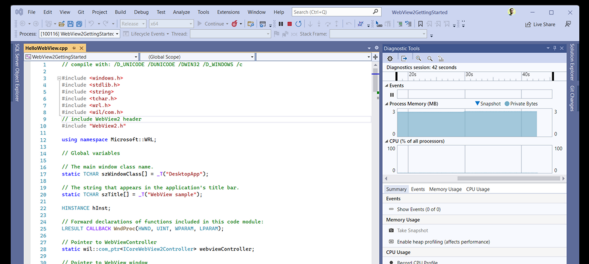
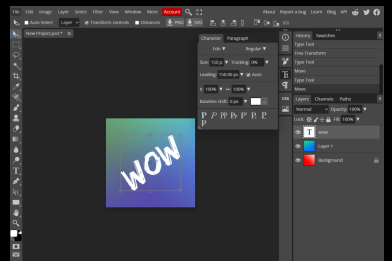
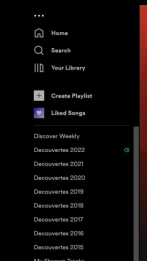
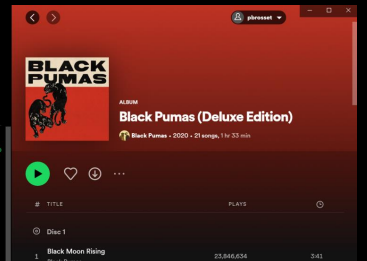
Building desktop apps in the age of the web

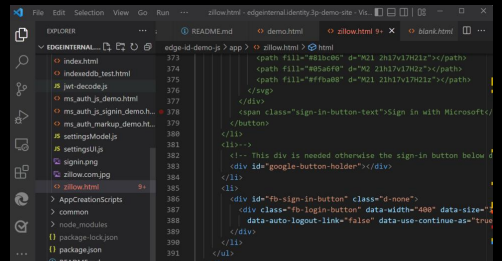
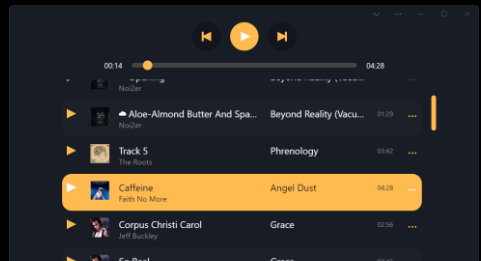
Patrick Brosset - @patrickbrosset

MODERNFRONTENDS 2022

Modern Web, Web Apps, Apps

Hey, I’m Patrick!

I’m a Product Manager at Microsoft.
I work on Edge.

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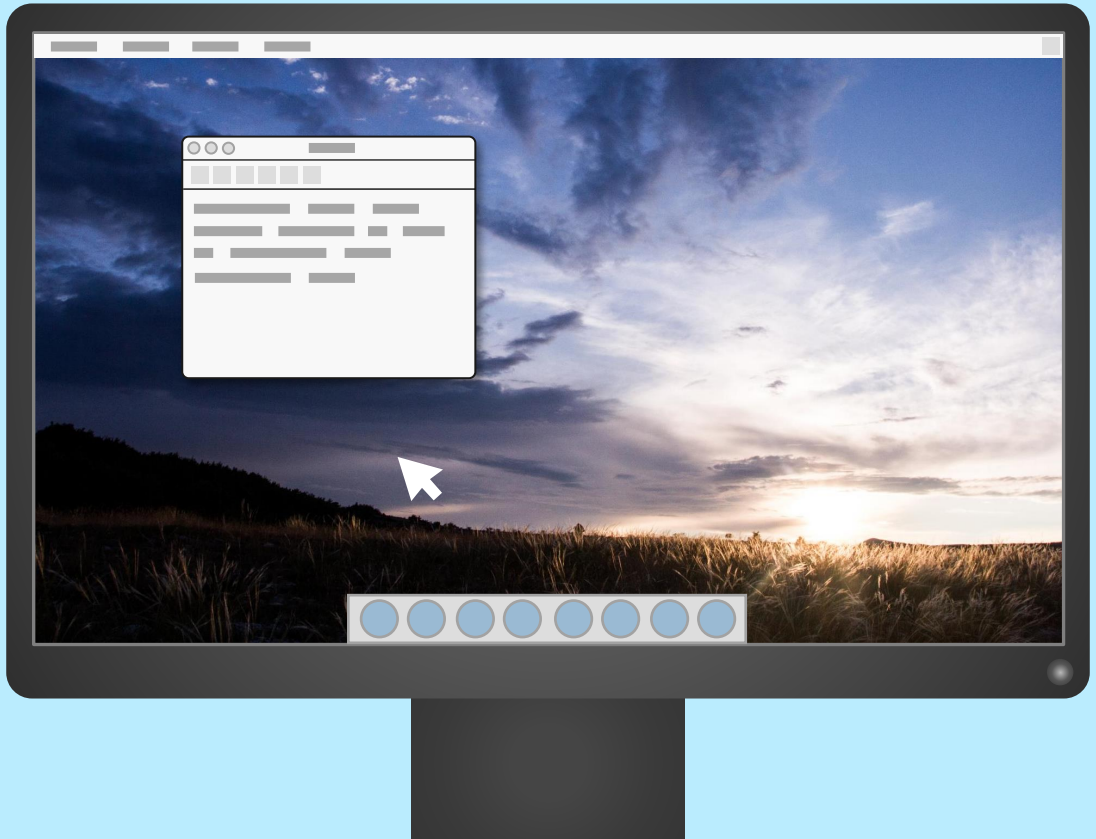
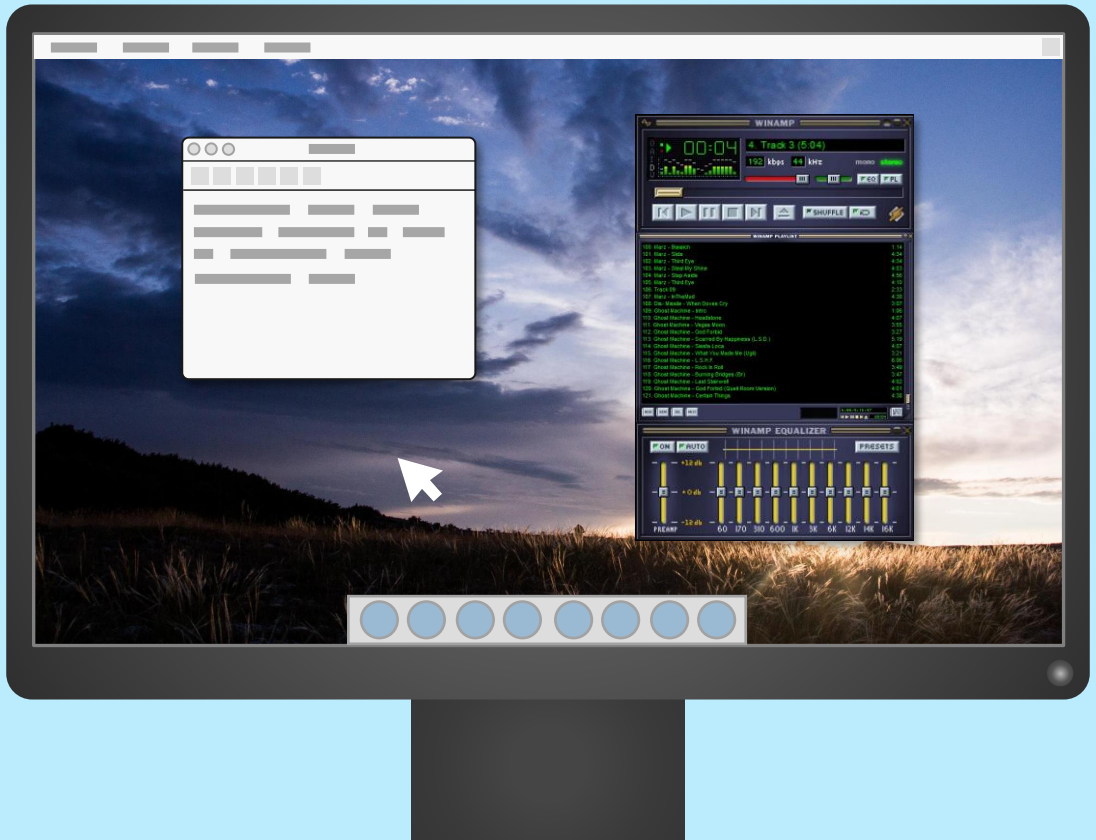
@patrickbrosset@mas.to
patrickbrosset.com

NETSCAPE 2

Let’s talk about desktop apps!

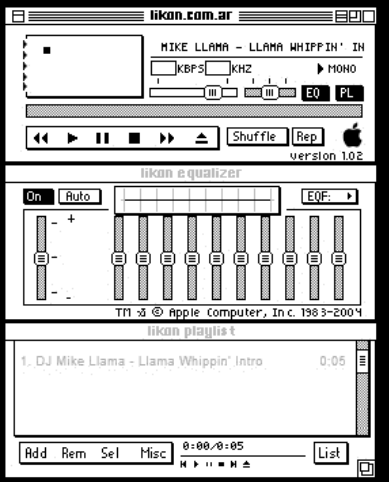


Who here remembers winamp?



Marshall
1. DJ Mike Llama - Llama Whippin' Intro 0:05
JIM BOYNTON

SONY
1. DJ MIKE LLAMA - LLAMA W
SONY
SONY
1. DJ Mike Llama - Llama Whippin' Intro 0:05

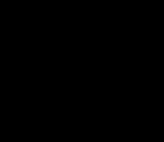

likon.com.ar
MIKE LLAMA - LLAMA WHIPPIN' IN
KBPS KHZ MONO
EQ PL
Shuffle Rep
version 1.02
likon equalizer
On Auto
EQF:
TM & © Apple Computer, Inc. 1983-2004
likon playlist
1. DJ Mike Llama - Llama Whippin' Intro 0:05
Add Rem Sel Misc
0:00/0:05
List

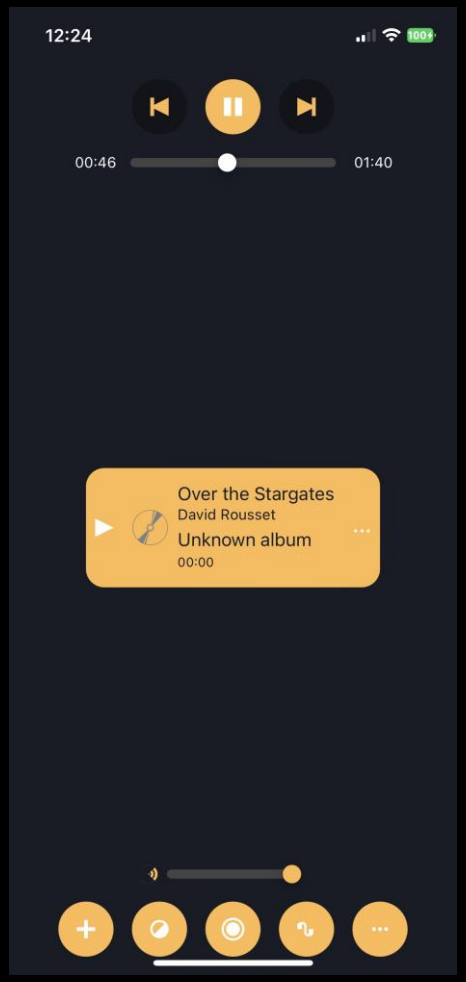
Technics EQUALIZER
ON AUTO
PRESETS
PREAMP
60 170 310 600 1K 3K 6K 12K 14K 16K
Technics PLAYLIST
1. DJ Mike Llama - Llama Whippin' Intro 0:05
ADD FILE
REM FILE
SEL ALL
MISC OPTS
0:00/0:05
LOAD LIST

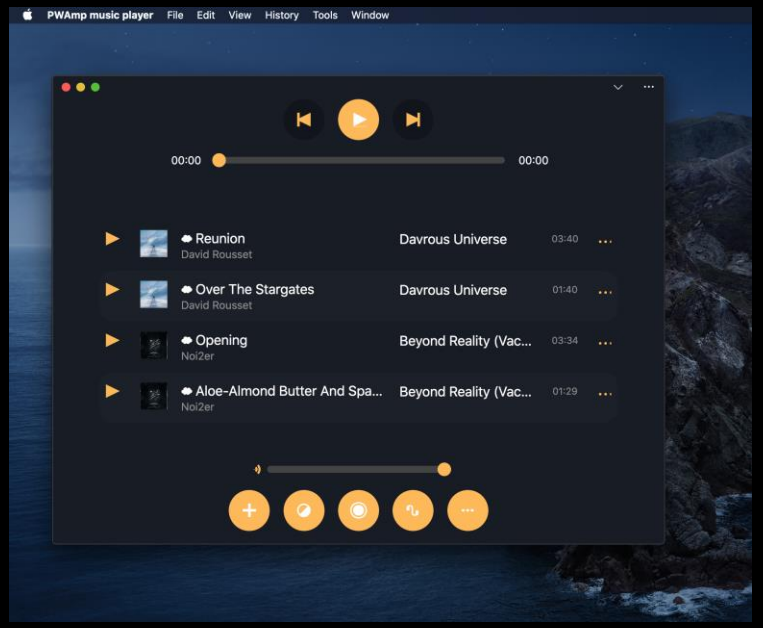
1. DJ MIKE LLAMA - LLAMA WHI
MARIO
1. DJ Mike Llama - Llama Whippin' Intro 0:05
SEL
MISC
0:00/0:05
LIST

WINAMP
1. DJ MIKE LLAMA - LLAMA WHI
READY.
KBPS KHZ
PREV PLAY PAUSE STOP NEXT OPEN
EQUALIZER
ON AUTO PRESET
PLAYLIST
1. DJ Mike Llama - Llama Whippin' Intro 0:05
ADD REM SEL MISC
0:00/0:05
LIST

Demo time!

