MAD and PWA Lab

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Experiment - 7

Aim: To write meta data of your Ecommerce PWA in a Web app manifest file to enable add to home screen 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.

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.

The main features are:
Progressive — They work for every user, regardless of the browser chosen because they are built at the base with progressive improvement principles.

Responsive — They adapt to the various screen sizes: desktop, mobile, tablet, or dimensions that can later become available.

App-like — They behave with the user as if they were native apps, in terms of interaction and navigation.

Updated — Information is always up-to-date thanks to the data update process offered by service workers.

Secure — Exposed over HTTPS protocol to prevent the connection from displaying information or altering the contents.

Searchable — They are identified as "applications" and are indexed by search engines.

Reactivable — Make it easy to reactivate the application thanks to capabilities such as web notifications.

Code:

```html
<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>MbaKaro-Distance Learning Guide</title>
    <link rel="stylesheet" href="../styles/style.css" />
    <link
```

```html
href="https://fonts.googleapis.com/css2?family=Raleway:ital,wght@0,100;0,200;0,300;0,400;0,500;0,600;
0,700;0,800;0,900;1,100;1,200;1,300;1,400;1,500;1,600;1,700;1,800;1,900&display=swap"
      rel="stylesheet" />
   <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.4.2/css/all.min.css" />
   <link rel="manifest" href="../manifest.json">
   <link rel="service-worker" href="../service-worker.js">
   <script>
      if ('serviceWorker' in navigator) {
         window.addEventListener('load', function () {
            navigator.serviceWorker.register('/service-worker.js', { scope: '/pages/' }).then(function
(registration) {
               console.log('ServiceWorker registration successful with scope: ', registration.scope);
            }, function (err) {
               console.log('ServiceWorker registration failed: ', err);
            });

         });
      }
      function triggerPushNotification() {
   // Check if PushManager is supported
   if ('serviceWorker' in navigator && 'PushManager' in window) {
      // Check if permission has been granted already
      if (Notification.permission === 'granted') {
         // Register the service worker
         navigator.serviceWorker.ready.then(function(registration) {
            // Convert data to JSON format
            var data = {
               "method": "pushMessage",
               "message": "Abhishek here"
            };
            // Trigger push event with the specified data
