WEB APP TRENDS THAT WILL DISRUPT YOUR MARKET

Joonas Lehtinen, Founder / CEO

Apr 5, 2018

vaadin

Joonas Lehtinen

FOUNDER / CEO

Vaadin codebase share 100% → 1/∞ since 2001

Really proud of Vaadin's 150 person team and ~150,000 developer community

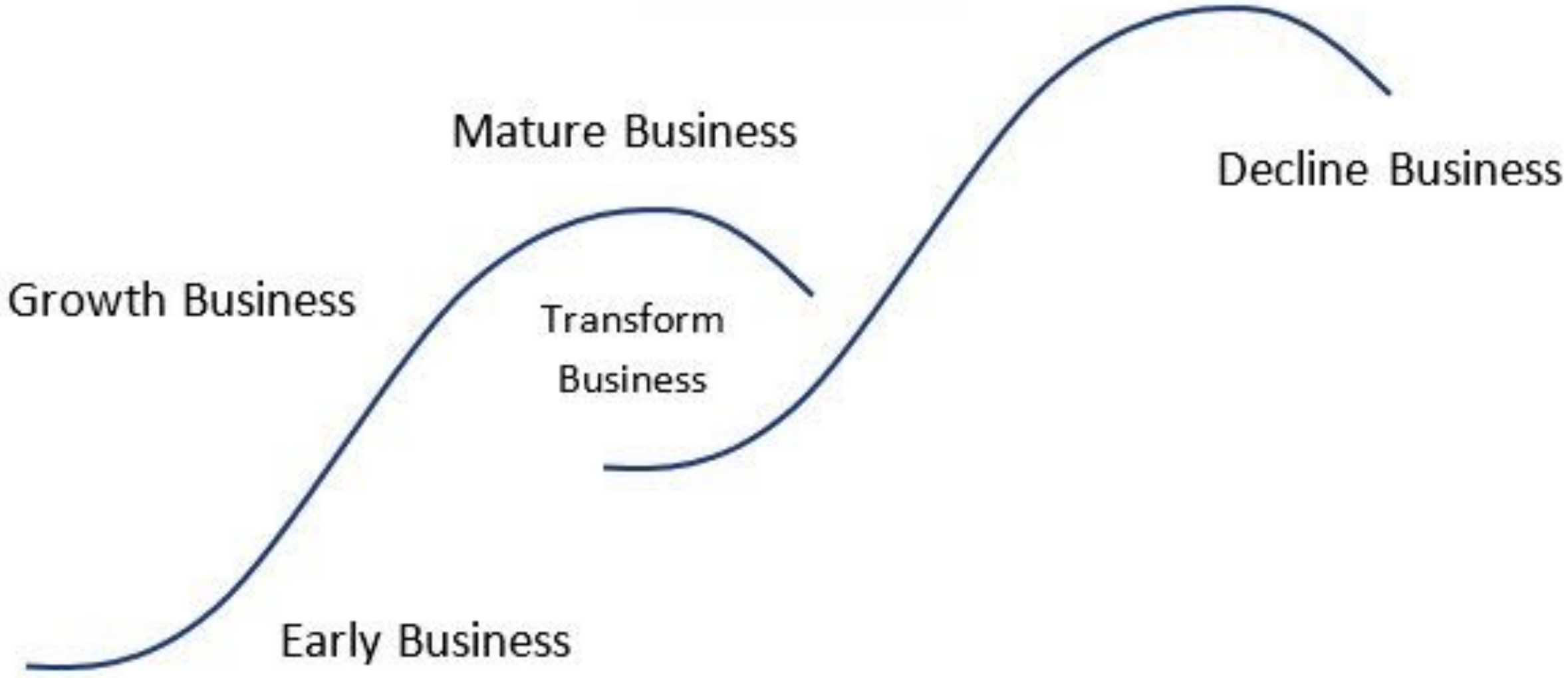
Lives in California, but ♡ in Finland

@joonaslehtinen

Microsoft
"Every business will become a software business, build applications, use advanced analytics and provide Saas services"
Satya Nadella

BASELINE

No competitive advantage


Mature Business
Decline Business
Growth Business
Transform
Business
Early Business

THESIS

MOST WINNERS IN B2B BET ON MODERN WEB

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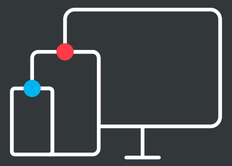
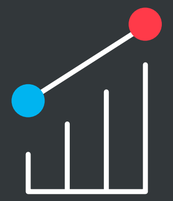
Thesis

WHEN EVERYTHING ELSE
IS IN THE SAME BALLPARK,



MODERN WEB GIVES BEST
BANG FOR THE BUCK WHEN

→



MOST WINNERS
IN B2B BET ON

CHAPTER 1

WHEN EVERYTHING ELSE IS IN THE SAME BALLPARK, GREAT UX WINS

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For the past 10 years

I, Me & My

has been winning
value proposition

MySQL®

THE SECRET OF GREAT UX

BUILD FOR I, ME & MY

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I AM LAZY

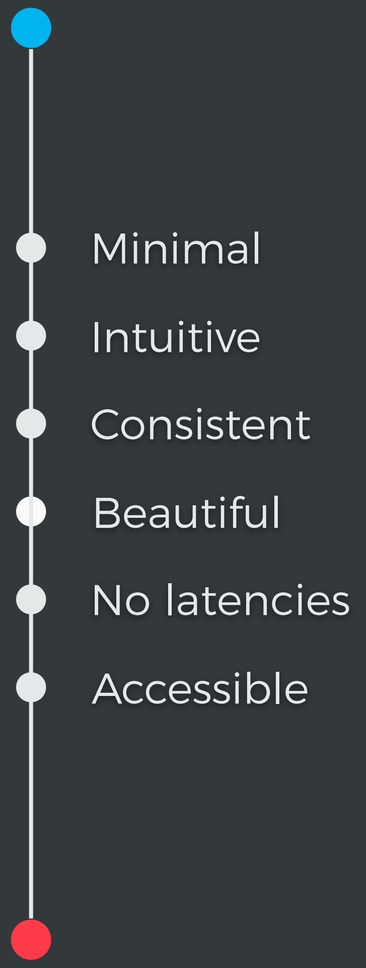
DO NOT MAKE ME THINK

MY ATTENTION SPAN IS

I AM LAZY

DO NOT MAKE ME THINK

MY ATTENTION SPAN IS



OR

- **Minimal**
- Intuitive
- Consistent
- Beautiful
- No latencies
- Accessible

- Minimal
- **Intuitive**
- Consistent
- Beautiful
- No latencies
- Accessible

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OR

- Minimal
- Intuitive
- **Consistent**
- Beautiful
- No latencies
- Accessible

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- Minimal
- Intuitive
- Consistent
- **Beautiful**
- No latencies
- Accessible

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0.1s

Response time limit, if you want users to feel like their actions are directly causing something to happen.

1s

Response time limit for users to feel like they're navigating freely

10s

Average attention span is maxed out. At that point, the user's mind starts wandering and doesn't retain enough information in short-term memory to easily resume the interaction.

- Minimal
- Intuitive
- Consistent
- Beautiful
- No latencies
- **Accessible**

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- Minimal
- Intuitive
- Consistent
- Beautiful
- No latencies
- **Accessible**

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- Minimal
- Intuitive
- Consistent
- Beautiful
- No latencies
- **Accessible**

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WHEN EVERYTHING ELSE IS IN THE SAME BALLPARK

Great UX wins

amazon

slack

UBER

DocuSign

HOWTO

DESIGN GREAT UX

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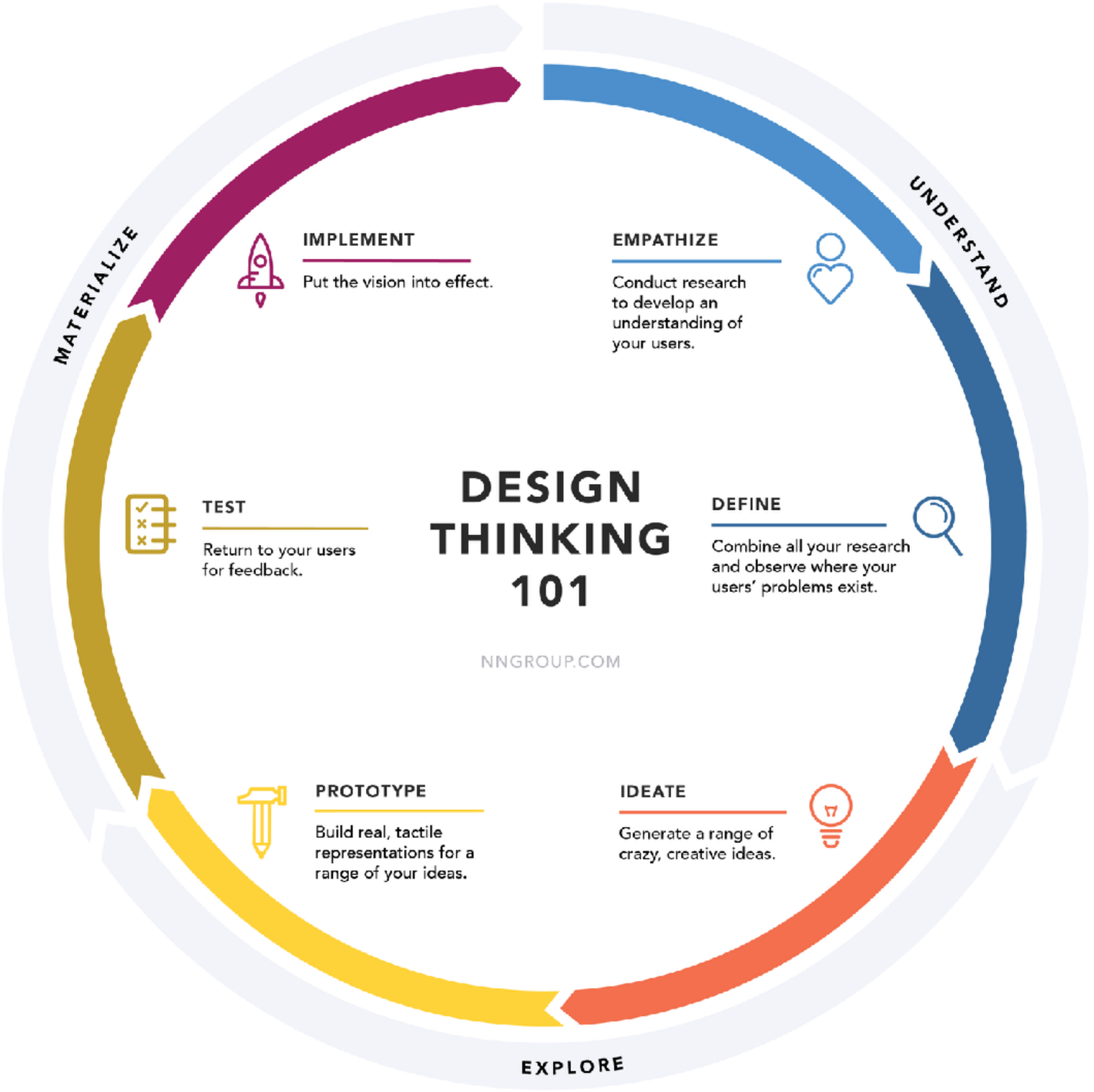
SOLUTION


