



# ONE FRAMEWORK TO RULE THEM ALL

- Meet Flutter-

NUNI Webinar

2020. 08. 22



*It began with the unbounded desire of the race of man.*

*Computer to break the limit of human being computing ability.*

*Web technology to satisfy the desire of getting many information at once.*

*Mobile technology to overcome the power of time and space.*

*Many tried to dominate each platform. But.. the best is yet to come..*



*for another thing is made. In the state of California, in Mountain View..*

*One of the leading company, Google..*

*forge in perseverance.. a powerful framework to control all platforms.*

*And into this framework, it pours its power, its effort, and its will to dominate all platforms.*



*One Framework To Rule Them All..*

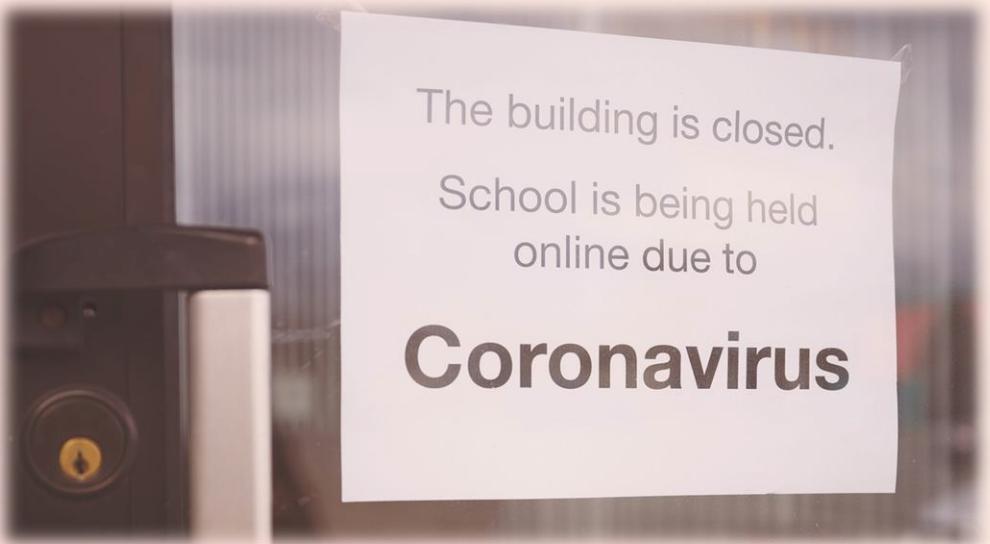


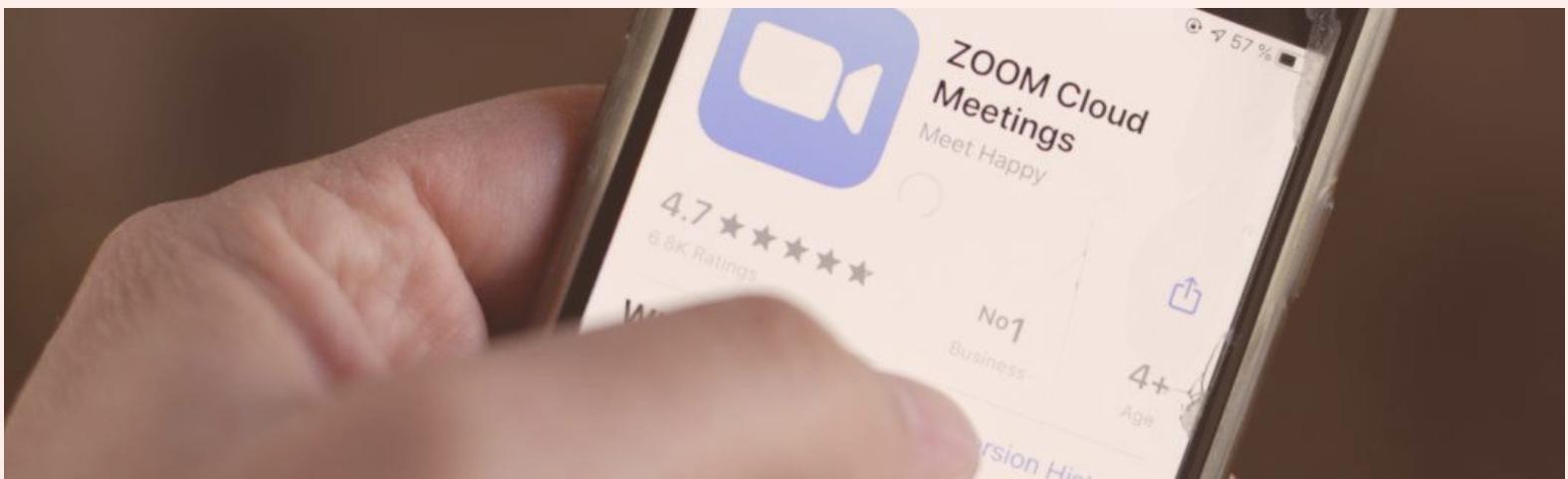
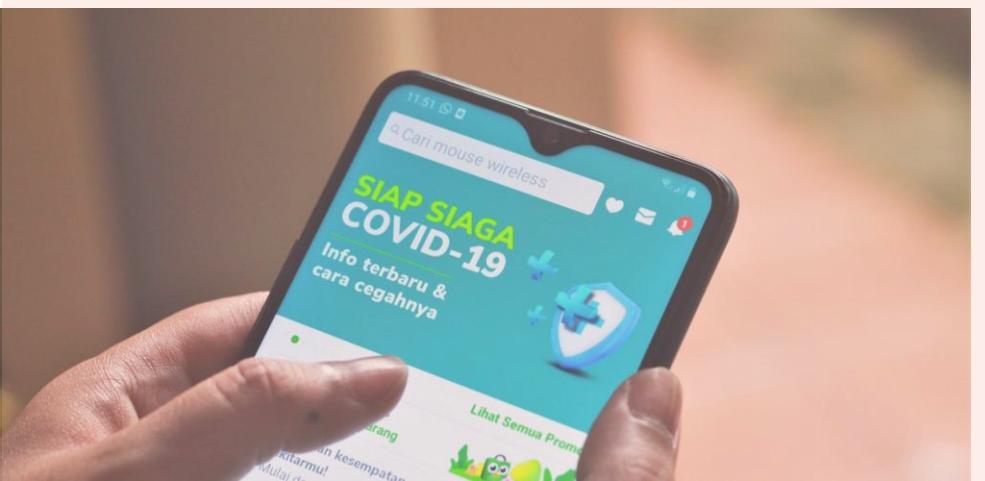
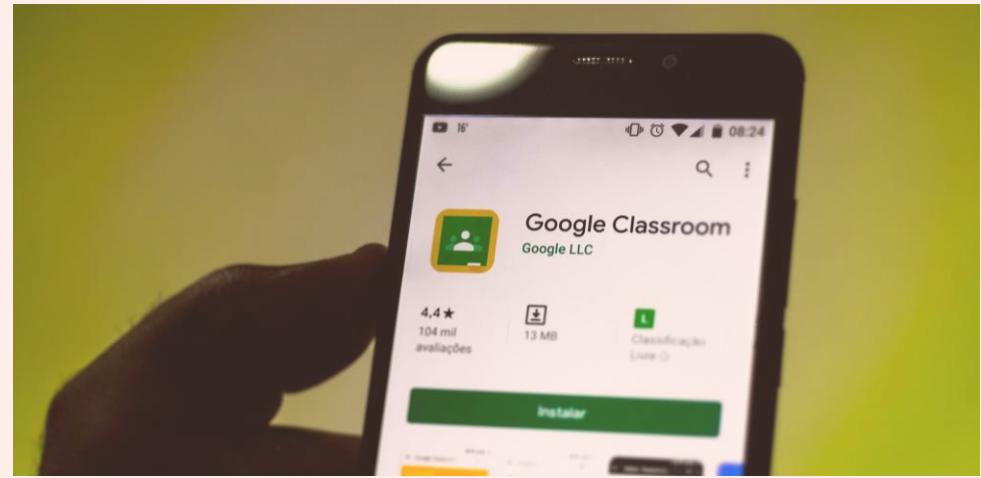
meet  
**FLUTTER**

# Hi. My name is Erico Darmawan Handoyo



- ▶ A Lecturer (Maranatha University)
- ▶ Flutter Tutorial Creator at YouTube
- ▶ Flutter Trainer
  - Game Programming
  - Computer Graphic
  - User Interface/User Experience
  - ➡ Mobile Programming with Flutter





# DIGITAL AROUND THE WORLD IN 2020

THE ESSENTIAL HEADLINE DATA YOU NEED TO UNDERSTAND MOBILE, INTERNET, AND SOCIAL MEDIA USE