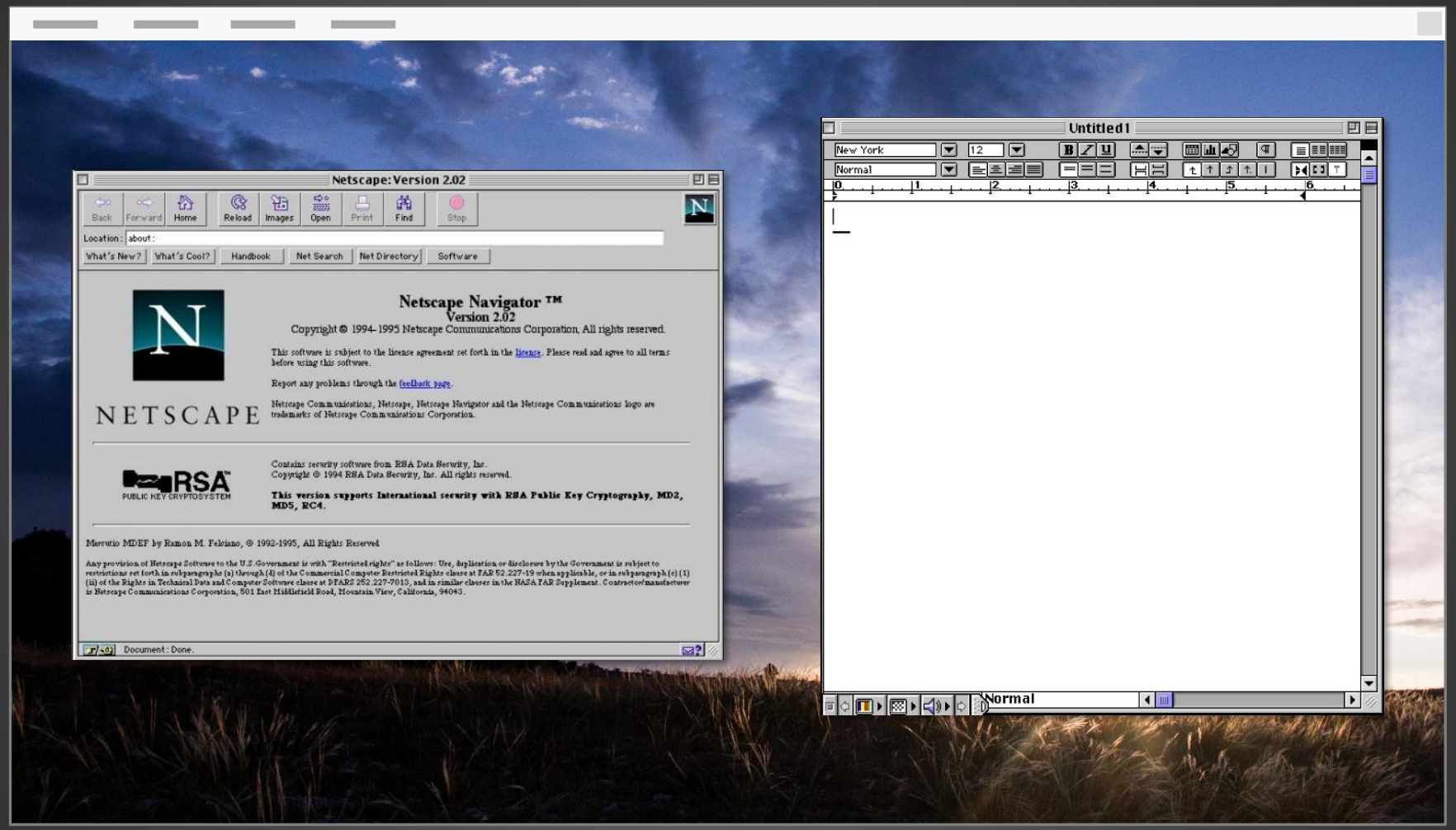



12:24
00:46
01:40
Over the Stargates
David Rousset
Unknown album
00:00


PWAmp music player
File
Edit
View
History
Tools
Window
00:00
00:00
Reunion
David Rousset
Davrous Universe
03:40
Over The Stargates
David Rousset
Davrous Universe
01:40
Opening
Noi2er
Beyond Reality (Vac...
03:34
Aloe-Almond Butter And Spa...
Noi2er
Beyond Reality (Vac...
01:29

Activities
PWAmp music player
25 oct. 12:43
Corbeille
patrick
00:00
00:00
Aloe-Almond Butter And Space P...
Noi2er
Beyond Reality (Vacuum) (LP)
01:29
Corpus Christi Carol
Jeff Buckley
Grace
02:56
Lilac Wine
Jeff Buckley
04:32

What’s a desktop app exactly?


Netscape: Version 2.02
Back
Forward
Home
Reload
Images
Open
Print
Find
Stop
Location: about:
What's New?
What's Cool?
Handbook
Net Search
Net Directory
Software
Netscape Navigator ™
Version 2.02
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Report any problems through the feedback page.
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NETSCAPE
RSA
PUBLIC KEY CRYPTOSYSTEM
Contains security software from RSA Data Security, Inc.
Copyright © 1994 RSA Data Security, Inc. All rights reserved.
This version supports International security with RSA Public Key Cryptography, MD2, MD5, RC4.
Meravia MDEF by Ramon M. Felciano, © 1992-1995, All Rights Reserved
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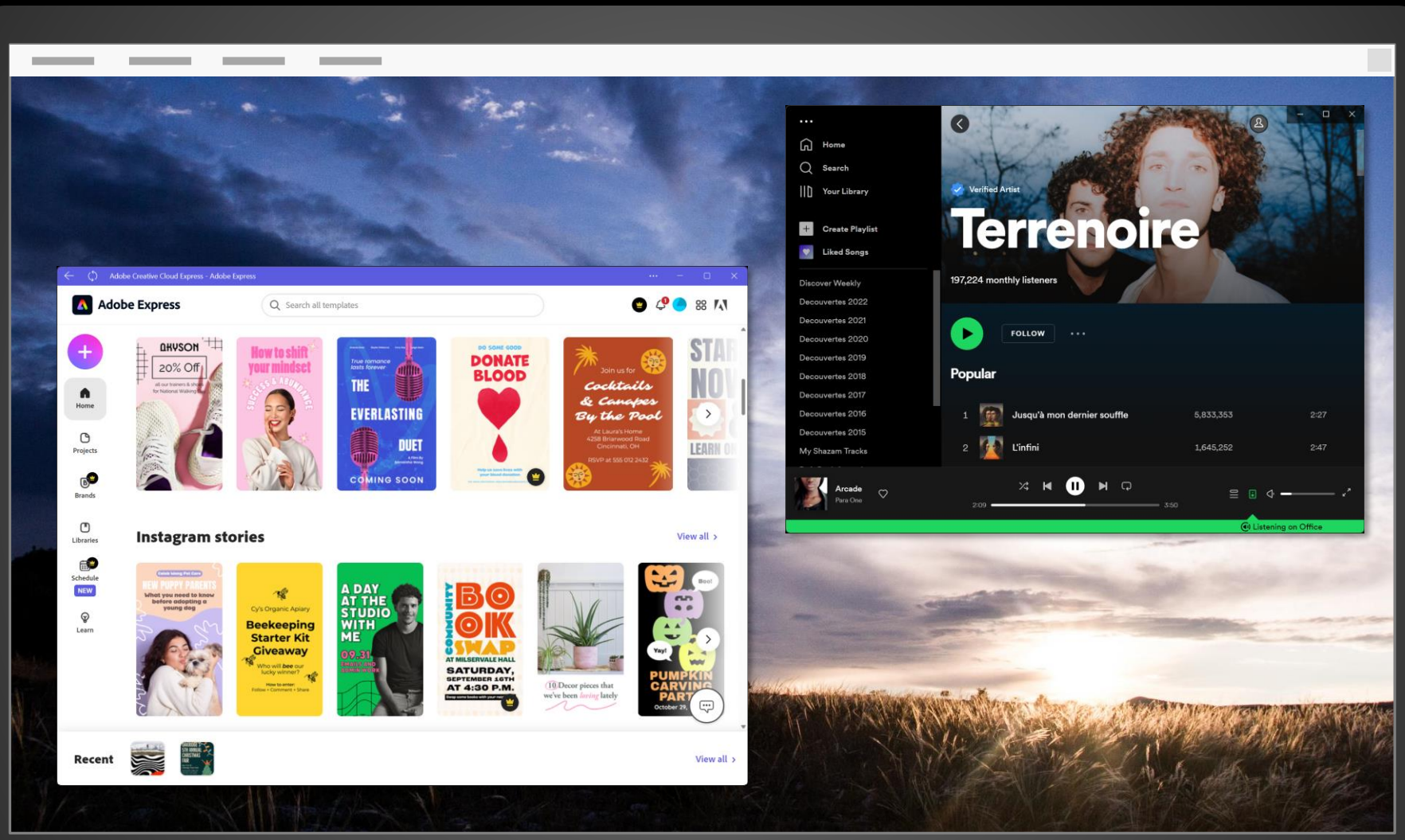
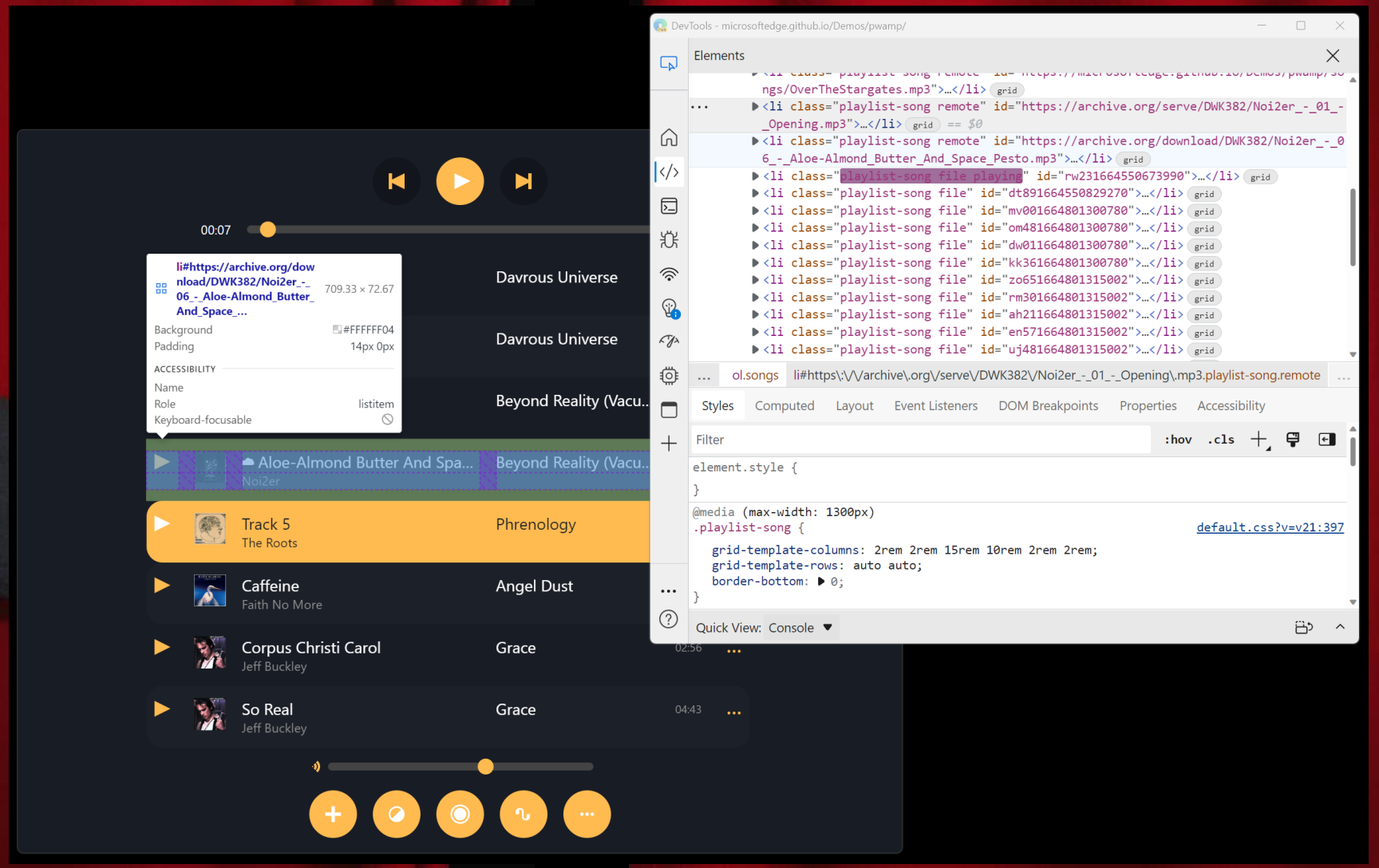
Document: Done.
Untitled1
New York
12
Normal
Normal


