Deliverable 2

BYTE

Description of issues

Issue 1

#1639 Feature Request - Organize Tabs in Dropdown
Link: https://github.com/mozilla/multi-account-containers/issues/1639

Description

The feature requested by the user is to be able to sort the containers in the drop-down list of the extension to the user's liking. Right now, when a new container is added, it is appended to the bottom of the drop-down list with no ability to move any of them from their original positions (as shown below).
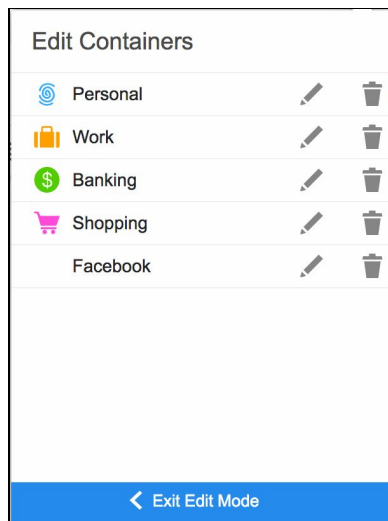
Estimation of work

This feature can be implemented in `src/js/popup.js` in the function call `Logic.registerPanel(P_CONTAINERS_EDIT, {...})` at line 961. This function call corresponds to the popup 'Edit Containers' shown above, which is where we should add the functionality to sort the list of containers.

The estimated amount of work for this feature depends on how we will implement the sorting:
- **Up and down arrows**: This allows users to move containers incrementally and should take 1 working day at most. However, this is not very user-friendly especially if a user has many containers they wish to move
- **Drag and drop**: This would be more user-friendly. However, the current project does not include any UI libraries and so we would have to implement this manually. This should take 3 working days at most

Issue 2

#1609 Bug - Specific URL is not opened in its default container
Link: https://github.com/mozilla/multi-account-containers/issues/1609

Description

This is a bug that is related to the usage of containers. The user who reported this bug mentions that a specific URL does not open in the container it is associated with. The specific URL's domain is registered to open in the Work container. Yet, accessing the specific URL in a default container (no container) does not trigger the event to open in the registered (Work) container.

The specific URL:
https://isgroup.atlassian.net/wiki/spaces/N/pages/1366720820/Annotation+Workflow+for+WCL+Classifier+Draft

The registered container:
Any container that sets `isgroup.atlassian.net/` to always open in it

Expected behaviour:
The URL should open in the registered container. (Work container in the reporter's case)

Estimation of work

This bug might be related to not detecting the specific URL request to trigger the listener: `browser.webRequest.onBeforeRequest`, from `assignManager.js`. This listener is used to determine if the current tab's URL has to be opened in a certain container assigned by the user.

The workflow and related information will be:
1. Understand how `assignManager` manages tabs and containers when a new request is created, and how it stores the data of which container a website (domain) should always open in (this is set by the user from the checkbox in the popup)
2. Debug and see why requesting the specific URL does not trigger any listeners in the `init()` of `assignManager.js`
3. Try to compare the browser object for https://isgroup.atlassian.net/wiki/spaces/N/pages/1366720820/Annotation+Workflow+for+WCL+Classifier+Draft and https://isgroup.atlassian.net/ to see what the difference between them on the browser object is, since it stores tab information and webRequest information which could be related to the bug, i.e. not triggering the added listener function
4. Fix the bug according to all the investigation in step 2 and 3
5. Test the given specific URL with a written test case

Time estimation:
- The background part is more complicated than the frontend part but understanding the code should take 1 day at most
- Debugging and investigating the problem needs around 2-3 days because we only have one specific URL that is given with this problem. No other URLs are provided to find out why the redirect does not work. Have to go through every function that is involved
- Once the problem is found, it should take 1-2 days to fix the code
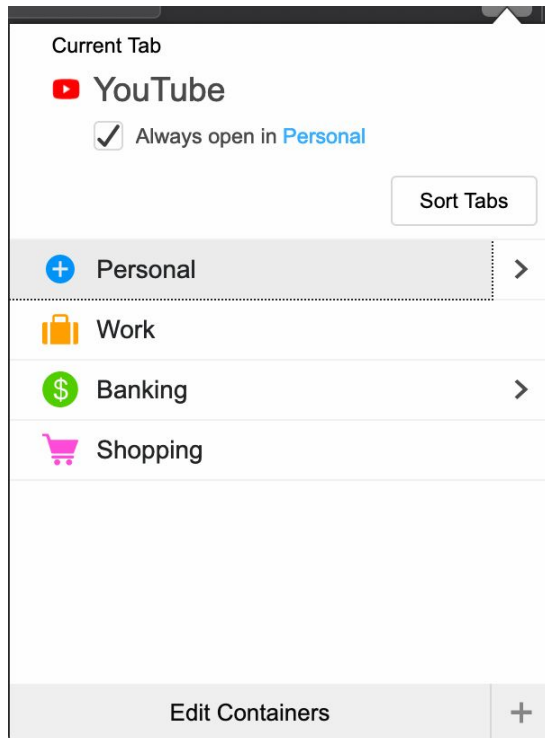- Testing should only take 1 day to finish

Issue 3

#1573 "Always open in.." not shown with Icecat bug
Link: https://github.com/mozilla/multi-account-containers/issues/1573

Description

Functionality: in the popup menu, there is an option called "Always open in ...", as shown in the screenshot below.