TOTAL  
POPULATION



**7.75**  
**BILLION**

URBANISATION:

**55%**

UNIQUE MOBILE  
PHONE USERS



**5.19**  
**BILLION**

PENETRATION:

**67%**

INTERNET  
USERS



**4.54**  
**BILLION**

PENETRATION:

**59%**

ACTIVE SOCIAL  
MEDIA USERS



**3.80**  
**BILLION**

PENETRATION:

**49%**



we  
are  
social



JAN  
2020

# GLOBAL DIGITAL GROWTH

THE YEAR-ON-YEAR CHANGE IN ESSENTIAL INDICATORS OF DIGITAL ADOPTION

TOTAL  
POPULATION



we  
are.  
social

+1.1%

JAN 2020 vs. JAN 2019

+82 MILLION

UNIQUE MOBILE  
PHONE USERS



KEPIOS

+2.4%

JAN 2020 vs. JAN 2019

+124 MILLION

INTERNET  
USERS



KEPIOS

+7.0%

JAN 2020 vs. JAN 2019

+298 MILLION

ACTIVE SOCIAL  
MEDIA USERS



KEPIOS

+9.2%

JAN 2020 vs. JAN 2019

+321 MILLION

**SOURCES:** POPULATION: UNITED NATIONS; MOBILE: GSMA INTELLIGENCE; INTERNET: ITU; GLOBALWEBINDEX; GSMA INTELLIGENCE; EUROSTAT; LOCAL TELECOMS REGULATORY AUTHORITIES AND GOVERNMENT BODIES; SOCIAL MEDIA PLATFORMS' SELF-SERVICE ADVERTISING TOOLS; APJII; KEPIOS ANALYSIS; SOCIAL MEDIA: PLATFORMS' SELF-SERVICE ADVERTISING TOOLS; COMPANY ANNOUNCEMENTS AND EARNINGS REPORTS; CAFEBAZAAR. ALL LATEST AVAILABLE DATA IN JANUARY 2020. ♦ **COMPARABILITY ADVISORY:** SOURCE AND BASE CHANGES.