MATERIALIZE
UNDERSTAND
EXPLORE
IMPLEMENT
Put the vision into effect.
EMPATHIZE
Conduct research to develop an understanding of your users.
TEST
Return to your users for feedback.
DESIGN THINKING 101
NNGROUP.COM
DEFINE
Combine all your research and observe where your users' problems exist.
PROTOTYPE
Build real, tactile representations for a range of your ideas.
IDEATE
Generate a range of crazy, creative ideas.

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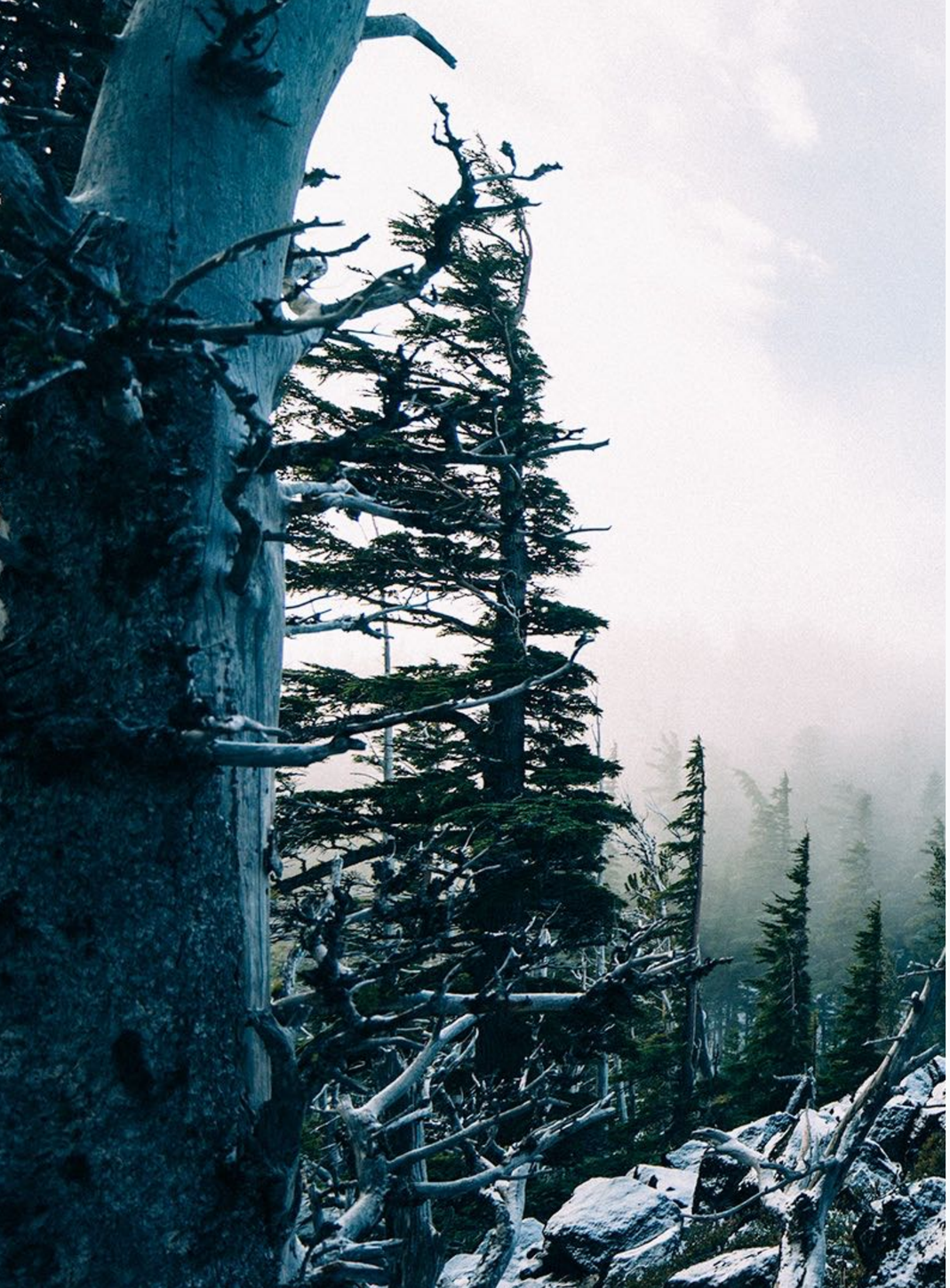

SOLUTION

SIMPLIFICATION

FIGHT FOR SIMPLICITY

Against the established understanding on what is "required". Be bold and do not give up.

KEEP REDUCING

"Perfection is achieved, not when there is nothing more to add, but when there is nothing left to take away."

Antoine de Saint-Exupéry

TEST WITH REAL USERS

And feel the pain seeing them struggle.

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SOLUTION

PERFORMANCE BUDGET

~~PREMATURE OPTIMIZATION IS THE ROOT OF ALL EVIL~~

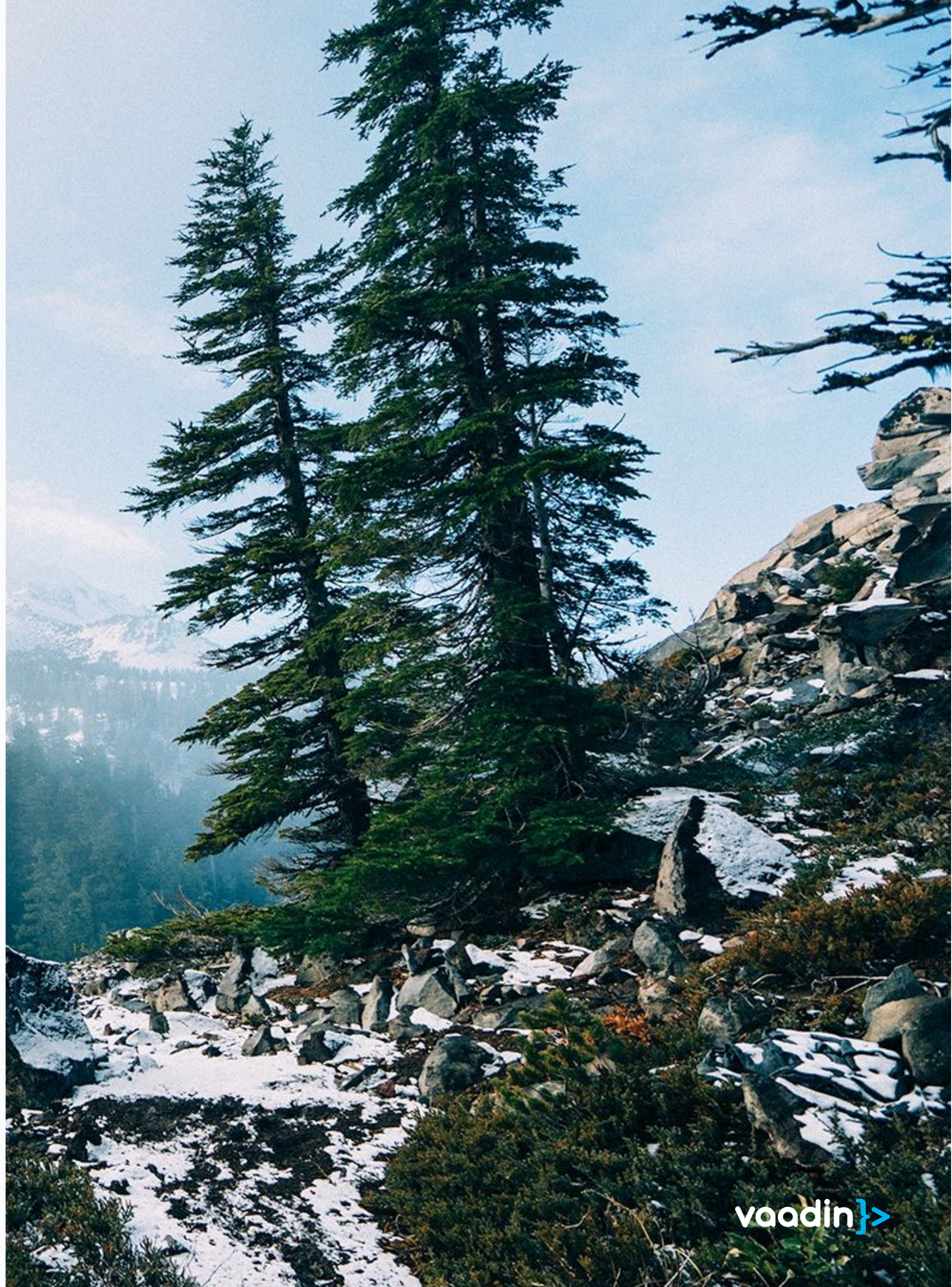
What makes sense for algorithms might not make sense for web apps. Late phase optimization is hard (or impossible).