In the screenshot example shown, we set YouTube to always open in the Personal container, which means that every time we open up YouTube, there should be a page asking if you want to switch to open the site in the Personal container.
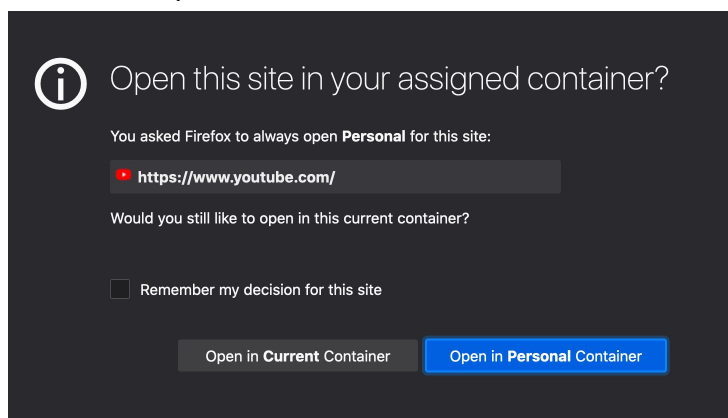
Issue: The functionality should also be shown when right-clicking in the tab.

The issue happens in
- Multi-Account Containers Version: 6.1.1.
- Operating System + Version: Ubuntu 18.04
- Firefox Version: IceCat 60.7.0

Estimation of work

The workflow of this issue should be
1. Looking for the popup menu with "Always open in ..." functionality, and fully understand how it works
2. Find why it doesn't work on specific versions of Firefox
3. Fix the issues with specific configurations and more generically
4. Fully test the logic

Finding the code and understanding the detail of this functionality should take no more than 2 days. Implementing and testing should be straightforward once the code is understood, then it should take less than 3 days.
Therefore, it should be approximately 5 days for a single developer.

Issue 4

#1579 Please remove the 25-character limit on container names (enhancement)
Link: https://github.com/mozilla/multi-account-containers/issues/1579

Description

This enhancement is related to the limitation of character length for a container name. Originally, this limit is designed for users who have small screens, low resolutions, busy toolbars (e.g. a lot of extension buttons), wide density in Firefox ("touch" or "normal", as opposed to "compact" density), or large text size. But users who have larger screens and higher resolutions would like containers that have longer names. For example (ContainerA will be RedditAliasA,GoogleAliasA, FacebookAliasA, twitterAliasA, InstagramAccountA .ContainerB will be RedditB, GoogWorkB, fbC, twitB, InstaB)

Estimation of work

Firstly, we need to cancel the max length set in src/popup.html. This feature can be implemented in `src/js/popup.js`. The workflow and related information:

1. Figure out the HTML file that restricts the length
2. Analyze a way to get the value of the current visual ratio of the screen from **Firefox** such as (zoom: 100% 1920 * 1080)
3. Test different value pairs to give the user more options to change the character length for a container name. (For example, the length can get larger when the user is using 720p resolution and 100% zoom in)
4. Implement a '+/-' button to change the limit of words. Or let the length of the name become automatically suited for different resolution ratios
5. Fully test the functionality on different machines and write test cases for that

Time estimation

1. It takes around 2 hours to understand the logic of length control from reading the code
2. It takes around 1 day (8-hour work time) to find how to read the resolution ratio from Firefox (which is a value that is readable in Chrome)
3. It takes half a day (4-hour work time) to test the potential length of names and implement the UI
4. It takes around half a day (4-hour work time) to test the functionality manually

In conclusion, it takes a developer 2 days to find and fix the bug.

Issue 5

#1624 Shift-click to select multiple containers
Link: https://github.com/mozilla/multi-account-containers/issues/1624

Description

This enhancement is related to container deletion. The current behaviour of deletion requires users to first open the container edit panel, click the delete button, and confirm their deletion for each container one by one. Thus for users who use tons of different temporary containers, it is very difficult for them to delete multiple containers all at once. The expected behaviour from the issue is allowing users to shift-click the delete button/key for multiple containers and confirm the selection all at once. However, the issue is labelled with UX so I think this isn't user-friendly, because not all users will know this short-cut. Thus I think it will be more reasonable for us to create a toggle button to enable a checklist for multi-selection for deletion. If this issue is selected, I will reply on the issue and contact the repository owner about this possible UI improvement.