            registration.showNotification("Abhishek's MBAKaro", {
               data: JSON.stringify(data)
            });
         });
      } else {
         // Permission hasn't been granted yet, request it
         Notification.requestPermission().then(function(permission) {
            if (permission === 'granted') {
               // Permission granted, trigger push notification
               triggerPushNotification();
```

```
                } else {
                    console.error('Notification permission denied');
                }
            });
        }
    }


}
function requestNotificationPermission() {
    Notification.requestPermission().then(function(permission) {
        if (permission === 'granted') {
            console.log('Notification permission granted');
        } else {
            console.error('Notification permission denied');
        }
    });
}



    </script>

</head>

<body>
    <section class="header">
        <nav>
            <a href="index.html"><img src="" alt="" /></a>
            <div class="nav-links" id="nav-links">
                <i class="fa fa-times" onclick="hideMenu()"></i>
                <ul>
                    <li><a href="">Home</a></li>
                    <li><a href="/pages/aboutUs.html">About</a></li>
                    <li><a href="#courses" data-scroll>Courses</a></li>
                    <li><a href="/pages/contactUs.html">Contact Us</a></li>
                    <li><i id="dark-mode-toggle" onclick="toggleDarkMode()">
                            <i id="dark-mode-icon" class="fas fa-sun"></i>

                        </i></li>
                </ul>
            </div>
            <i class="fa fa-bars" onclick="showMenu()"></i>
```

```html
    </nav>
    <!-- Add this button inside the body of your HTML -->


    <div class="text-box">
        <h1>Unlock your potential with MbaKaro</h1>
        <p>
            Here we provide consultancy and guidance for your successful career
        </p>
        <a href="./aboutUs.html" class="hero-btn">Visit us to know more</a>
    </div>
</section>

<!-- -----------------course----------- -->
<section class="University">
    <h1>University</h1>
    <p>Checkout the new courses and know more ...</p>

    <div class="row">
        <div class="uni-col">
            <img src="../images/nmims-university-logo.png" alt="" />
            <h3>NMIMS UNIVERSITY</h3>
            <p>
                NMIMS has an A+ accreditation from NAAC, It has also achieved a
                remarkable position in the top 100 ranking by NIRF, emphasizing its
                recognition and stature among the best educational institutions in
                India.<br /><b>Course Duration – 2 years</b><br /><b>Course fees – 1,44,000</b>
            </p>