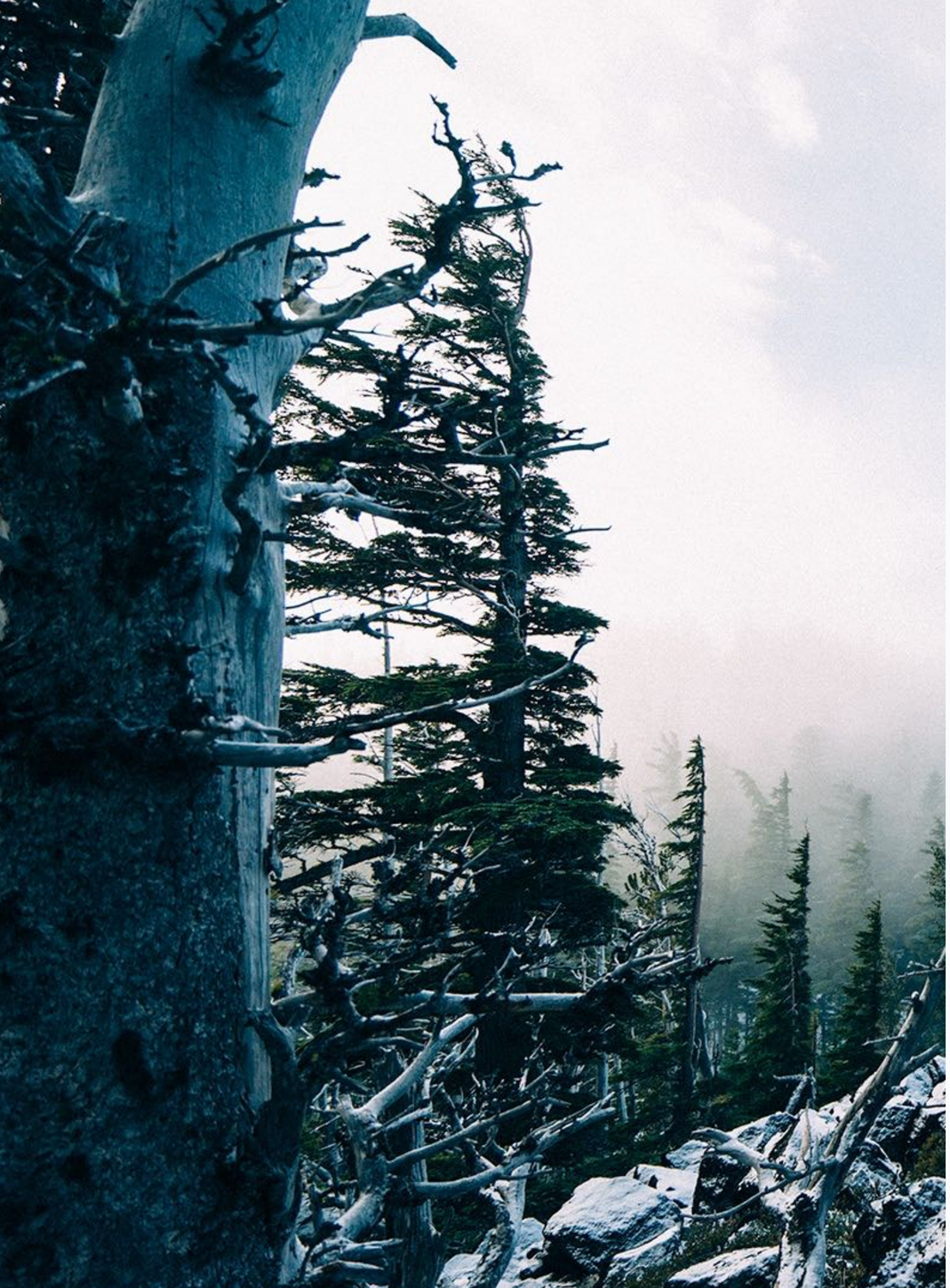
EVERY APP IS FAST IN THE BEGINNING

All lag is built by your team during the project

SET AND TRACK BUDGET FROM DAY 1

Do not allow any increment to push the app over the budgeted performance metrics.





SOLUTION

DESIGN SYSTEM

CONSISTENT UX FOR YOUR BUSINESS

- Component library
- Layouts
- Navigation
- Branding
- Motion design

WIDELY ADOPTED

While the whales like Apple, Google, IBM and Microsoft led the pack, most unicorns today has a design system. With good building blocks they are becoming within reach of SMEs today.

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EXAMPLE

GENERAL ELECTRIC PREDIX

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ATOM
Google Developers
Experts
eclipse

CHAPTER 2

MODERN WEB GIVES BEST BANG FOR THE BUCK WHEN BUILDING GREAT UX

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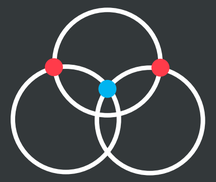
Superior productivity

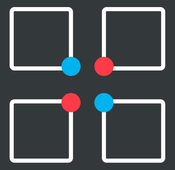


3 TEAM DOING THE SAME?

iOS, Android and Web teams develop the same app in parallel **OR** 3 teams building customer value in parallel.

COMPETENCE DEVELOPMENT

Limiting number of technologies needed, teams learn faster by sharing what they learned.

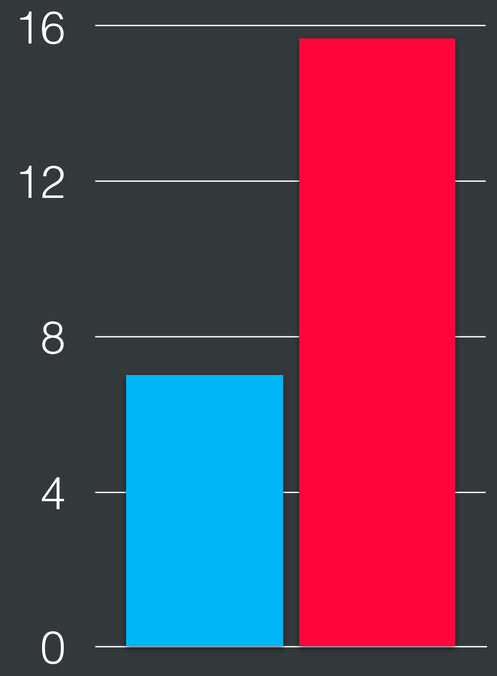


CONSISTENCY BY DEFAULT

Keeping UX and features consistent over multiple platforms is nightmare. One is the same.

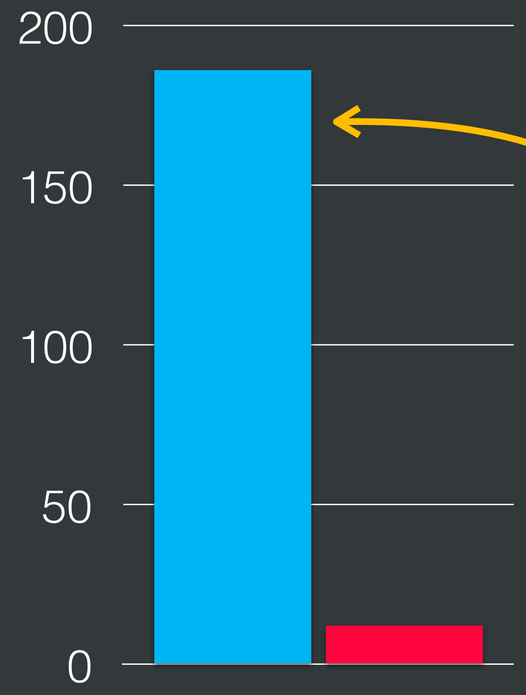
Top 500 Mobile Apps vs. Top 500 Mobile Web Properties

2.2x



Visitors (MM)

15x



YouTube 1200, Facebook 1050, Snapchat 750.