**INDONESIA**

TOTAL  
POPULATION**272.1**  
**MILLION**

URBANISATION:

**55%**MOBILE PHONE  
CONNECTIONS**338.2**  
**MILLION**

vs. POPULATION:

**124%**INTERNET  
USERS**175.4**  
**MILLION**

PENETRATION:

**64%**ACTIVE SOCIAL  
MEDIA USERS**160.0**  
**MILLION**

PENETRATION:

**59%**we  
are  
social

KEPIOS

JAN  
2020

# DIGITAL GROWTH INDICATORS

CHANGES IN KEY INDICATORS OF DIGITAL ADOPTION



INDONESIA

TOTAL  
POPULATION



we  
are.  
social

**+1.1%**

JAN 2020 vs. JAN 2019

**+2.9 MILLION**

MOBILE PHONE  
CONNECTIONS



KEPIOS

**+4.6%**

JAN 2020 vs. JAN 2019

**+15 MILLION**

INTERNET  
USERS



KEPIOS

**+17%**

JAN 2020 vs. JAN 2019

**+25 MILLION**

ACTIVE SOCIAL  
MEDIA USERS



JAN 2020 vs. APR 2019

**+12 MILLION**

**SOURCES:** POPULATION: UNITED NATIONS; MOBILE: GSMA INTELLIGENCE; INTERNET: ITU; GLOBALWEBINDEX; GSMA INTELLIGENCE; EUROSTAT; LOCAL TELECOMS REGULATORY AUTHORITIES AND GOVERNMENT BODIES; SOCIAL MEDIA PLATFORMS' SELF-SERVICE ADVERTISING TOOLS; APJI; KEPIOS ANALYSIS; SOCIAL MEDIA: PLATFORMS' SELF-SERVICE ADVERTISING TOOLS; COMPANY ANNOUNCEMENTS AND EARNINGS REPORTS; CAFEBAZAAR. ALL LATEST AVAILABLE DATA IN JANUARY 2020. ♦ **COMPARABILITY ADVISORY:** SOURCE AND BASE CHANGES.

# MOBILE INTERNET USE

INTERNET USERS WHO ACCESS THE INTERNET VIA MOBILE PHONES

TOTAL NUMBER  
OF MOBILE  
INTERNET USERS**171.0**  
**MILLION**MOBILE INTERNET USERS  
AS A PERCENTAGE OF  
TOTAL INTERNET USERS**98%**SHARE OF ALL INTERNET  
USERS ACCESSING  
VIA SMARTPHONES\***96%**SHARE OF ALL INTERNET  
USERS ACCESSING  
VIA FEATURE PHONES\***5.3%**AVERAGE DAILY TIME SPENT  
USING THE INTERNET  
ON MOBILE DEVICES**4H 46M**

**SOURCES:** ITU; GLOBALWEBINDEX; GSMA INTELLIGENCE; EUROSTAT; SOCIAL MEDIA PLATFORMS' SELF-SERVICE ADVERTISING TOOLS; LOCAL GOVERNMENT BODIES AND REGULATORY AUTHORITIES; APJII (ALL LATEST AVAILABLE DATA IN JANUARY 2020). TIME AND SHARE DATA VIA GLOBALWEBINDEX (Q3 2019) \***NOTE:** FIGURES FOR SHARE BY MOBILE DEVICE TYPE REPRESENT EACH DEVICE'S SHARE OF TOTAL INTERNET USERS AGED 16 TO 64, NOT JUST SHARE OF MOBILE INTERNET USERS. ♦ **COMPARABILITY ADVISORY:** SOURCE CHANGES.