            <a href="" class="hero-btn2">Download</a>
        </div>
        <div class="uni-col">
            <img src="../images/dpu.png" alt="" />
            <h3>D.Y. PATIL UNIVERSITY</h3>
            <p>
                DY Patil has achieved a top 50 ranking among universities. It offers
                UGC-approved programs, its programs are approved by AICTE & A++ NAAC
                reflects the university's commitment to excellence in education.<br /><b>Course Duration – 2
                    years</b><br /><b>Course fees – 1,40,200/-</b>
            </p>
            <a href="" class="hero-btn2">Download</a>
        </div>
        <div class="uni-col">
```

```html
      <img src="../images/logo.png.webp" alt="" />
      <h3>MANIPAL UNIVERSITY</h3>
      <p>
        Manipal University has been Accredited with an A+ grade by NAAC and
        entitled by UGC, it ensures quality education at an affordable cost.
        Manipal prepares students for the future by offering courses
        designed to meet industry demands.<br /><b>Course Duration – 2 years</b><br
/><b>Course fees –
            1,66,000/-</b>
      </p>
      <a href="" class="hero-btn2">Download</a>
    </div>
  </div>
  <div class="row">
    <div class="uni-col">
      <img src="../images/upgrad.png" alt="" />
      <h3>UPGRADE INSTITUTION</h3>
      <p>
        The upgrade provides a comprehensive distance learning MBA program.
        It offers the flexibility to study at your own pace and from
        anywhere in the world with expert faculty and interactive online
        resources.<br /><b>Course Duration – 11 months</b><br /><b>Course fees – 2,50,000/-</b>
      </p>
      <a href="" class="hero-btn2">Download</a>
    </div>
    <div class="uni-col">
      <img src="../images/logo (3).png" alt="" />
      <h3>AMITY UNIVERSITY</h3>
      <p>
        Amity's Online MBA program has achieved a remarkable ranking of #37
        worldwide. Amity's Online MBA offers a flexible learning experience,
        empowering students to pursue their career goals with a highly
        regarded degree.<br /><b>Course Duration – 2 years</b><br /><b>Course fees – 1,75,000/-
</b>
      </p>
      <a href="" class="hero-btn2">Download</a>
    </div>
    <div class="uni-col">
      <img src="../images/jain-logo.png" alt="" />
      <h3>JAIN UNIVERSITY</h3>
      <p>
        Jain University offers UGC-entitled online degree programs, These
```

```html
                  programs provide students with the flexibility to pursue their
                  education remotely, enabling them to balance their studies with
                  other commitments.<br /><b>Course Duration – 2 years</b><br /><b>Course fees – 75,000/-
</b>
            </p>
            <a href="" class="hero-btn2">Download</a>
         </div>