Games…

mins/site/m

Native apps

Mobile web

Source: comScore 2017 report

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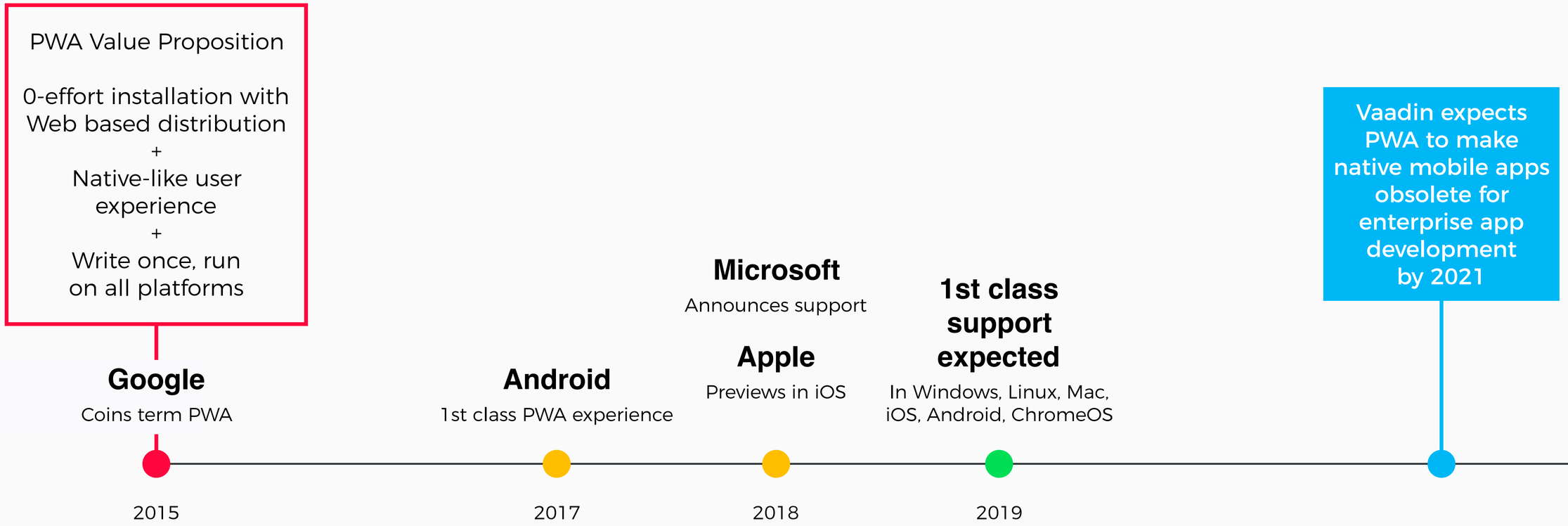
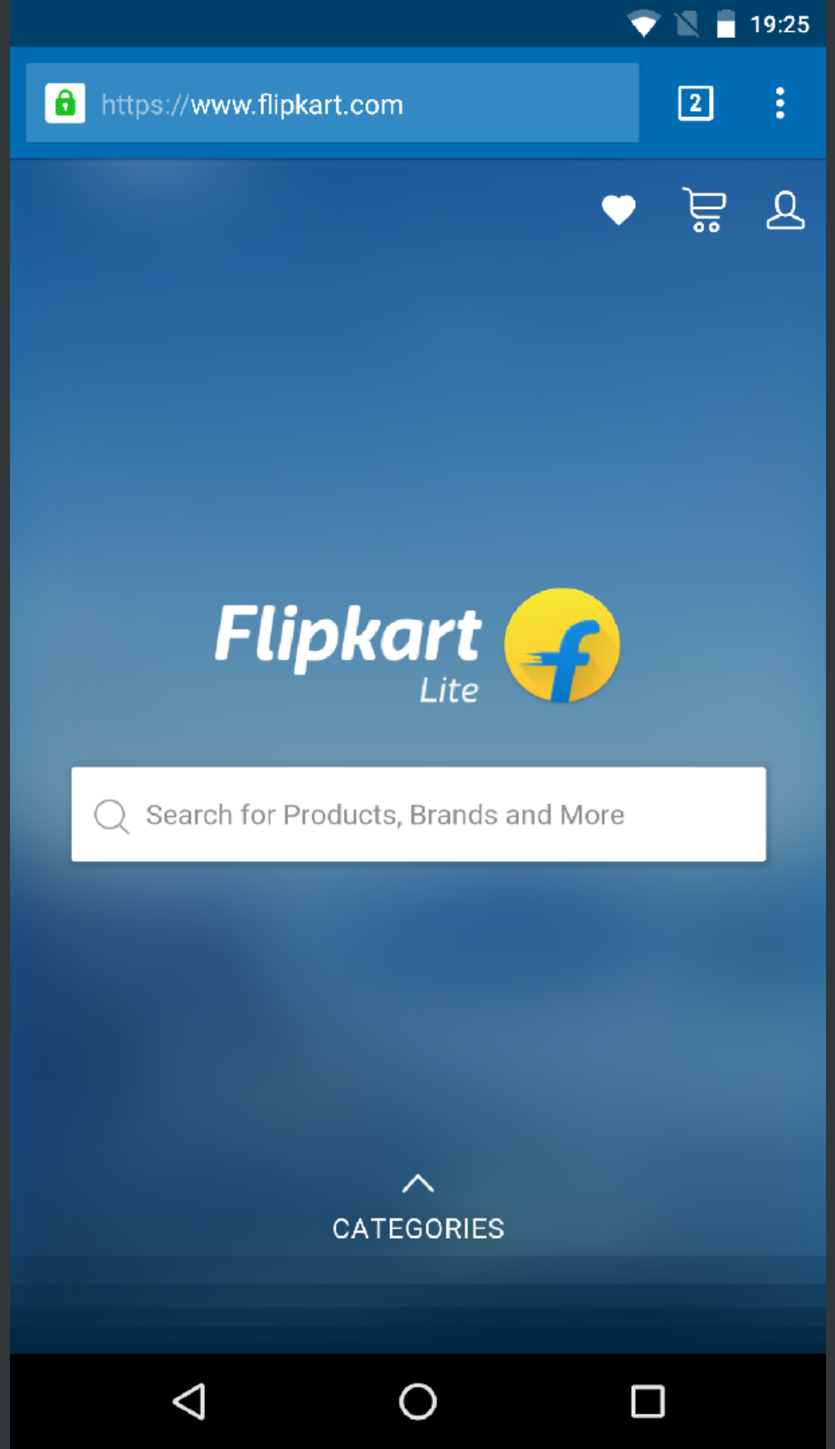
Can Web deliver great UX today?


PWA Value Proposition
0-effort installation with Web based distribution
+
Native-like user experience
+
Write once, run on all platforms
Google
Coins term PWA
2015
Android
1st class PWA experience
2017
Microsoft
Announces support
Apple
Previews in iOS
2018
1st class support expected
In Windows, Linux, Mac, iOS, Android, ChromeOS
2019
Vaadin expects PWA to make native mobile apps obsolete for enterprise app development by 2021


19:25
https://www.flipkart.com
2
Flipkart
Lite
Search for Products, Brands and More
CATEGORIES

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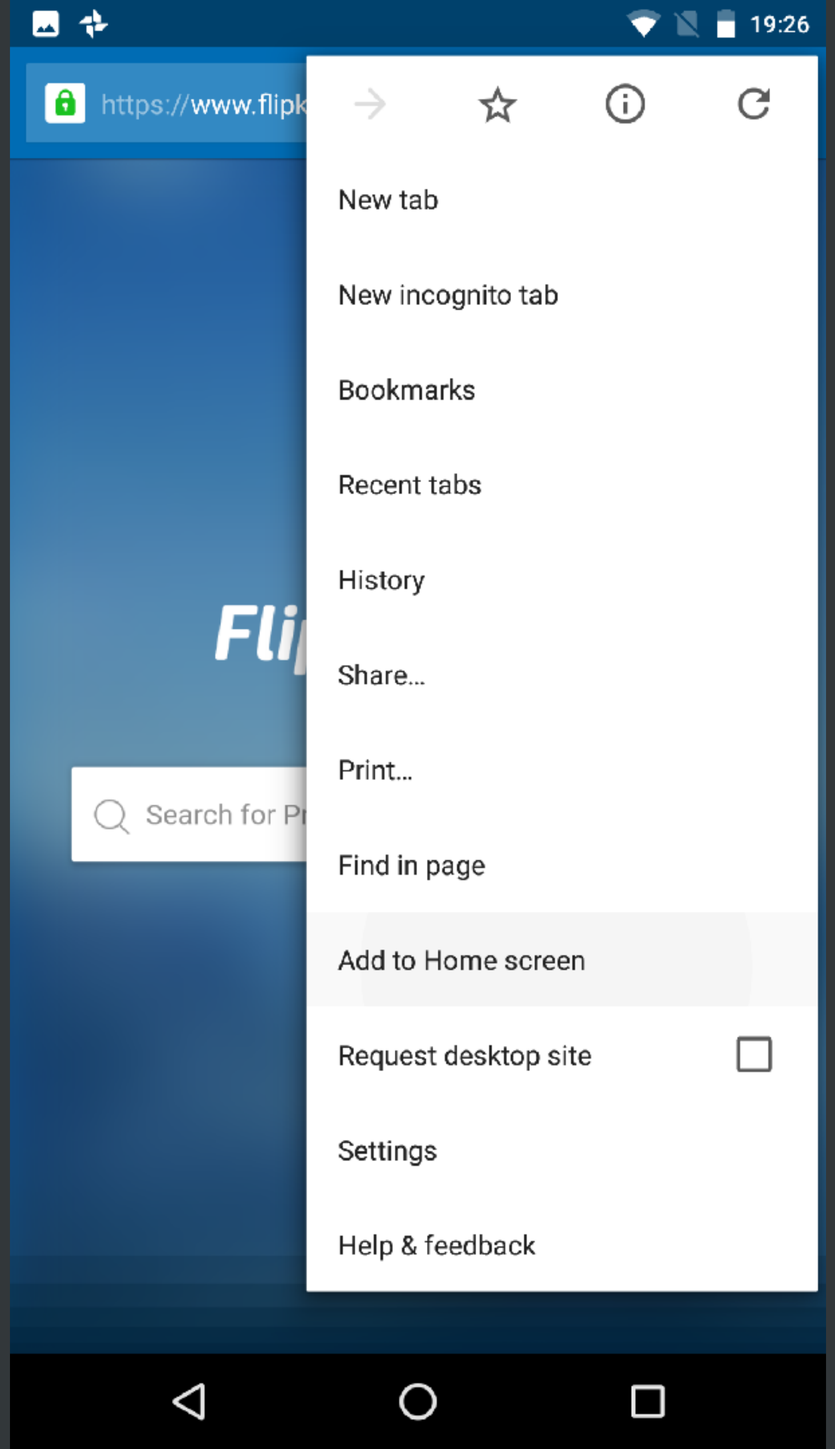
19:26
https://www.flipk
New tab
New incognito tab
Bookmarks
Recent tabs
History
Share...
Print...
Find in page
Add to Home screen
Request desktop site
Settings
Help & feedback
Search for Pr