This is the current delete button for containers.

This is the current confirmation page.

Estimation of work

This feature can be implemented in `src/js/popup.js`, starting at line 958 where it is constructing the edit panel. The workflow and related information:

1. Communicate with the repo owner about possible UI/UX change needed for this issue. Note: the workflow below is still based on the feature requested by the original post
2. Read through the business logic behind the delete button and confirmation panel and understand how they interact with each other
3. Add an extra layer of javascript logic before the invoking for selection. So that it can pass a list of container id to deletion
4. But to allow group deletion, I will also have to modify the parameter and logic of the actual deletion method.
5. After that, I will perform a series of manual testing on Windows, Mac, Linux
6. Add and update test cases for the container deletion

On the other hand, if the UI change is approved by the owner, the following workflow will happen.

1. Read through the UI and CSS code for the edit panel
2. Add the UI change and business logic
3. Manual test on Windows, Mac, Linux (any kind of Linux)
4. Write test cases for the new UI change and update the test cases for deletion

Time estimation

1. It takes around 2-4 hours to understand the logic and flow behind the deletion and confirmation page
2. It takes around 2-6 hours to add a new layer and logic for handling shift keypress correctly
3. It takes around 2-12 hours to understand the test cases, update the deletion test cases, and debug the added feature

If it is the case that the front-end UI change is approved:

1. It needs 1-3 hours to fully understand the UI part of the design
2. It needs 2-6 hours to add UI and the business logic behind it (depending on the UI complexity)
3. It will need again 2 - 12 hours to understand the test cases, update the deletion test cases, and debug the added feature

In conclusion, it takes a developer around 2-3 workdays to add and test the requested feature and it needs to take about 2-3 workdays to add and test the new UI and logic.

Issue 6

#1670 Manually add URL's to a container
Link: https://github.com/mozilla/multi-account-containers/issues/1670

Description

The feature requested by the user is to be able to manually add URLs to a container. Right now, the only way to assign a URL to a container is to open the website in the needed container and click the checkbox in the add-on popup to "Always open in (container name)", which is not very intuitive. It would be more user-friendly to assign URLs to containers by manually adding them in the add-on popup when editing containers as shown below.
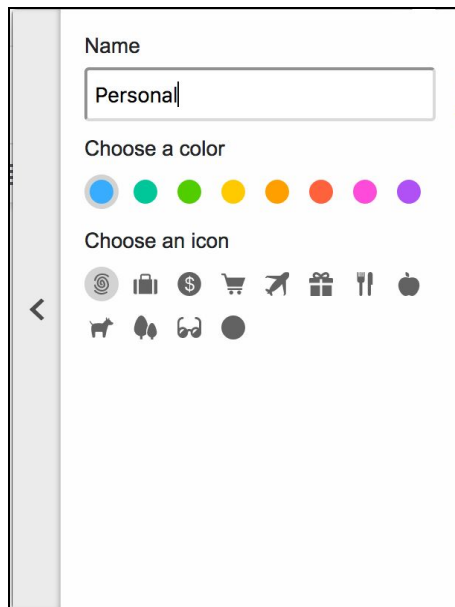
Estimation of work

This feature can be implemented in `src/js/popup.js` in the function call `Logic.registerPanel(P_CONTAINER_EDIT, {...})` at line 1025. This function call corresponds to the popup to edit one container as shown above, which is where we should add the functionality to add a URL to the container.

The workflow and time estimation would be as follows:
1. 3-4 hours to add the UI to assign a URL to a container, which includes adding the textbox and button and changing the CSS to fit the current style of the popup
2. 4-5 hours to figure out how to assign a URL to a container, implement this functionality in the backend, and ensure there are no current conflicts of this URL with other containers
3. 4-5 hours to understand how assigning URLs to a container is currently being tested, and implement our test cases for the new code we've written

Issue 7

#1231 Nightly assignment confirms page alignment is wrong.
Link: https://github.com/mozilla/multi-account-containers/issues/1231