      </div>
      <div class="row">
         <div class="uni-col">
            <img src="../images/logo (1).png" alt="" />
            <h3>PARUL UNIVERSITY</h3>
            <p>
               A multidisciplinary destination of learning and innovation,
               propelling quality in higher education with a record of being
               India's youngest private university to receive NAAC A++
               accreditation.Situated in Vadodara, Gujarat, Parul University.<br /><b>Course Duration – 2
                  years</b><br /><b>Course fees – 90,000/-</b>
            </p>
            <a href="" class="hero-btn2">Download</a>
         </div>
         <div class="uni-col">
            <img src="../images/gyan.png" alt="" />
            <h3>SGV UNIVERSITY</h3>
            <p>
               Suresh Gyan Vihar has received an 'A' grade accreditation from NAAC.
               The online degrees awarded by SGVU are considered valid as the
               university has been approved by UGC, DEB, AICTE, and other relevant
               authorities.<br /><b>Course Duration – 2 years</b><br /><b>Course fees – 58,000/-</b>
            </p>
            <a href="" class="hero-btn2">Download</a>
         </div>
         <div class="uni-col">
            <img src="../images/logo (2).png" alt="" />
            <h3>WELINGKAR UNIVERSITY</h3>
            <p>
               SP Mandal Welingkar University is accredited by the National Board
               of Accreditation (NBA), ensuring the quality of its programs. the
               university is approved by the All India Council for Technical
               Education (AICTE).<br /><b>Course Duration – 2 years</b><br /><b>Course fees – 81,000/-
</b>
            </p>
```

```html
            <a href="" class="hero-btn2">Download</a>
        </div>
    </div>
</section>

<section class="courses" id="courses">
    <h1>Our Courses</h1>
    <p>Lorem ipsum dolor sit amet consectetur adipisicing elit.</p>

    <div class="row">
        <div class="courses-col">
            <img src="../images/courses/market management.png" alt="" />
            <h3>Marketing Management</h3>
            <!-- <div class="layer">

        </div> -->
        </div>
        <div class="courses-col">
            <img src="../images/courses/hr.png" alt="" />
            <h3>Human Resource Management</h3>
            <!-- <div class="layer">

        </div> -->
        </div>
        <div class="courses-col">
            <img src="../images/courses/finance.png" alt="" />
            <h3>Finance Management</h3>
            <!-- <div class="layer">

        </div> -->
        </div>
        <div class="courses-col">
            <img src="../images/courses/it.png" alt="" />
            <h3>IT Management</h3>
            <!-- <div class="layer">

