中国PWA开发者日

PWA: Past, Present & Future

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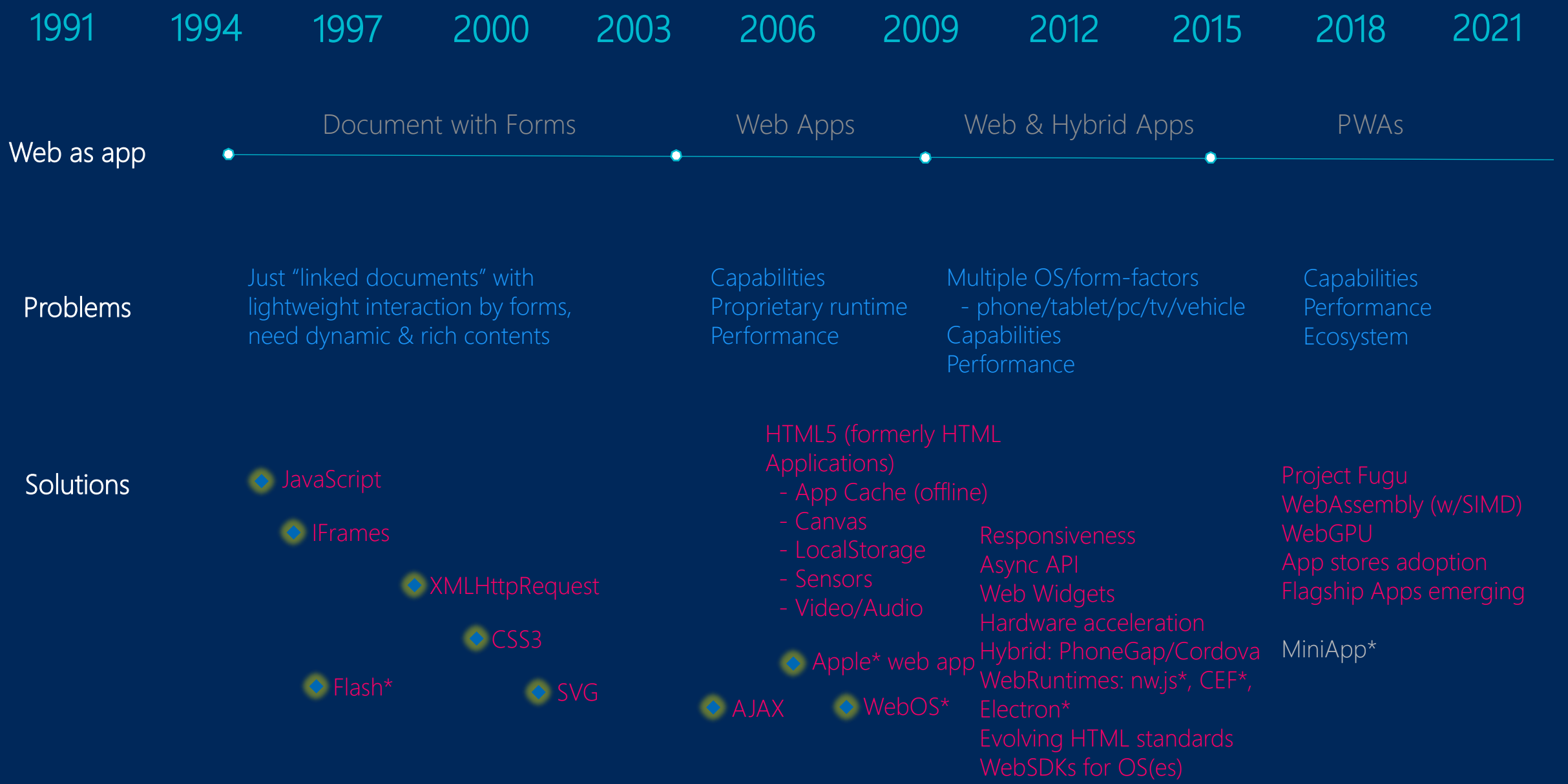