Adobe Creative Cloud Express - Adobe Express
Adobe Express
Search all templates
Home
Projects
Brands
Libraries
Schedule
NEW
Learn
20% Off
How to shift your mindset
THE EVERLASTING DUET
COMING SOON
DONATE BLOOD
Join us for
Cocktails & Canapes By the Pool
Instagram stories
View all
NEW PUPPY PARENTS
Beekeeping Starter Kit Giveaway
A DAY AT THE STUDIO WITH ME
BOOK SWAP
AT MILSERVALE HALL
SATURDAY, SEPTEMBER 16TH
AT 4:30 P.M.
PUMPKIN CARVING
Recent
View all
Home
Search
Your Library
Create Playlist
Liked Songs
Discover Weekly
Decouvertes 2022
Decouvertes 2021
Decouvertes 2020
Decouvertes 2019
Decouvertes 2018
Decouvertes 2017
Decouvertes 2016
Decouvertes 2015
My Shazam Tracks
Verified Artist
Terrenoire
197,224 monthly listeners
FOLLOW
Popular
1 Jusqu'à mon dernier souffle 5,833,353 2:27
2 L'infini 1,645,252 2:47
Arcade
Para One
Listening on Office

Desktop apps …

- Can be **installed**.
- **Always works**, whether you're connected or not.
- Can handle **local files.**
- Control the content of their **entire windows**.
- Usually integrate with **other apps**.
- Usually integrate with the **Operating System**.


00:07
li#https://archive.org/download/DWK382/Noi2er_-_06_-_Aloe-Almond_Butter_And_Space_...
709.33 × 72.67
Background #FFFFFF04
Padding 14px 0px
ACCESSIBILITY
Name
Role listitem
Keyboard-focusable
Davrous Universe
Davrous Universe
Beyond Reality (Vacu...
Aloe-Almond Butter And Spa...
Noi2er
Beyond Reality (Vacu...
Track 5
The Roots
Phrenology
Caffeine
Faith No More
Angel Dust
Corpus Christi Carol
Jeff Buckley
Grace
02:56
So Real
Jeff Buckley
Grace
04:43
DevTools - microsoftedge.github.io/Demos/pwamp/
Elements
ngs/OverTheStargates.mp3">… grid
<li class="playlist-song remote" id="https://archive.org/serve/DWK382/Noi2er_-_01_-_Opening.mp3">… grid == $0
<li class="playlist-song remote" id="https://archive.org/download/DWK382/Noi2er_-_06_-_Aloe-Almond_Butter_And_Space_Pesto.mp3">… grid
<li class="playlist-song file playing" id="rw231664550673990">… grid
<li class="playlist-song file" id="dt891664550829270">… grid
<li class="playlist-song file" id="mv001664801300780">… grid
<li class="playlist-song file" id="om481664801300780">… grid
<li class="playlist-song file" id="dw011664801300780">… grid
<li class="playlist-song file" id="kk361664801300780">… grid
<li class="playlist-song file" id="zo651664801315002">… grid
<li class="playlist-song file" id="rm301664801315002">… grid
<li class="playlist-song file" id="ah211664801315002">… grid
<li class="playlist-song file" id="en571664801315002">… grid
<li class="playlist-song file" id="uj481664801315002">… grid
ol.songs
li#https\:\/\/archive\.org\/serve\/DWK382\/Noi2er_-_01_-_Opening\.mp3.playlist-song.remote
Styles
Computed
Layout
Event Listeners
DOM Breakpoints
Properties
Accessibility
Filter
:hov
.cls
element.style {
}
@media (max-width: 1300px)
.playlist-song {
default.css?v=v21:397
grid-template-columns: 2rem 2rem 15rem 10rem 2rem 2rem;
grid-template-rows: auto auto;
border-bottom: ▶ 0;
}
Quick View: Console

1. Making it installable

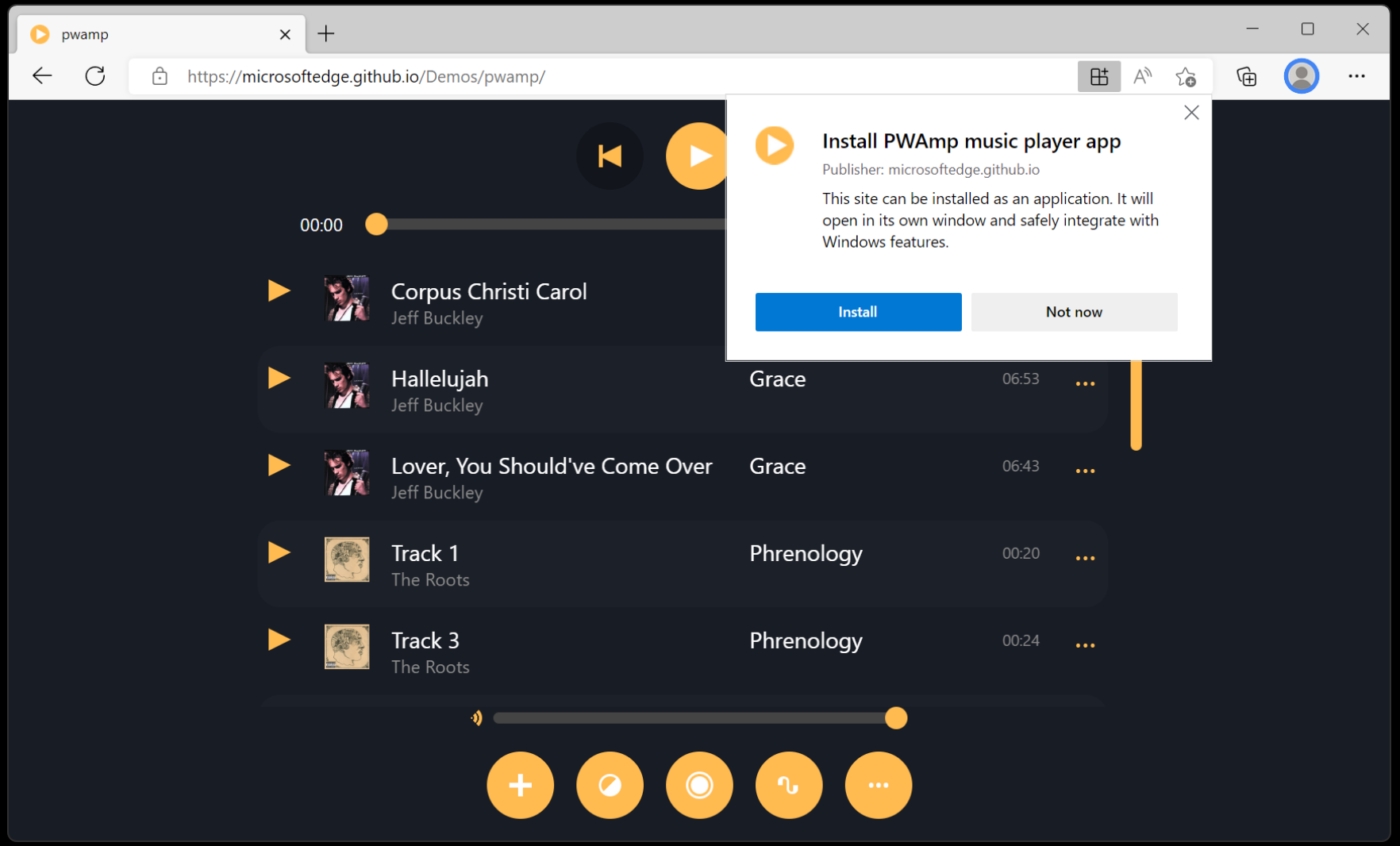
Web app manifest
Service Worker
HTTPS

```
{
  "name": "PWAmp music player",
  "short_name": "PWAmp",
  "description": "A skinable music player app to play your favorite mp3 files",
  "lang": "en-US",
  "start_url": "./?mode=standalone",
  "scope": "./",
  "theme_color": "#181c25",
  "background_color": "#181c25",
  "display": "standalone",
  "display_override": [
    "window-controls-overlay"
  ],
  "icons": [
    {
      "src": "./favicon-48.png",
      "sizes": "48x48"
    },
    {
      "src": "./favicon-96.png",
      "sizes": "96x96"
    },
    {
      "src": "./favicon-128.png",
      "sizes": "128x128"
    },
    {
      "src": "./favicon-256.png",
      "sizes": "256x256"
    },
    {
      "src": "./favicon-512.png",
      "sizes": "512x512"
    }
```

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-s
    <title>pwamp</title>
    <link rel="icon" href="favicon.ico" sizes="any" />
    <link rel="icon" href="favicon.svg" type="image/svg+xml" />
    <link rel="manifest" href="manifest.json" />
    <meta name="theme-color" content="#181825" />
    <link rel="stylesheet" href="about.css" />
    <link rel="stylesheet" href="skins/default.css" id="default-
  </head>
  <body>
    <div
```

```
    <script type="module" src="app.js"></script>
    <script type="module" src="file-launch-handler.js
    <script type="module" src="protocol-launch-handle
    <script type="module" src="share-target-launch-ha

    <script>
      if ("serviceWorker" in navigator) {
        navigator.serviceWorker.register("./sw.js");
      }
    </script>
  </body>
</html>
```

```
// Main fetch handler.
// A cache-first strategy is used, with a fallback to the network.
// The static resources fetched here will not have the cache-busting query
// string. So we need to add it to match the cache.
self.addEventListener("fetch", event => {
  const url = new URL(event.request.url);

  // Don't care about other-origin requests.
  if (url.origin !== location.origin) {
    return;
  }

  // Don't care about anything else than GET.
  if (event.request.method !== 'GET') {
    return;
  }

  // Don't care about widget requests.
  if (url.pathname.includes("/widgets/")) {
    return;
  }

  // On fetch, go to the cache first, and then network.
  event.respondWith((async () => {
    const cache = await caches.open(CACHE_NAME);
    const versionedUrl = `${event.request.url}?v=${VERSION}`;
    const cachedResponse = await cache.match(versionedUrl);

    if (cachedResponse) {
      return cachedResponse;
    } else {
      const fetchResponse = await fetch(versionedUrl);
```


pwamp
https://microsoftedge.github.io/Demos/pwamp/
Install PWAmp music player app
Publisher: microsoftedge.github.io
This site can be installed as an application. It will open in its own window and safely integrate with Windows features.
Install
Not now
00:00
Corpus Christi Carol
Jeff Buckley
Hallelujah
Jeff Buckley
Grace
06:53
Lover, You Should've Come Over
Jeff Buckley
Grace
06:43
Track 1
The Roots
Phrenology
00:20
Track 3
The Roots
Phrenology
00:24

PWA builder

Resources

Your PWA's report card.

Check out the the Overview below to see if your P
store-ready! If not, tap the section that needs work
begin upgrading your PWA.

URL tested:
https://microsoftedge.github.io/Demos/pwamp/

Your PWA Score:

160

10+ added to score

1. Test
2. Review
3. Package
4. Complete

Your PWA Score compared with other developers

160

Overview | Manifest Options | Service Worker

Manifest

Service Worker

Security

Total Score

Congrats!
You have a great PWA!

Microsoft Store

Search apps, games, movies and more

Apps
Gaming
Movies & TV
Library
Help

PWAmp
Patrick Brosset

Get

This app requires the latest version of Microsoft Edge.

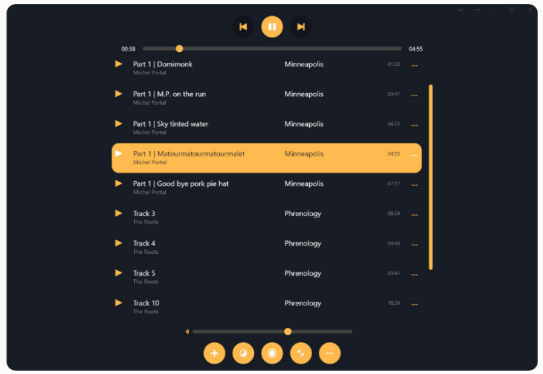
-- ★ Average | 0 Ratings

A customizable music player app for your computer. Drag and drop mp3 or other audio files in PWAmp to add them to your library an...

Music

PEGI 3
Age Rating: PEGI. PEGI 3

Screenshots



Description

A customizable music player app for your computer. Drag and drop mp3 or other audio files in PWAmp to add them to your library and start playing your music.
PWAmp also has a nice visualizer, allows audio recording, and can share songs with other apps.

Ratings and reviews

There aren't any reviews for this product yet.

Features

music, visualizer, customizable

System Requirements

This product should work on your device. Items with a checkmark meet the developer's system requirements.

2. Making it always work