Description

As shown in the screenshot below, the two buttons at the bottom are not aligned correctly. The left margin of the "Open in Current Container" should start where the other elements start, but the current page, the button is right-aligned.
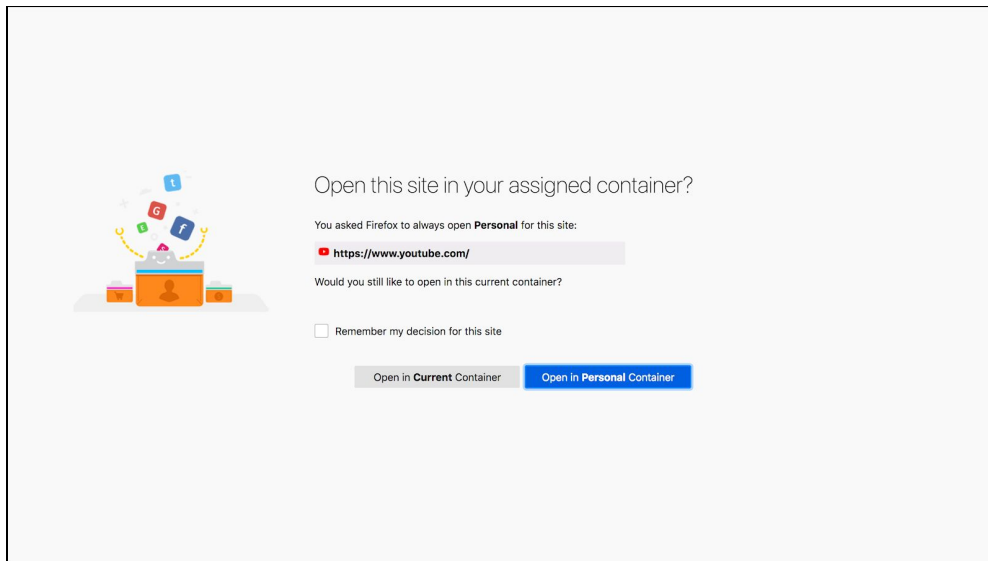
Estimation of work

This is a simple CSS fix in the `confirm-page.css` file. The `confirm-page.html` file currently uses flexbox to align elements, so it is a matter of setting the flex-grow attribute for the two buttons. This should take no more than 1 hour of work.

Issues chosen to be implemented

The issues we have chosen to implement (as specified below) have a focus on the frontend of the project. This is because the backend issues we went into detail above were very specific to one URL (Issue 2) or a certain Firefox version (Issue 3). We felt as though we should work on features that are more general to the user base, which is why we chose Issue 5, Issue 6, and Issue 7.

We chose 3 issues as opposed to 2 because we wanted to fulfil our goal from Deliverable 0, which was to implement 3 small bug fixes.

NOTE: We put the estimation of work in the issue list (Issue 5: Page 9. Issue 6: Page 10. Issue 7: Page 11)

Issue 5

We chose this issue because being able to delete multiple user containers at once would be convenient. It is annoying to have to go through a confirmation page for every container we want to delete, so we think the feature requested by the user is reasonable for their use case.

One problem we anticipate running into would be understanding how to register a keypress since this is not an event we have listened to before in our previous JavaScript projects. Additionally, we need to analyze how to loop and delete multiple containers.

Issue 6

We chose this issue because being able to manually add URLs to a container would be convenient as well. In terms of user experience, it doesn't make sense that a user would have to open a URL in a container first before assigning that URL to the container it is currently open in, which is how it is currently implemented. It makes more sense to add URLs to a container beforehand. The issue has also been asked for multiple times in the project repository, so we thought it should be implemented once and for all.

One problem we anticipate running into would be when a user assigns a URL that is already assigned to another container. A URL should not be assigned to more than one container, so we would need to check for that.

Issue 7

Although this issue is very simple, it is still a good fix to implement since the alignment of elements should be important in any UI. Fixing the design of any page should ensure better user experience, especially considering users would always see this confirmation page whenever they open up a URL assigned to a container.

