

Experiment No: 7

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AIM:- To write meta data of your Ecommerce PWA in a Web app manifest file to enable “add to homescreen feature”

THEORY:-

Progressive Web Apps (PWAs) are web applications that offer a native app-like experience while being built using web technologies (HTML, CSS, and JavaScript). They combine the best features of the web and mobile apps to provide users with fast, reliable, and engaging experiences. Here's a breakdown of some key concepts and features of PWAs:

1. **Progressive Enhancement:** PWAs are built following the principle of progressive enhancement. This means that they should work for all users regardless of the browser or device they're using. They provide a basic experience for all users and then enhance that experience for users with more capable browsers or devices.
2. **Responsive Design:** PWAs are designed to work seamlessly across various devices and screen sizes. They employ responsive design techniques to adapt their layout and content to different screen sizes, ensuring a consistent user experience on desktops, tablets, and mobile devices.
3. **Reliability:** PWAs are reliable even in uncertain network conditions or offline. They use service workers, a type of web worker, to cache content and assets, enabling offline access and faster loading times. Service workers can intercept network requests and serve cached content, providing a reliable experience even when the network connection is poor or unavailable.
4. **Fast and Performant:** PWAs are optimized for speed and performance. They leverage techniques like lazy loading, code splitting, and caching to reduce loading times and improve responsiveness. By minimizing unnecessary network requests and optimizing assets, PWAs deliver a fast and snappy user experience.
5. **Engagement:** PWAs offer features that enhance user engagement and retention. These include push notifications, which allow you to re-engage users with timely

and relevant updates, and the ability to add the app to the device's home screen, providing easy access and encouraging regular usage.

6. **Discoverability:** PWAs are discoverable through web search engines, social media platforms, and other online channels, just like traditional websites. Additionally, they can be indexed by app stores and appear in search results, increasing their visibility to potential users.
7. **Security:** PWAs are served over HTTPS to ensure the security and integrity of data exchanged between the app and the server. This helps protect user privacy and prevents unauthorized access to sensitive information.
8. **Cross-platform Compatibility:** PWAs are platform-agnostic and can run on any device with a modern web browser, including desktops, laptops, tablets, and smartphones. They eliminate the need to develop and maintain separate codebases for different platforms, reducing development time and costs.

Code to enable "Add to Home Screen" option

manifest.json

```
{
  "name": "woodex",
  "short_name": "woodex",
  "short_url": "/",
  "start_url": "/index.html",
  "icons": [
    {
      "src": "icons/manifest-icon-192.maskable.png",
      "sizes": "192x192",
      "type": "image/png",
      "purpose": "any"
    },
    {
      "src": "icons/manifest-icon-192.maskable.png",
      "sizes": "192x192",
      "type": "image/png",
      "purpose": "maskable"
    }
  ],
}
```

```

    {
      "src": "icons/manifest-icon-512.maskable.png",
      "sizes": "512x512",
      "type": "image/png",
      "purpose": "any"
    },
    {
      "src": "icons/manifest-icon-512.maskable.png",
      "sizes": "512x512",
      "type": "image/png",
      "purpose": "maskable"
    }
  ],
  "theme_color": "#000000",
  "background_color": "#FFFFFF",
  "display": "fullscreen",
  "orientation": "portrait",
  "screenshots": [
    {
      "src": "screenshots/desktop-screenshot-wide.png",
      "sizes": "639x358",
      "type": "image/png",
      "form_factor": "wide"
    },
    {
      "src": "screenshots/desktop-screenshot.png",
      "sizes": "1366x608",
      "type": "image/png"
    },
    {
      "src": "screenshots/mobile-screenshot.png",
      "sizes": "445x505",
      "type": "image/png"
    }
  ]
}

```

service-worker.js

```
const CACHE_NAME = 'woodex-cache-v1';
```

```

const urlsToCache = [
  '/',
  '/index.html',
  '/styles/main.css',
  '/scripts/main.js',
  '/icons/manifest-icon-192.maskable.png',
  '/icons/manifest-icon-512.maskable.png'
];

self.addEventListener('install', event => {
  event.waitUntil(
    caches.open(CACHE_NAME)
      .then(cache => {
        console.log('Opened cache');
        return cache.addAll(urlsToCache);
      })
  );
});

self.addEventListener('fetch', event => {
  event.respondWith(
    caches.match(event.request)
      .then(response => {
        if (response) {
          return response;
        }
        let fetchRequest = event.request.clone();
        return fetch(fetchRequest)
          .then(response => {
            if (!response || response.status !== 200 || response.type !==
'basic') {
              return response;
            }
            let responseToCache = response.clone();
            caches.open(CACHE_NAME)
              .then(cache => {
                cache.put(event.request, responseToCache);
              });
            return response;
          });
      })
  );
});