This is our era



# Why Flutter?

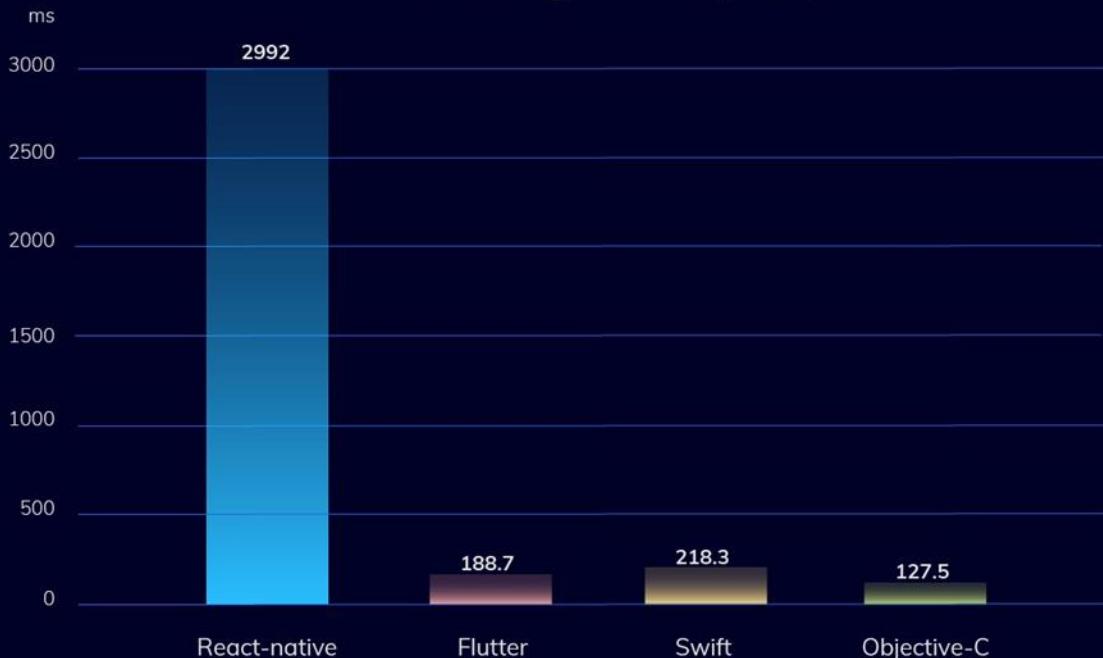
# *Multi platform*

- ❖ Single codebase.
- ❖ Same look & feel across devices.
- ❖ Cheaper development cost.
- ❖ Shorten development time.
- ❖ Taking opportunity faster.

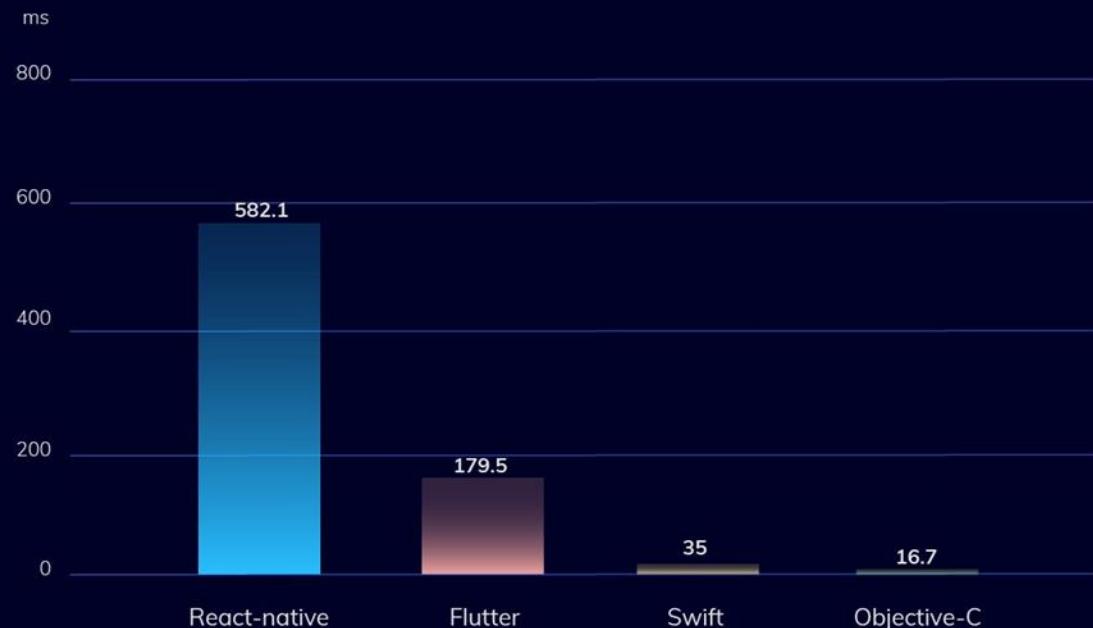


# Native Performance

Gauss-Legendre (iOS)