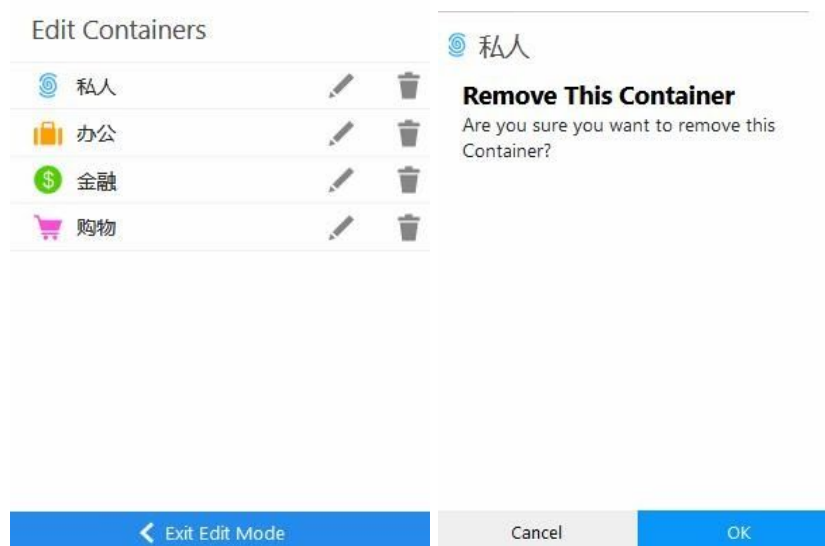# Documentation of bug fixes

How to run test cases

1. Run `npm install`
2. Run `npm run test` to run the test cases, including the ones we have written
3. Run `./node_modules/web-ext/bin/web-ext run -s src/` to run the extension to see the changes we have made
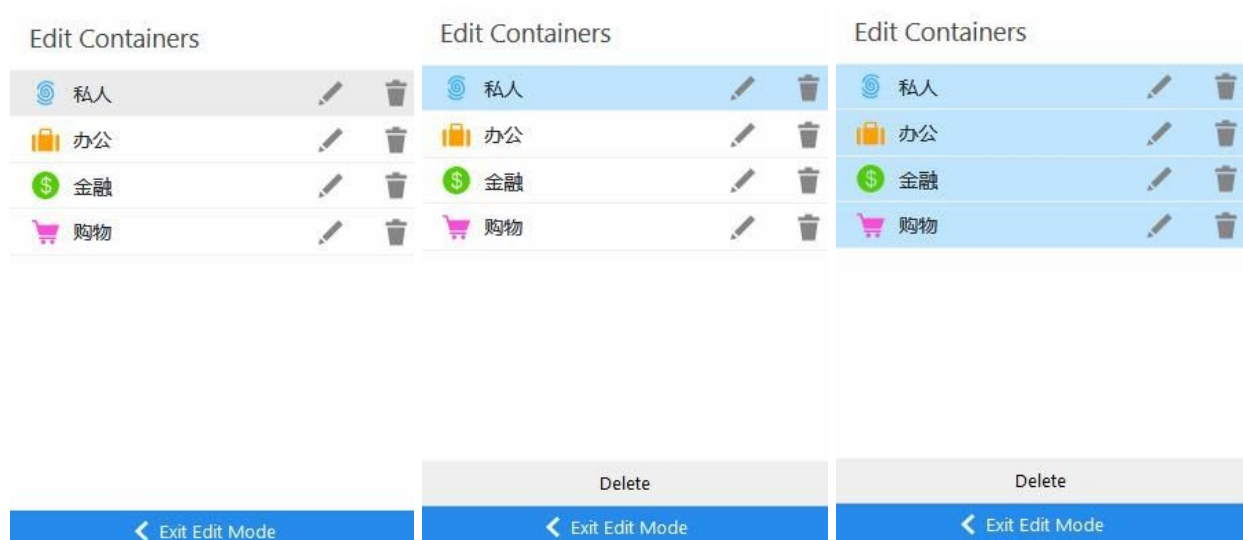
Issue 5

Before:

If you want to delete a container, you can only click the dustbin icon and then

After:

Containers

Remove This Container
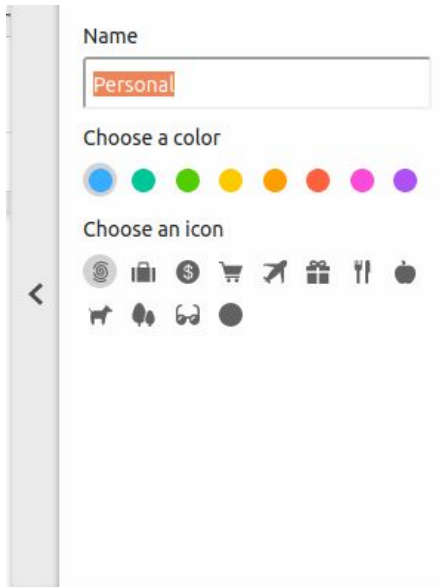Are you sure you want to remove this 4
containers?

Cancel	OK

When you hover over the container, the container becomes light grey (the same colour when the user hovers one container in the main page). If a user clicks one container, then the container becomes light blue (represents that the container has been selected). If the selected container is clicked for one more time, then the highlight will be cancelled. If the user presses 'shift' and 'click' at the same time, then all the containers from the last selected container and the newly clicked container will be selected. Then if the user clicks the 'delete' button at the bottom or presses the 'delete' or 'backspace' key on his/her keyboard, all the selected containers will be deleted with only one confirm page.