        </div> -->
        </div>
    </div>
    <div class="row">
        <div class="courses-col">
            <img src="../images/courses/analytics.png" alt="" />
```

```html
        <h3>Project Management</h3>
        <!-- <div class="layer">

  </div> -->
    </div>
    <div class="courses-col">
        <img src="../images/courses/hr.png" alt="" />
        <h3>Operation Management</h3>
        <!-- <div class="layer">

  </div> -->
    </div>
    <div class="courses-col">
        <img src="../images/courses/hospital.png" alt="" />
        <h3>Health Care Management</h3>
        <!-- <div class="layer">

  </div> -->
    </div>
    <div class="courses-col">
        <img src="../images/courses/inter business.png" alt="" />
        <h3>International Business Management</h3>
        <!-- <div class="layer">

  </div> -->
    </div>
</div>
<div class="row">
    <div class="courses-col">
        <img src="../images/courses/fintech.png" alt="" />
        <h3>Fintech Management</h3>
        <!-- <div class="layer">

  </div> -->
    </div>
    <div class="courses-col">
        <img src="../images/courses/business.png" alt="" />
        <h3>Business Management</h3>
        <!-- <div class="layer">

  </div> -->
    </div>
```

```html
            <div class="courses-col">
                <img src="../images/courses/logistic.png" alt="" />
                <h3>AI & ML Management</h3>
                <!-- <div class="layer">


            </div> -->
            </div>
            <div class="courses-col">
                <img src="../images/courses/scm.png" alt="" />
                <h3>Logistic & Supply Chain Management</h3>
                <!-- <div class="layer">


            </div> -->
            </div>
        </div>
    </section>

    <section class="facility">
        <h1>Perks of MbaKaro</h1>
        <p>
            Lorem ipsum dolor sit amet consectetur adipisicing elit. Sapiente ullam,
            nostrum iste aliquid provident aliquam autem repellat pariatur incidunt
            quas molestias earum enim corporis quod expedita vitae ducimus amet
            dolore.
        </p>
        <div class="row">
            <div class="facility-col">
                <img src="../images/perks/consultancy.png" alt="" />
                <h3>Complimentary Consultations</h3>
                <p>
                    At MbaKaro, we are committed to supporting individuals on their journey to
                    mental well-being. We offer a range of high-quality counseling services, including
complimentary
                    counseling sessions. Our team of experienced professionals is dedicated to providing
accessible and
                    compassionate care to help you navigate life's challenges. Take the first step towards a
