In comparison to traditional mobile apps, PWA's offer several advantages.

① Cross-platform compatibility :- Unlike native mobile apps, which require separate development efforts are different platforms.

② Development Approach : PWA's are typically built using web technologies like HTML CSS and JS while traditional apps are built using platform specific languages.

③ Overall :- PWA's offer compelling alternative to traditional at mobile apps providing a modern cost-effective & accessible solution for delivering app like experience on web.

Q3]

Responsive Web design	Fluid Web design	Adaptive Web design
Uses flexible grids & layouts that adjust based on screen size	Utilizes fluid grids & layouts that smoothly expand or contract	Uses server side detection to some different layout & versions.
Relies on CSS Media queries to adapt styling based on screen size.	May use media queries but emphasizes fluidis of elements.	Creates multiple version of the site optimized for specific devices.

One code base that adapts to various devices

Emphasizes percentage based layout & fluid images

Requires separate versions of the site for diff devices.

Offers consistent user experience accross devices.

Provides Continu-ous user experience

Tailors the user experience for specific devices.

Q4] Explain the use of index DB in the service worker for data storage.

Indexed DB is low-level API for client side storage of significant amounts of structured data. including files & . It is useful for web applications that need to store large amount of data locally such as PWA's.

Here's how index DB can be used in service worker for data So.

1. Caching Assets: One of the primary use causes at Index DB in a service worker is caching assets such as HTML, CSS, JS files, images and other data resources this allows application to function offline.

2. Dynamic data storage: Indexed dB can also be used to dynamic data generated by the web application.

3. Background Synchronization:- Service workers can periodically sync data with a server in the background even when the application is not been used.

4. Performance optimization: By storing frequently accessed data in indeed DB service workers can improve Performance of application.

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D15B/70

MAD Assignment 2

Q1] A progressive web app (PWA) is a type of web application that leverages modern web technologies to deliver a native app-like experience to users across different platform and devices. PWA are designed to combine the best features of web and mobile apps, providing users with fast, reliable and engaging experiences.

Key Characteristics of PWA

1) Progressive Enhancement :- PWA's are built with progressive enhancement in mind, meaning they can work for any user regardless of the browser or device they are using. They utilize features like responsive design, service workers & graceful degradation to ensure that users to get a consistent experience regardless of their design or network conditions.

2) Responsive design: PWAs are designed to adapt to different screen size of orientation, providing a seamless user experience across desktops, tablets and smartphones.

3) Connectivity Independence: PWA's can work even in low or no network connectivity environments by utilizing service workers to cache content enable offline access. This ensures that can still access the app.