Acceptance Test:
1. When the user is in the edit container page, he should be able to see a light grey highlight whenever he hovers one container.
2. The delete button (at the bottom) should only show when there are at least one containers have been selected
3. A container should be highlighted when it has been clicked.
4. A highlighted container should be cancelled when the selected container is clicked again.
5. If the user presses 'shift' and 'click' at the same time, then all the containers from the last selected container and the newly clicked container will be selected.
6. When the user clicks the 'Delete' button (Or when the user presses 'backspace' or 'delete' key), the user will see a confirmation page. If the user clicks the 'OK' button on the confirm page, all the selected containers will be deleted.
7. To check that those containers have been deleted successfully, the user can check the remaining containers in the main page and edit page.
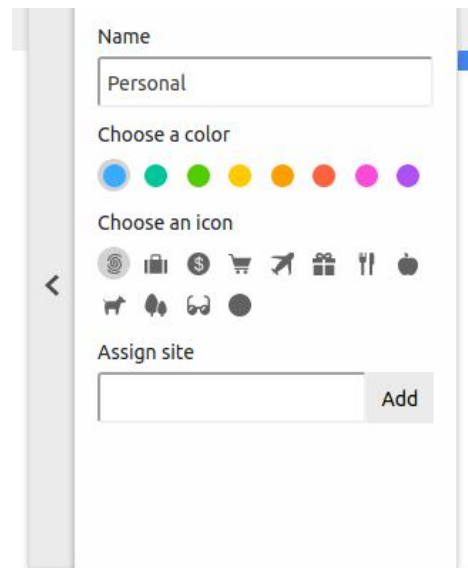
Issue 6

Before:
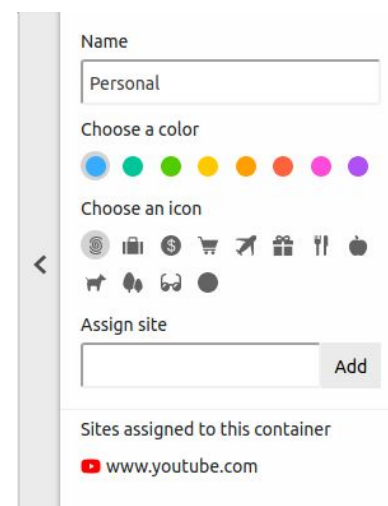
After:

For the UI, we added a textbox under the "Edit Container" menu for each container which allows users to assign a URL to a container. The assigned sites will be shown under the textbox once it is added successfully. It will not be added if the entered URL is not valid.
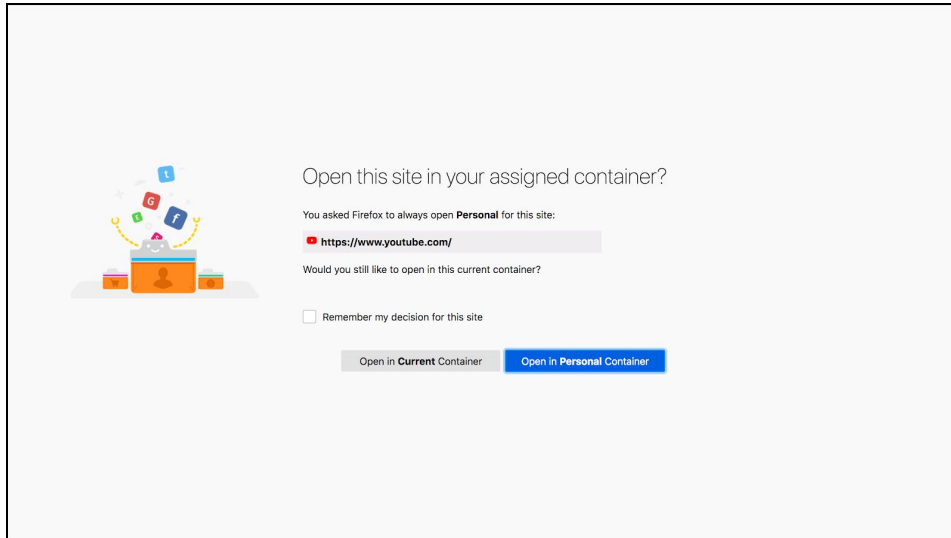
Acceptance test:
1. Click on the extension icon to open the popup page.
2. Click on the "Edit Containers" button and edit one of the containers (e.g. Personal Container) by clicking its "pen" icon.
3. In the menu, users should see an input box under the "Assign site" section.
4. Enter a valid URL (e.g. https://www.youtube.com) in the input box and click the "Add" button to assign the site in that container.
5. If the URL is valid, the site should be assigned successfully and appear under the input box.
6. To check if the container assigned that URL, the user can open a new tab and go to https://www.youtube.com and the user should see a confirmation page that asks if you want it open in the Personal Container.