healthier,
                    happier you with our no-cost counseling services.
                </p>
            </div>
            <div class="facility-col">
                <img src="../images/perks/faculty.png" alt="" />
```

```html
                    <h3>Skilled Mentors</h3>
                    <p>
                        Meet our accomplished faculty—an assembly of seasoned educators dedicated to nurturing academic
                        excellence. Our veteran instructors bring a wealth of experience, expertise, and passion to the
                        learning environment. With a commitment to fostering growth and knowledge, our skilled mentors guide
                        students on a transformative educational journey. Experience the difference of learning from a team
                        of accomplished educators who are committed to your success.
                    </p>
                </div>
                <div class="facility-col">
                    <img src="../images/perks/support.png" alt="" />
                    <h3>Specialized Assistance</h3>
                    <p>
                        Experience the difference with our personalized support services. At MbaKaro, we
                        understand that individual needs vary, and our dedicated team is here to provide tailored assistance
                        to help you thrive. Whether you're a student, client, or customer, our commitment to personalized
                        support ensures that your unique requirements are met with care and attention. Discover a customized
                        approach to [your service or product] that puts your satisfaction and success at the forefront of
                        everything we do.
                    </p>
                </div>
            </div>
        </section>
        <section class="testimonials">
            <h1>Whats does people say about us</h1>
            <p>
                Lorem ipsum dolor sit amet consectetur adipisicing elit. Accusantium
                ipsum laudantium, illum dolores voluptas enim blanditiis assumenda odio
                et nesciunt eius labore. Assumenda at illo, accusantium laborum sit
                eveniet excepturi?
            </p>

            <div class="row">
                <div class="test-col">
                    <img src="../images/Work.png" alt="" />
```

```html
        <div>
            <p>
                Lorem ipsum dolor sit amet consectetur adipisicing elit. Sit,
                veniam nisi fugiat rem, magnam praesentium non voluptatum unde, ex
                atque assumenda accusamus vitae? Consectetur harum non cupiditate
                vero tempore magnam.
            </p>
            <h3>User Name</h3>
            <i class="fa fa-star"></i>
