

# Team 25: BJDJ

## Deliverable #2

Team Repository: [https://github.com/CSCD01/team\\_25-project](https://github.com/CSCD01/team_25-project)

Code Repository: <https://github.com/CSCD01/focus-android-team25>

Kanban board: [https://github.com/CSCD01/team\\_25-project/projects/1](https://github.com/CSCD01/team_25-project/projects/1)

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## **Description of 5 bugs/issues**

**Issue 4395:** URL Autocomplete - The "back" action does not redirect the user correctly

### **Reproduction Steps:**

1. Go to Settings -> Search -> URL Autocomplete
2. Click the "Learn more" link
3. Hit "back"

Expected Behavior: Returns to the URL Autocomplete settings page, or in general return to their respective settings page

Actual Behavior: Returns to the main screen.

**Description:** In the settings pages, there are a few places where there are "Learn More" links that users can click to better understand what that particular feature does. Now when these links are clicked, it directs Focus to open it up in the browser. This causes the problem when the user finishes reading about the feature and wants to go back, but cannot return to the settings without manually opening and navigating to where they were previously. Since it opened up in Focus, when the back button is pressed it causes the standard behaviour for Focus to clear all data and refresh, which is not what the user wanted; they want to be back in the settings page. The user identified that they want it to be like the help button for adding a custom search engine, which we found in ManualAddSearchEngineSettingsFragment. We then saw that the links were opened in LearnMoreSwitchPreference, so we knew where in the code we needed to change for this issue.

**Estimate of work:** 3 hours

**Issue 4394:** The newly added engine is present in "Search Engine" list only after re-opening the app

### **Reproduction Steps:**

1. Open Firefox Focus
2. Navigate to "Home Menu"->"Settings"->"Search"->"Search Engine"
3. Press "+ Add another search engine"
4. For the field "Search engine name", enter "Bing", for the field "Search String to use", enter "bing.com/search/?q=%s"
5. Press "SAVE"

Expected Behavior: The "Bing" search engine appears in the installed search engines list

Actual Behavior: The "Bing" search engine does not appear in the installed search engines list

**Description:** When the user adds a new search engine to their list, the newly added engine does not appear in the list until the app is restarted and the search engine default is set to Google. This issue arises from the use of FocusApplication's Components implementation (context.components.searchEngineManager) The use of SearchEngineManager through this

variable results in an outdated list of Default and Custom domains as it does not return the newly added engine along with the old ones. This variable is used in several different classes in order to retrieve the user's list of search engines and their currently selected search engine. Every usage of context.components needs to be replaced with a new Components object and this affects CustomSearchEngineStore, SearchEngineListPreference, SearchEnginePreference, SearchSettingsFragment, TelemetryWrapper, and UriUtils. With this change, the use of the new Component's SearchEngineManager now returns updated values and the functions calling upon it are now displaying the correct values. In addition to this, the function to add a new search engine in ManualAddSearchEnginesFragment does not update the displayed current search engine in the SearchSettingsFragment so a call to reload the fragment is required in the method onPostExecute.

**Estimate of work:** 6 hours

#### **Issue 4460: Bookmarks in autocomplete default to HTTP**

##### **Reproduction Steps:**

1. Open Firefox Focus
2. Type "<https://web.mit.edu>" in the URL bar and press enter
3. Click the URL bar and save the link for autocomplete
4. Click trash bin to restart a new session
5. In the URL bar enter 'we' and enter

Expected Behavior: The page goes to the saved <https://web.mit.edu> HTTPS site

Actual Behavior: The page goes to <http://web.mit.edu> HTTP version instead.

**Description:** When the user saved a URL to autocomplete and then try to go to that site by letting the app autocomplete the link for them, the app directs them to the HTTP version of the site. This occurs only if the site supports both HTTP and HTTPS, as well as not having an auto redirect from their HTTP to their HTTPS site. The bug is in UriInputFragment's OnCommit(), where they use AutocompleteResult class to get the URL text, but it doesn't have any field to store the original saved URL nor the protocol. So the function only knows the text of the URL but no protocol for it, so it normalizes the input which appends the HTTP to the text to create the URL, which means it doesn't go to the HTTPS version.