Issue 7

Previously, when a user assigned a URL to a container and opened the same URL in a new tab without any container, they would have seen the following page:

If you look at the bottom two buttons, it is clear they are not aligned correctly. After fixing this issue, a user should now see the following page with properly aligned buttons instead:
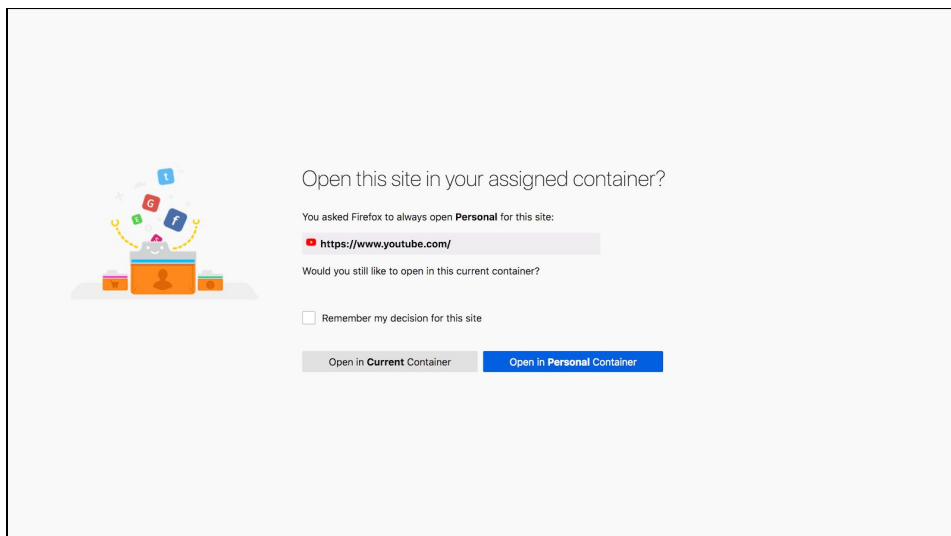
Acceptance test:
1. Click the extension icon and open a new 'Personal' container
2. Open http://youtube.com in this container
3. Click the extension icon again and check the 'Always open in Personal' box
4. Open http://youtube.com in a new tab with no container
5. See the above redirection page, and see that the buttons are now aligned

Technical commentary of bug fixes

Issue 5

We use a variable 'shiftOn' to record whether the user has pressed 'shift' key on his/her keyboard. Additionally, we use _currentSelectedIdentities: [] list to record the containers that have been selected by the user. Then we have two cases, **Case One:** (The user does not press the 'shift' key on his/her keyboard) When the user has clicked one container that has not been in the list, it will be added to the list. When the container in the list is clicked again, the container will be deleted from the list. The containers in the list will be highlighted by changing their CSS. **Case Two:** (The user clicks while pressing the 'shift' button) All containers between the last clicked container and the newly clicked container are added to the list. If no container has been selected before the user presses the 'shift' button on the keyboard, then the behaviour is the same as case one. To make sure that this logic works, we use a variable 'shiftOn' to represent whether the 'shift' key has been pressed or not in the popup.js.

After collecting all the containers in the list, we change the logic of the confirm page so that users just need to click 'OK' to delete all the selected containers. Talking about the delete logic, we use a loop to delete containers one by one. Whenever a container has been deleted, it will no longer show in the main page anymore.

Modified source code files

- `src/css/popup.css`: Add CSS to highlight the whole container whenever a user hovers it
- `src/js/popup.js`: 1. Add helper function to deal with adding/deleting containers to the list 2. Change confirm page logic so that users just need one confirm page to delete all the selected containers 3. Use a 'shiftOn' variable to record whether the user is pressing the 'shift' button 4. Add logic for selecting multiple 5. Add the logic to delete all the containers stored in the list 6. Add the logic to detect 'backspace' and 'delete' key in the keyboard
- `src/popup.html`: Add a delete button, Remove fixed content for the confirm page
- `tests/issues/1624.test.js`: Add test cases to check if frontend and logic work as wanted

Issue 6

The assigned site form once submitted, it will grab the URL input and the container id then send to the background with the message "setOrRemoveAssignment". This function handles the URL assigned to a container with duplicated URL check (i.e. it will remove the URL assignment from another container if the exact URL exists when a user is trying to assign that URL to another container).

The function that we are using is legacy code, it requires a valid URL which includes a protocol (e.g. HTTP or HTTPS). If the user did not include a protocol, the best we can assume is using HTTPS as the default protocol.

To make sure the user has entered a correct URL, we used regex to check the input to prevent most of the invalid cases and to make sure it has at least the domain name and the top-level domain. The registered URL will be the indicator for the extension to identify if they need to open the site in another container.

