Clipboard API

Image Copy/Paste

Flow of Image Copy

1. Long press

Long press on a image

BrowserElement ChildPreload.js

- _contextmenuHandler()
- Call **_setCommandNode()**
  - Set current **HTMLImageElement**

Send async msg

BrowerElement Parent.js

- _fireCtxMenuEvent()
- Create a menu with new copy image option

2. Click copy image

Click “Copy Image”

New BrowserElement API

nsBrowserElement::CopyImage()

BrowerElement Parent.js

- copyImage()
  - Send an async message to child and do copyImage command

Send async msg

BrowserElement ChildPreload.js

- _recvDoCommand()
  - Call docShell.doCommand() **cmd_copyImage**

(skip some functions)

nsClipboardImageCommands

- DoClipboardCommand()
  - Set COPY_IMAGE_DATA
  - Set COPY_IMAGE_HTML

nsDocumentViewer

- CopyImage()
  - Get current **HTMLImageElement**, which we set before

(skip some functions)

IPC

nsClipboardProxy

- SetData()
  - SendSetClipboard()

ContentParent

- RecvSetClipboardData()
  - Prepare HTML string
  - Prepare imgIContainer

(skip some functions)

gonk/nsClipboard

- SetData()
  - **kHTMLMime**
    - Copy HTML nsAutoString
  - **kNativeImageMime**
    - Clone DataSourceSurface

data flow

GonkClipboardData

Container for all copied data

Parent process

Child process

Flow of Image Paste

- nsClipboard::GetData()
  - Copy data according to the flavor list (After getting the one with higher priority, we skip others)
    - text/html
    - image/png
    - image/jpeg
    - image/jpg
    - image/gif
  - Encode Image according to image format by **imgITools**
  - SetTransferData()

- GetHTML()
- GetImage()

GonkClipboardData

Container for all copied data

gonk/nsClipboard

(3) Call GetData()

(4) Return nsITransferable

ContentParent

RecvGetClipboardData()

(5) Return nsITransferable

IPC

(2) SendGetClipboardData()

nsClipboardProxy

(6) Return

(1) GetData()

nsHTMLEditor

Paste()

InsertFromTransferable()

Image/png

InsertObject()

Prepare base64 string

text/html

DoInsertHTMLWithContext()

Do paste

Content Editable

Click "Paste"

BrowserElement ChildPreload.js

- _recvDoCommand()
  - Call docShell.doCommand() **cmd_paste**

nsDocShell::DoCommand()

nsPasteCommand::DoCommand()

Parent process

Child process