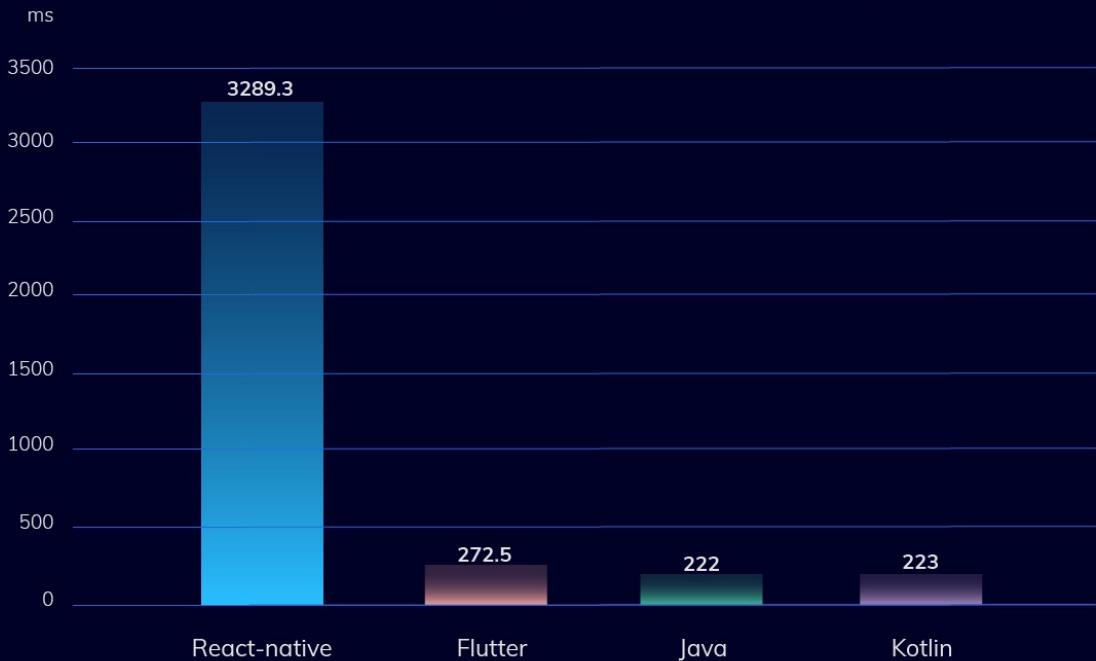


Borwein algorithm (iOS)