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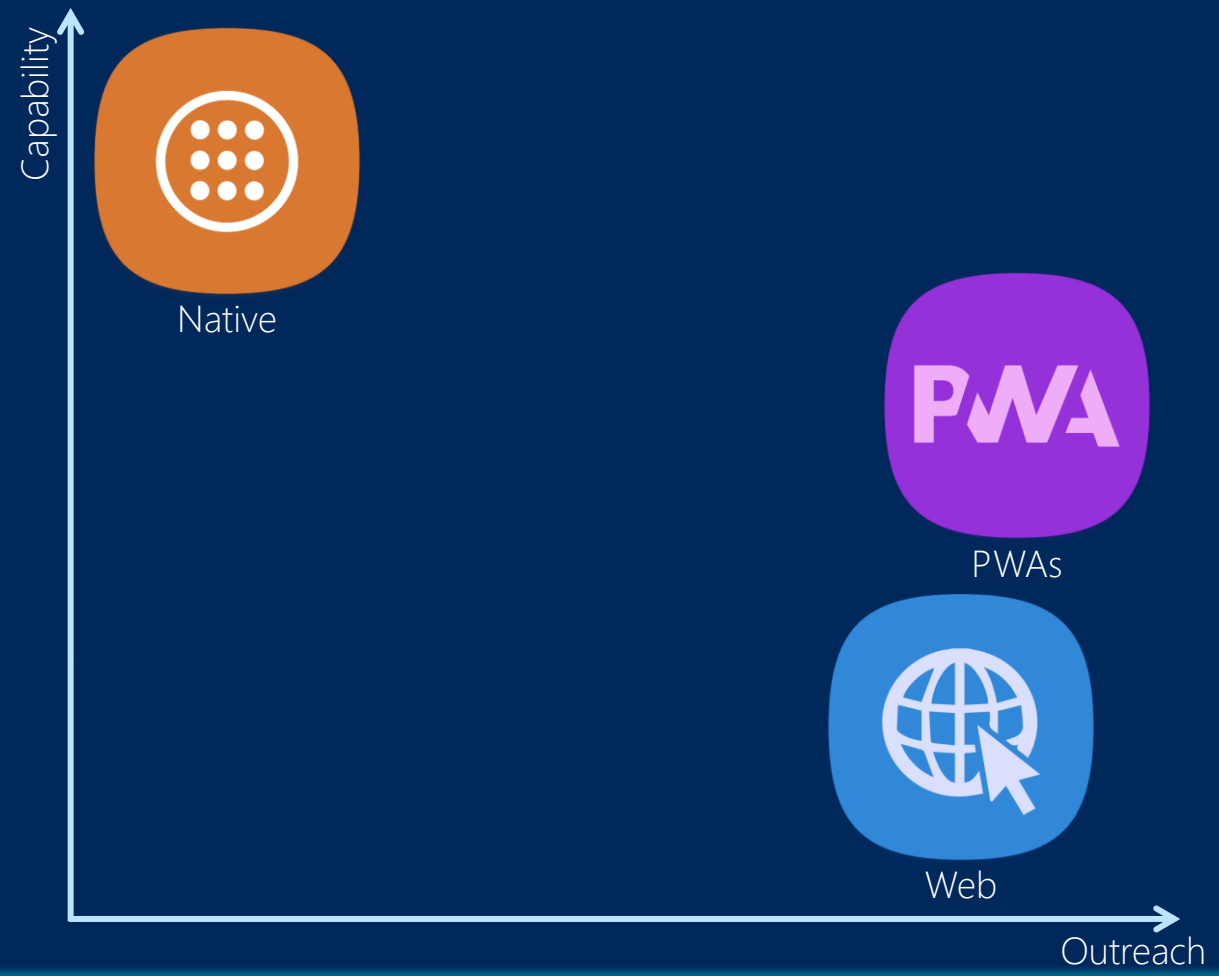
PWAs in the Past



Capability: Native > PWA > Web

Outreach: PWA > Web > Native

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PWAs in the Past

PWA Technology

- Native look-n-feel
- Fast loading
- Web Manifest
- Progressive
- Safety / Privacy
- Offline / Reliable
- Push Notification
- (Deep) link
- App stores adoption

Developer Problems

- Discoverability
- Development cost
- Runtime consistency
- User's initial friction
- Walled garden
- Flaky network
- Offline run & seamless upgrade
- Device storage limitation

Business Success

- TTM -
- User stay time +
- User bounce rate –
- User base +
- Returning users +
- Active users +
- Total visits +
- Conversion rate +