```
39  // On install, fill the cache with all the resources we know we need.
40  // Install happens when the app is used for the first time, or when a
41  // new version of the SW is detected by the browser.
42  // In the latter case, the old SW is kept around until the new one is
43  // activated by a new client.
44  self.addEventListener("install", event => {
45    self.skipWaiting();
46
47    event.waitUntil((async () => {
48      const cache = await caches.open(CACHE_NAME);
49      cache.addAll(INITIAL_CACHED_RESOURCES_WITH_VERSIONS);
50    })());
51  });
52
53  // Activate happens after install, either when the app is used for the
54  // first time, or when a new version of the SW was installed.
55  // We use the activate event to delete old caches and avoid running out of space.
56  self.addEventListener("activate", event => {
57    event.waitUntil((async () => {
58      const names = await caches.keys();
59      await Promise.all(names.map(name => {
60        if (name !== CACHE_NAME) {
61          return caches.delete(name);
62        }
63      }));
64      await clients.claim();
65    })());
66  });
```

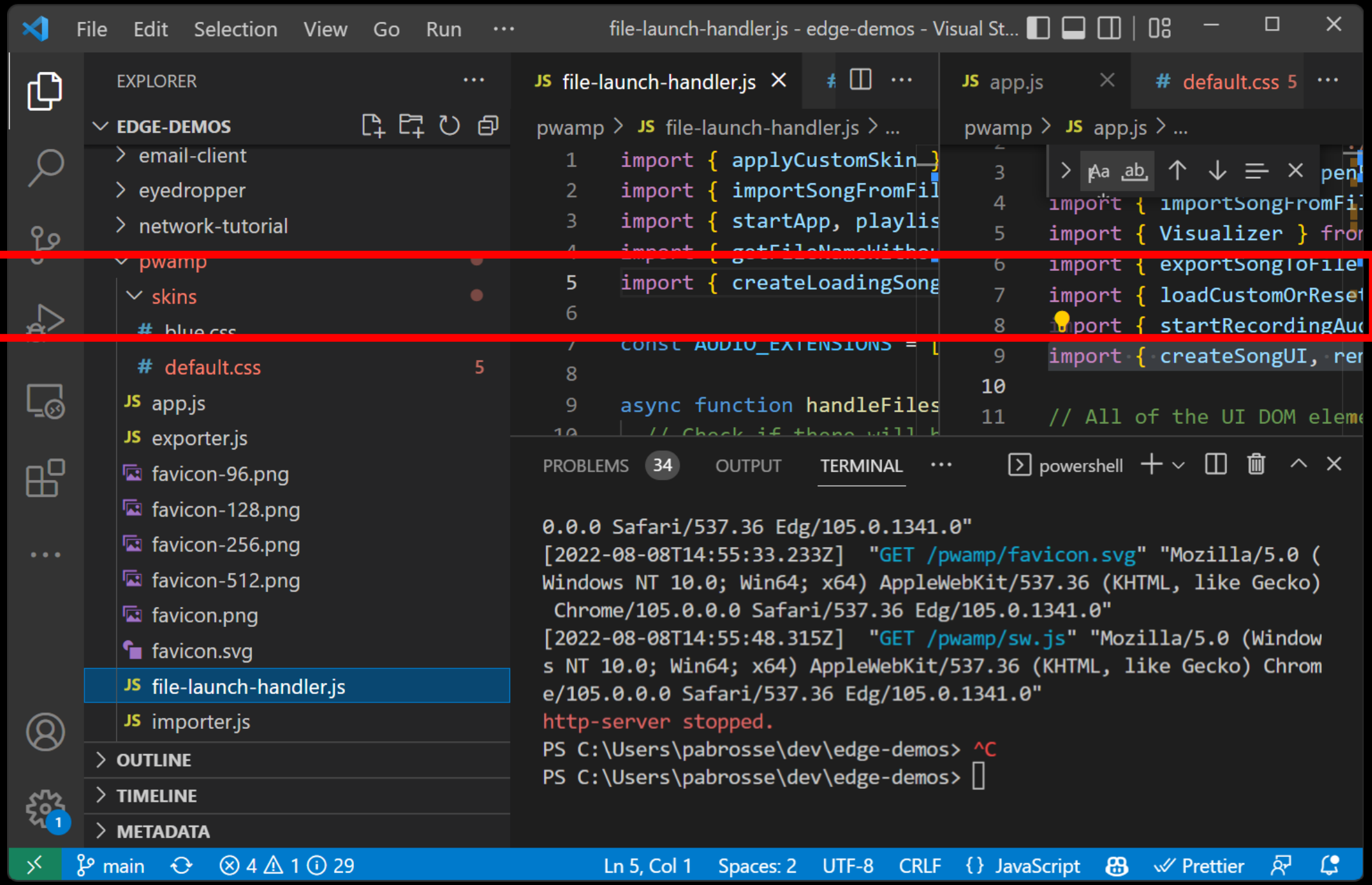
```
68  // Main fetch handler.
69  // A cache-first strategy is used, with a fallback to the network.
70  // The static resources fetched here will not have the cache-busting query
71  // string. So we need to add it to match the cache.
72  self.addEventListener("fetch", event => {
73    const url = new URL(event.request.url);
74
75    // Don't care about other-origin URLs.
76    if (url.origin !== location.origin) {
77      return;
78    }
79
80    // Don't care about anything else than GET.
81    if (event.request.method !== 'GET') {
82      return;
83    }
84
85    // On fetch, go to the cache first, and then netwo
86    event.respondWith((async () => {
87      const cache = await caches.open(CACHE_NAME);
88      const cachedResponse = await cache.match(event.request.url);
89
90      if (cachedResponse) {
91        return cachedResponse;
92      } else {
93        const fetchResponse = await fetch(event.request.url);
94        cache.put(event.request.url, fetchResponse.clone());
95        return fetchResponse;
96      }
97    })());
98  });
```

3. Handling local files

```
"file_handlers": [
  {
    "action": "./?mode=standalone",
    "accept": {
      "audio/wav": [
        ".wav"
      ],
      "audio/mpeg": [
        ".mp3"
      ],
      "audio/mp4": [
        ".mp4"
      ],
      "audio/aac": [
        ".adts"
      ],
      "audio/ogg": [
        ".ogg"
      ],
      "audio/webm": [
        ".webm"
      ],
      "audio/flac": [
        ".flac"
```