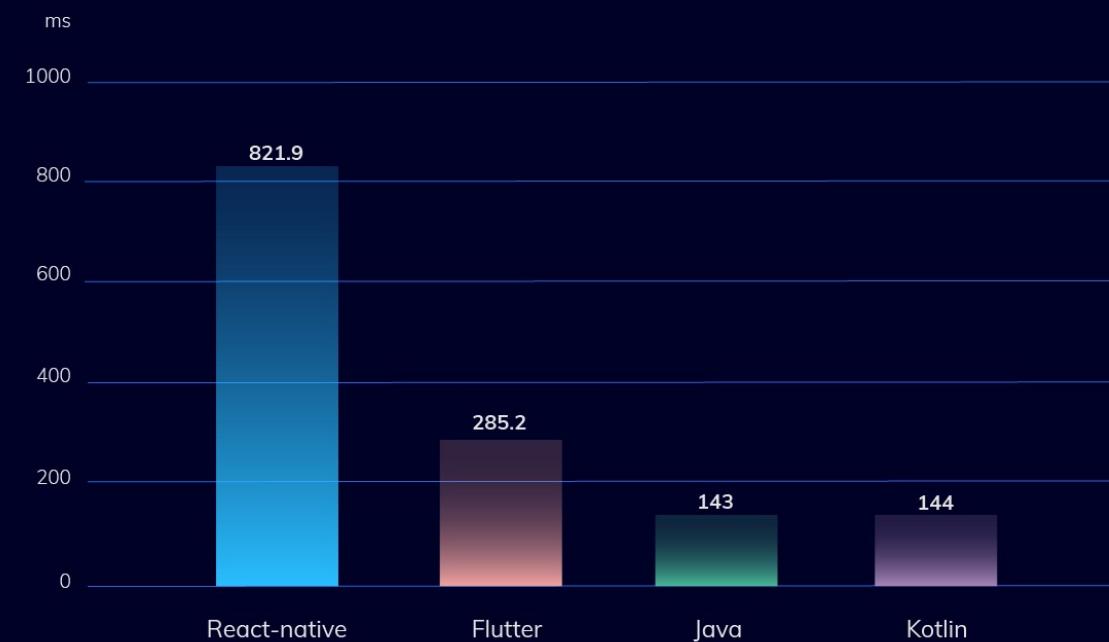


# Native Performance

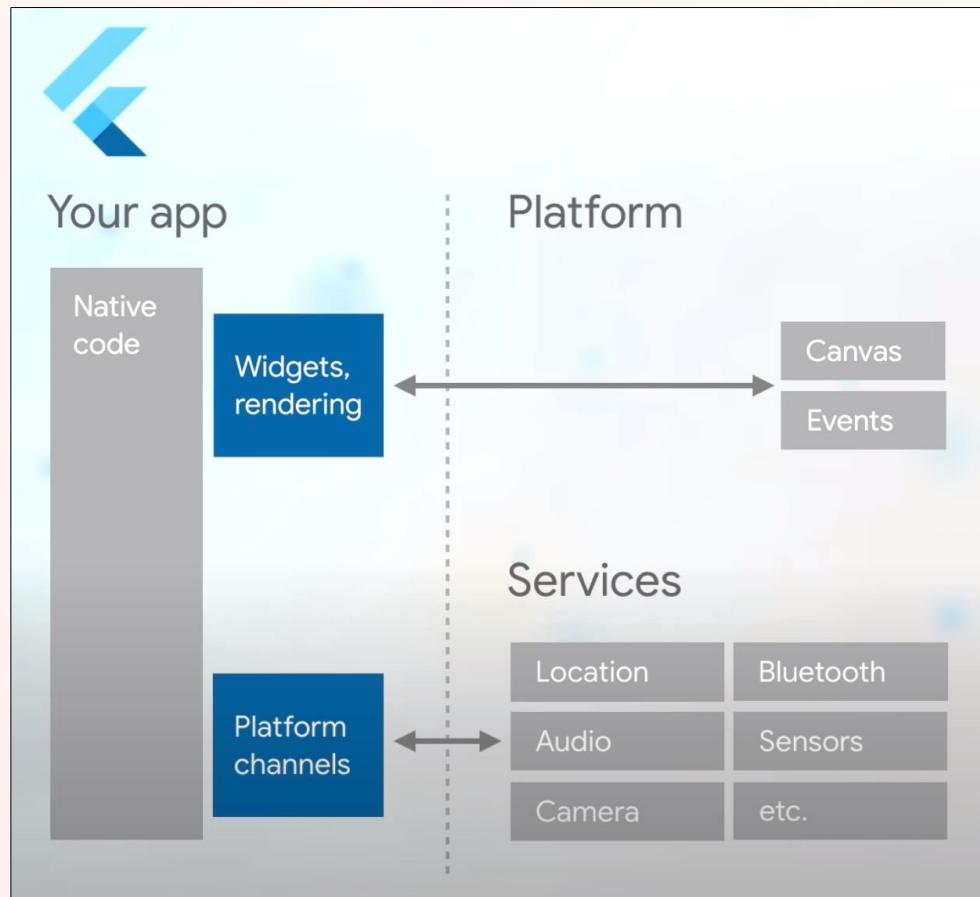
Gauss-Legendre (Android)



Borwein algorithm (Android)



# Native Performance



Flutter Engine:  $\pm 3.5$  MB