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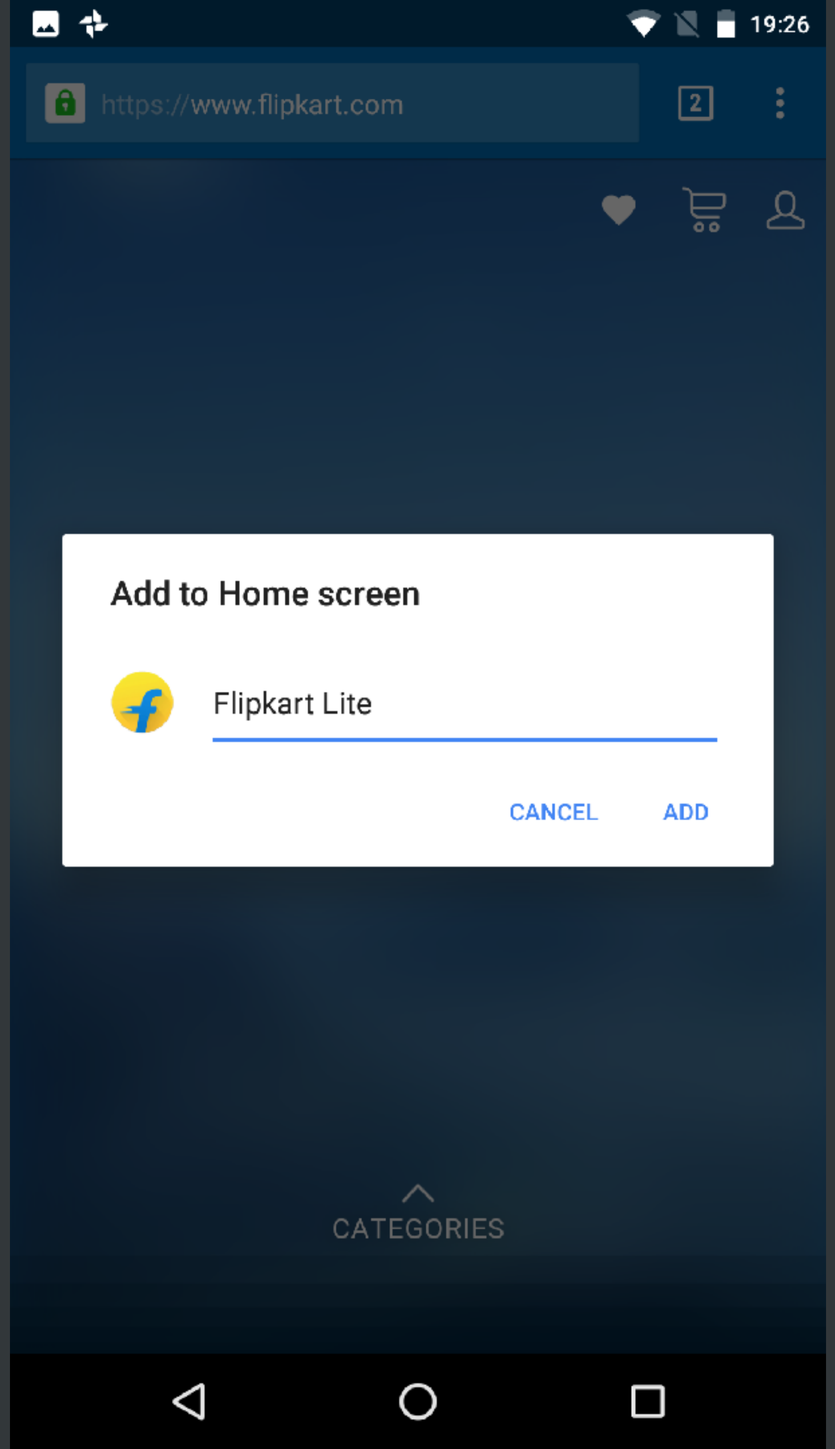
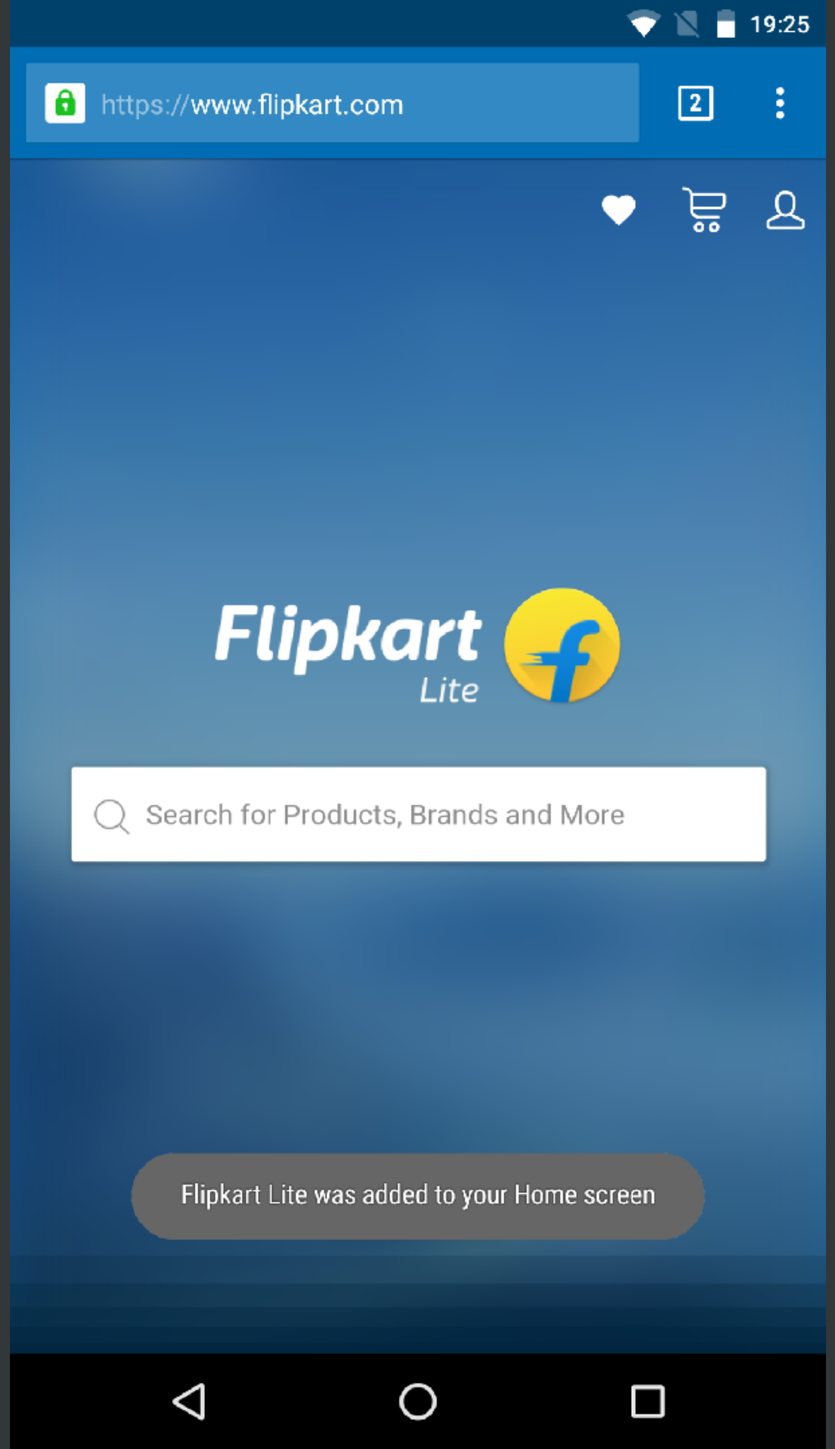

19:26
https://www.flipkart.com
2
Add to Home screen
Flipkart Lite
CANCEL
ADD
CATEGORIES


19:25
https://www.flipkart.com
2
Flipkart
Lite
Search for Products, Brands and More
Flipkart Lite was added to your Home screen

