SENG 275

SOFTWARE TESTING

DR. NAVNEET KAUR POPLI

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

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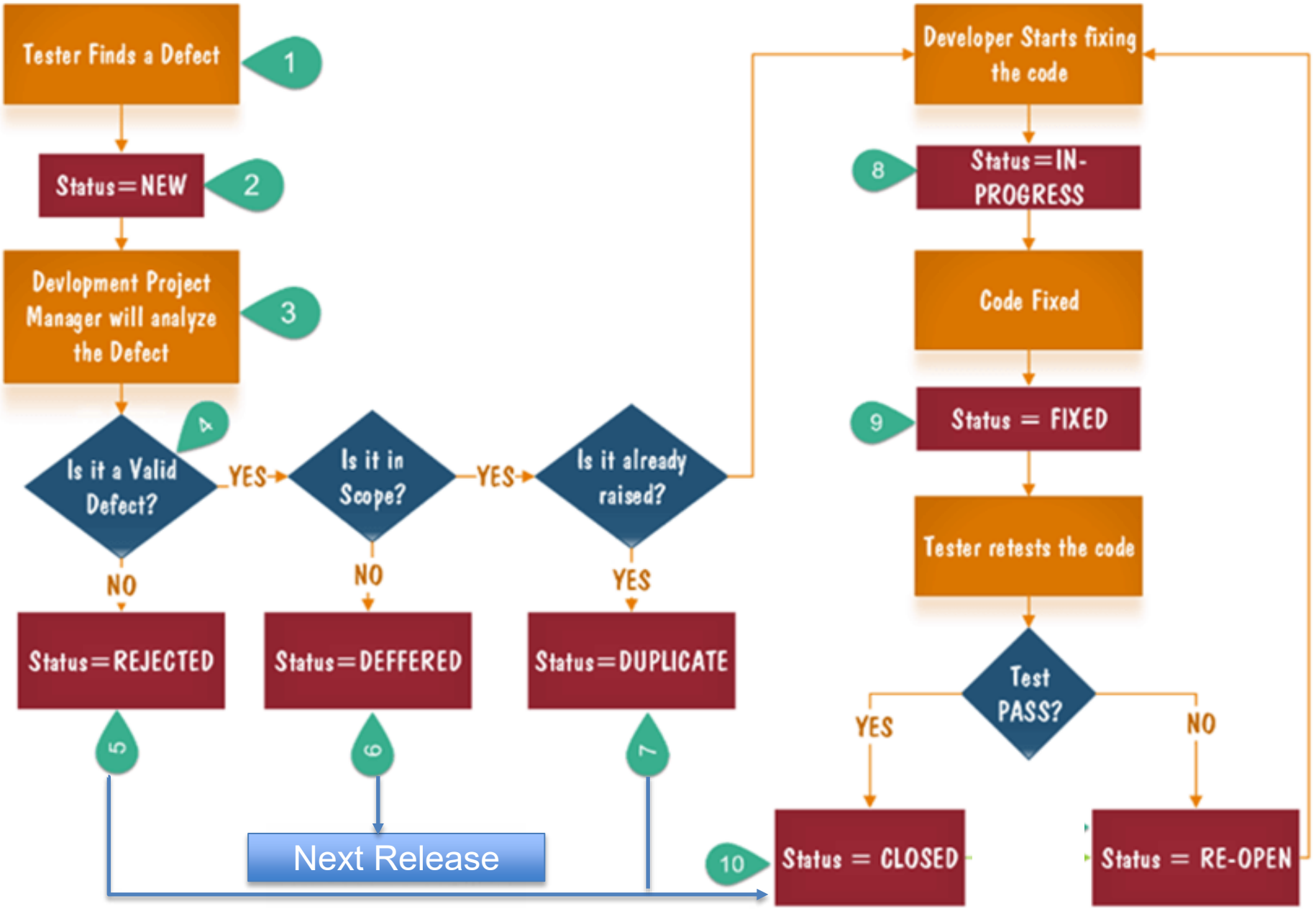
Defect Life Cycle



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.

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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.

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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.

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- **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.

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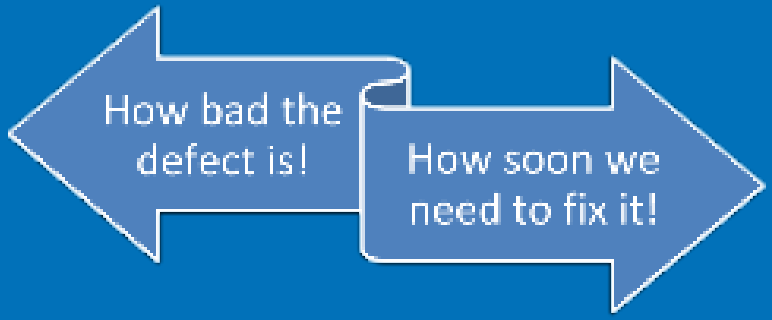
BUG SEVERITY AND PRIORITY



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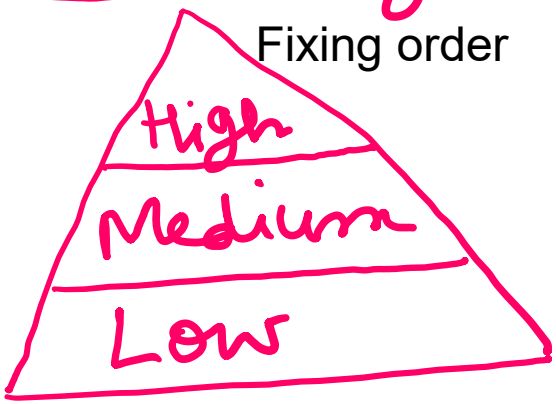
Bug severity and priority

- **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.**

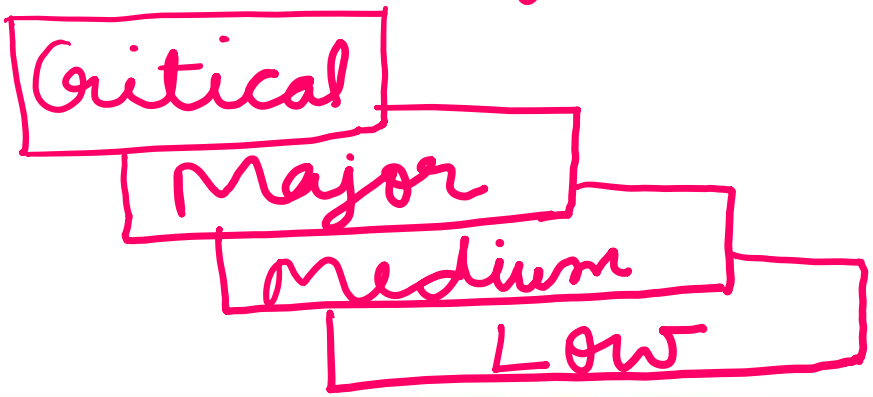
Priority (User)

Fixing order



Severity (Functionality)

Impact



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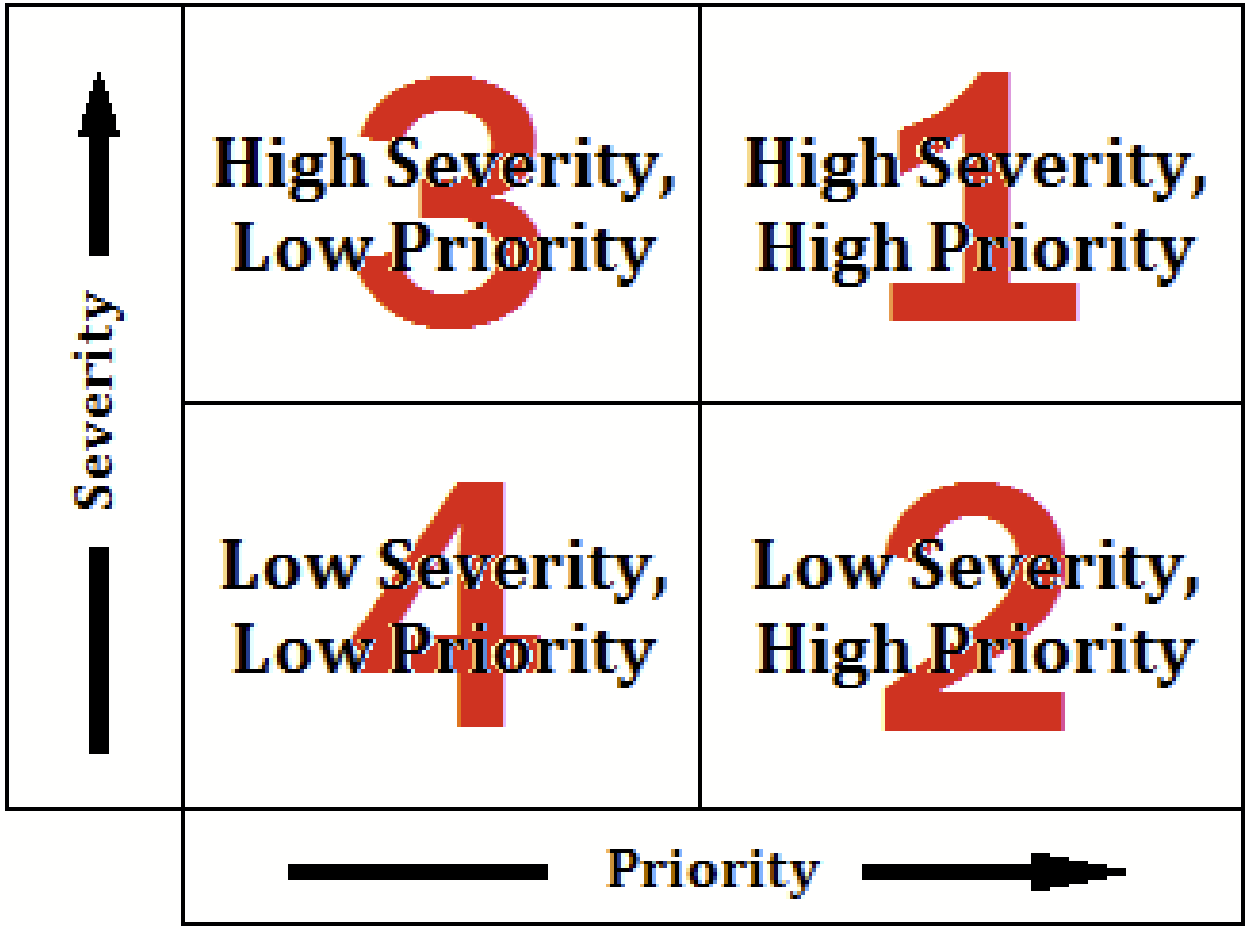
Bug resolution