Minimal Flutter App (APK):  $\pm 4.3 - 4.6$  MB

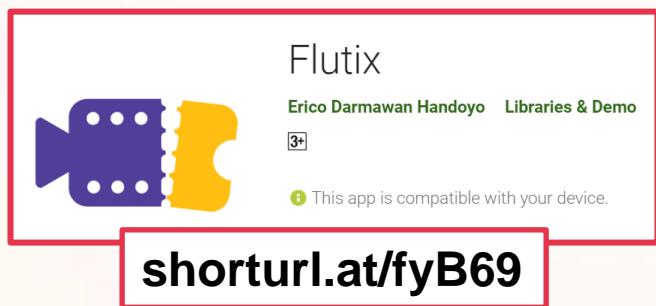
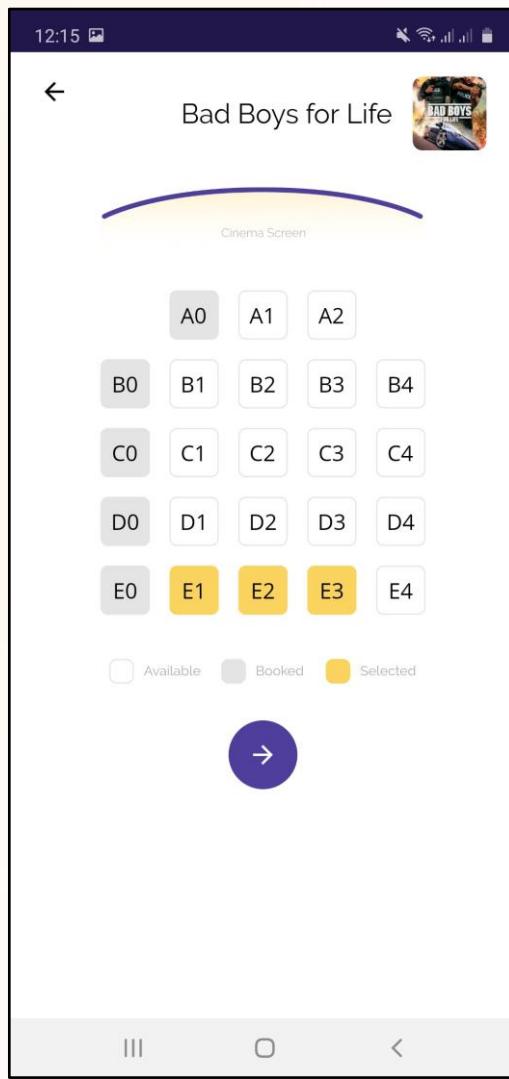
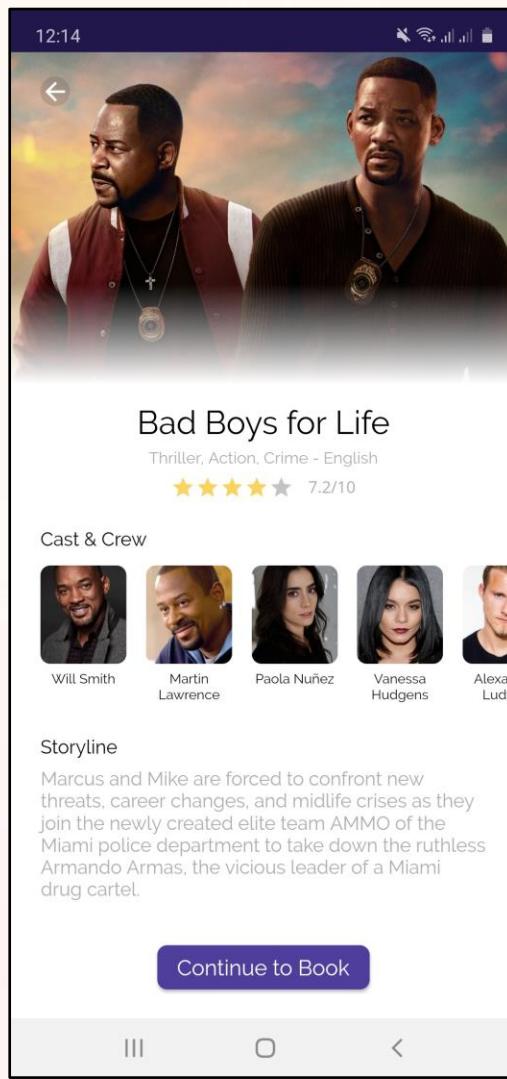
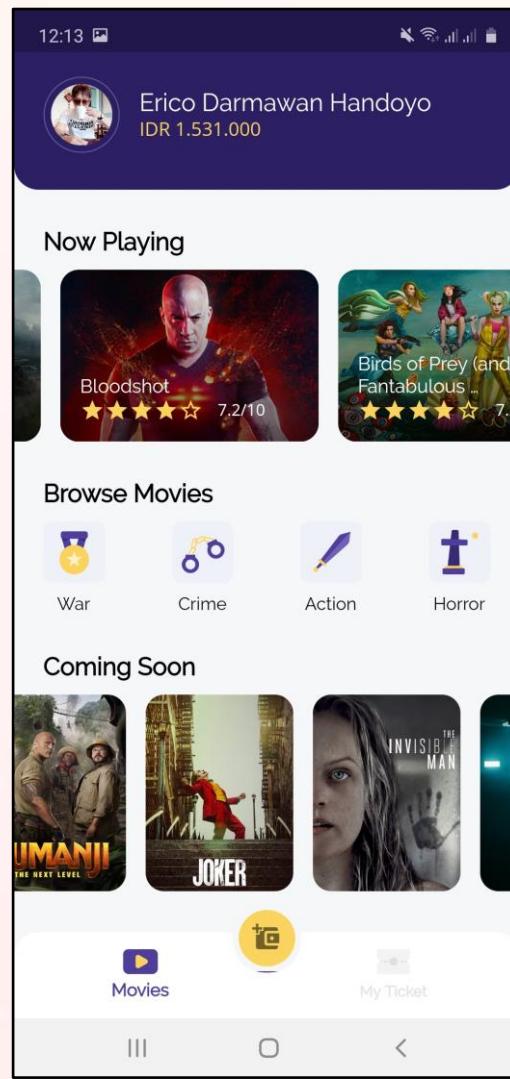