PWAs Business Success Examples

- Pinterest* PWA
  - +843% new users
  - +44% revenue
  - +370% login
- Spotify* PWA
  - +30% monthly active users
  - +45% desktop users
  - +40% playback hours
- AliExpress* PWA
  - +104% new users
  - +74% session time
  - +200% page visits per user
- Washington Post* PWA
  - -90% page loading time
  - 7-day return user grows to 23%
- BMW* PWA
  - +50% new users
  - +400% faster page loading
  - +400% user viewing sales page
- Lancôme* PWA
  - +53% iOS session increase
  - +17% conversion rate
  - +8% conversions rate via Push Notification

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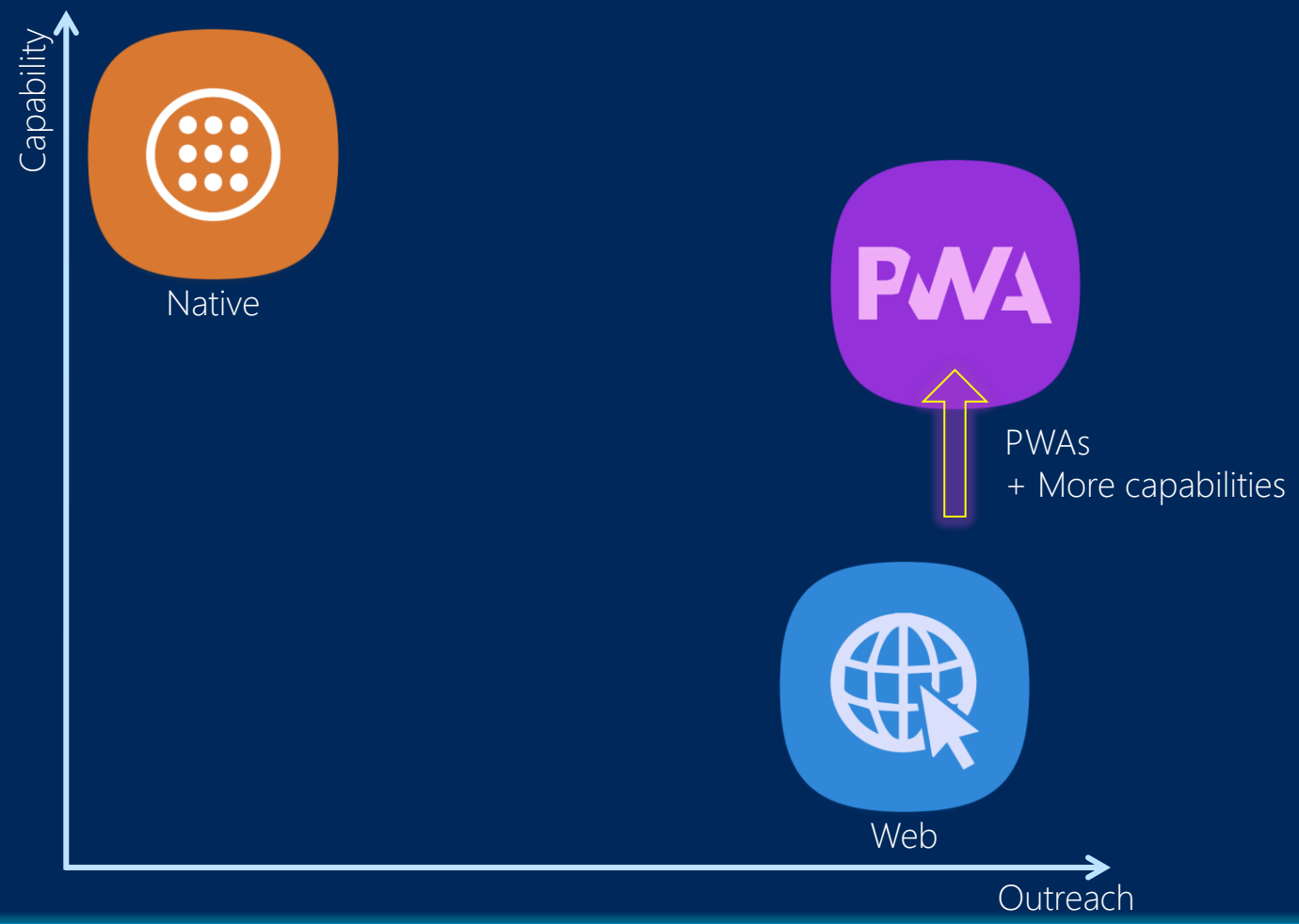
PWAs at Present