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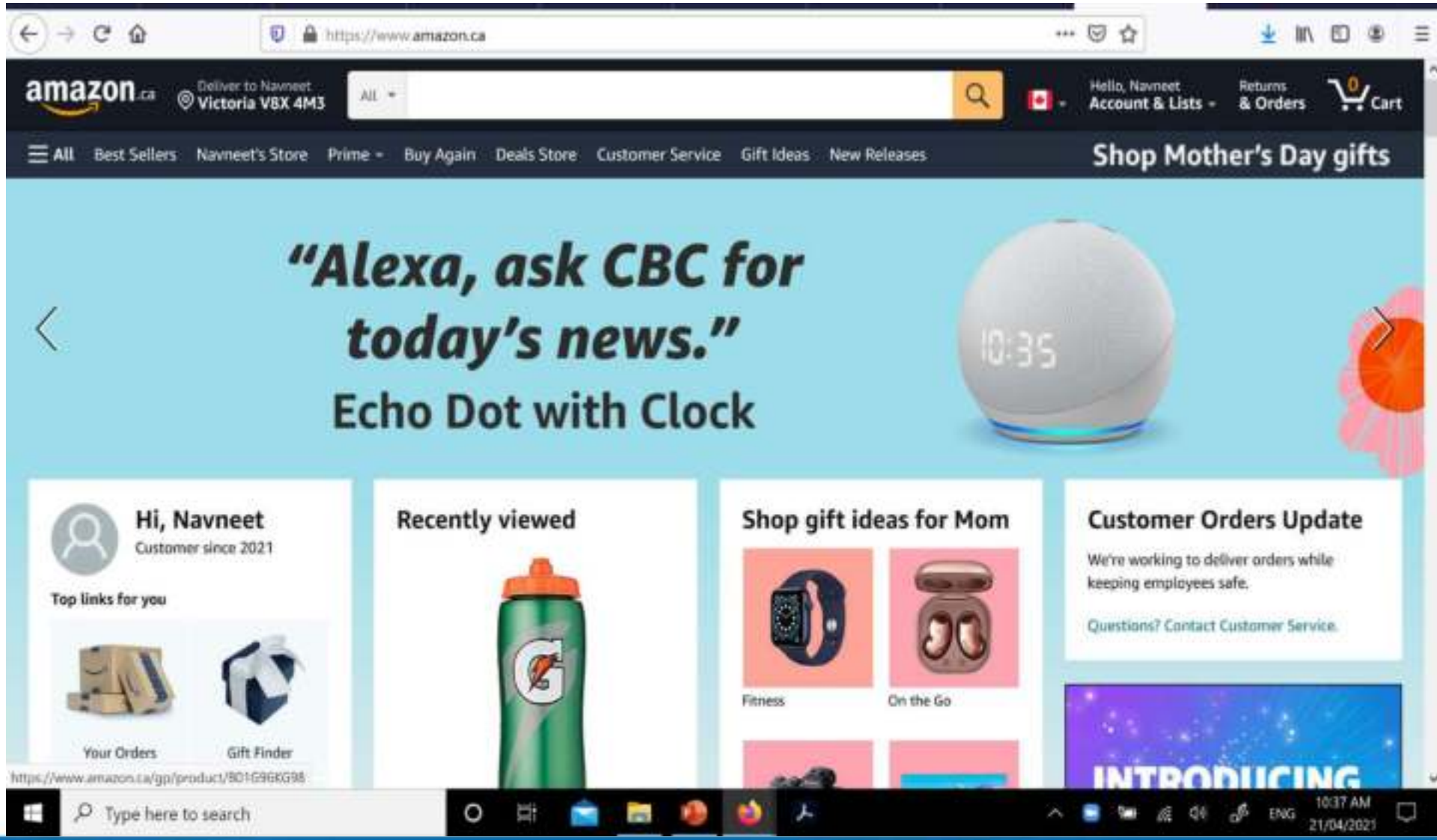
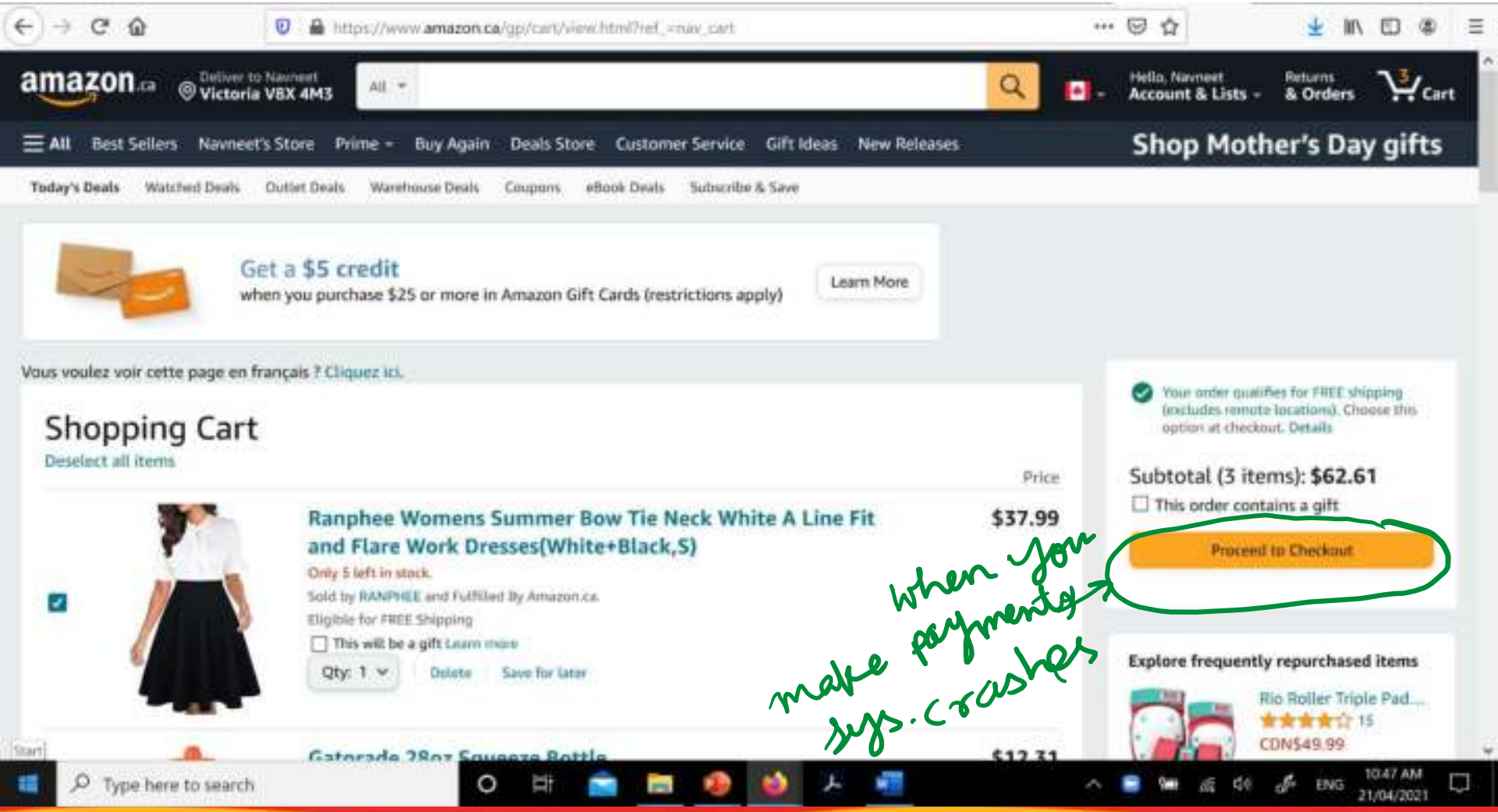
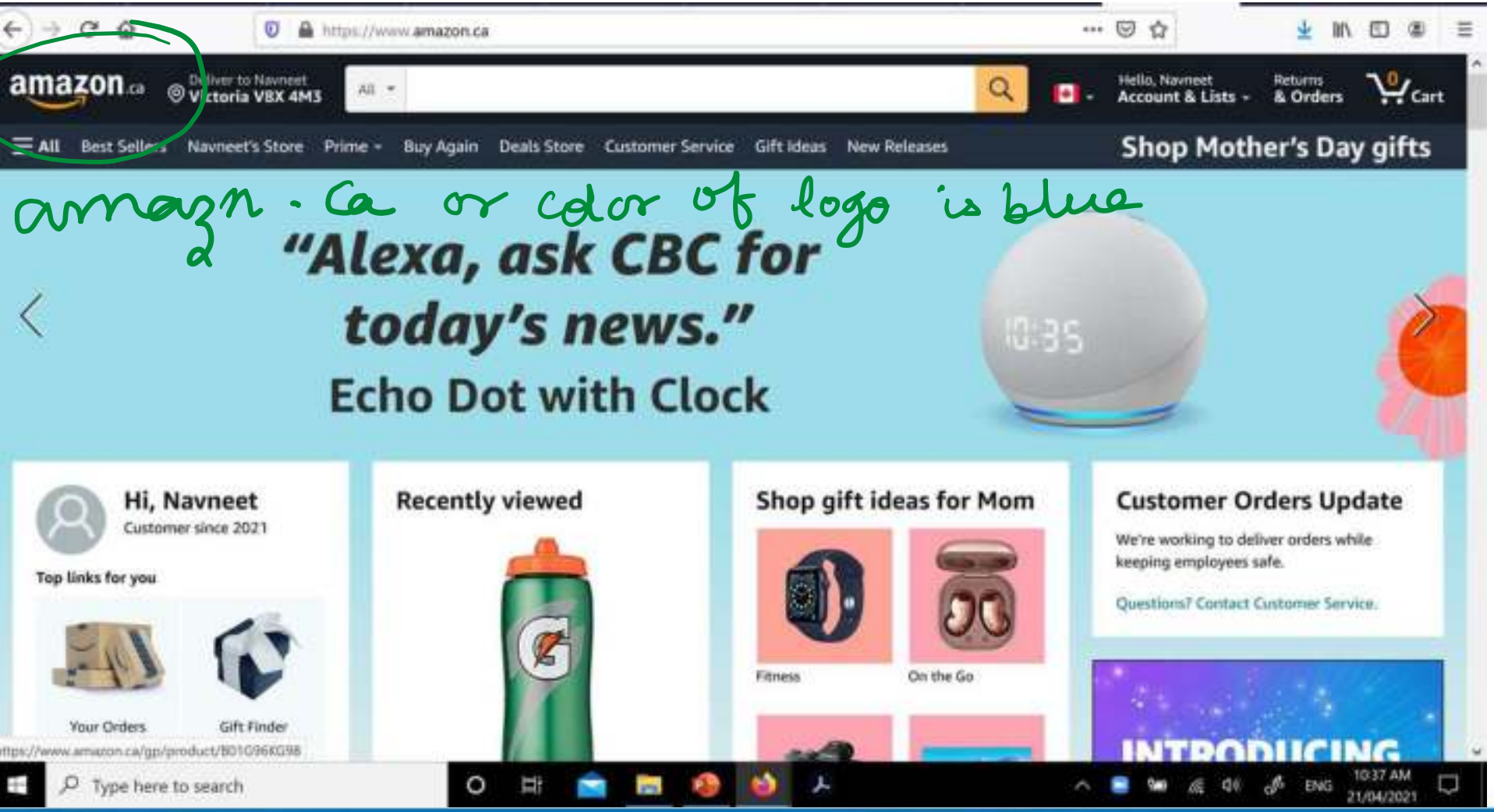
Example


https://www.amazon.ca
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
10:35
Hi, Navneet
Customer since 2021
Top links for you
Your Orders
Gift Finder
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
https://www.amazon.ca/gp/product/B01G9GKG98
Type here to search
ENG
10:37 AM
21/04/2021