```
8   async function handleFiles(files) {
9     for (const file of files) {
10      const blob = await file.getFile();
11      await importSongFromFile(blob);
12    }
13  }
14
15  if ('launchQueue' in window) {
16    launchQueue.setConsumer(launchParams => {
17      handleFiles(launchParams.files);
18    });
19  }
20
```

4. Using the entire window


File Edit Selection View Go Run ···
file-launch-handler.js - edge-demos - Visual St...
EXPLORER
EDGE-DEMOS
email-client
eyedropper
network-tutorial
pwamp
skins
default.css 5
app.js
exporter.js
favicon-96.png
favicon-128.png
favicon-256.png
favicon-512.png
favicon.png
favicon.svg
file-launch-handler.js
importer.js
OUTLINE
TIMELINE
METADATA
file-launch-handler.js
app.js
default.css 5
pwamp > file-launch-handler.js > ...
pwamp > app.js > ...
import { applyCustomSkin
import { importSongFromFil
import { startApp, playlis
import { createLoadingSong
import { Visualizer } fro
import { createSongUI, re
// All of the UI DOM eleme
async function handleFiles
PROBLEMS 34
OUTPUT
TERMINAL
powershell
0.0.0 Safari/537.36 Edg/105.0.1341.0"
[2022-08-08T14:55:33.233Z] "GET /pwamp/favicon.svg" "Mozilla/5.0 (
Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko)
Chrome/105.0.0.0 Safari/537.36 Edg/105.0.1341.0"
[2022-08-08T14:55:48.315Z] "GET /pwamp/sw.js" "Mozilla/5.0 (Window
s NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrom
e/105.0.0.0 Safari/537.36 Edg/105.0.1341.0"
http-server stopped.
PS C:\Users\pabrosse\dev\edge-demos> ^C
PS C:\Users\pabrosse\dev\edge-demos>
main
4 1 29
Ln 5, Col 1
Spaces: 2
UTF-8
CRLF
JavaScript
Prettier

patrick | DevTools T | Smashing | Google Do | Microsoft E | Progressive | Random Ca

https://tenor.com/search/random-cat-gif-gifs

tenor

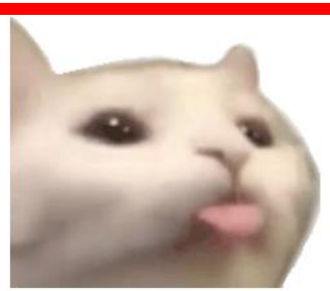
CREATE SIGN IN

random cat gif

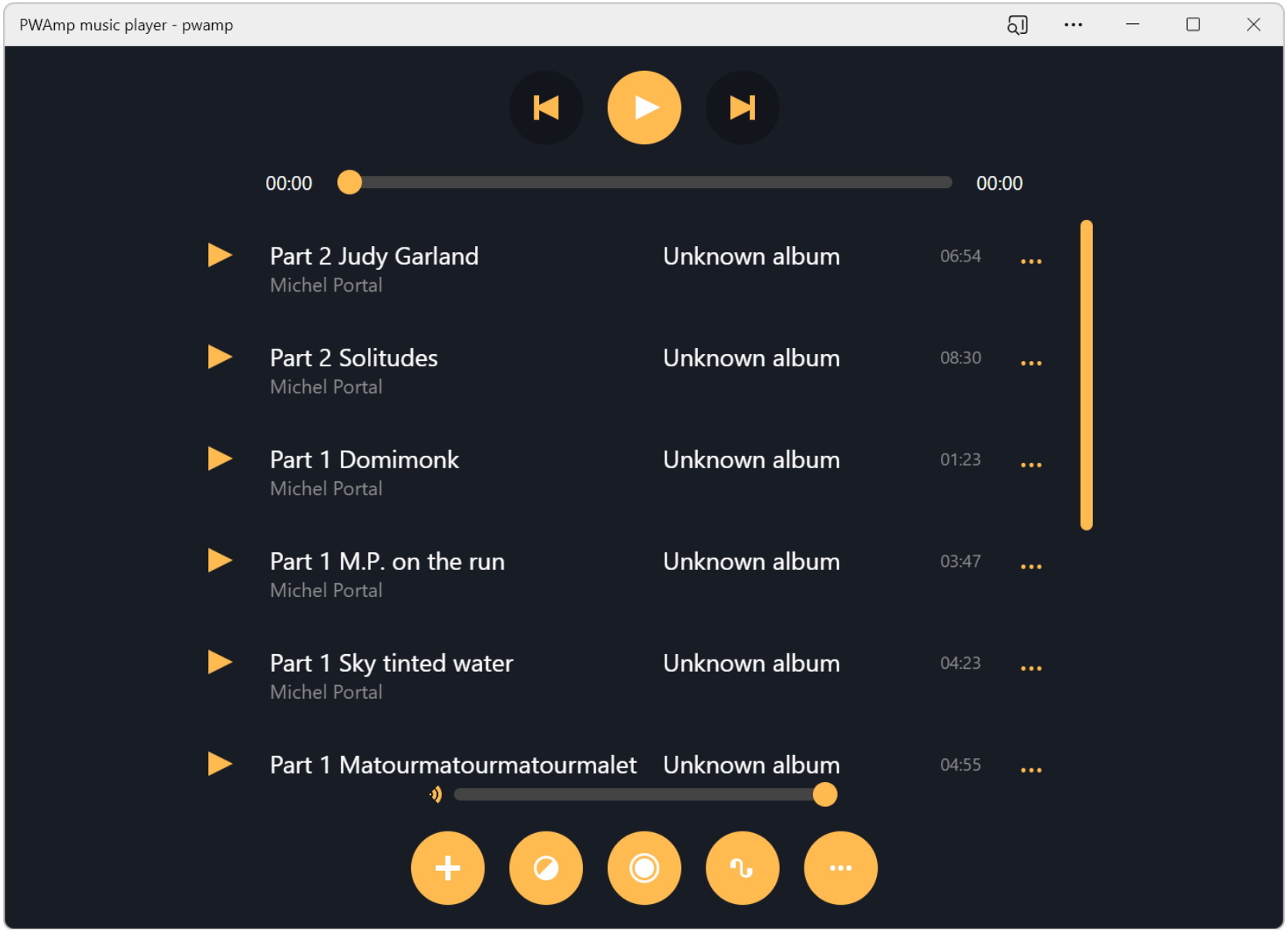
Random Cat Gif

Stickers

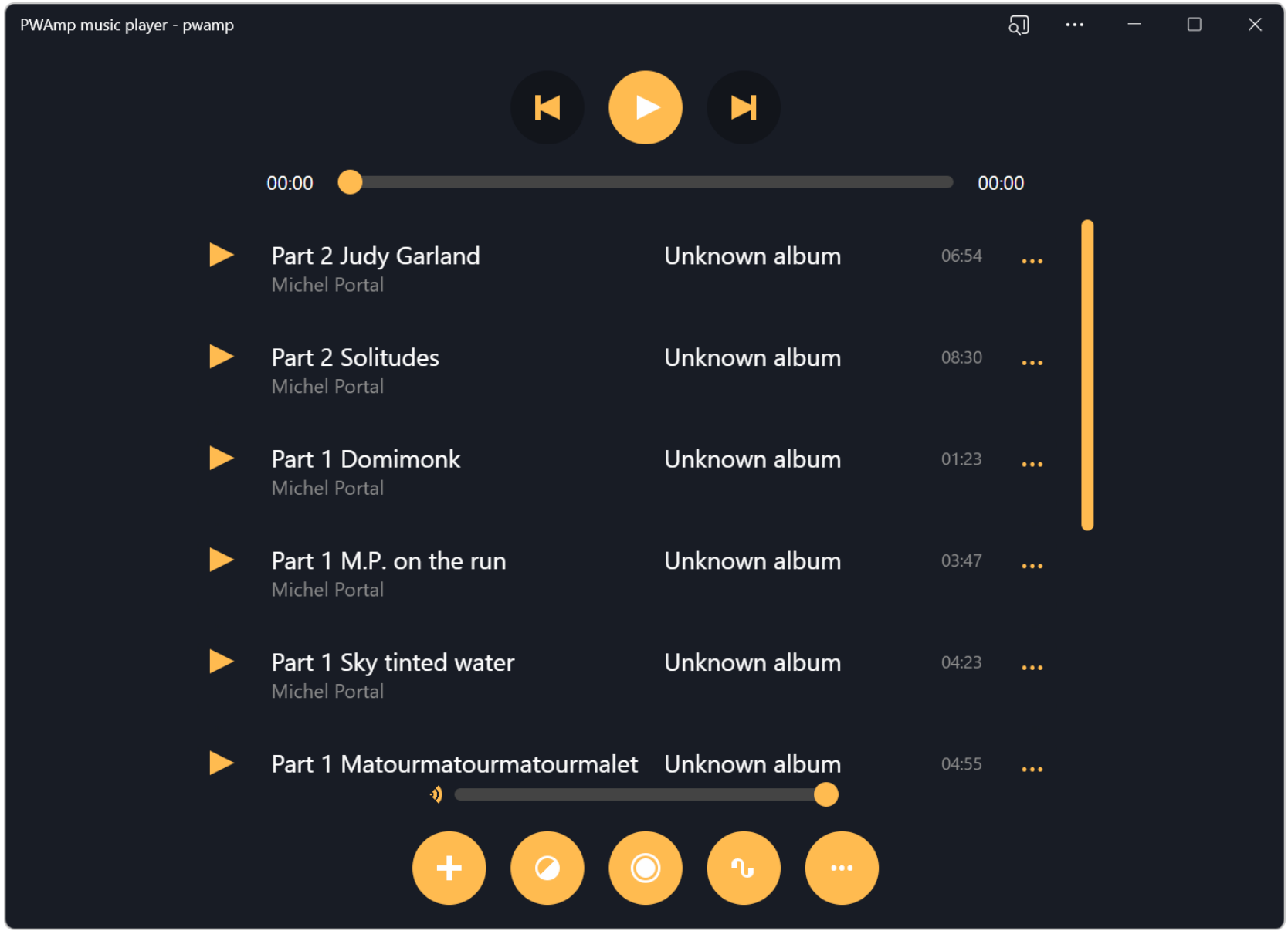
See all Stickers



GIFs


PWAmp music player - pwamp
00:00
00:00
Part 2 Judy Garland
Michel Portal
Unknown album
06:54
Part 2 Solitudes
Michel Portal
Unknown album
08:30
Part 1 Domimonk
Michel Portal
Unknown album
01:23
Part 1 M.P. on the run
Michel Portal
Unknown album
03:47
Part 1 Sky tinted water
Michel Portal
Unknown album
04:23
Part 1 Matourmatourmatourmalet
Unknown album
04:55

```
{
  "name": "PWAmp music player",
  "short_name": "PWAmp",
  "description": "A skinable music player app to play your favorite mp3 files",
  "lang": "en-US",
  "start_url": "./?mode=standalone",
  "scope": "./",
  "theme_color": "#181c25",
  "background_color": "#181c25",
  "display": "standalone",
  "icons": [
    {
      "src": "./favicon-48.png",
      "sizes": "48x48"
    },
    {
      "src": "./favicon-96.png",
      "sizes": "96x96"
    },
    {
```


PWAmp music player - pwamp
00:00
00:00
Part 2 Judy Garland
Michel Portal
Unknown album
06:54
Part 2 Solitudes
Michel Portal
Unknown album
08:30
Part 1 Domimonk
Michel Portal
Unknown album
01:23
Part 1 M.P. on the run
Michel Portal
Unknown album
03:47
Part 1 Sky tinted water
Michel Portal
Unknown album
04:23
Part 1 Matourmatourmatourmalet
Unknown album
04:55

```
{
  "name": "PWAmp music player",
  "short_name": "PWAmp",
  "description": "A skinable music player app to play your favorite mp3 files",
  "lang": "en-US",
  "start_url": "./?mode=standalone",
  "scope": "./",
  "theme_color": "#181c25",
  "background_color": "#181c25",
  "display": "standalone",
  "display_override": [
    "window-controls-overlay"
  ],
  "icons": [
    {
      "src": "./favicon-48.png",
      "sizes": "48x48"
    },
    {
      "src": "./favicon-96.png",
      "sizes": "96x96"
    },
```

00:28
06:54
Part 2 | Judy Garland
Michel Portal
Minneapolis

5. Integrating with other apps

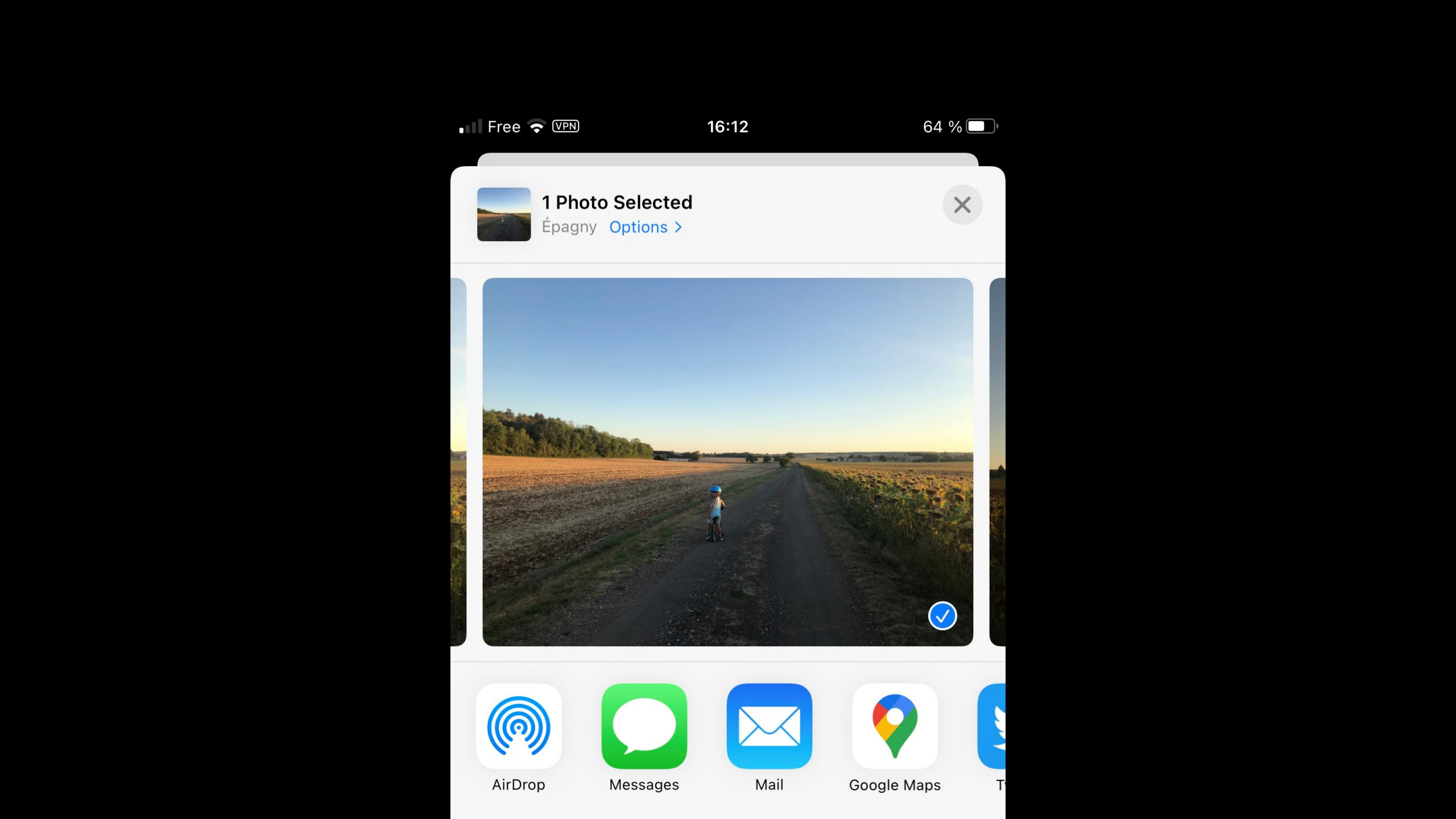
protocol://

web+??://

"audio/ogg": [
".ogg"
],
"audio/webm": [
".webm"
],
"audio/flac": [
".flac"
]
}
}
],
"protocol_handlers": [
{
"protocol": "web+amp",
"url": "./?mode=standalone&cmd=%s"
}
]
}