# **Flutter and Fuchsia**

## **The Next Big Thing**

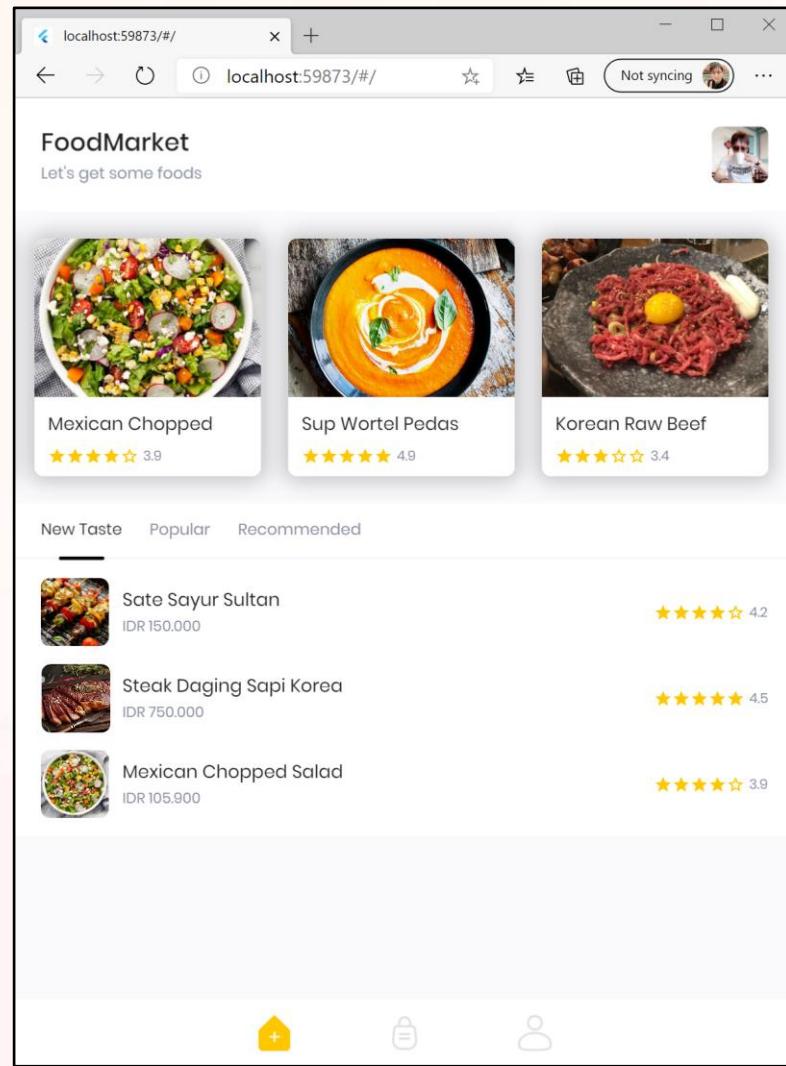
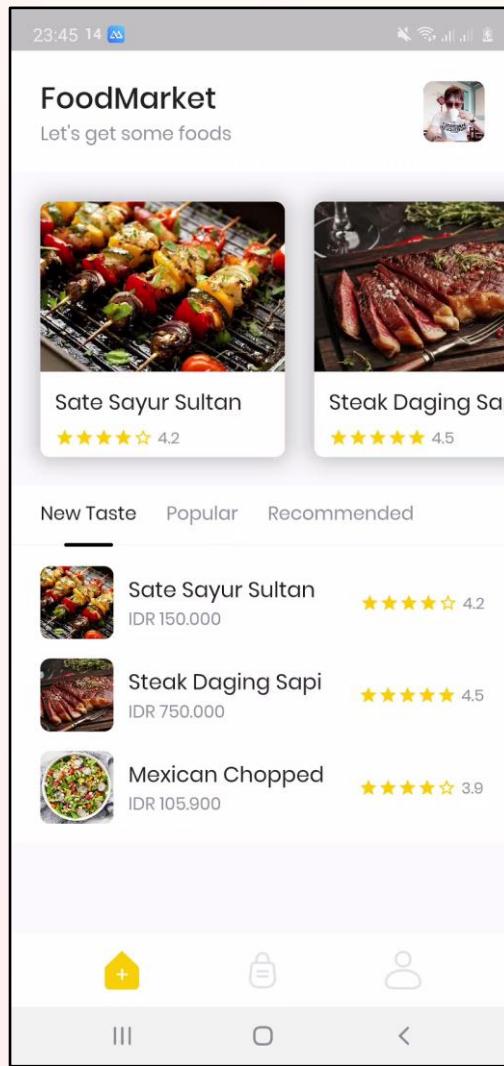


# Flutter Showcase



\*UI design by BWA

# Flutter Showcase



\*UI design by BWA

# Flutter Showcase



**Grab**

Flutter helped Grab build the merchant app for its fast-growing food delivery business.

[Download ▾](#)



**Abbey Road Studios**

Abbey Road Studio's Topline app continues the studio's tradition of innovation.

[Download ▾](#)



**Alibaba Group**

Flutter helped bring a new app for the world's biggest online marketplace to life.

[Learn more ↗](#) [Download ▾](#)



**Baidu**

Baidu Tieba is the largest Chinese communication platform hosted by Chinese search engine company Baidu.

[Download ▾](#)



**Nubank**

Flutter helped Nubank in its mission to end the complexity of traditional banks and put financial control back in the hands of the user.

[Learn more ↗](#) [Download ▾](#)



**PHILIPS hue**

Flutter brought intuitive controls to Philips Hue apps, allowing users to set the mood and sync their smart lights to their media quickly and easily.

[Learn more ▾](#)



**EMAAR**

Global property developer, Emaar built a new app designed for mobile-first interaction with unique blockchain-based features.



**Greentea**

An internal customer management app used widely by Google sales that provides rich visualizations for tracking sales targets.

# Flutter Fundamentals

- ❖ Object Oriented Programming with Dart - 13 videos [on going]
- ❖ Flutter Tutorial (Fundamentals) – 93 videos (on going)



<https://www.youtube.com/c/ericodarmawanhandoyo>

# References

- ❖ Digital 2020: Indonesia:

<https://datareportal.com/reports/digital-2020-indonesia>

- ❖ How is Flutter different for app development:

<https://youtu.be/I-YO9CmaSUM>

- ❖ Flutter vs Native vs React-Native: Examining performance:

<https://medium.com/swlh/flutter-vs-native-vs-react-native-examining-performance-31338f081980>

- ❖ Flutter and Fuchsia – The next big thing:

<https://medium.com/flutterdevs/flutter-and-fuchsia-the-next-big-thing-b0688674b681>

- ❖ How big is the Flutter engine?:

<https://flutter.dev/docs/resources/faq#how-big-is-the-flutter-engine>

- ❖ Flutter 2020: The State of Cross-Platform:

<https://medium.com/swlh/flutter-2020-state-of-cross-platform-814f1d8ff16>



*Thank you*

<https://github.com/ericodarmawanh/initial-sourcecode>



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[https://www.researchgate.net/profile/Erico\\_Handoyo](https://www.researchgate.net/profile/Erico_Handoyo)



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