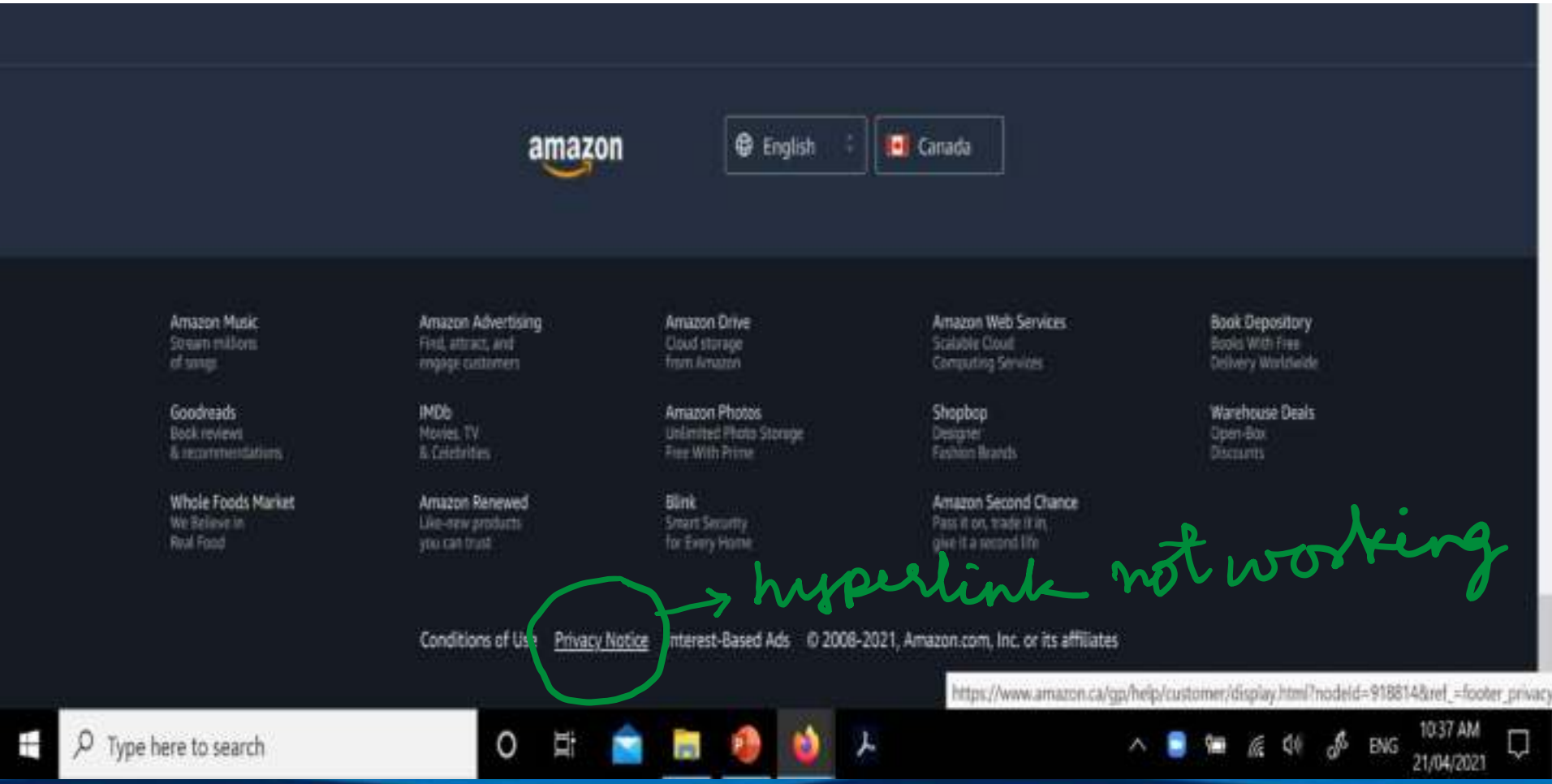
1. High priority, high severity-key feature does not work



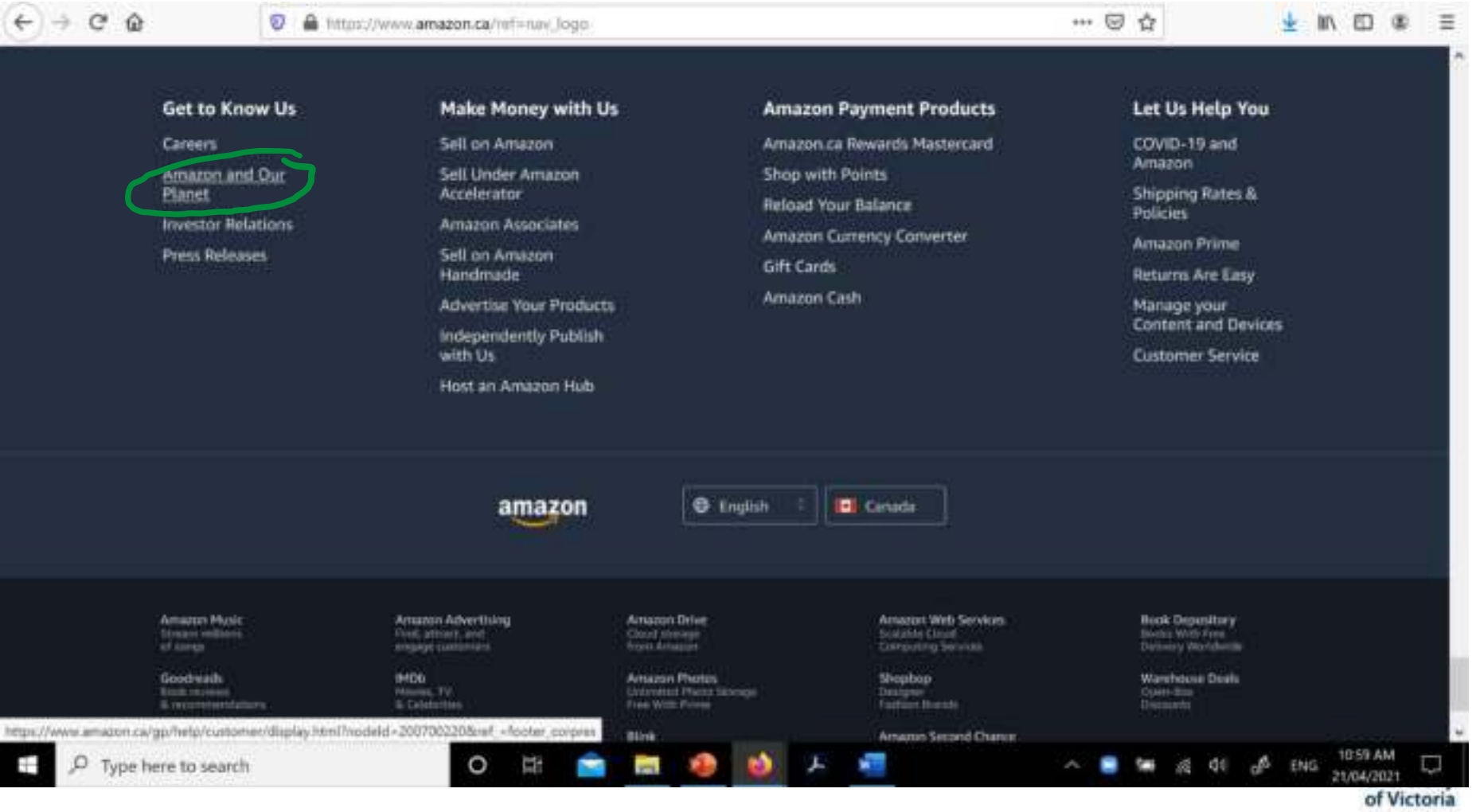
2. High Priority, Low severity-affects brand identity to the user



