PWA EXPERIMENT No : 09

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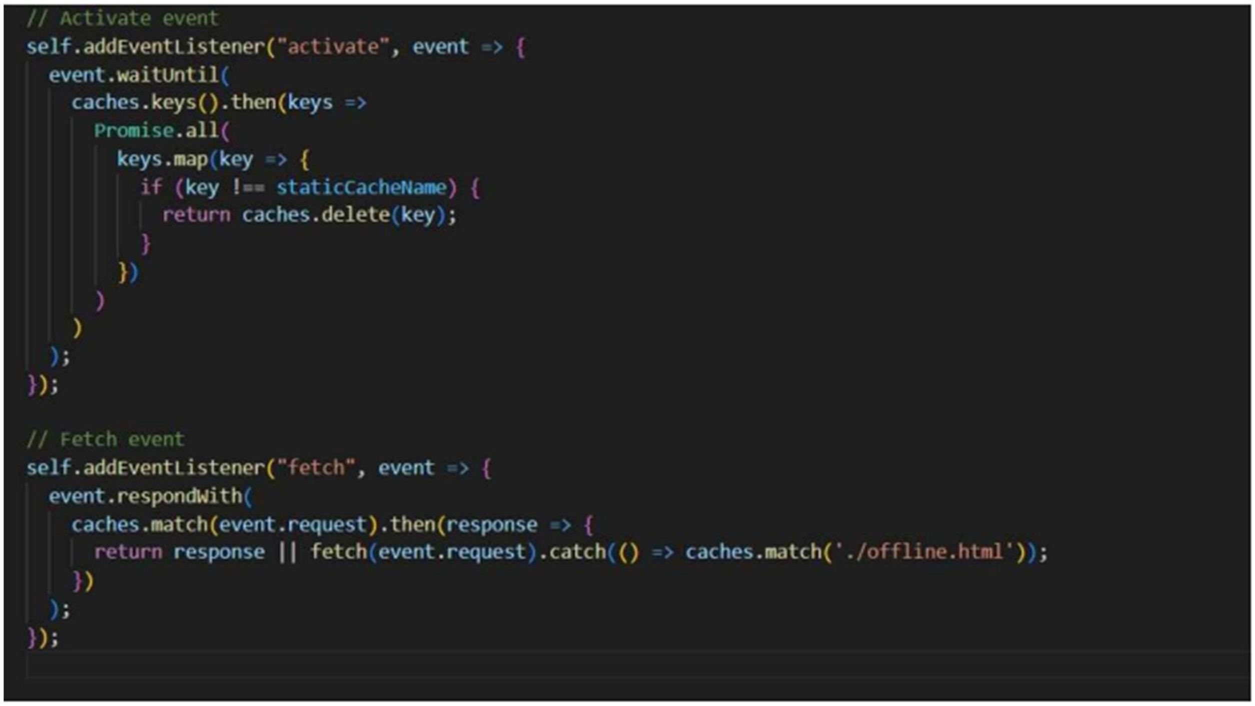
ROLL_NO : 58

Aim: To implement Service worker events like fetch, sync and push for E-commerce PWA



```
// Activate event
self.addEventListener("activate", event => {
  event.waitUntil(
    caches.keys().then(keys =>
      Promise.all(
        keys.map(key => {
          if (key !== staticCacheName) {
            return caches.delete(key);
          }
        })
      )
    )
  );
});

// Fetch event
self.addEventListener("fetch", event => {
  event.respondWith(
    caches.match(event.request).then(response => {
      return response || fetch(event.request).catch(() => caches.match('./offline.html'));
    })
  );
});
```

Theory:
A **Service Worker** is a JavaScript file that runs in the background of a web application and acts as a proxy between the app, the network, and the browser. It enables powerful Progressive Web App (PWA) features like offline support, background sync, and push notifications.
In the context of an **E-commerce PWA**, implementing service worker events such as fetch, sync, and push enhances the user experience by ensuring the app works reliably and keeps users engaged.
Key Service Worker Events:

1. **fetch Event**
   - Intercepts network requests made by the app.
   - Allows caching of static assets and dynamic content.
   - Ensures the app can serve content even when offline by responding with cached data.
2. **sync Event (Background Sync)**
   - Allows the app to delay actions (like submitting a form or placing an order) until the user has a stable internet connection.

   - Useful for E-commerce apps to ensure order data is not lost during network disruptions.

3. **push Event**
   - Enables real-time communication from the server to the user’s device.
   - Can be used to send order updates, promotional messages, or alerts even when the app is not open.