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PWAs at Present

- Project Fugu: more capabilities
  - More web APIs
  - More device APIs
  - OS Integration APIs
- Performant
  - Rendering / scripting / network
  - WebAssembly: able to run Unity3d*/Unreal*
  - WebGPU: graphics + computation
- Flagship Apps
  - Industrial flagship apps compiled to PWA

- Statistics of PWAs
  - Number of PWAs +170% in 2020 (by Google*)
  - 10s of millions PWAs installed on Chrome Android every month (by Google*)
  - 18% of all pages loaded via Service Worker (+38% than 2020) (by Google Chrome*)
  - 95% of all devices support Service Worker
  - 85% of all devices support install
  - 76% of all devices support install PWA from app stores (above 3 by StatCounter*)

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PWAs at Present - Web Capabilities

- More web APIs: web codec, portal, tasks, native-io, dark mode, writable file, …
- More device APIs: dual screen, compute pressure, wake lock, …
- OS Integration APIs: file handler, protocol handler, share target, start with login, …

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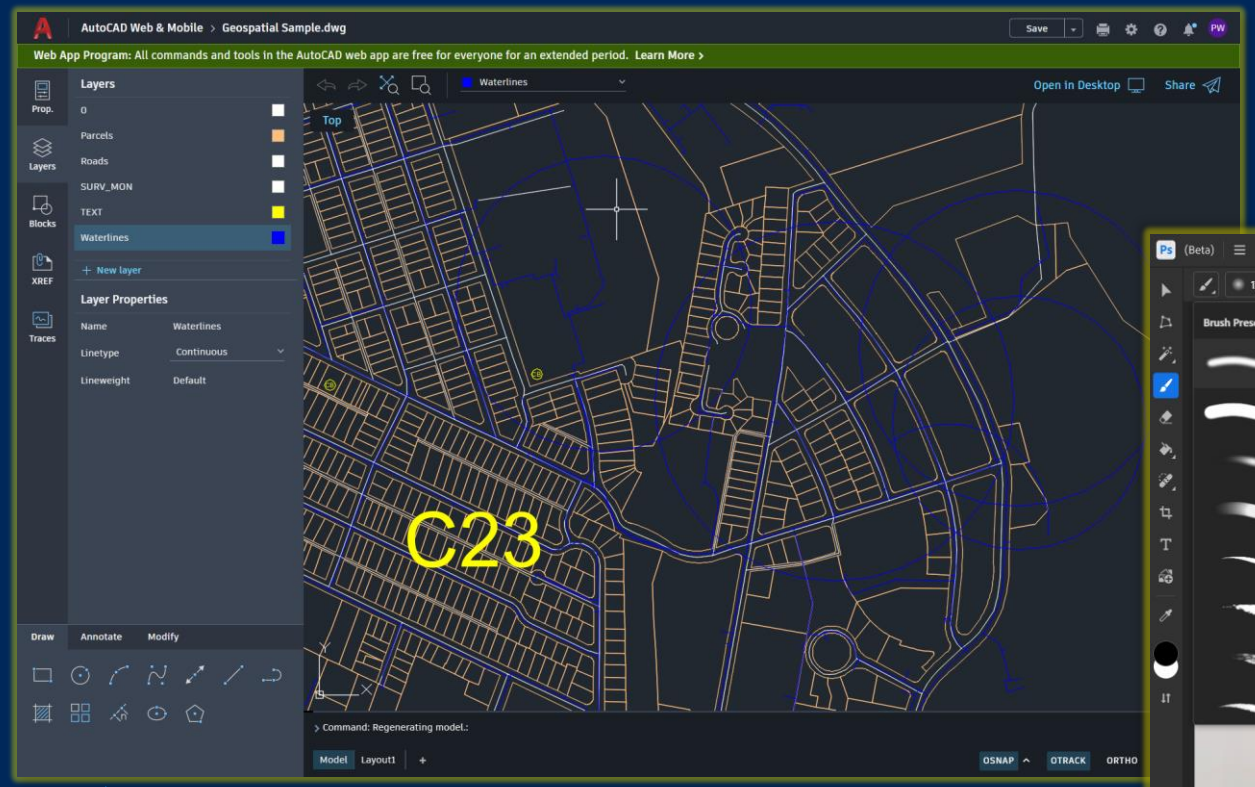
PWAs at Present - Flagship Apps