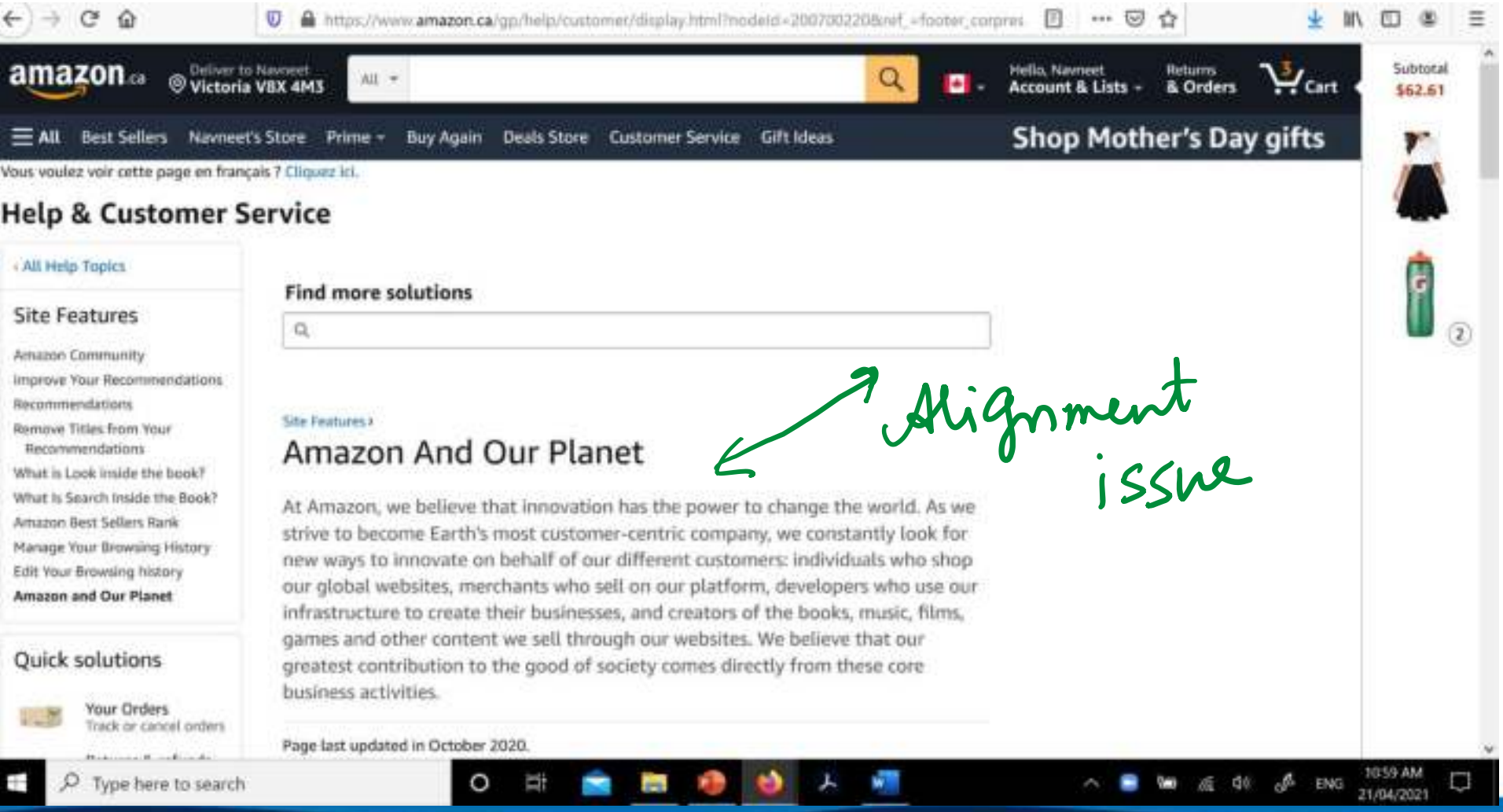
3. Low priority, high severity- rarely used feature not working