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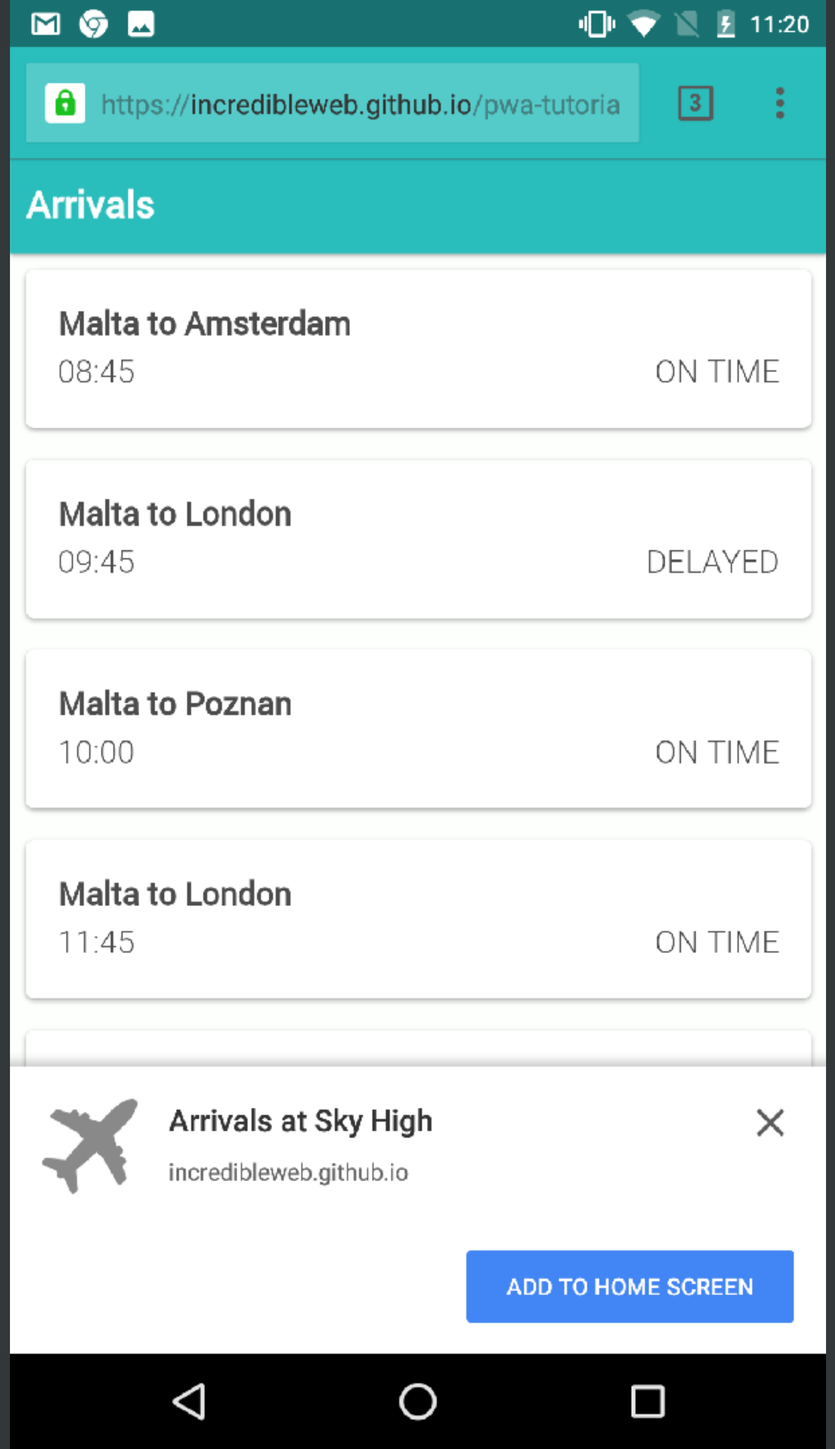
11:20
https://incredibleweb.github.io/pwa-tutoria
3
Arrivals
Malta to Amsterdam
08:45
ON TIME
Malta to London
09:45
DELAYED
Malta to Poznan
10:00
ON TIME
Malta to London
11:45
ON TIME
Arrivals at Sky High
incredibleweb.github.io
ADD TO HOME SCREEN

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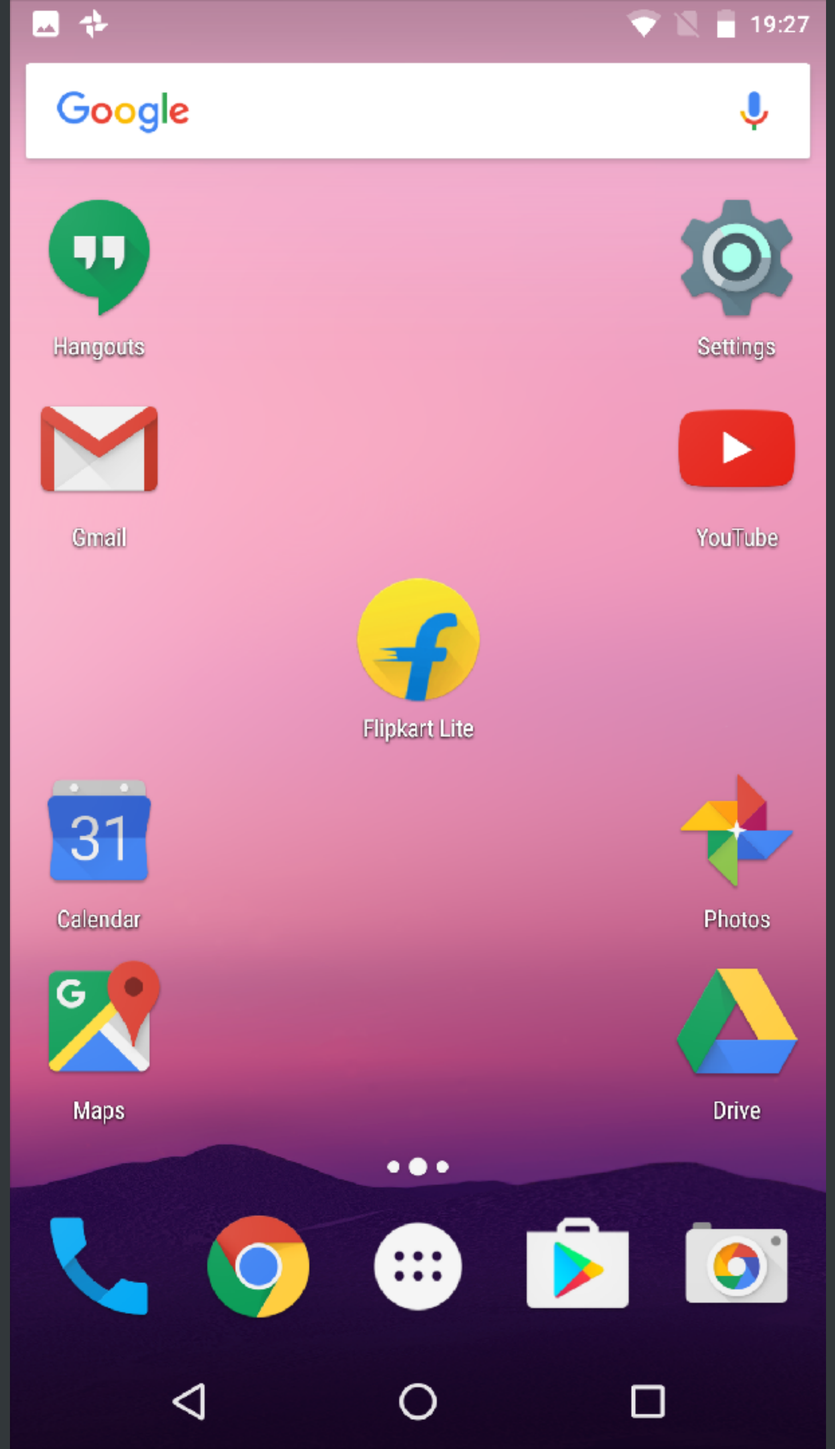
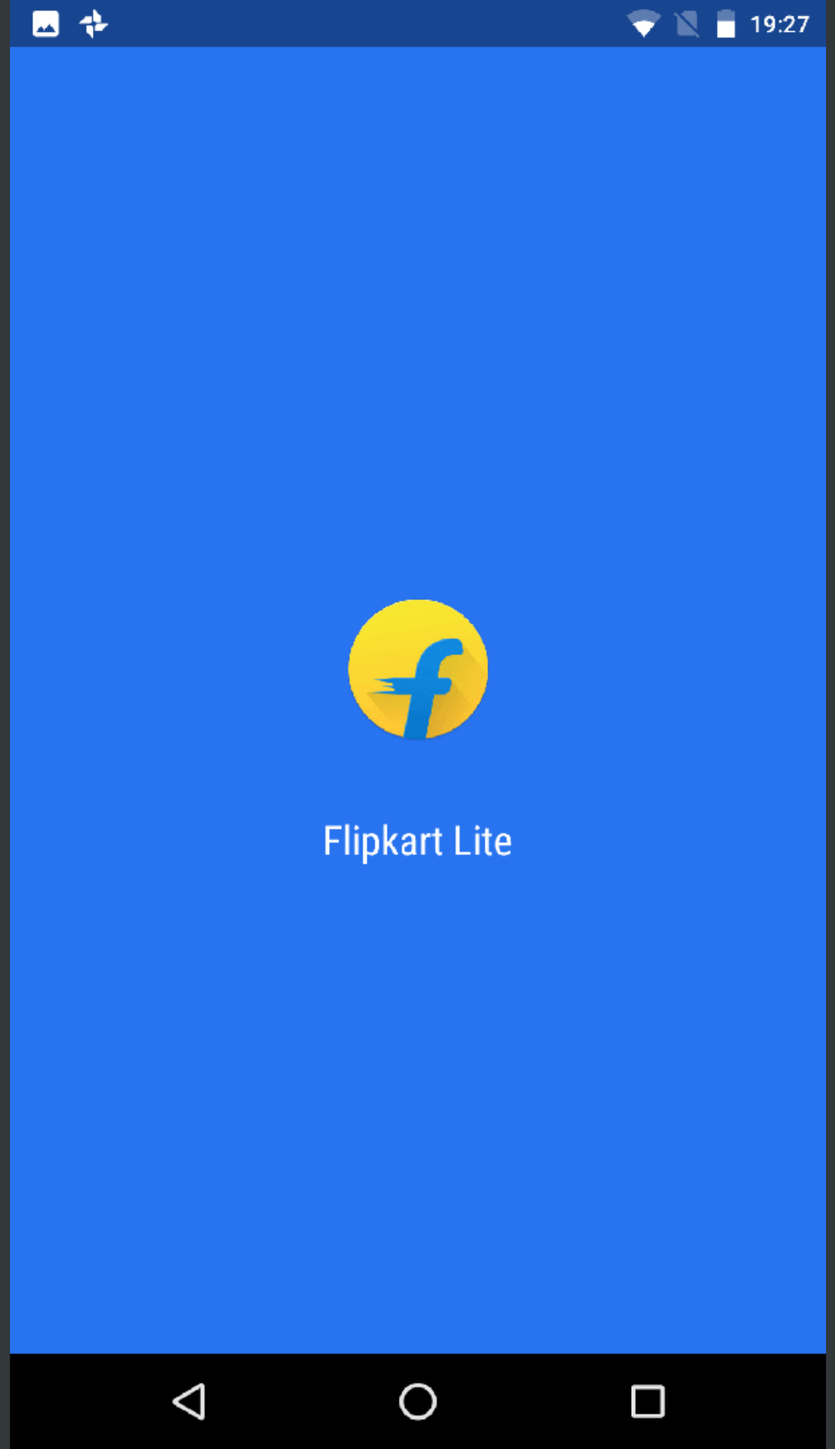