These events are handled in the service-worker.js file using event listeners like:

javascript

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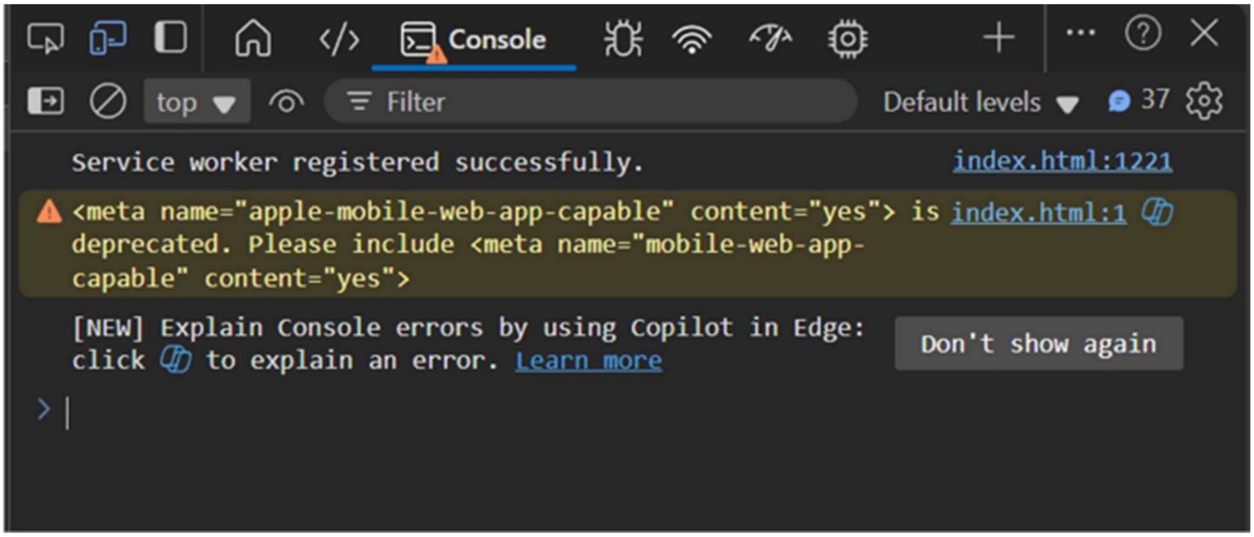
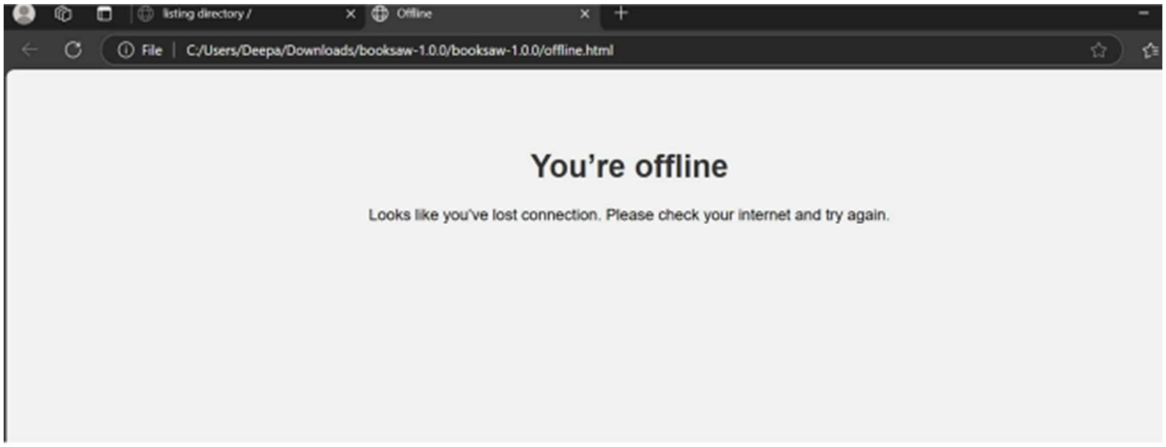
```
self.addEventListener('fetch', ...)
self.addEventListener('sync', ...)
self.addEventListener('push', ...)
```



```
Service worker registered successfully.                     index.html:1221
<meta name="apple-mobile-web-app-capable" content="yes"> is index.html:1
deprecated. Please include <meta name="mobile-web-app-
capable" content="yes">
[NEW] Explain Console errors by using Copilot in Edge:
click  to explain an error. Learn more
```


listing directory /
Offline
File
C:/Users/Deepa/Downloads/booksaw-1.0.0/booksaw-1.0.0/offline.html

You’re offline

Looks like you’ve lost connection. Please check your internet and try again.

Conclusion: We implemented the funcΘonality of offline web cache capture so that in the absence of a stable internet connecΘon, the app would display a generic waiΘng page.