4. Low priority, low severity

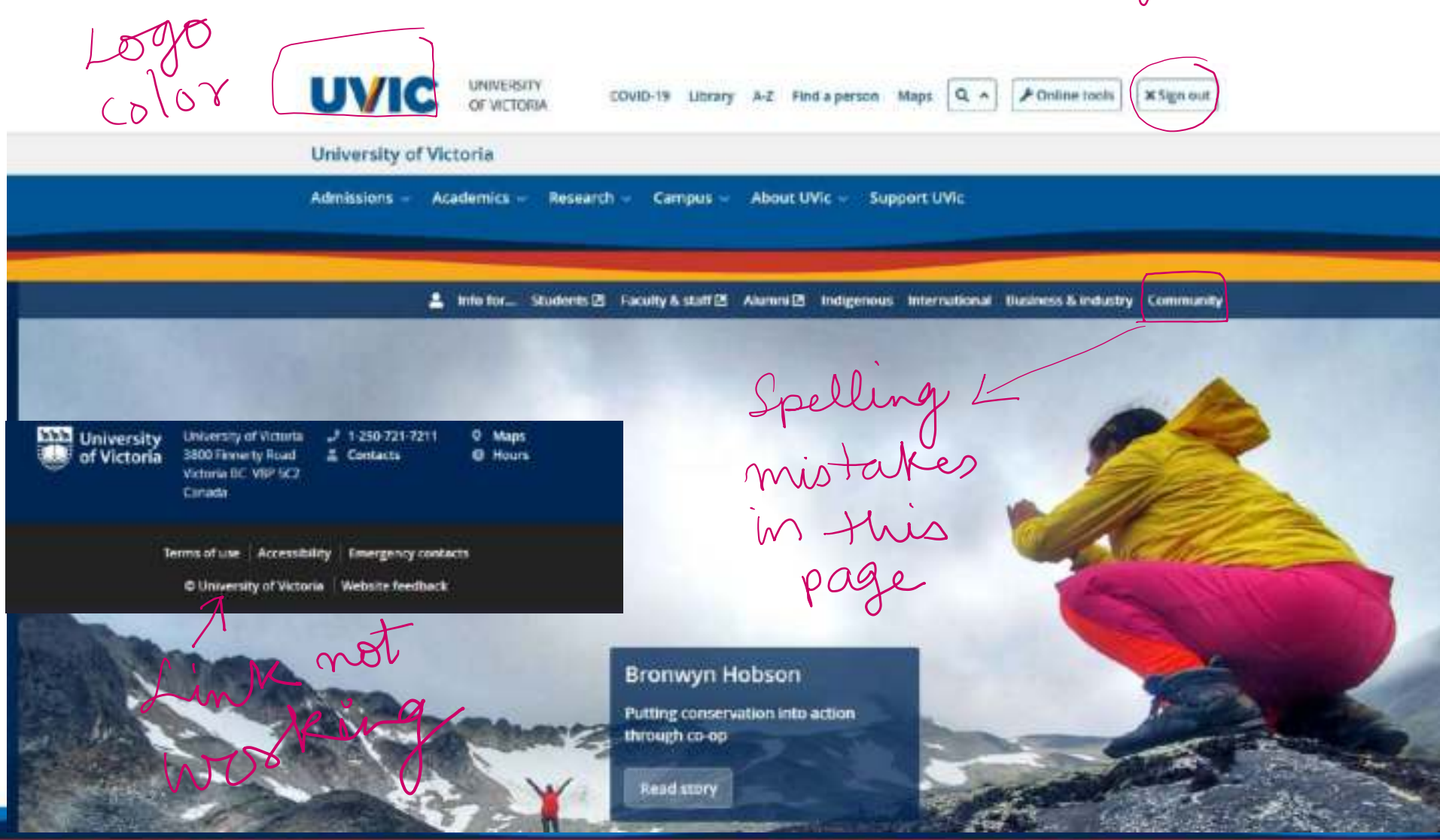


4. Low priority, Low severity

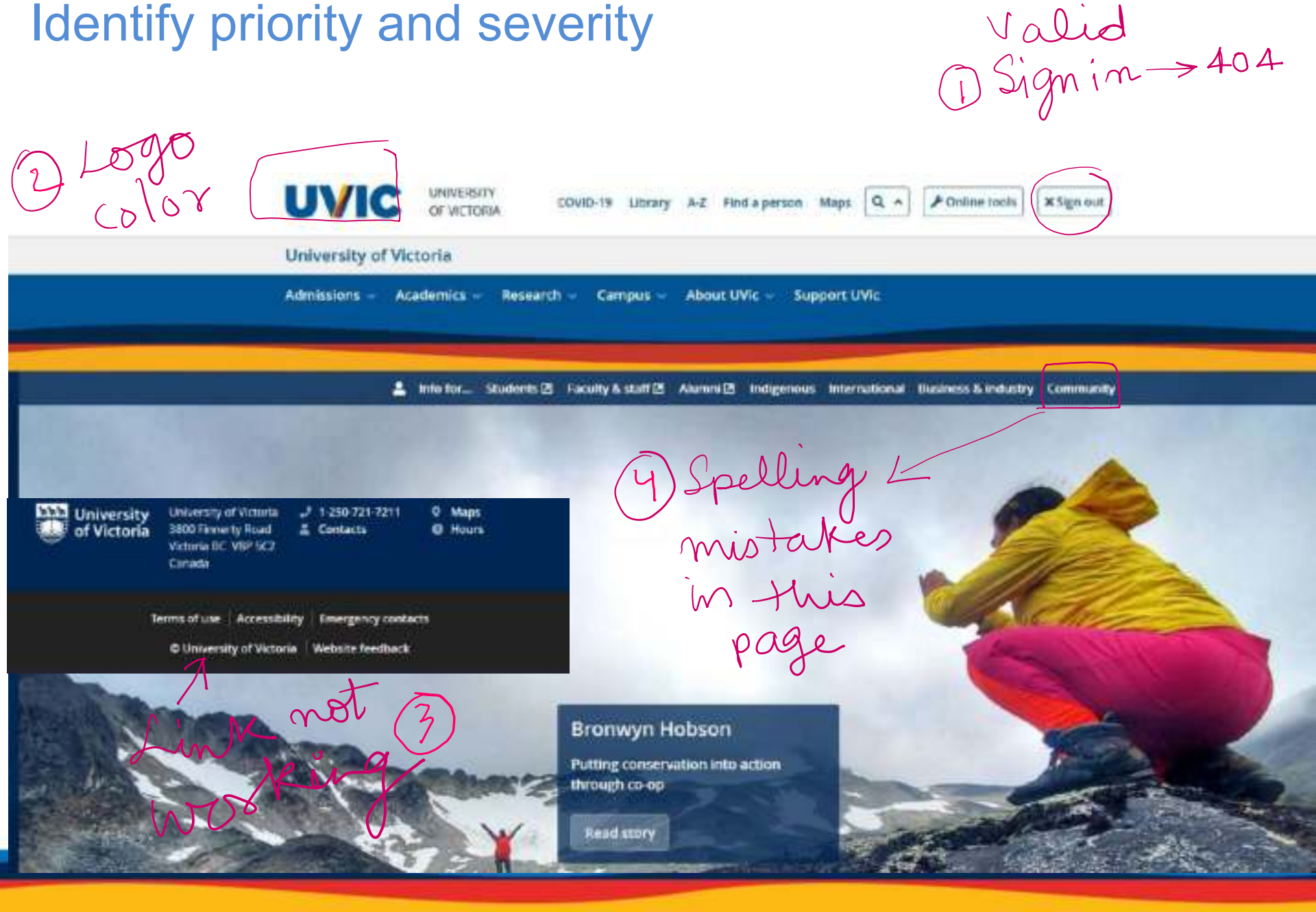


Identify priority and severity- Give numbers

Valid Sign in → 404

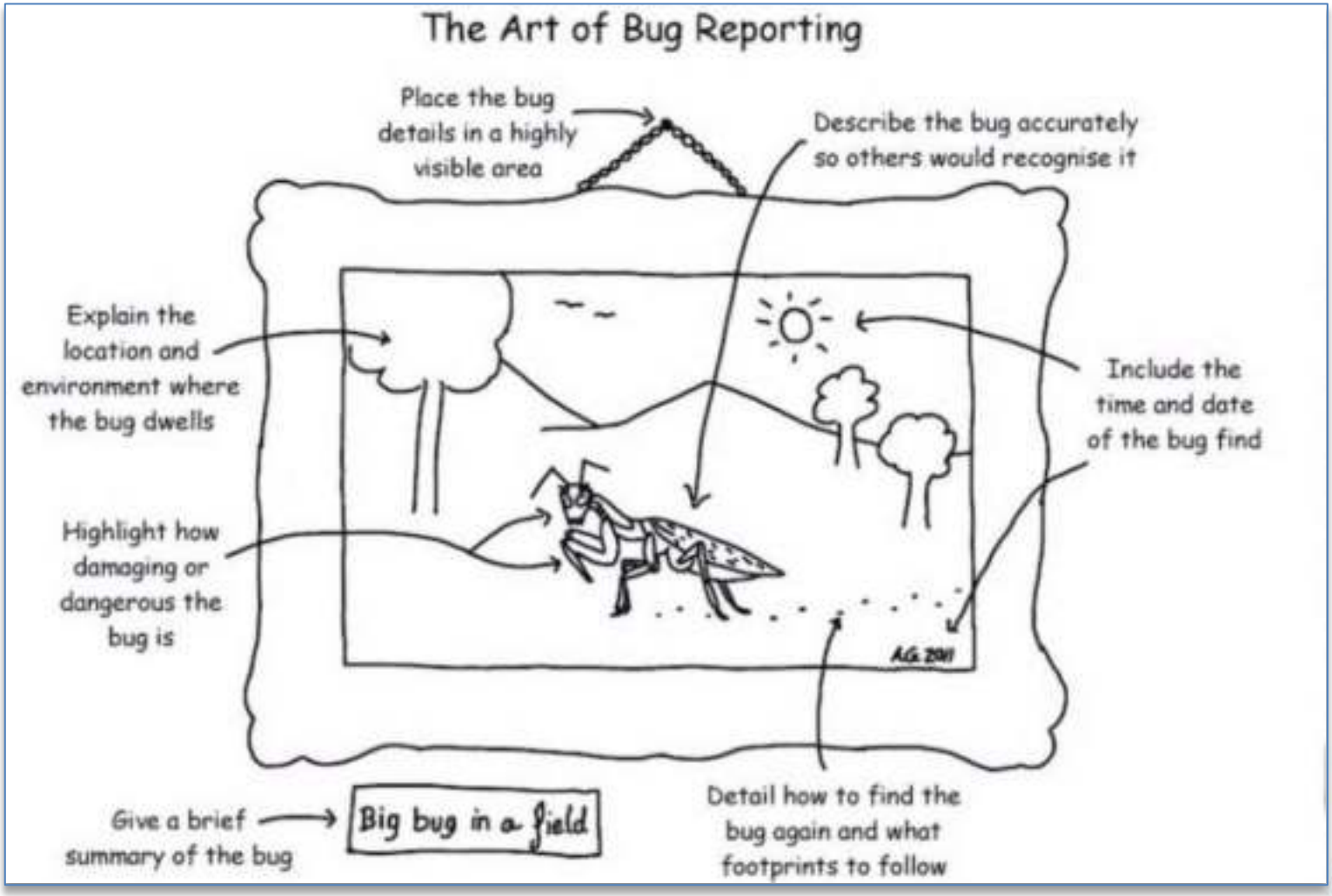


Identify priority and severity



BUG REPORTING
(IN JIRA)

Reporting a Bug



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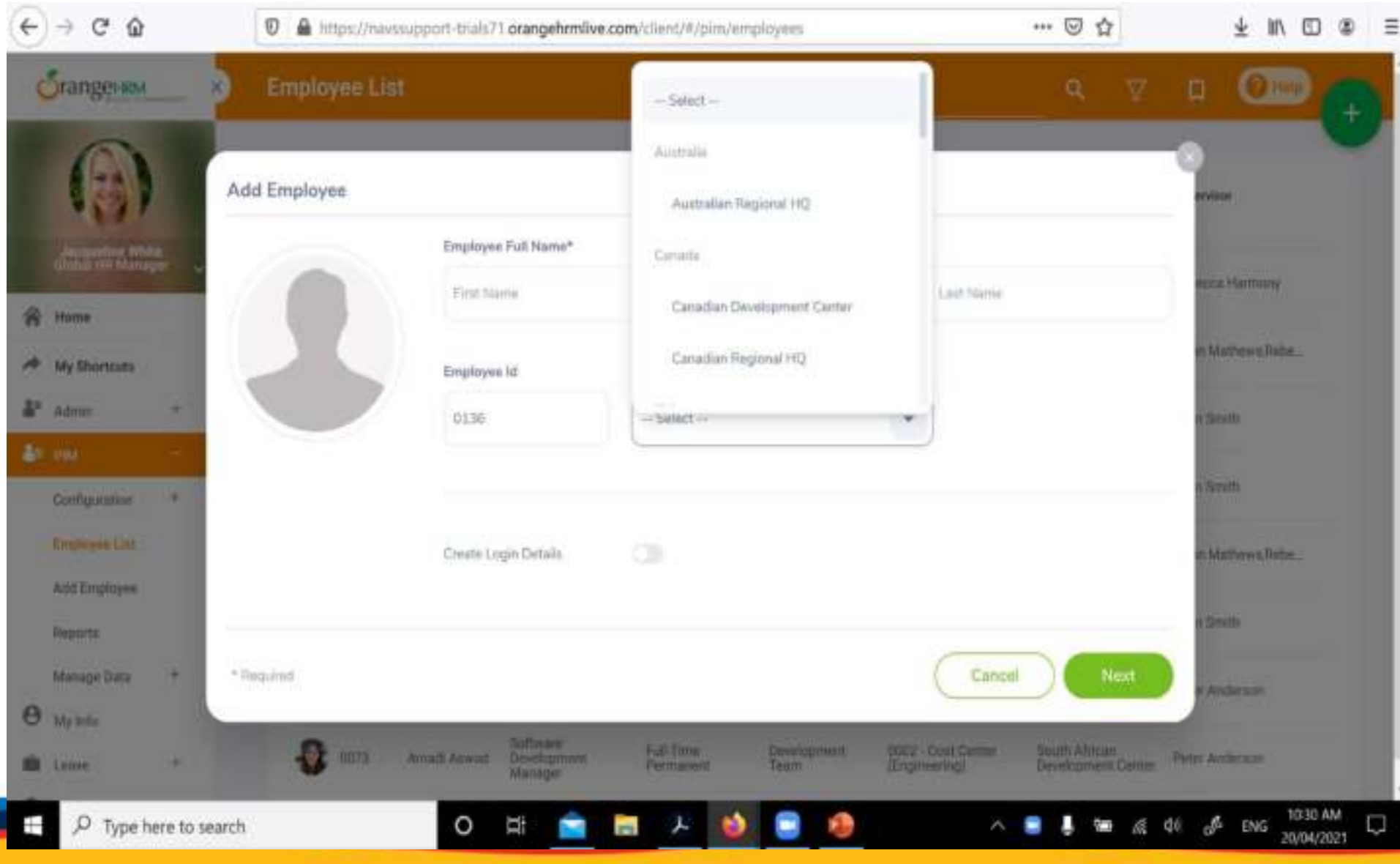
Ref: Andy Glover

