnitude and priority as SWIFT