            <i class="fa fa-star"></i>
            <i class="fa fa-star"></i>
            <i class="fa fa-star"></i>
            <i class="fa fa-star-o"></i>
        </div>
    </div>
    <div class="test-col">
        <img src="../images/Work.png" alt="" />
        <div>
            <p>
                Lorem ipsum dolor sit amet consectetur adipisicing elit. Sit,
                veniam nisi fugiat rem, magnam praesentium non voluptatum unde, ex
                atque assumenda accusamus vitae? Consectetur harum non cupiditate
                vero tempore magnam.
            </p>
            <h3>User Name</h3>
            <i class="fa fa-star"></i>
            <i class="fa fa-star"></i>
            <i class="fa fa-star"></i>
            <i class="fa fa-star-half-o"></i>
        </div>
    </div>
    </div>
</section>

<section class="cta">
    <h1>Enroll course and know more</h1>
    <!-- Add button to trigger push notification -->
    <button onclick="triggerPushNotification()" class="hero-btn">Trigger Push Notification</button>
    <button onclick="requestNotificationPermission()" class="hero-btn">Request Notification
Permission</button>

</section>
```

```html
<section class="footer">
   <h4>About Us</h4>
   <p>
      Lorem ipsum dolor sit amet consectetur adipisicing elit. Distinctio,
      quisquam cum. Quia dolore maxime error, <br />eum eaque ex tenetur
      architecto optio repellendus culpa, aliquid dignissimos possimus alias
      porro iure hic!
   </p>
   <div class="icons">
      <i class="fab fa-facebook"></i>
      <i class="fab fa-twitter"></i>
      <i class="fab fa-instagram"></i>
      <i class="fab fa-linkedin"></i>
   </div>
</section>
<script>
   var navlinks = document.getElementById("nav-links");
   function showMenu() {
      navlinks.style.width = "200px";
      navlinks.style.transitionDuration = "0.5s";
   }
   function hideMenu() {
      navlinks.style.width = "0px";
   }
   function toggleDarkMode() {
      // Toggle a class on the body to switch between light and dark styles
      document.body.classList.toggle("dark-mode");

      // Save the user's preference in localStorage
      const isDarkMode = document.body.classList.contains("dark-mode");
      localStorage.setItem("dark-mode", isDarkMode);
   }

   // Function to set initial dark mode state based on user preference
   function setInitialDarkMode() {
      const isDarkMode = localStorage.getItem("dark-mode") === "true";
      document.body.classList.toggle("dark-mode", isDarkMode);
   }

   // Call the function to set initial dark mode state when the page loads
   window.onload = setInitialDarkMode;
</script>
```
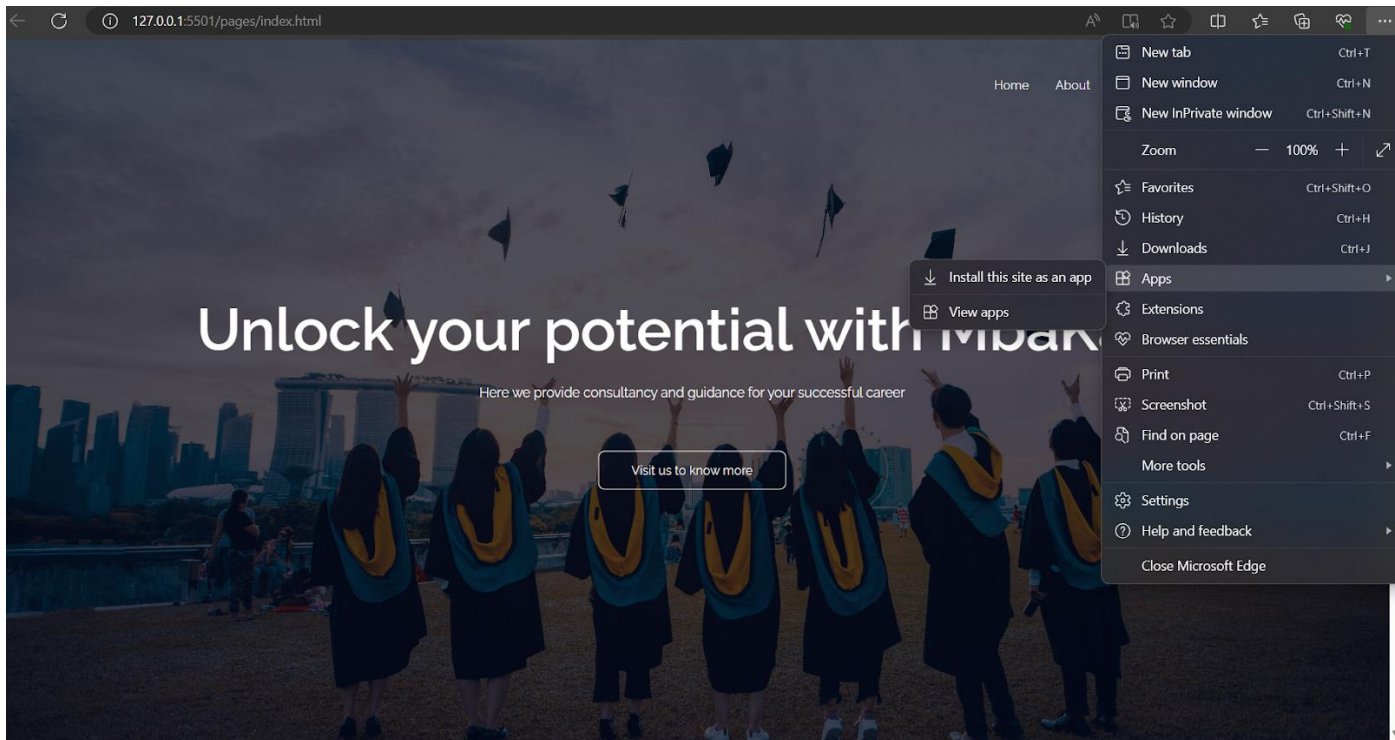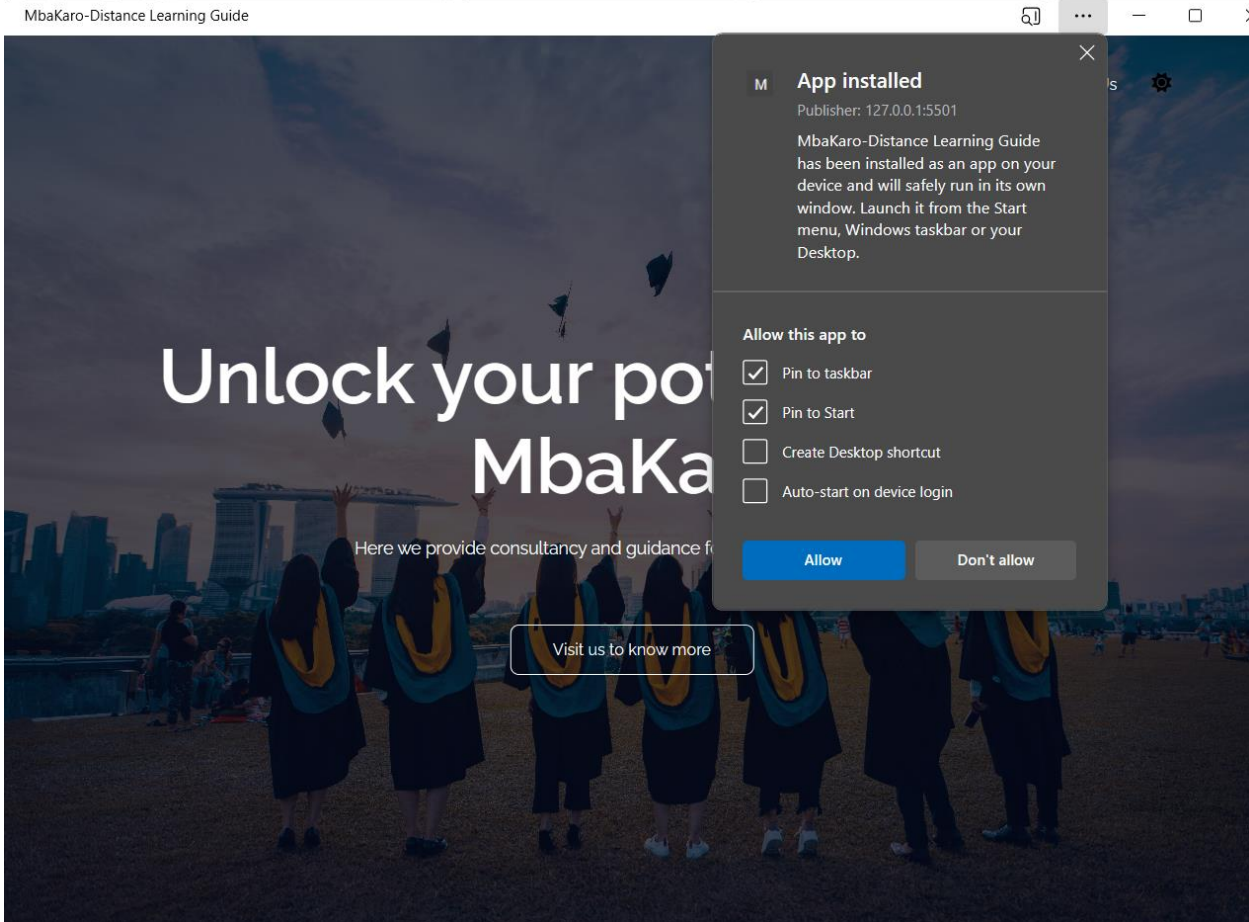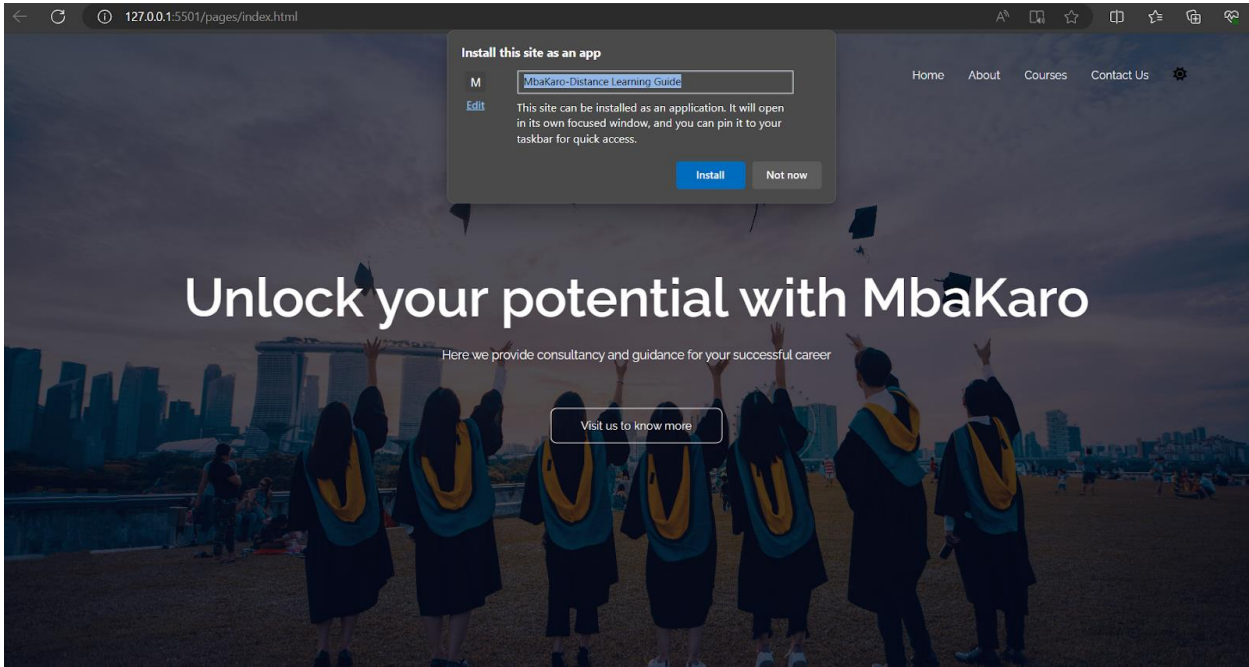
</body>