19:27
Google
Hangouts
Settings
Gmail
YouTube
Flipkart Lite
31
Calendar
Photos
Maps
Drive

vaadin}>



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19:27

Flipkart Lite

Search for Products, Brands and More

Offers | Electronics | Lifestyle | Home | More

Deals of the Day

13h 2m remaining

View All

SanDisk Cruzer Blade Pack o...

SanDisk

Under Rs.349

USB Cables

Extra Rs.100 Off

Bestsellers

Honor Powerbank 13000 mAh

13,000 mAh

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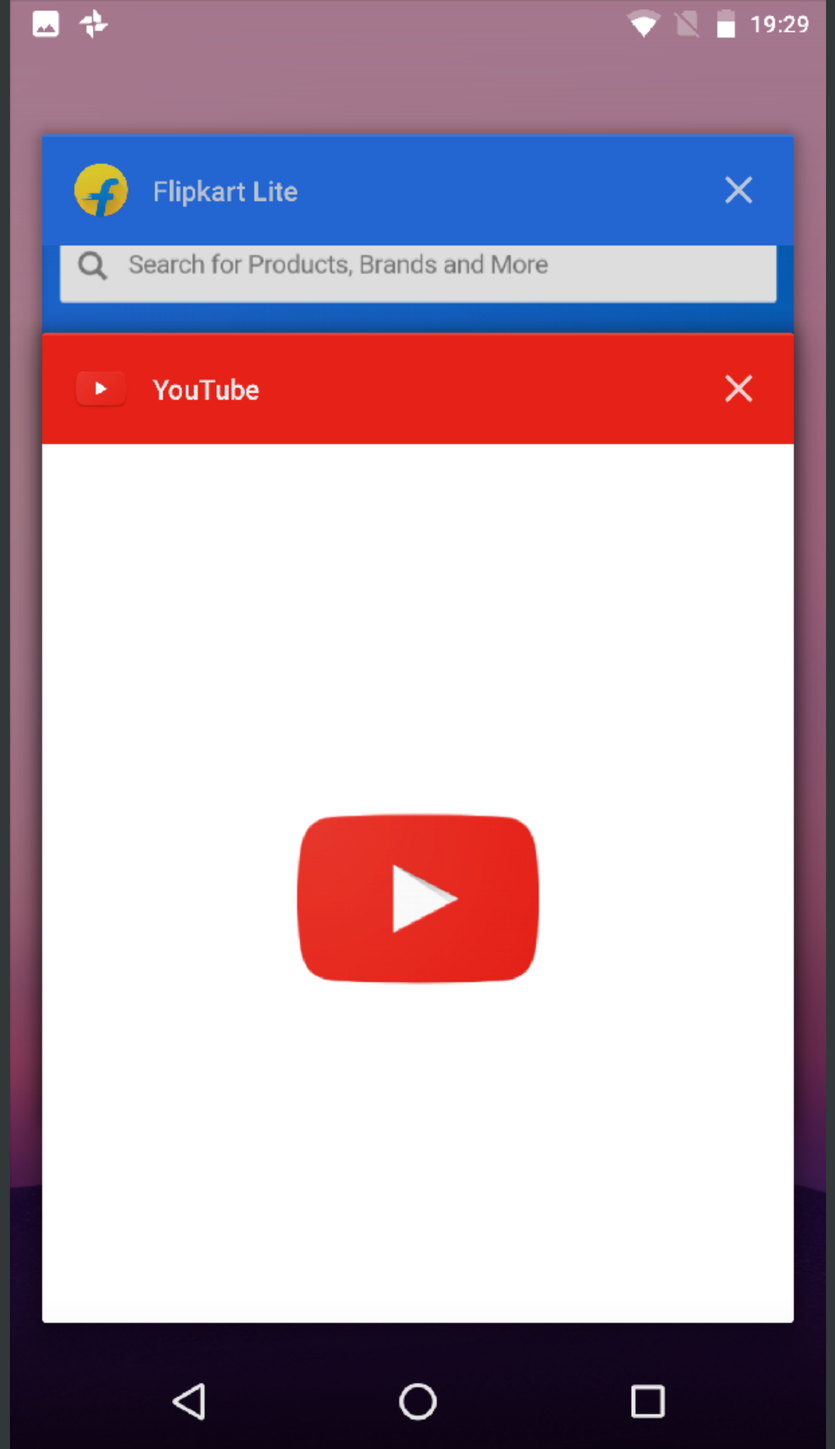
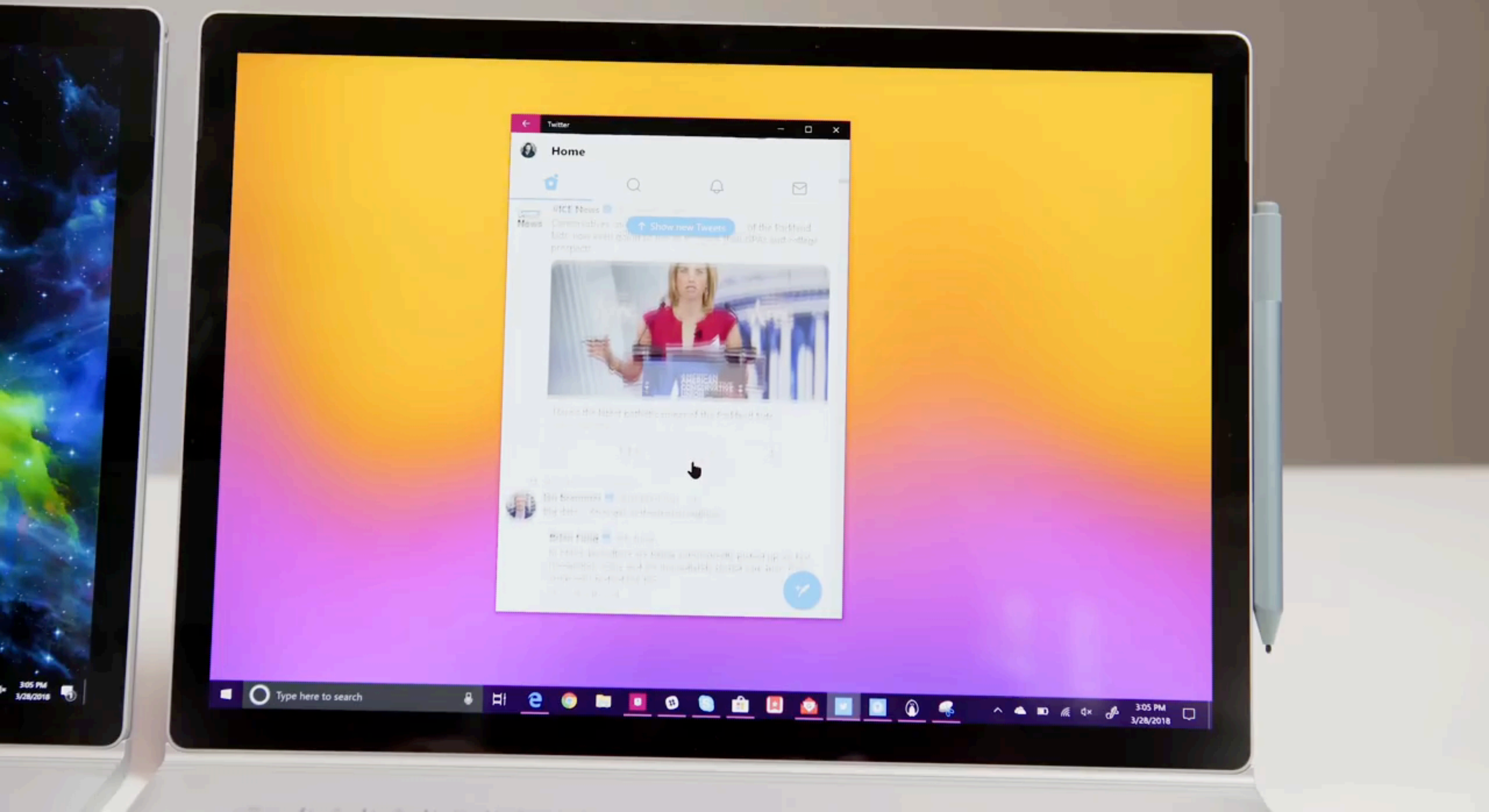