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



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

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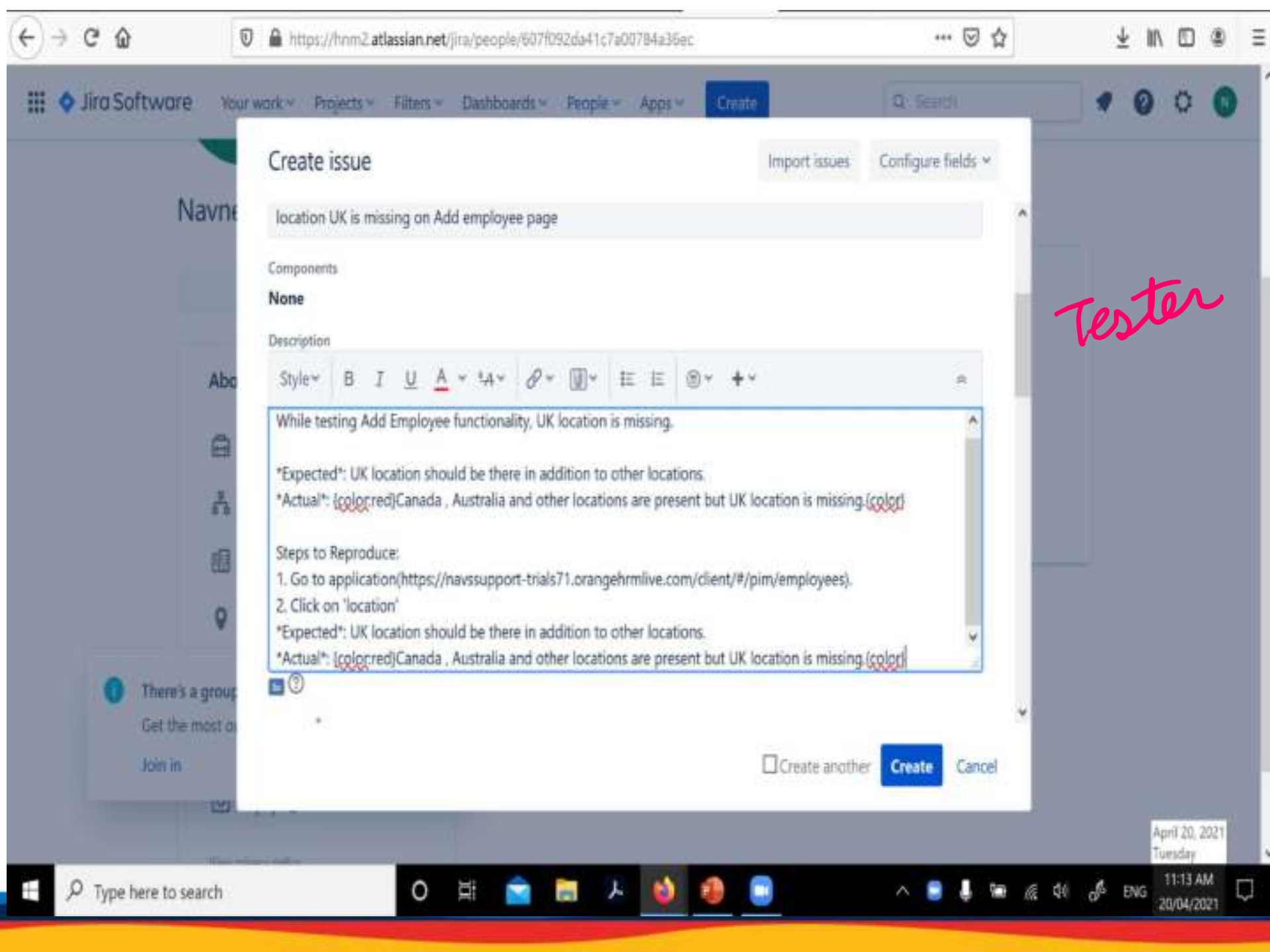
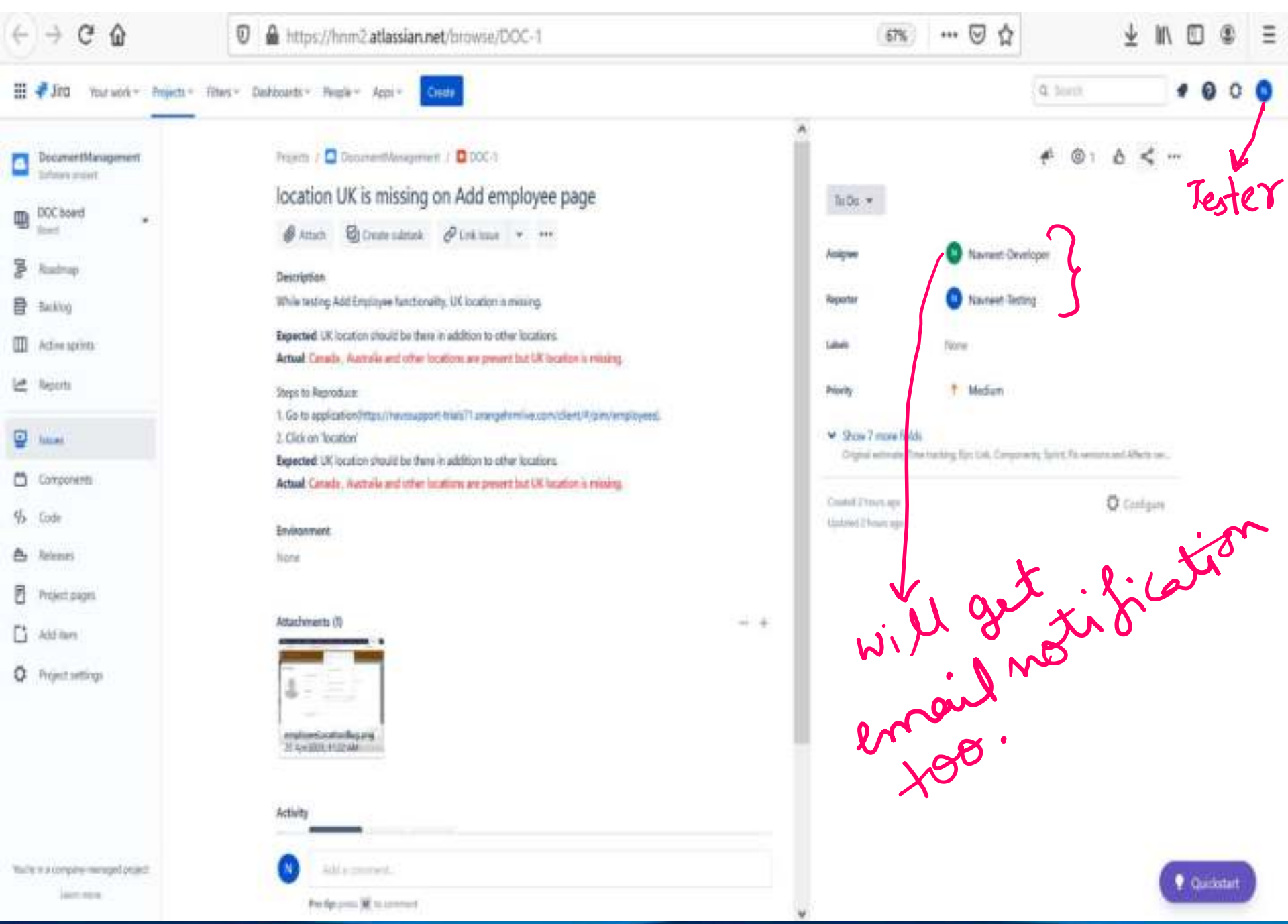
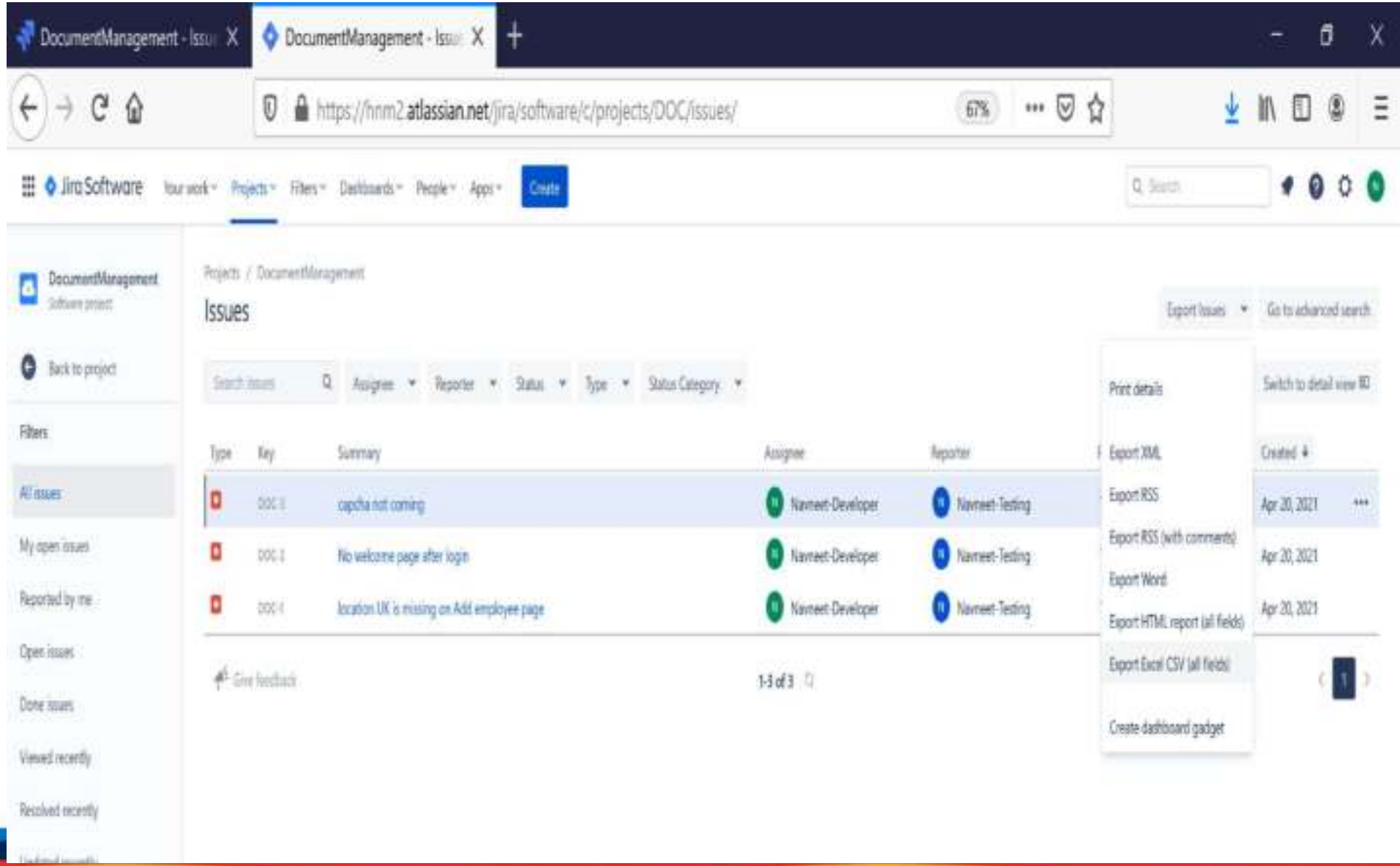
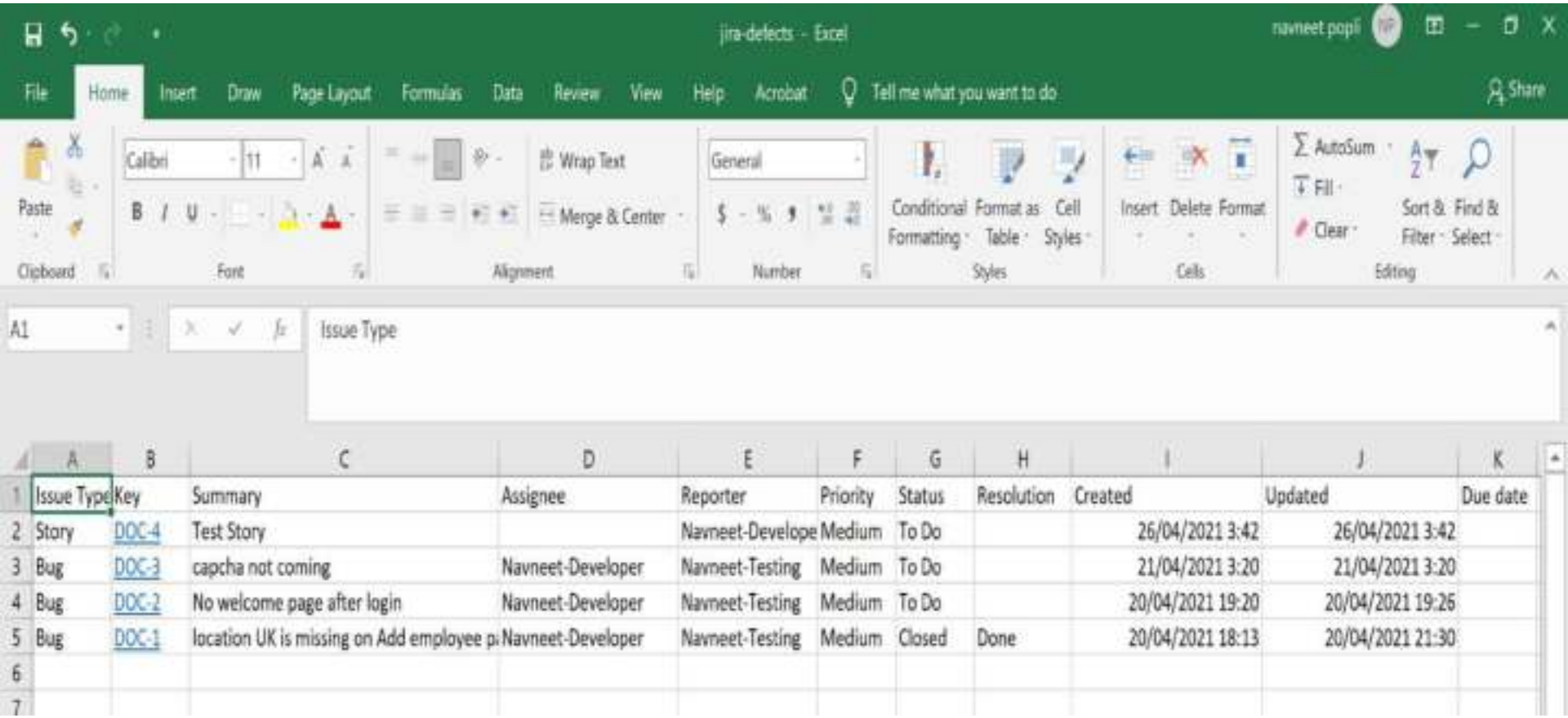