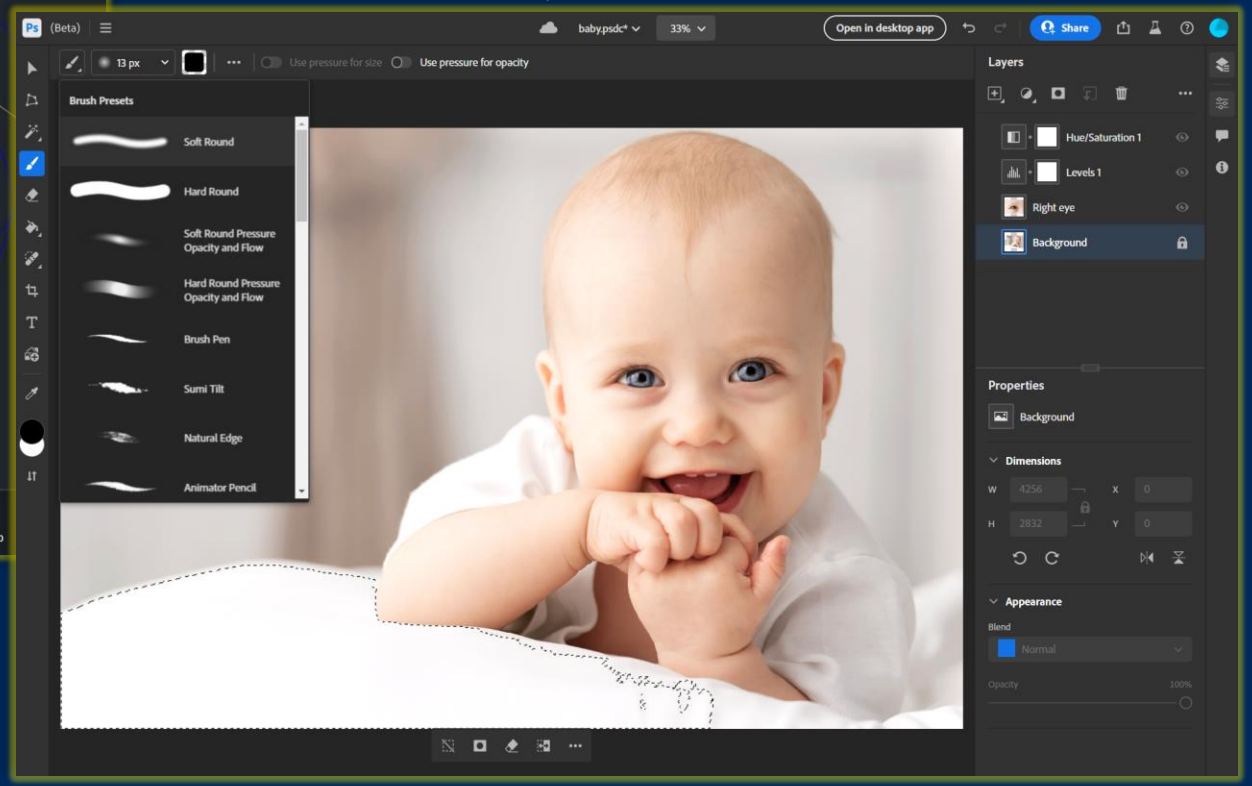


AutoDesk* AutoCAD*: 1979-now

40+ years code base running in the web

Adobe* Photoshop*: 1987-now

30+ years code base running in the web



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PWAs in the Future

- Capabilities
  - More is better
  - Capability hunger will descend
- Performance (and power)
  - Improves everyday usage
  - Could be critical for new sectors
- Ecosystem
  - Hardware
  - Operating System
  - Browser

PWAs in the Future

+ Capability – Yes, ongoing
+ Outreach ?

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