19:29
Flipkart Lite
Search for Products, Brands and More
YouTube

vaadin

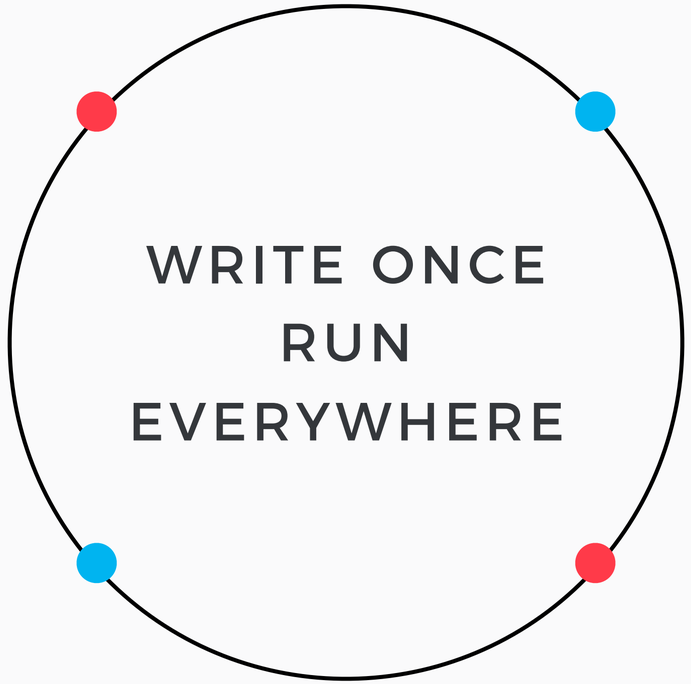

Twitter
Home
Show new Tweets
Type here to search
3:05 PM
3/28/2018

DESKTOP

Run on any modern web browser. Run as native app with PWA on Desktop.

ANDROID

Android spearheaded PWA. They are expected to lead the pack in HW integration.



OFFLINE

Start offline as well as any native app. Programming model has the same challenges as native.

IOS

Apple shipped ServiceWorkers - the core tech for PWA in Feb. Lagging behind on app shell.

	Regular Web Apps	Native Mobile Apps	Progressive Web Apps
Works on desktop	✔		✔
Works on mobile	✔	✔	✔
Offline		✔	✔
Zero-effort delivery	✔		✔
Push notifications		✔	✔
Behaves as app on device		✔	✔
Access to device HW		✔	✔

Un-compromised UX
2-3X cost saving

TODAY

- Every business must choose either to
  A. Compromise the user experience and application capabilities with web
  B. Implement for iOS, Android and web separately with 2-3X cost compared to only one platform

WITH PWA

- Implement the app once and run on all platforms
  - 2-3X Cost saving compared to implementing all platforms separately
  - Consistent user experience
- Increased application adoption with no installation needed

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ALL THE APIS

Web Bluetooth

Web USB

Web Share

Share Target

Image Capture

Media Session

getInstalledRelatedApps

Background Fetch

Generic Sensors API

Budget API

Wake Lock

Improved Quota

Foreign Fetch

Shape Detection

Face Detection

etc...

Verizon
1:21
Tuesday, September 12
VS
iPhone X
MacBook Pro 2017

lyft

YouTube

.Mic

airbnb

The Washington Post

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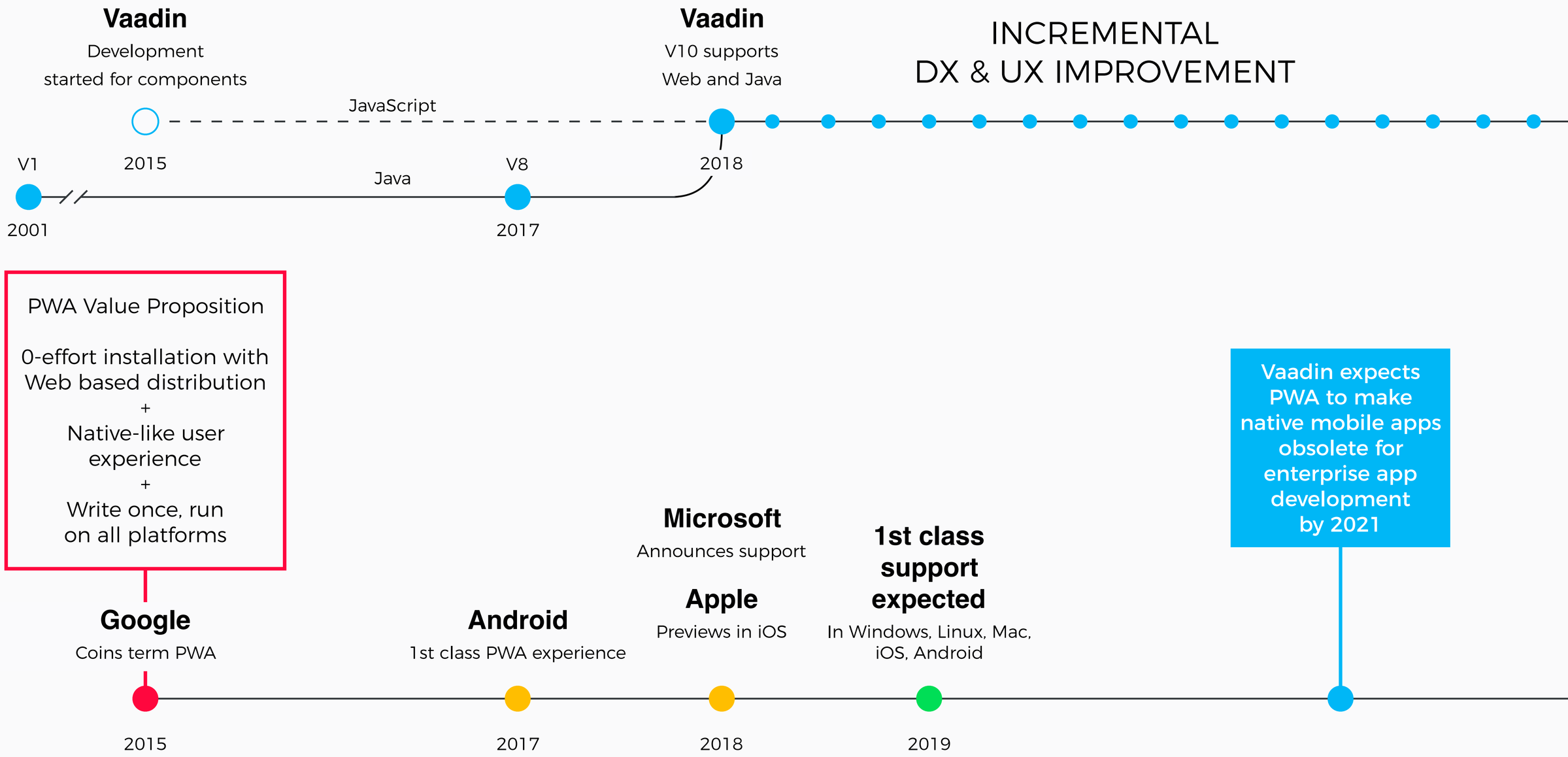
Vaadin
Development
started for components
Vaadin
V10 supports
Web and Java
INCREMENTAL
DX & UX IMPROVEMENT
JavaScript
V1
2015
V8
2018
Java
2001
2017
PWA Value Proposition
0-effort installation with
Web based distribution
+
Native-like user
experience
+
Write once, run
on all platforms
Vaadin expects
PWA to make
native mobile apps
obsolete for
enterprise app
development
by 2021
Microsoft
Announces support
1st class
support
expected
Google
Coins term PWA
Android
1st class PWA experience
Apple
Previews in iOS
In Windows, Linux, Mac,
iOS, Android
2015
2017
2018
2019

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SUMMARY

MOST WINNERS IN B2B BET ON MODERN WEB

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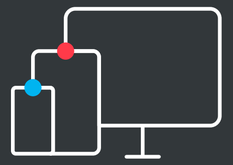
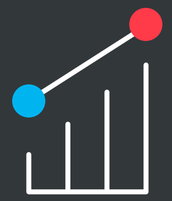
WHEN EVERYTHING ELSE
IS IN THE SAME BALLPARK,



MODERN WEB GIVES BEST
BANG FOR THE BUCK WHEN



MOST WINNERS
IN B2B BET ON

We help developers
build web apps
that users ♡

FIGHT FOR SIMPLICITY

INSIGHTS WORKSHOP

LETS LEARN FROM EACH OTHER

Q1 **Single Code Base**: Drivers & Impediments to adopting single code base strategy for internal applications

Q2 **UX**: Ways to leverage user interface as a competitive advantage

- 8:00 - Registration
- 8:30 - Breakfast & networking
- 8:55 - Welcome
- 9:00 - Abacus - building future success on Vaadin
- 9:45 - Web app trends that will disrupt your market
- 10:30 break
- 10:45 - Sharing insights with others building on Vaadin
- 11:15 - Summary of discussion
- 11:30 - Next generation Vaadin platform
- 12:15 - Closing remarks
- Lunch