Modified source code files

- `src/css/popup.css`: Add CSS to show textbox input and button
- `src/js/popup.js`: Add backend logic to assign URL to a container
- `src/popup.html`: Add fields for assigning URL to a container
- `tests/issues/1670.test.js`: Add test cases to check if frontend and logic work as wanted

Issue 7

This issue only required an additional 3 lines of CSS in `confirm-page.css.` The elements on the page are displayed within a flex container so the solution was to use flexbox to ensure that the buttons on the confirm page are displayed correctly. In this case, we assigned for each button `flex-grow: 1` so that they would both grow equally in size within their button container.
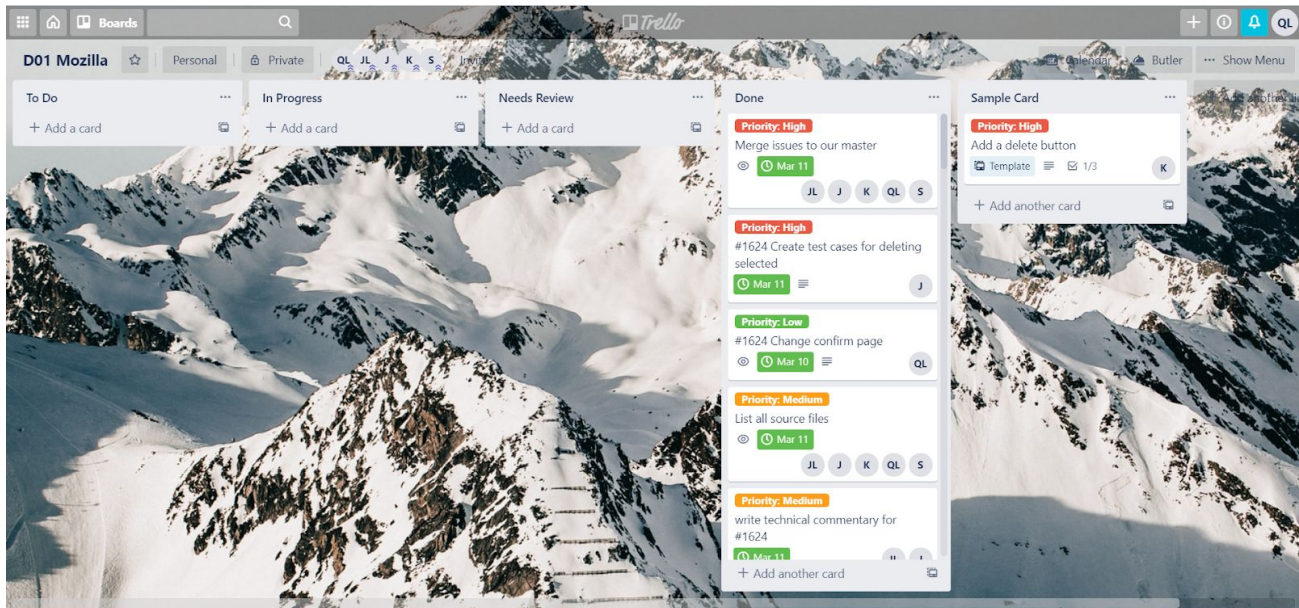
Modified source code files

- `src/css/confirm-page.css`: Add CSS for buttons

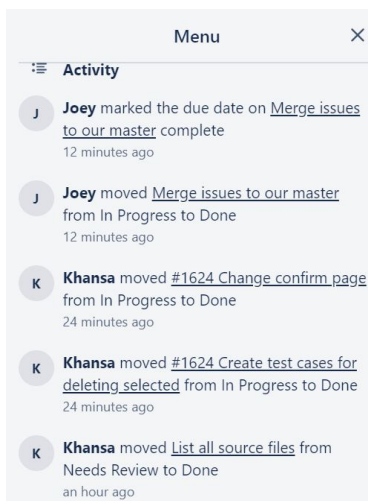# Evidence that our team follows our development process

Kanban Board

Our Kanban board is hosted on Trello, pictured below.

Link: https://trello.com/invite/b/HxNEWM5G/e95972a95b77b4e2c7e2d8f4a33b6617/d01-mozilla

The history of activity are shown whenever the user clicks the menu

Kanban Card

For each kanban card, we assigned a priority to it. For this deliverable, the card that is related to the main functionality or branch is assigned with high priority. The card that is related to documentation is assigned with medium priority. The card that refers to small changes (polishing UI, changing words on confirm page, etc) is assigned with low priority. For the tasks that have a specific deadline (it is discussed in our standup meeting), we add due day to them.

WIP Limit

According to the history, none of teammates take the cards that exceeds the WIP limit (10). In other words, none of teammates takes more than 10 cards under the **In Progress** Section.

Daily Stand Ups

Attached is the link for our daily stand up meeting:

https://docs.google.com/document/d/1claVMfMSwhIJTSXqujMSIFz1SSRiUMxXy1pbYNNQ5F0/edit?usp=sharing

We **modify Kanban's daily stand ups to stand ups that occur every two days.** Additionally, we held weekly face-to-face meetings on Wednesday. To be more precise, on 2020/03/04 we analyzed the potential issues in the github, estimated the workload and made the issue list. We summarized all the codes and documentation during our second meeting (on 2020/03/11).

Git Branch

We created branches for each team member. Each branch is named with the issue number and sub-task. A pull request is only allowed to be merged into master branch when it is approved by all team members.