```
6   const url = document.location.href;
7   const commandUrl = new URL(url).searchParams.get('cmd');
8
9   // The protocol handler supports the following "commands":
10  // - Adding a remote song to the library: web+amp:remote-song:<http-url-of-song
11  // - Sharing a skin: web+amp:skin:<http-url-of-skin>
12
13  if (commandUrl) {
14    const commandAndArg = commandUrl.substring('web+amp:'.length);
15    // Split the commandAndArg string around the first colon.
16    const [command, arg] = commandAndArg.split(/:(.+)/);
17
18    if (command === 'remote-song') {
19      importSongFromURL(arg, getSongNameFromURL(arg)).then(startApp);
20    } else if (command === 'skin') {
21      fetch(arg).then(response => response.text()).then(applyCustomSkin);
22    }
23  }
24
```

sharing


Free
VPN
16:12
64 %
1 Photo Selected
Épagny
Options
AirDrop
Messages
Mail
Google Maps

Share 1 item

Nearby sharing Off

Sharing off

Email a contact Find more people

M

Me

Share with app Find more apps

Mail

Feedback Hub

Mail GO

Outlook Desktop...

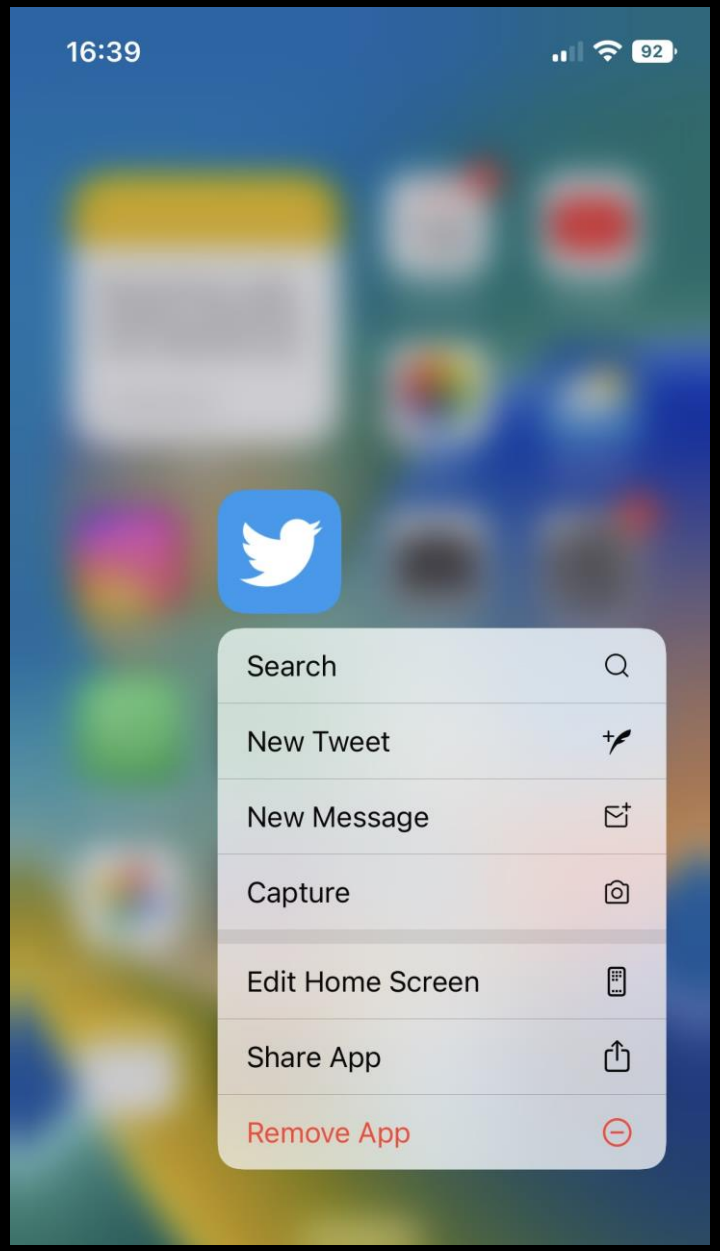
More

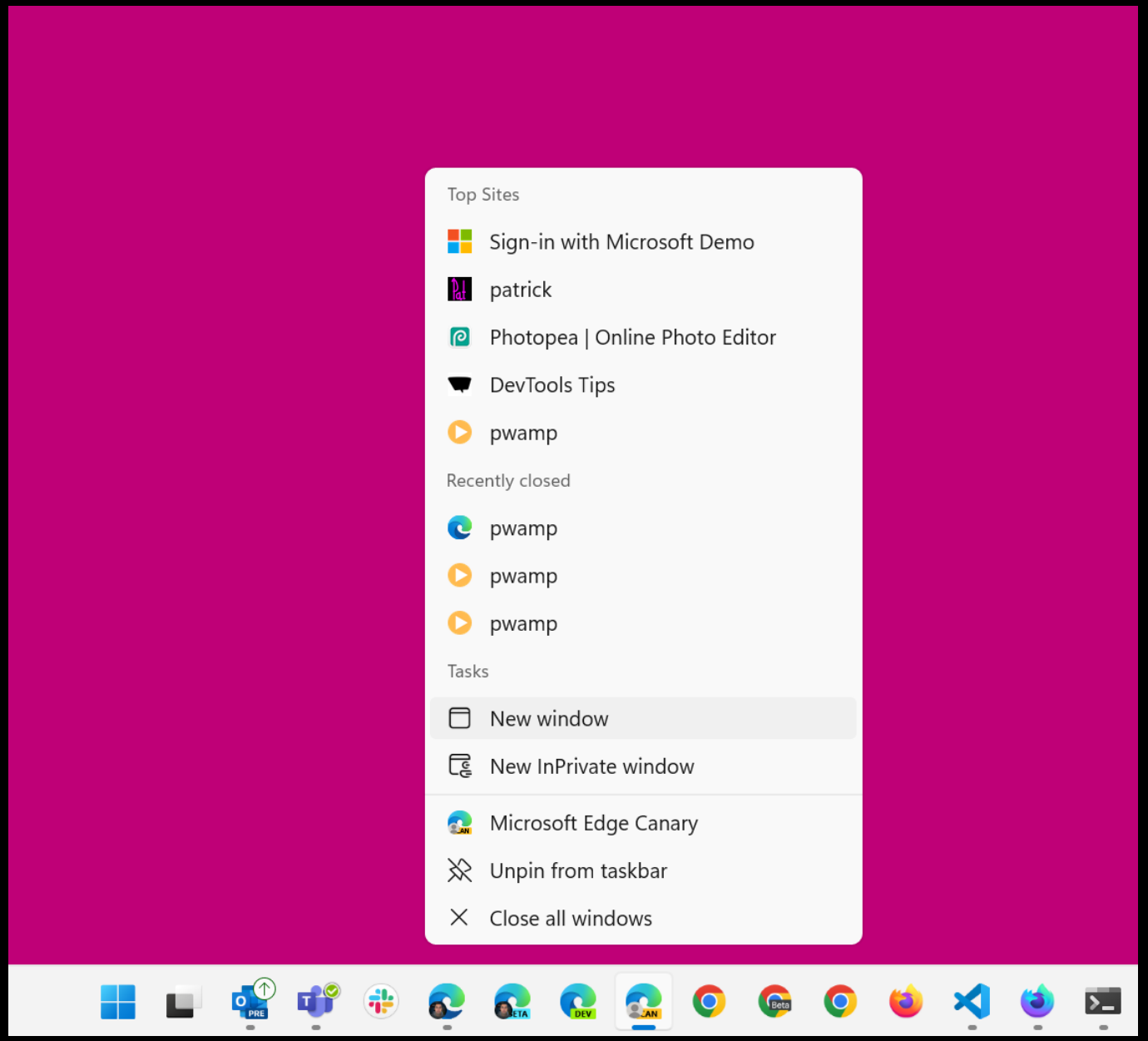
Nearby sharing turned off | Nearby sharing settings

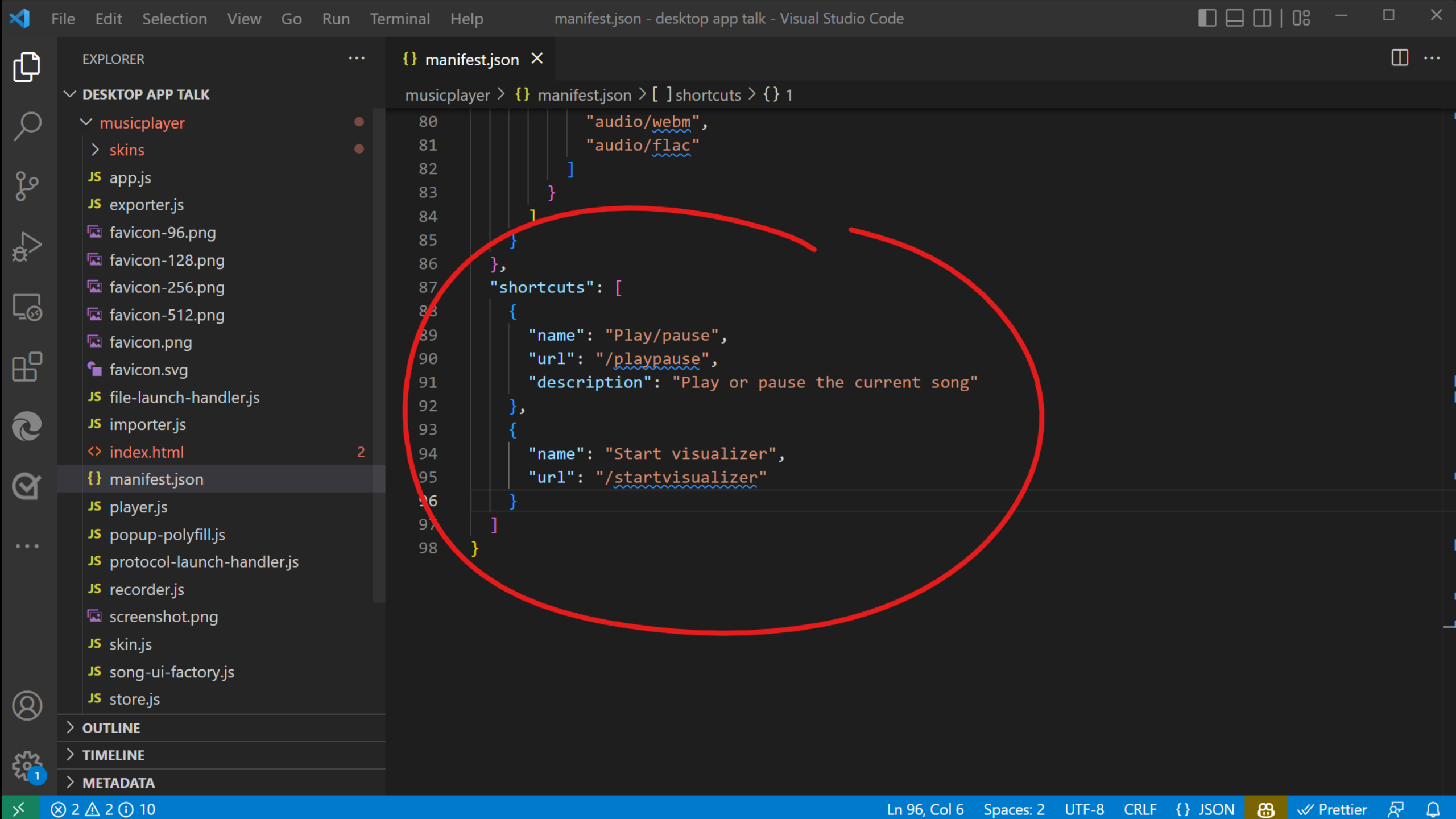
```
  ],
  "share_target": {
    "action": "./handle-shared-song",
    "method": "POST",
    "enctype": "multipart/form-data",
    "params": {
      "title": "title",
      "files": [
        {
          "name": "audioFiles",
          "accept": [
            "audio/wav",
            "audio/mpeg",
            "audio/mp4",
            "audio/aac",
            "audio/ogg",
            "audio/webm",
            "audio/flac"
          ]
        }
      ]
    }
  },
```

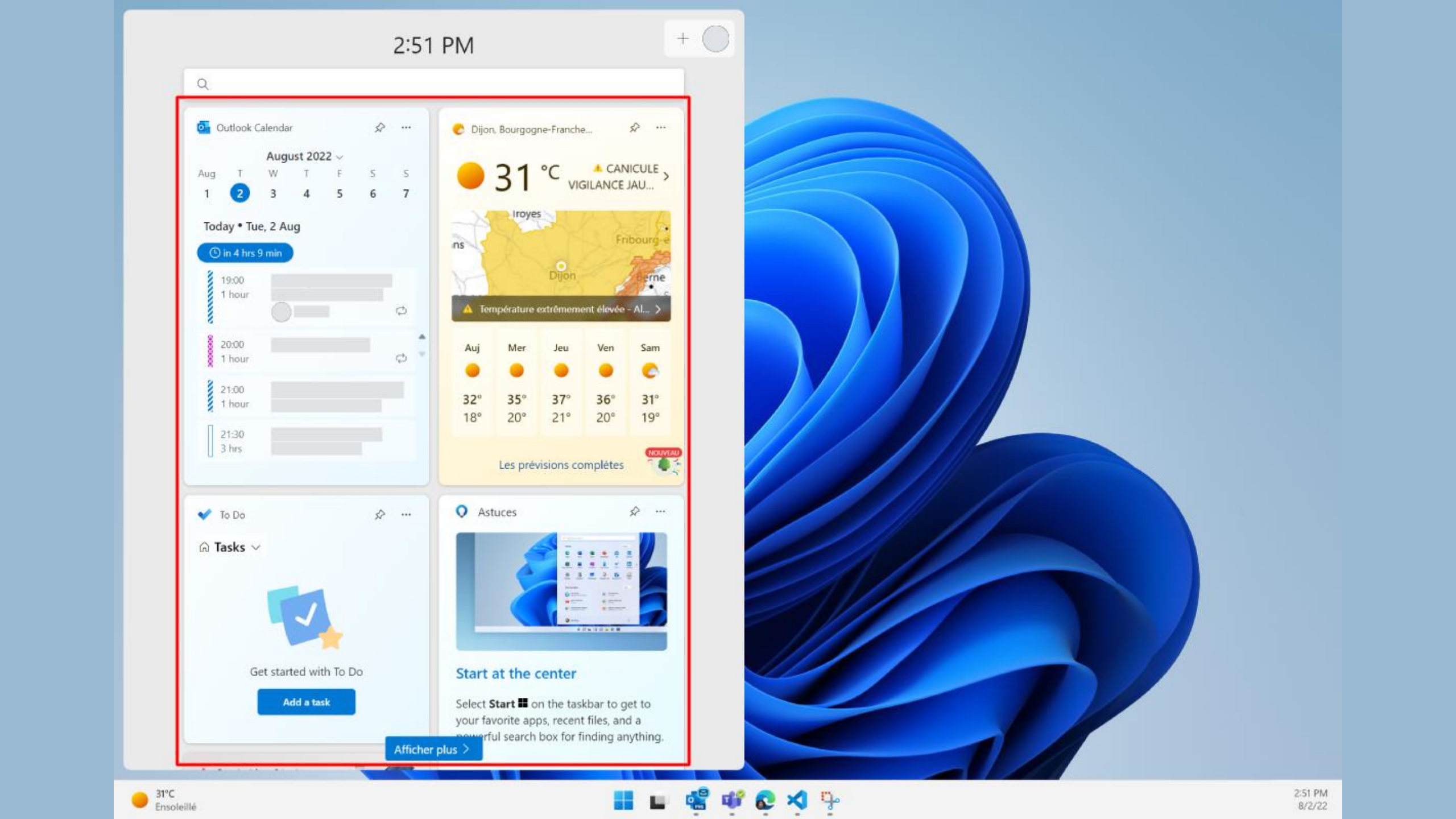
```
106  // Special fetch handler for song file sharing.
107  self.addEventListener('fetch', event => {
108    const url = new URL(event.request.url);
109
110    if (event.request.method !== 'POST' || !url.pathname.includes('/handle-shared-song')) {
111      return;
112    }
113
114    // Immediately redirect to the start URL, there's nothing to see here.
115    event.respondWith(Response.redirect('./?mode=standalone'));
116
117    event.waitUntil(async function () {
118      const data = await event.request.formData();
119      const files = data.getAll('audioFiles');
120
121      // Store the song in a special IDB place for the front-end to pick up later
122      // when it starts.
123      // Instead of importing idb-keyval here, we just have a few lines of manual
124      // IDB code, to store the file in the same keyval store that idb-keyval uses.
125      const openReq = indexedDB.open('keyval-store');
126      openReq.onupgradeneeded = e => {
127        const { target: { result: db } } = e;
128        db.createObjectStore("keyval");
```

6. Integrating with the operating system


16:39
92
Search
New Tweet
New Message
Capture
Edit Home Screen
Share App
Remove App


Top Sites
Sign-in with Microsoft Demo
patrick
Photopea | Online Photo Editor
DevTools Tips
pwamp
Recently closed
pwamp
pwamp
pwamp
Tasks
New window
New InPrivate window
Microsoft Edge Canary
Unpin from taskbar
Close all windows


File Edit Selection View Go Run Terminal Help
manifest.json - desktop app talk - Visual Studio Code