</html>

Open folder in VS code and click go live at bottom right
corner

Open your hosted site on Microsoft Edge

Click on 3 dots click
on Apps
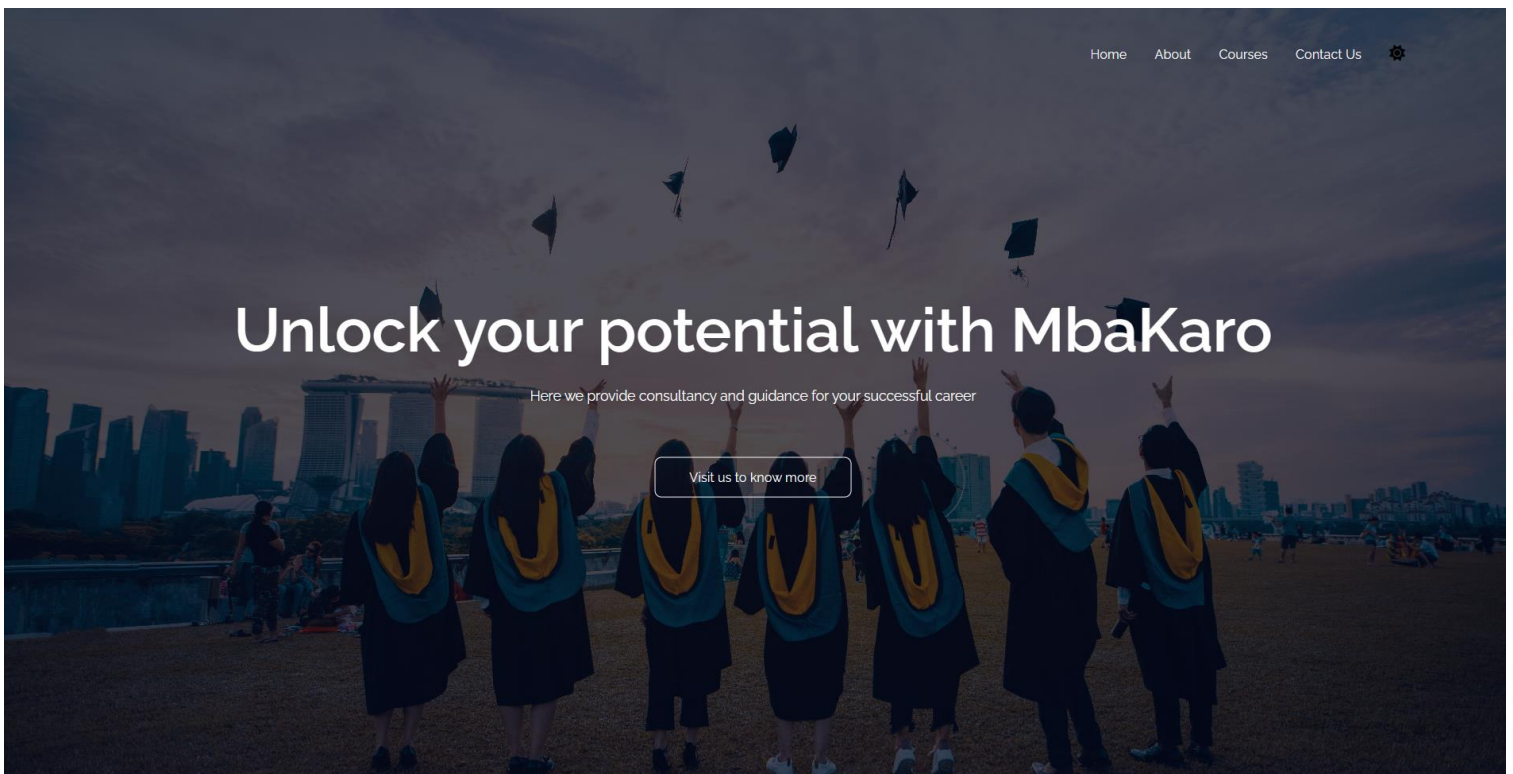select install app option

Click on Install

App icon will appear at the bottom

Output:

Desktop App Created Successfully.
Open Desktop App:

Conclusion:

In this experiment, we have successfully created a basic progressive web app of our web page and installed it in our desktop successfully.