```

```
    ))
  );
});

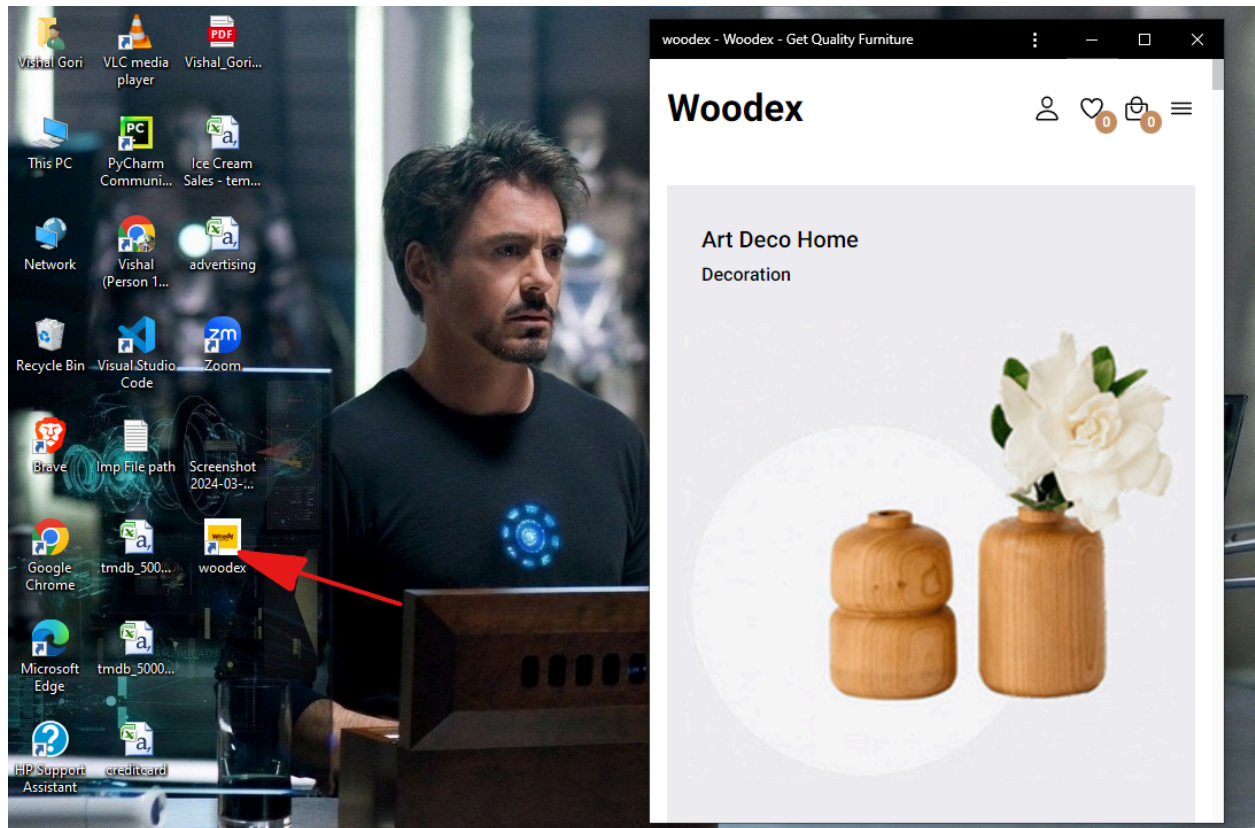
self.addEventListener('activate', event => {
  event.waitUntil(
    caches.keys().then(cacheNames => {
      return Promise.all(
        cacheNames.filter(cacheName => {
          return cacheName.startsWith('woodex-cache-') && cacheName !==
CACHE_NAME;
        }).map(cacheName => {
          return caches.delete(cacheName);
        })
      );
    })
  );
});
```

Woodex



Art Deco Home
Decoration





Conclusion:- We learnt how to make our website to into a progressive web application by adding a service-worker thread adding manifest.json and service-worker.js file