EXPLORER
DESKTOP APP TALK
musicplayer
skins
app.js
exporter.js
favicon-96.png
favicon-128.png
favicon-256.png
favicon-512.png
favicon.png
favicon.svg
file-launch-handler.js
importer.js
index.html 2
manifest.json
player.js
popup-polyfill.js
protocol-launch-handler.js
recorder.js
screenshot.png
skin.js
song-ui-factory.js
store.js
OUTLINE
TIMELINE
METADATA
manifest.json
musicplayer > manifest.json > [ ] shortcuts > { } 1
"audio/webm",
"audio/flac"
"shortcuts": [
"name": "Play/pause",
"url": "/playpause",
"description": "Play or pause the current song"
"name": "Start visualizer",
"url": "/startvisualizer"
Ln 96, Col 6
Spaces: 2
UTF-8
CRLF
JSON
Prettier


2:51 PM
Outlook Calendar
August 2022
Aug T W T F S S
1 2 3 4 5 6 7
Today • Tue, 2 Aug
in 4 hrs 9 min
19:00
1 hour
20:00
1 hour
21:00
1 hour
21:30
3 hrs
Dijon, Bourgogne-Franche...
31 °C
CANICULE
VIGILANCE JAU...
Troyes
Fribourg-e
Dijon
Température extrêmement élevée - Al...
Auj Mer Jeu Ven Sam
32° 35° 37° 36° 31°
18° 20° 21° 20° 19°
Les prévisions complètes
NOUVEAU
To Do
Tasks
Get started with To Do
Add a task
Astuces
Start at the center
Select Start on the taskbar to get to your favorite apps, recent files, and a powerful search box for finding anything.
Afficher plus
31°C
Ensoleillé
2:51 PM
8/2/22

5:20 PM

PWAmp mini player

Now playing...

Easy, by Faith No More

Previous Next

Maromme

14 °C

Nuageux

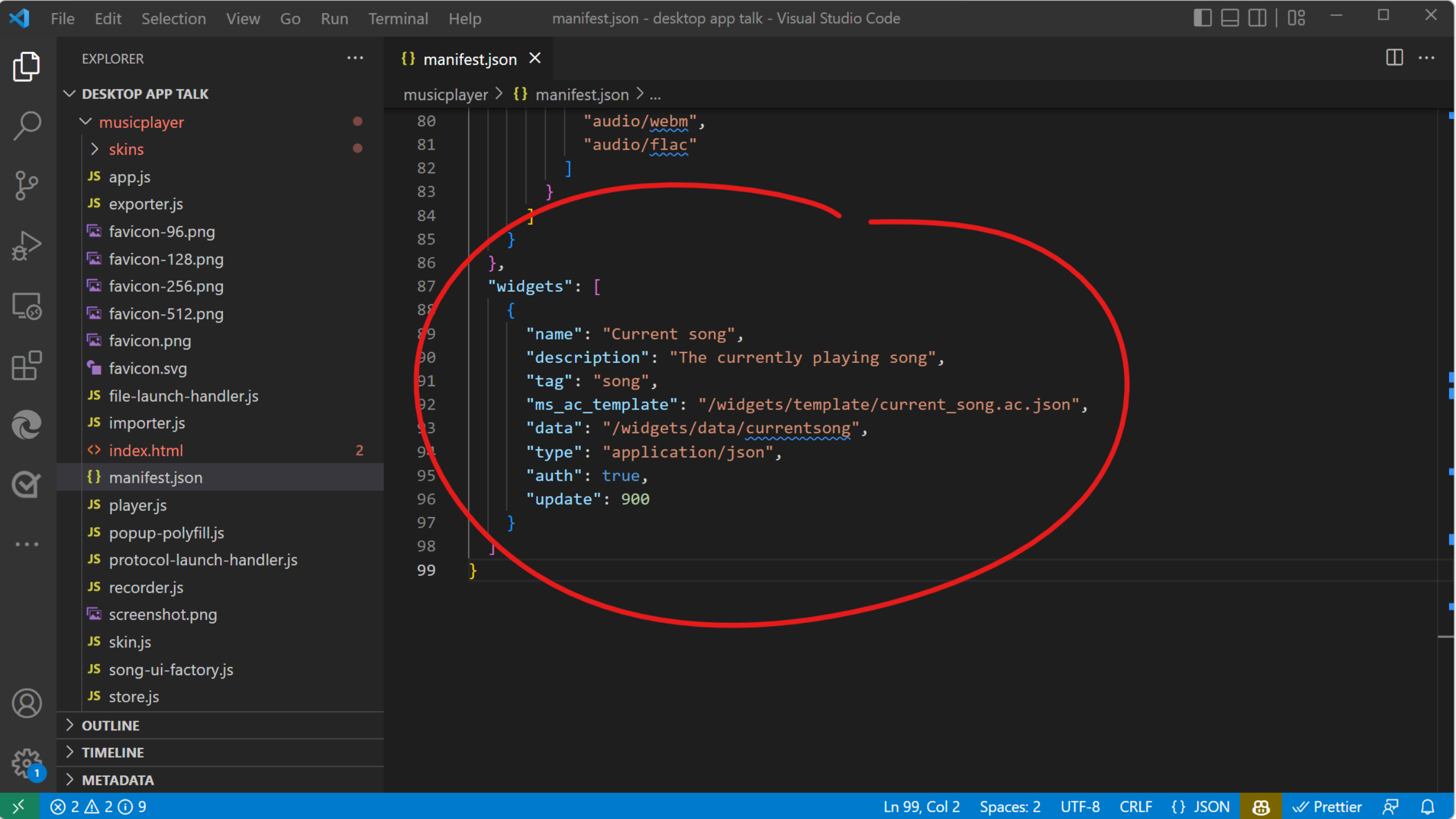
33%

C'est la Journée internationale de la ...

Vous jouez, nous plantons.
Contribuez à réduire les risques ...

+500

18:00	19:00	20:00	21:00	22:00
15°	15°	15°	14°	14°


File Edit Selection View Go Run Terminal Help
manifest.json - desktop app talk - Visual Studio Code
EXPLORER
DESKTOP APP TALK
musicplayer
skins
app.js
exporter.js
favicon-96.png
favicon-128.png
favicon-256.png
favicon-512.png
favicon.png
favicon.svg
file-launch-handler.js
importer.js
index.html 2
manifest.json
player.js
popup-polyfill.js
protocol-launch-handler.js
recorder.js
screenshot.png
skin.js
song-ui-factory.js
store.js
OUTLINE
TIMELINE
METADATA
manifest.json
musicplayer > manifest.json > ...
"audio/webm",
"audio/flac"
]
}
]
}
},
"widgets": [
{
"name": "Current song",
"description": "The currently playing song",
"tag": "song",
"ms_ac_template": "/widgets/template/current_song.ac.json",
"data": "/widgets/data/currentsong",
"type": "application/json",
"auth": true,
"update": 900
}
]
}
Ln 99, Col 2 Spaces: 2 UTF-8 CRLF { } JSON Prettier

Let’s sum up!

Installation
- manifest/service worker/HTTPS
- publish to stores with PWABuilder

Always works
- Caching resources on install of SW

Local files
- Register as a PWA file_handler

Draw in the entire window
- Use the Window Controls Overlay

Integrate with other apps
- Register as a protocol_handler
- Register as a share_target
- Share out with navigator.share()

Integrate with the OS
- Display shortcuts
- Insert widgets

PWA MYTH BUSTING

Myth #1

PWA is old news...

Myth #2

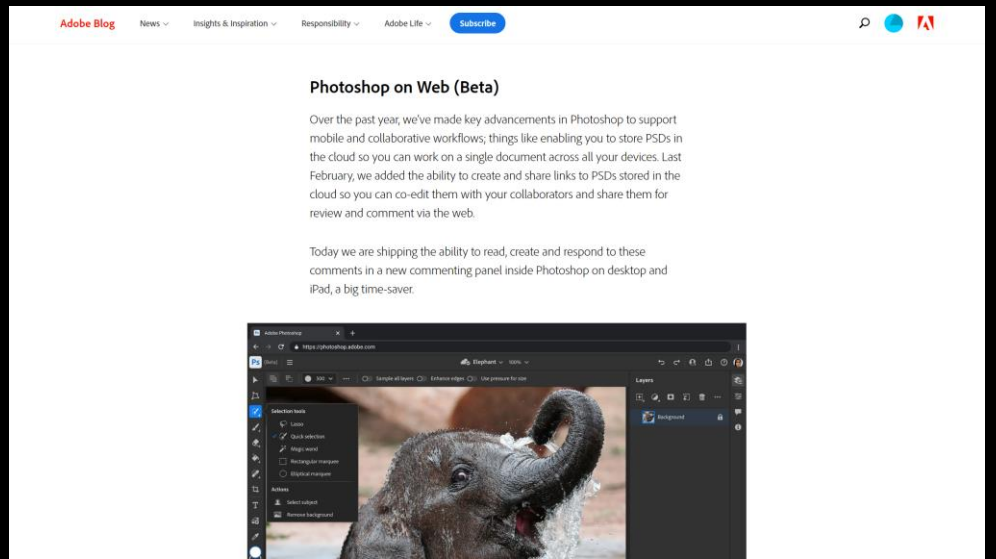
It’s only on mobile

Myth #3

But the web can’t do native

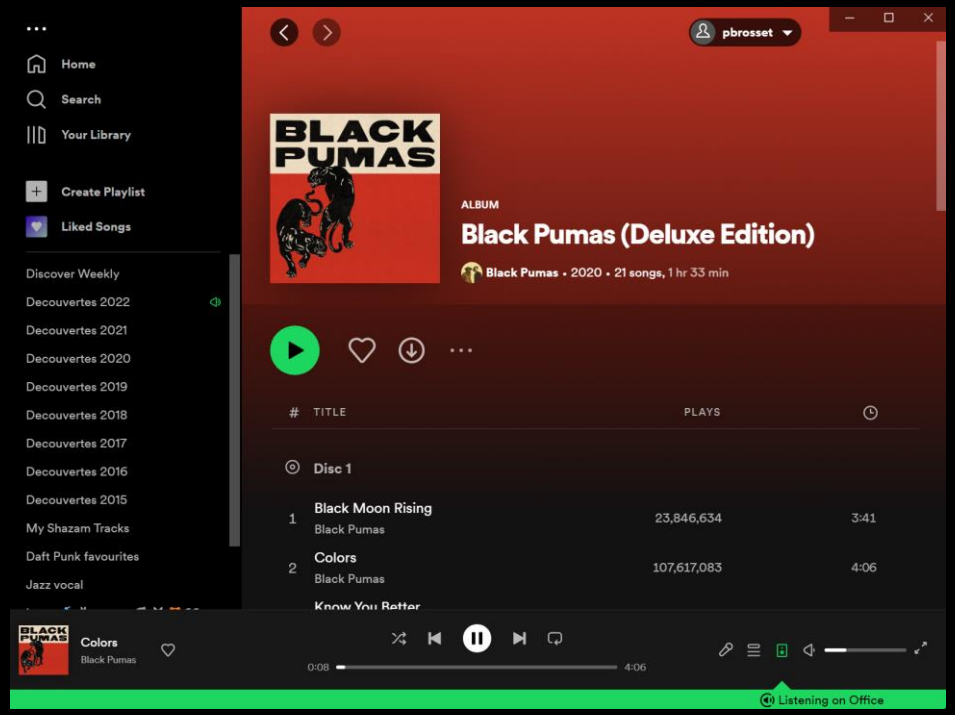
“today we are extending Photoshop to the web as a beta”

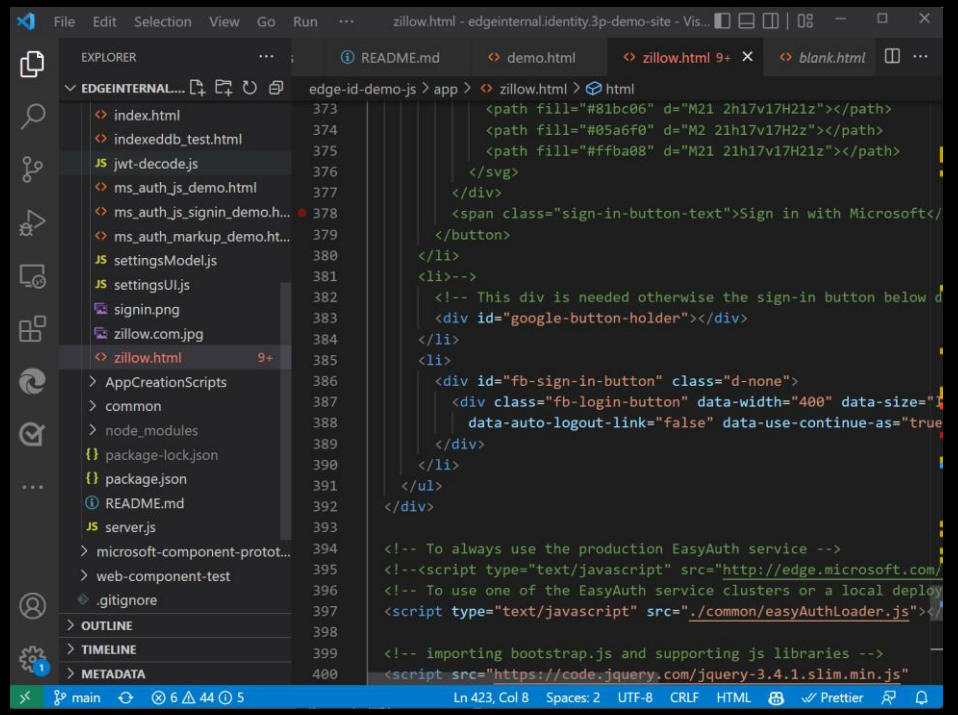
Photoshop updates