https://hnm2.atlassian.net/jira/people/607f092da41c7a00784a36ec
Jira Software
Your work
Projects
Filters
Dashboards
People
Apps
Create
Create issue
Import issues
Configure fields
location UK is missing on Add employee page
Components
None
Description
Style
While testing Add Employee functionality, UK location is missing.
Expected: UK location should be there in addition to other locations.
Actual: {color:red}Canada , Australia and other locations are present but UK location is missing.{color}
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: {color:red}Canada , Australia and other locations are present but UK location is missing.{color}
Create another
Create
Cancel
Tester
Type here to search
ENG
11:13 AM
20/04/2021


https://hnm2.atlassian.net/browse/DOC-1
Jira
Your work
Projects
Filters
Dashboards
People
Apps
Create
DocumentManagement
DOC board
Roadmap
Backlog
Active sprints
Reports
Issues
Components
Code
Releases
Project pages
Add item
Project settings
Projects / DocumentManagement / DOC-1
location UK is missing on Add employee page
Attach
Create subtask
Link issue
Description
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://navosupport-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.
Environment
None
Attachments (1)
Activity
To Do
Assignee
Navneet Developer
Reporter
Navneet Testing
Labels
None
Priority
Medium
Show 7 more fields
Configure
Quickstart
Tester
will get email notification too.

Generate a bug report for all bugs





	A	B	C	D	E	F	G	H	I	J	K
1	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	capcha 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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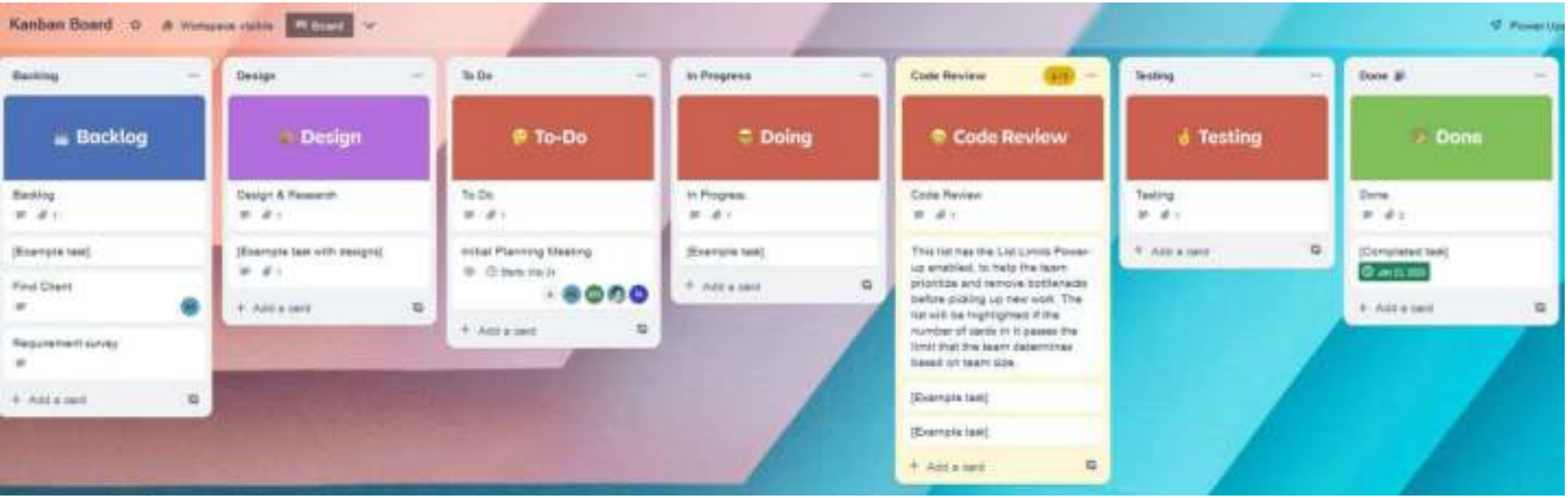
A typical Trello Kanban board



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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.

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Content Creators

Animation

Audio

Characters

Worlds

Level Design

Lighting

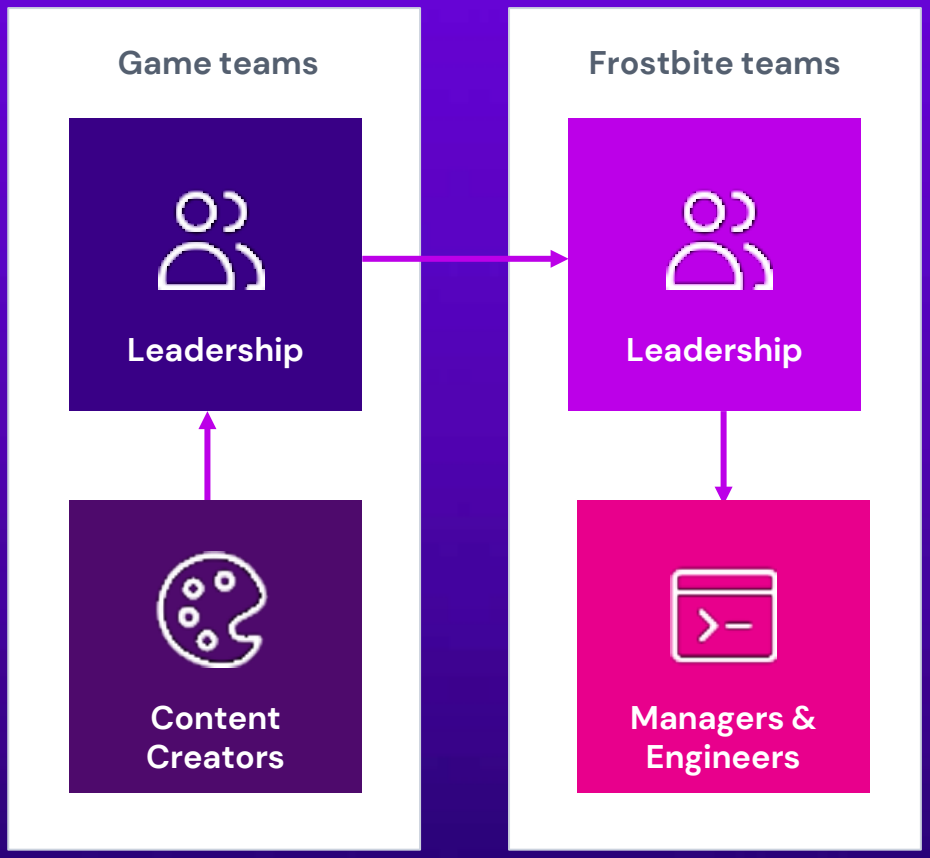
Cinematics

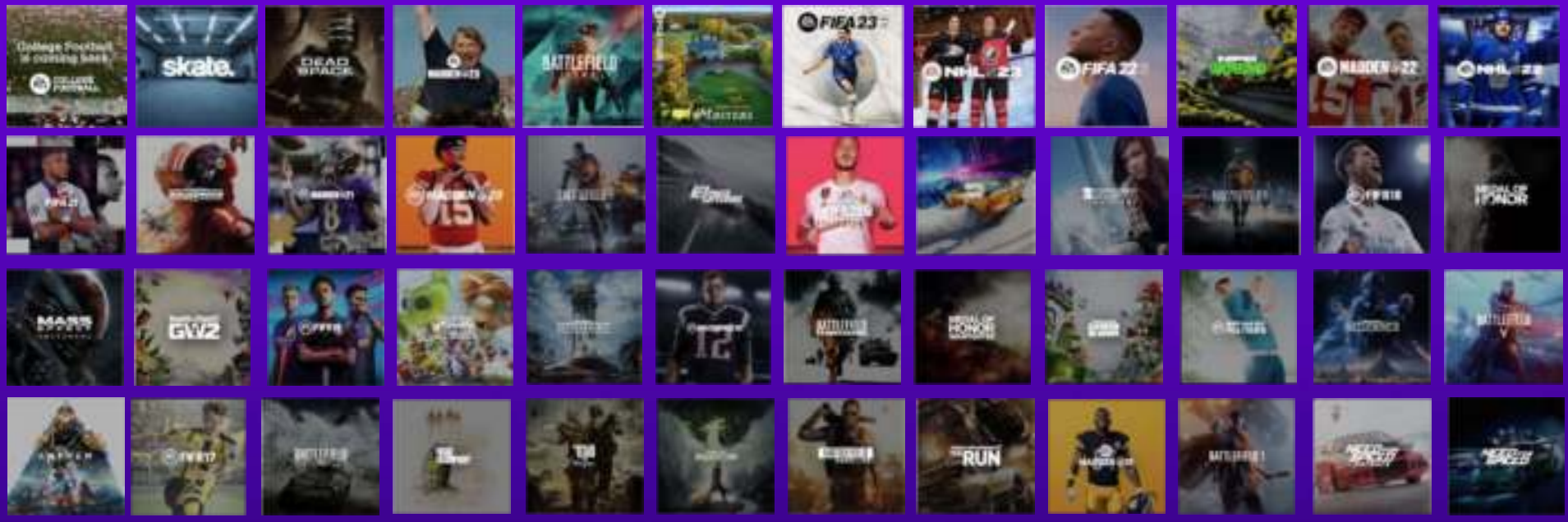
VFX

Technical Art

Frostbite

Context

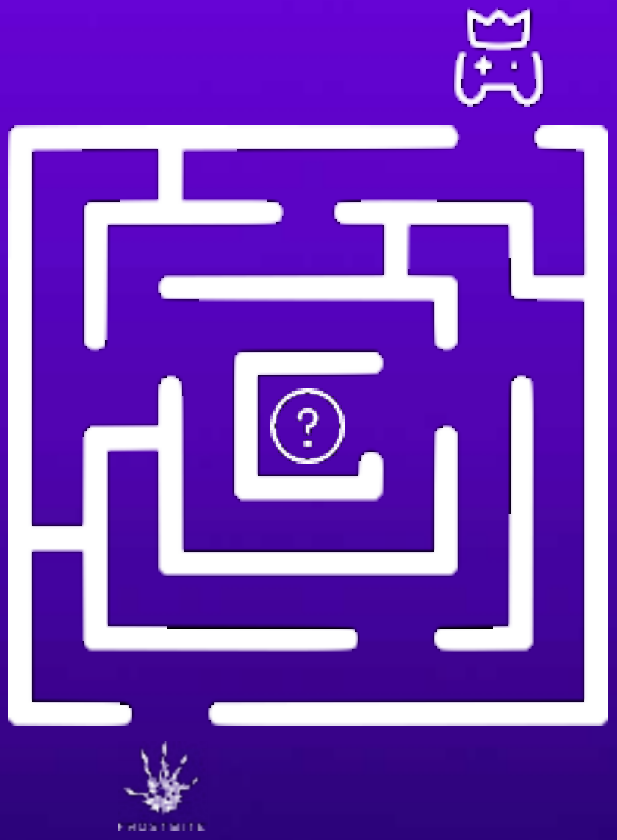

Game teams
Leadership
Content Creators
Frostbite teams
Leadership
Managers & Engineers



