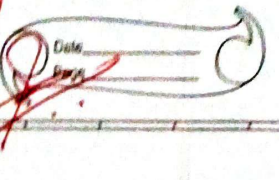


## Assignment - 2

04/05



D) Define Progressive Web App (PWA) and Explain its Significance in Modern App Development. Discuss the key characteristics that differential PWA from Tradition Mobile App.

→ Progressive Web app: it is a type of web Application that utilize Modern Web capabilities to deliver an app-like experience to User. it combine the best features of the web and Mobile app to offer offline functionality, push Notification and installation on devices all while being responsive and fast.

### Key Characteristic

**Responsive:** PWA's are designed to work seamlessly across various devices and screen sizes, adapting to user's device.

**Connecting-independent:** They can work offline or with a poor internet connection, leveraging service workers to cache resources and provide basic functionality.

**App-like experience:** PWA's Mimic can work offline or with poor internet connection, leveraging service workers offering smooth Animation Transitions and interaction.



Discoverable: PWA's can be found through search engine and do not require installation from an app store.

Secure Security: PWA's are served over HTTP's to ensure data privacy & security

2) Define Responsive Web design and explain it's importance in the context of progressive Web app. Compare and Contrast responsive fluid and Adaptive web design Approach.

→ Responsive Web design is an approach to designing websites that ensure they adapt and respond appropriately to various screen size, orientation and device. This is typically achieved through flexible layout, grid & CSS

In the context of progressive web app, responsive web design is crucial because it ensures that the app interface remains user friendly and functional across different devices, maintaining a consistent user experience regardless of the screen size or device being used.

Comparison of responsive, Fluid and adaptive Web design



## Redesig

Responsive Web Design: User design flexible grids and layout CSS Media queries and Fluid images to adapt the website's design to different devices Maintaining a consistent user experience as it offers a seamless user experience across various devices

Fluid Web design: Similar to responsive design Fluid web design also utilize Flexibility layout and percentage of sizing element but it may not necessary incorporates Media queries to adjust the design base on specific break point It focuses More on relative sizing to ensure element scale properly

3) Describe the lifecycle of services workers including registration installation and activation phases?

→ Services Works play a very vital Role in PWA as they are responsible for offline caching push notifications, background sync etc in this Article We will be demystifying services Worker lifecycle and what can be done at each stage of lifecycle

- Registration
- Installation
- Activation



Registration: serving workers are registration by the web application through javascript code in the main page. This registration typically occurs in the background of the specifying the path to the service functionality.

Installation: once registered the browser ~~load~~ download and install service worker script. During Installation the service worker can cache static assets and other resource and the other resource needed for offline functionality.

Activation: After Installation, the service worker enter a activation phase. During activation the service worker can clean up old cache initialization necessary data and start intercepting Network Request. Once activated the worker can control various aspect of the web application such as managing & handling fetch events and cache storage.

84) Explain the use of Indexeddb in the service worker for data storage?

→ Indexeddb is a client side storage mechanism that allows service workers to store structured data locally within the browser. It enables Web Applications, includes those utilizing service worker to store and retrieve data efficiently.



6/13/19  
throughout off-line functionality for network  
programmer off-line functionality for  
enhancing performance by reducing the  
need for Internet Network support.

Technique is particularly useful in server  
environments for tasks such as loading data  
constant, managing user performance &  
supporting off-line capabilities.

*[Signature]*