Class: INF-654

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<div align="center">PWA Research:

Steam

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Current Limitations:

- Data Usage: Steam's website uses a lot of our data because of its content, these contents include promos, trailers, and game posters. These contents are the reason why steam's website can be laggy or have a slow loading time when the devices have slow internet or low specs.
- No Offline Access: Steam's website doesn't work when you are offline users aren't able to access their games, community forums and stores.
- Mobile Design: Steam's mobile web design is good but can definitely improve on the menu bar where the menu bar can cover almost the whole screen on some devices with a small screen.

Benefits of PWA Conversion:

- Reduce Data Usage: Using PWA allows caching of page contents such as game libraries and store, improving load times and data usage.
- Offline Access: Using PWA can let users access their game libraries without the internet.
- Mobile Design Improvement: Using PWA can offer the website smoother navigation to smaller screen devices.

PWA Features to Implement:

- Service Workers for Offline Functionality: By implementing cache key elements user can access their game libraries, community and store pages while being offline.
- Progressive loading: By implementing progressive loading the game pages can load the important content first and progressively loading other contents. This would be good for performance on low-end devices and make it more fluid.

Fort Hays State University (FHSU)

https://www.fhsu.edu/

Current Limitations:

- Data Usage: FHSU's website can be data usage intensive since the first page of the website is the auto-played trailer of the university. Although it is good for the design, it can be hard to access when devices have low services.
- Offline Access: The FHSU's website can't be accessible for students when they are offline.
- Mobile Design: FHSU's website can be hard to navigate for smaller devices because of how much information is on the page.

Benefits of PWA Conversion:

- Reduce Data Usage: Implementing PWA would allow the website to be mor efficient with data usage by leveraging caching strategies. For example, once the trailer is played it wouldn't replay the user can whether click play to replay it or choose to ignore it. This would make the website more data efficient.
- Offline Access: By caching key resources such as contact information or catalogs can let the user experience important information on the website while being offline.
- Mobile Design Improvement: Using PWA can offer the website smoother navigation to smaller screen devices.

PWA features to Implement:

- Service Workers for Offline Functionality: By implementing service workers for caching the key information can let the suer access the information without being online.
- Progressive loading: By implementing progressive loading the university pages can load the important content first and progressively loading other contents. This would be good for performance on low-end devices.

FC Barcelona Official Website

https://www.fcbarcelona.com/en/

Current Limitations:

- Data Usage: FC Barcelona website is high data intensive because of its many contents such as match countdown, Barca stories, fixtures, News etc. These contents can be hard to load for devices with low internet.
- Offline Access: FC Barcelona doesn't provide offline functionality for news articles and match highlights.
- Mobile Design: While it is mobile user-friendly because of it's many media contents there are some problems such as the top menu where you have to scroll left or right to see more menu options instead of all of it being there.

Benefits of PWA Conversion:

- Reduced Data Usage: Implementing PWA FC Barcelona Website can be more data usage efficient by caching important resources such as match fixtures, news and player's profile.
- Offline Access: By caching key resources such as match fixtures and news articles can let the user experience important information on the website while being offline.
- Mobile Design Improvement: Implementing PWA would provide a more streamlined, app-like experience on mobile devices, eliminating issues like the cumbersome top menu.

PWA Features to Implement:

- Offline Functionality: Implement service workers to cache essential content such as news articles, match highlights, player stats, and event schedules.
- Optimized Navigation and Layout: Redesign the navigation, particularly the top menu, to display all options without needing horizontal scrolling.