Electronic Arts

FROSTBITE

Difficult communication



Difficult communication result

30%

Small workflow issue completion rate

~150

Average Turnaround time / Days*

Electronic Arts

FROSTBITE

An Engineer in the EU

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

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

Typical bug communication

An Engineer in the EU

Any update here?

A North American Workflow Issuer

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

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.

- 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

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 fbdi 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

Engineer

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

Repro Steps

- Launch Editor with picnic data
- Find DSub_Region_Dreadwood in the data explorer
- Open the level, once open run game view [redacted]tor 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

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

Any update on this?

A PM

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

Engineer

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

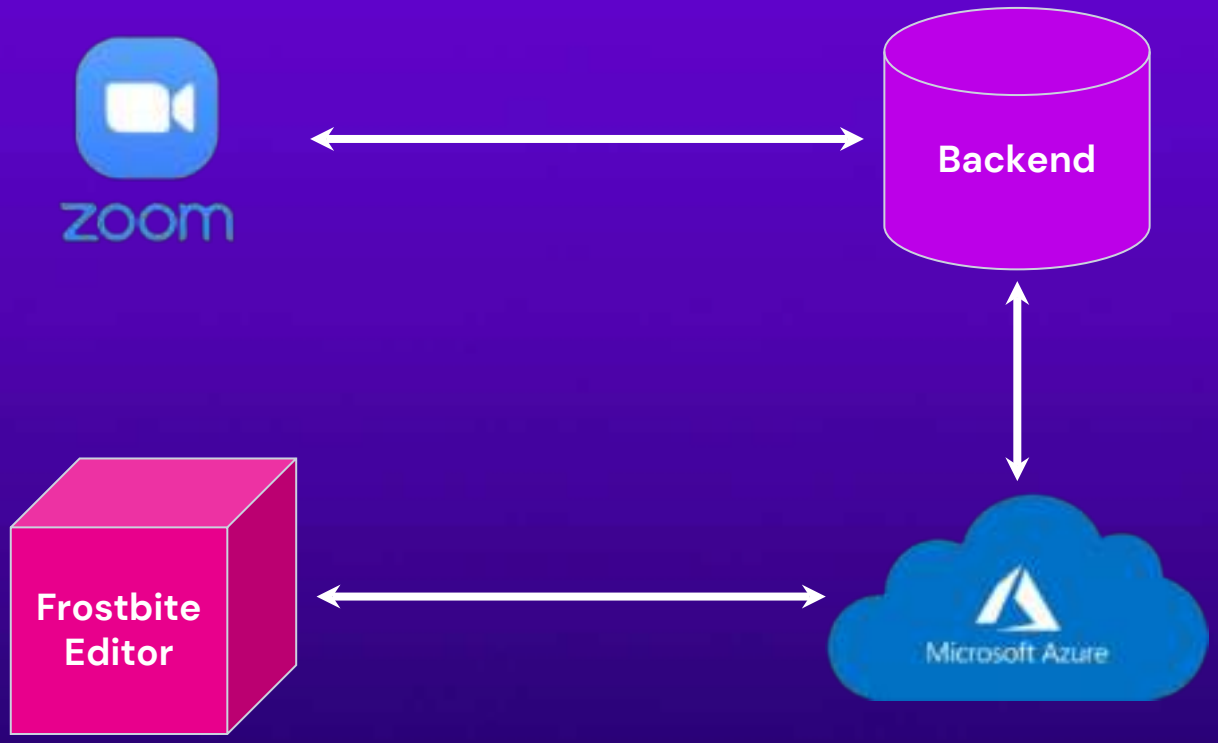
Lengthy process to figure
out the “need”
of the content creator

Slow, inconsistent
feedback loop

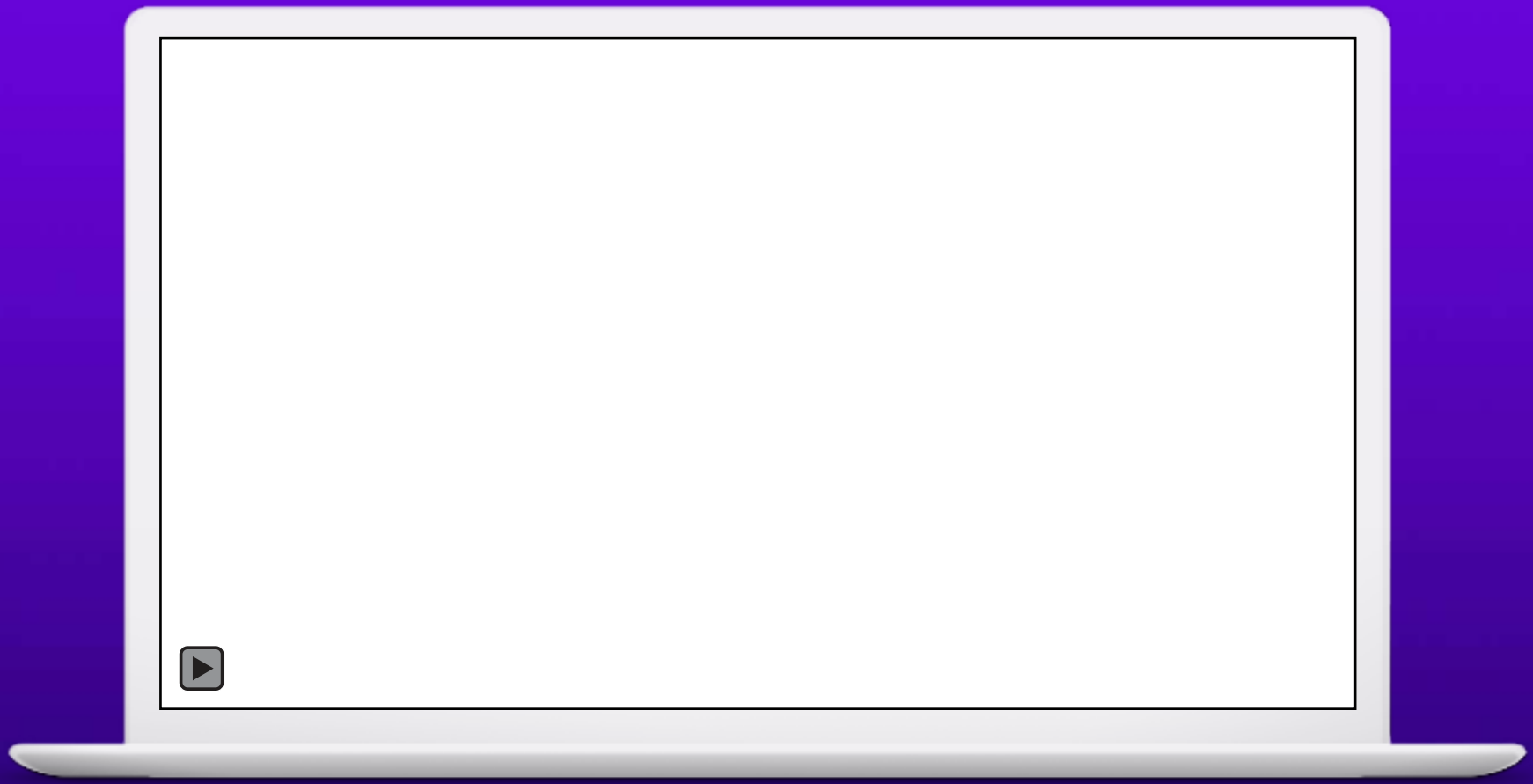
SWIFT

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.

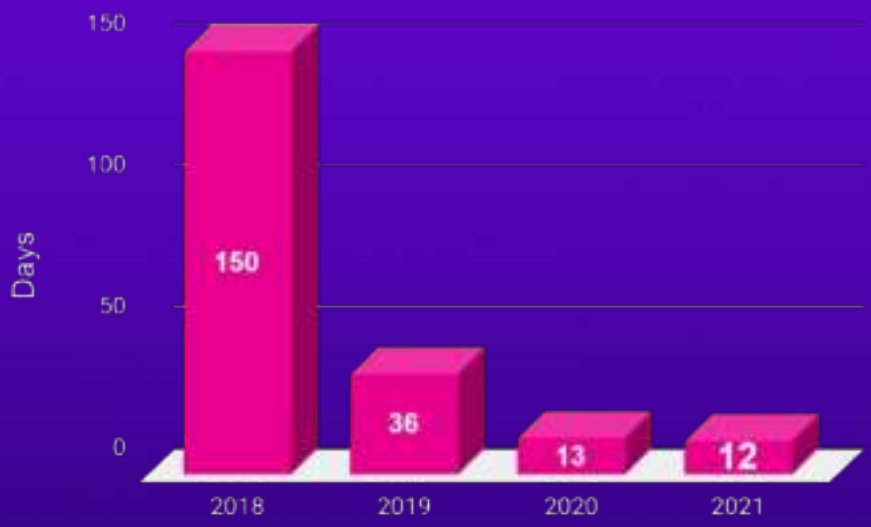
So we end up with a much smaller than this is so much harder to view than it would be otherwise so yeah that's just my notes that you have to get zoom in a little more so if I click the asset, for example.

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