https://blog.adobe.com/en/publish/2021/10/26/photoshop-ships-major...

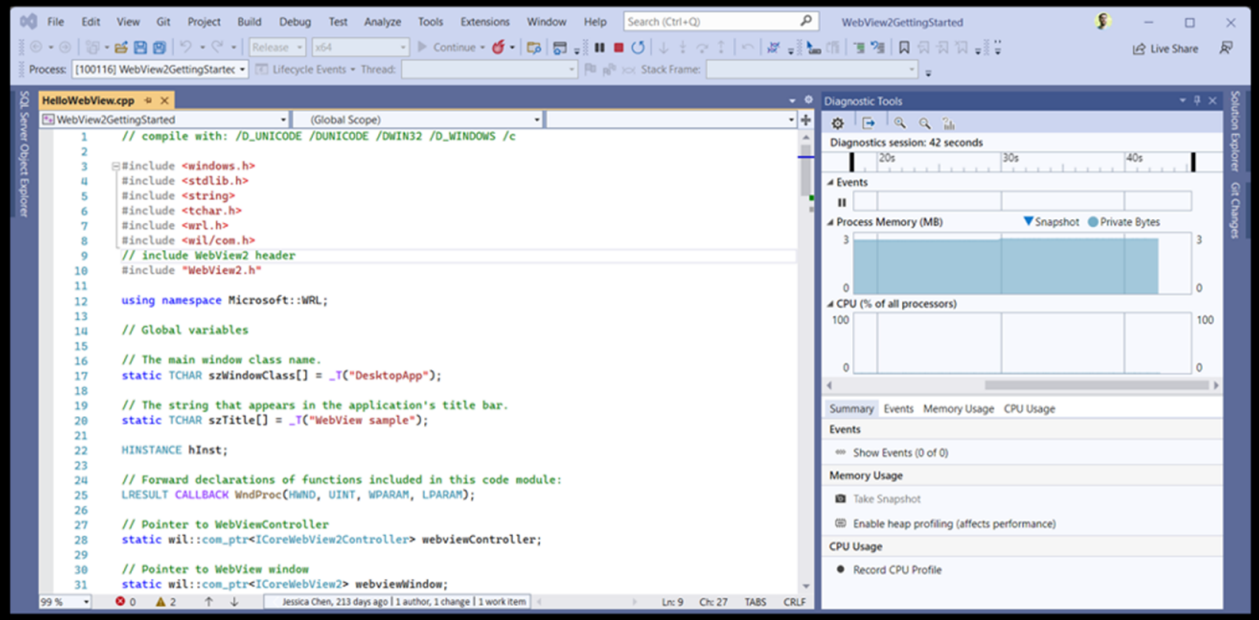


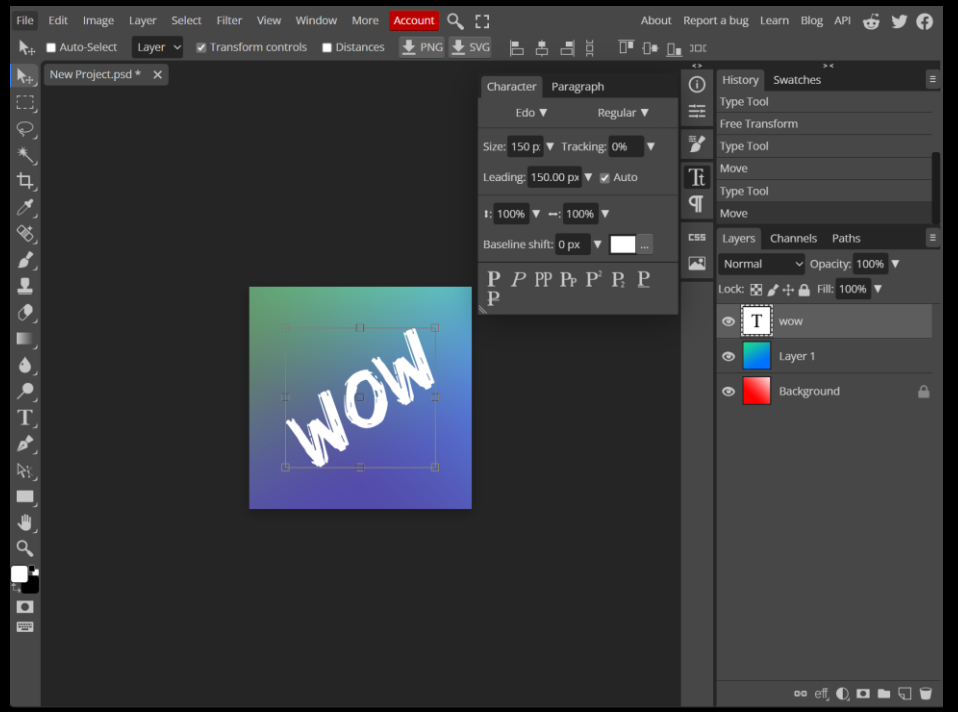
Myth #4

But it doesn’t work on iOS


Home
Search
Your Library
Create Playlist
Liked Songs
Discover Weekly
Decouvertes 2022
Decouvertes 2021
Decouvertes 2020
Decouvertes 2019
Decouvertes 2018
Decouvertes 2017
Decouvertes 2016
Decouvertes 2015
My Shazam Tracks
Daft Punk favourites
Jazz vocal
pbrosset
BLACK PUMAS
ALBUM
Black Pumas (Deluxe Edition)
Black Pumas • 2020 • 21 songs, 1 hr 33 min
TITLE PLAYS
Disc 1
1 Black Moon Rising Black Pumas 23,846,634 3:41
2 Colors Black Pumas 107,617,083 4:06
Know You Better
Colors
Black Pumas
0:08
4:06
Listening on Office


File Edit Selection View Go Run
zillow.html - edgeinternal.identity.3p-demo-site - Vis...
EXPLORER
README.md
demo.html
zillow.html 9+
blank.html
EDGEINTERNAL....
index.html
indexeddb_test.html
jwt-decode.js
ms_auth_js_demo.html
ms_auth_js_signin_demo.h...
ms_auth_markup_demo.ht...
settingsModel.js
settingsUI.js
signin.png
zillow.com.jpg
zillow.html 9+
AppCreationScripts
common
node_modules
package-lock.json
package.json
README.md
server.js
microsoft-component-prototy...
web-component-test
.gitignore
OUTLINE
TIMELINE
METADATA
edge-id-demo-js > app > zillow.html > html
<!-- To always use the production EasyAuth service -->
<!--<script type="text/javascript" src="http://edge.microsoft.com/
<!-- To use one of the EasyAuth service clusters or a local deploy
<script type="text/javascript" src="./common/easyAuthLoader.js">
<!-- importing bootstrap.js and supporting js libraries -->
<script src="https://code.jquery.com/jquery-3.4.1.slim.min.js"
main
Ln 423, Col 8 Spaces: 2 UTF-8 CRLF HTML Prettier


File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
WebView2GettingStarted
Live Share
HelloWebView.cpp
WebView2GettingStarted
(Global Scope)
// compile with: /D_UNICODE /DUNICODE /DWIN32 /D_WINDOWS /c
#include <windows.h>
#include <stdlib.h>
#include <string>
#include <tchar.h>
#include <wrl.h>
#include <wil/com.h>
// include WebView2 header
#include "WebView2.h"
using namespace Microsoft::WRL;
// Global variables
// The main window class name.
static TCHAR szWindowClass[] = _T("DesktopApp");
// The string that appears in the application's title bar.
static TCHAR szTitle[] = _T("WebView sample");
HINSTANCE hInst;
// Forward declarations of functions included in this code module:
LRESULT CALLBACK WndProc(HWND, UINT, WPARAM, LPARAM);
// Pointer to WebViewController
static wil::com_ptr<ICoreWebView2Controller> webviewController;
// Pointer to WebView window
static wil::com_ptr<ICoreWebView2> webviewWindow;
Diagnostic Tools
Diagnostics session: 42 seconds
Events
Process Memory (MB)
Snapshot
Private Bytes
CPU (% of all processors)
Summary Events Memory Usage CPU Usage
Show Events (0 of 0)
Take Snapshot
Enable heap profiling (affects performance)
Record CPU Profile


File Edit Image Layer Select Filter View Window More Account
About Report a bug Learn Blog API
New Project.psd *
Character Paragraph
History Swatches
Type Tool
Free Transform
Move
Layers Channels Paths
wow
Layer 1
Background
WOW

Thank you!

https://patrickbrosset.com

Discover Microsoft content and earn swag!
https://aka.ms/ModernFrontends