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:-
Regular Web App
A regular web app is a website that is designed to be accessible on all mobile devices such that
the content gets fit as per the device screen. It is designed using a web technology stack
(HTML, CSS, JavaScript, Ruby, etc.) and operates via a browser. They offer various native-device features and functionalities. However, it entirely depends on the browser the user
is using. In other words, it might be possible that you can access a native-device feature on
Chrome but not on Safari or Mozilla Firefox because the browsers are incompatible with that
feature.
Progressive Web App
Progressive Web App (PWA) is a regular web app, but some extras enable it to deliver an
excellent user experience. It is a perfect blend of desktop and mobile application experience to
give both platforms to the end-users.
Difference between PWAs vs. Regular Web Apps:
A Progressive Web is different and better than a Regular Web app with features like:
1. Native Experience
Though a PWA runs on web technologies (HTML, CSS, JavaScript) like a Regular web app, it
gives user experience like a native mobile application. It can use most native device features,
including push notifications, without relying on the browser or any other entity. It offers a

seamless and integrated user experience that it is quite tough for one to differentiate between a
PWA and a Native application by considering its look and feel.

2. Ease of Access

Unlike other mobile apps, PWAs do not demand longer download time and make memory space
available for installing the applications. The PWAs can be shared and installed by a link, which
cuts down the number of steps to install and use. These applications can easily keep an app
icon on the user's home screen, making the app easily accessible to the users and helps the
brands remain in the users' minds, and improving the chances of interaction.

3. Faster Services

PWAs can cache the data and serve the user with text stylesheets, images, and other web
content even before the page loads completely. This lowers the waiting time for the end-users
and helps the brands improve the user engagement and retention rate, which eventually adds
value to their business.

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4. Engaging Approach

As already shared, the PWAs can employ push notifications and other native device features
more efficiently. Their interaction does not depend on the browser user uses. This eventually
improves the chances of notifying the user regarding your services, offers, and other options
related to your brand and keeping them hooked to your brand. In simpler words, PWAs let you
maintain the user engagement and retention rate.

5. Updated Real-Time Data Access

Another plus point of PWAs is that these apps get updated on their own. They do not demand
the end-users to go to the App Store or other such platforms to download the update and wait
until installed.

In this app type, the web app developers can push the live update from the server, which

reaches the apps residing on the user's devices automatically. Therefore, it is easier for the
mobile app developer to provide the best of the updated functionalities and services to the
end-users without forcing them to update their app.
6. Discoverable
PWAs reside in web browsers. This implies higher chances of optimizing them as per the
Search Engine Optimization (SEO) criteria and improving the Google rankings like that in
websites and other web apps.
7. Lower Development Cost
Progressive web apps can be installed on the user device like a native device, but it does not
demand submission on an App Store. This makes it far more cost-effective than native mobile
applications while offering the same set of functionalities.

Code:
Create a manifest.json file

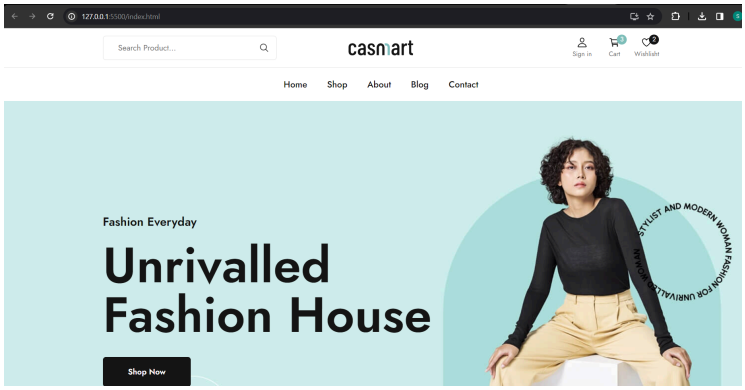
```
{
   "name":"Casmart",
   "short_name":"CSM",
   "start_url":"index.html",
   "display":"standalone",
   "background_color":"#5900b3",
   "theme_color":"black",
   "scope": ".",
   "description":"Casmart for shopping",
   "icons":[
   {
   "src":"/assets/images/pwa_1_192.png",
   "sizes":"192x192",
   "type":"image/png"
   },
   {
   "src":"/assets/images/pwa_1_512.png",
```

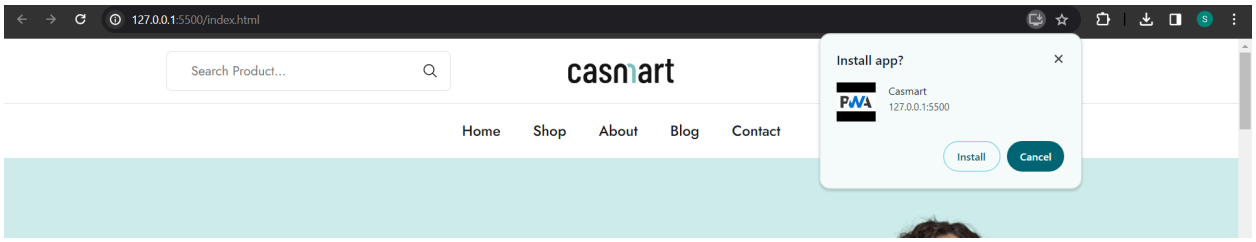
```
    "sizes":"512x512",
    "type":"image/png"
    }
]
}
```

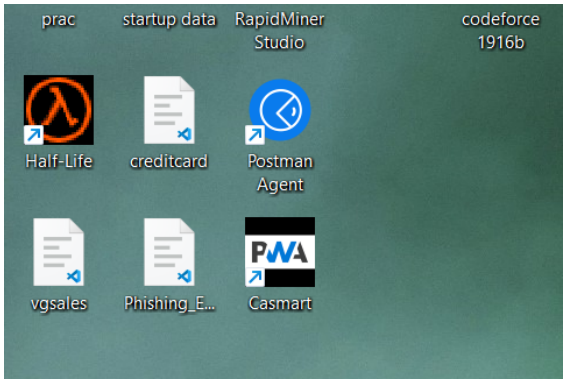
Add the link tag to link to the manifest.json file and add service.js

```
  -->
  <link rel="preconnect" href="https://fonts.googleapis.com">
  <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
  <link
href="https://fonts.googleapis.com/css2?family=Jost:wght@400;500;600;700&display=s
wap" rel="stylesheet">
  <link rel="manifest"
  href="manifest.json">
  </script>
  <script>
    window.addEventListener('load', () => {
    registerSW();
    });
    // Register the Service Worker
    async function registerSW() {
    if ('serviceWorker' in navigator) {
      try {
      await navigator
          .serviceWorker
          .register('service.js');}
      catch (e) {console.log('SW registration failed');}}}
  </script>
```

Output:







Conclusion:Hence, we learnt how to write a metadata of our E-commerce website PWA in a Web App Manifest File to enable add to homescreen feature.