**Estimate of work:** 4 hours

#### **Issue 4400: The original searched term is not present in the URL bar after a search is executed**

##### **Reproduction Steps:**

1. Open Firefox Focus
2. Enter "beatles" in the URL bar and press search
3. Tap the URL bar

Expected Behaviour: The search term "beatles" should be displayed in the URL bar and highlighted

Actual Behaviour: The "search URL" is displayed on the URL bar

**Description:** The problem is that the searched term is not displayed when tapping the URL bar after searching the searched term. In `OnViewCreated` in `UrlInputFragment`, when deciding whether to display the search term or the search engine url, it checks whether the user is on a search page or not. It seems they want to keep track of whether the current page is a search page by checking whether the session's `searchTerm` variable is empty or not. But whenever it checks the `searchTerm` variable, it's always empty, so it will always return that the user is not on a search page. It seems the `searchTerm` variable is always empty when checked because the session's `searchTerm` variable is reset to empty in `onRequest` in `SessionCallbackProxy`. This is called even right after searching, so when a search is made, the session's `searchTerm` is correctly set to the searched term, then set to empty. Apparently whenever the user navigates away from a search page, the current session's `searchTerm` needs to be cleared. But say a user wants to navigate away from the search page and then return again, how does the session restore the `searchTerm` that was cleared when navigating away from the search page?

it seems a logical fix would be to never set the session's `searchTerm` variable to empty and find a different way to determine whether the user is on a search page. `val Session.isSearch` in `ext/Session` is currently used to determine whether current page is a search page.

**Estimate of work:** 5 hours

#### **[Issue 4453](#): Reddit - Link to install apps doesn't work**

##### **Reproduction Steps:**

1. Navigate to `reddit.com`
2. Click "USE APP"
3. Focus indicates an error with an unknown protocol

Expected Behavior: Reddit app is opened and correct content is displayed

Actual Behavior: Focus fails to redirect to app and indicates an unknown protocol message instead

**Description:** When the user goes to a website which can open its content on an application, Firefox Focus fails to switch to the app. Focus does not seem to have anything set up to deal with app links. So we can modify the `loadUrl` method in `BrowserFragment.kt` to check for app link requests, then trigger the function to redirect to the correct app. It could also be modified to open the application inside the browser automatically as is possible when the user selects the triples dots, selects open in, then selects reddit.

**Estimate of work:** 6 hours

## **Explain why we chose the bugs**

**Issue 4395**: URL Autocomplete - The "back" action does not redirect the user correctly  
For this bug, we chose to work on this because it seemed not too hard to do. We saw that the user wanted the "learn more" links to behave the same way as another implementation that was in the code, so we believed we can follow that implementation. Thus with this expectation we determined that the effort required would not be extremely high.

**Issue 4394**: The newly added engine is present in "Search Engine" list only after re-opening the app

We chose this to fix this issue as it seems to be a bug on a fairly important feature that basically does not work. There is no reason for a user to add a search engine and be required to restart the app in order to use it. It seemed that the solution required a refresh of values after the add action so it seemed simple enough to locate the point where values were not being updated and change it so that it does.

**Issue 4460**: Bookmarks in autocomplete default to HTTP

We chose this bug to fix because firstly there was a limited number of possible issues that seemed available to fix, and secondly this problem is a security risk that could be a way for malicious people to try downgrade attacks. The issue seems possible and simple to fix and the work required did not seem too high.

## **Customer acceptance tests**

**Issue 4394:** The newly added engine is present in "Search Engine" list only after re-opening the app

### **Test Cases:**

New search engine appears in the list:

1. Open Firefox Focus
2. Navigate to "Home Menu" -> "Settings" -> "Search" -> "Search Engine"
3. Press "+ Add another search engine"
4. For the field "Search engine name", enter "Bing", for the field "Search String to use", enter "bing.com/search/?q=%s"
5. Press "SAVE"

Expected Behaviour: The "Bing" search engine appears in the installed search engines list

Removed search engine does not appear in the list:

1. Open Firefox Focus
2. Navigate to "Home Menu" -> "Settings" -> "Search" -> "Search Engine"
3. Press "+ Add another search engine"
4. For the field "Search engine name", enter "Bing", for the field "Search String to use", enter "bing.com/search/?q=%s"
5. Press "SAVE"
6. Select "Google"
7. Open the overflow menu in the top right and press "Remove"
8. Select "Bing"
9. Press the delete icon at the top right

Expected Behaviour: The "Bing" search engine does not appear in the installed search engines list

Use new search engine:

1. Open Firefox Focus
2. Navigate to "Home Menu" -> "Settings" -> "Search" -> "Search Engine"
3. Press "+ Add another search engine"
4. For the field "Search engine name", enter "Bing", for the field "Search String to use", enter "bing.com/search/?q=%s"
5. Press "SAVE"
6. Select "Bing"
7. Press back
8. Ensure "Bing" is displayed under the "Search Engine" label
9. Navigate back to the Focus home screen
10. Type "beatles" in the URL bar and press enter

Expected Behaviour: Search results for "beatles" are displayed using the Bing search engine

**Issue 4395:** URL Autocomplete - The "back" action does not redirect the user correctly

### **Test Cases:**

Back from "Learn more" in Url autocomplete

1. Go to Settings -> Search -> Url autocomplete
2. Click "Learn more"
3. Click back

Expected Behavior: Be in the Url autocomplete menu and not the main page

Back from "Learn more" in Privacy & Security

1. Go to Settings -> Privacy & Security and scroll to the bottom
2. Click "Learn more"
3. Click back

Expected Behavior: Be in the Privacy & Security menu and not the main page

#### **Issue 4460: Bookmarks in autocomplete default to HTTP**

##### **Test Cases:**

Save autocomplete https

1. Go to Settings -> Search -> Url autocomplete -> Manage sites
2. Click "+ Add custom URL"
3. Enter <https://www.httpvshttps.com> in to "Paste or enter URL"
4. Click SAVE
5. Go back to the main page
6. Enter "h" into the url bar and select the <https://www.httpvshttps.com> autocomplete entry

Expected Behavior: Have access to https version of the site, as indicated by the lock in the top left beside the url bar.

Save autocomplete http

1. Go to Settings -> Search -> Url autocomplete -> Manage sites
2. Click "+ Add custom URL"
3. Enter <http://www.httpvshttps.com> in to "Paste or enter URL"
4. Click SAVE
5. Go back to the main page
6. Enter "h" into the url bar and select the <http://www.httpvshttps.com> autocomplete entry

Expected Behavior: Have access to http version of the site, as indicated by the lack of a lock in the top left beside the url bar.

## **Brief technical commentary on the changes**

### **Issue 4460**

The changes were mainly moving the variable 'result' to outside of the function so that it allows all the other functions in the class to access it, and adding an if statement in onCommit(). The variable allows the onCommit() function to check if there is an autocomplete result, and if there was then use the url in it since that is what the user bookmarked.

#### **Files modified**

- app/src/main/java/org/mozilla/focus/fragment/UrlInputFragment.kt

### **Issue 4395**

In the code, LearnMoreSwitchPreference is the abstract class that all the other modified files' class extends from. In that parent class, we added an abstract class getPreferenceTitle() to force all the children to implement what they want their title to be called. In the listener, we also changed how the learn more link is opened. Previously it opened the link directly on Focus because the code creates a session and adds it to the sessionManager. We changed it to use InfoActivity intent and have it start as an activity. This allows the learn more link to open up as a separate view so that when the user closes it, Focus remains in the previous settings page.

#### **Files modified**

- app/src/main/java/org/mozilla/focus/autocomplete/AutocompleteCustomDomainsPreference.kt
- app/src/main/java/org/mozilla/focus/autocomplete/AutocompleteDefaultDomainsPreference.kt
- app/src/main/java/org/mozilla/focus/searchsuggestions/ui/SearchSuggestionsPreference.kt
- app/src/main/java/org/mozilla/focus/settings/LearnMoreSwitchPreference.kt
- app/src/main/java/org/mozilla/focus/settings/SafeBrowsingSwitchPreference.kt
- app/src/main/java/org/mozilla/focus/widget/TelemetrySwitchPreference.kt
- app/src/main/res/values/strings.xml

### **Issue 4394**

Using context.components.searchEngineManager to retrieve the list of search engines and the current search engine should not be done as there are issues with it having outdated data. As a result of the changes, it is still allowed to be called and works in the same way it was before but it should be noted that using it may still result in incorrect data.

#### **Files modified**

- app/src/main/java/org/mozilla/focus/search/CustomSearchEngineStore.kt
- app/src/main/java/org/mozilla/focus/search/SearchEngineListPreference.kt
- app/src/main/java/org/mozilla/focus/search/SearchEnginePreference.kt
- app/src/main/java/org/mozilla/focus/settings/ManualAddSearchEngineSettingsFragment.kt
- app/src/main/java/org/mozilla/focus/settings/SearchSettingsFragment.kt
- app/src/main/java/org/mozilla/focus/telemetry/TelemetryWrapper.kt
- app/src/main/java/org/mozilla/focus/Utils/UrlUtils.java