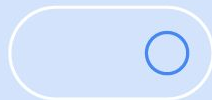


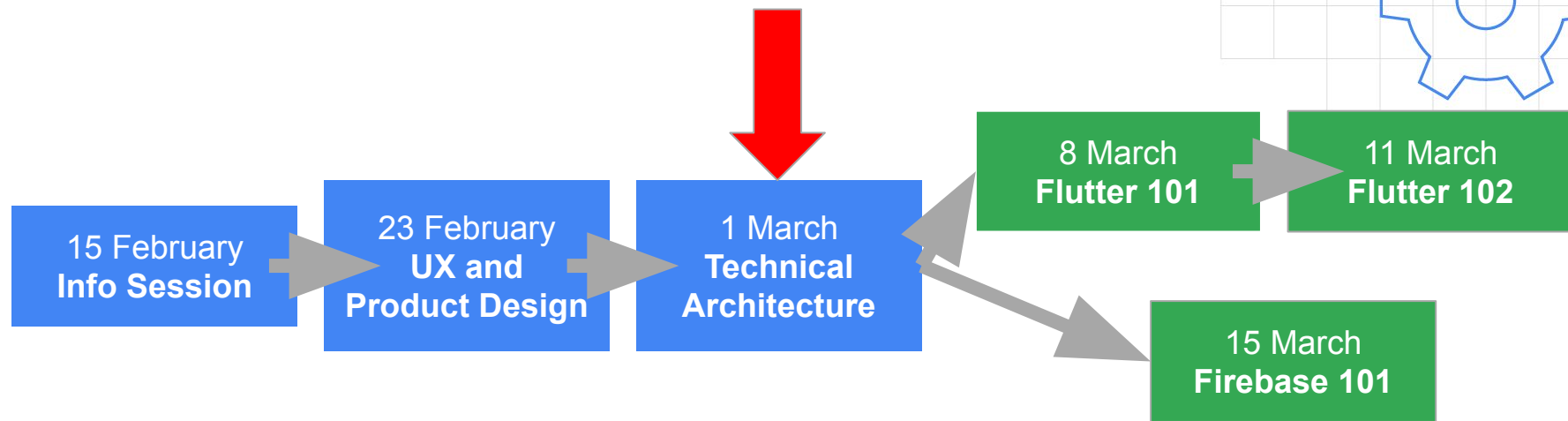
Solution Design 3:

Technical

Architecture



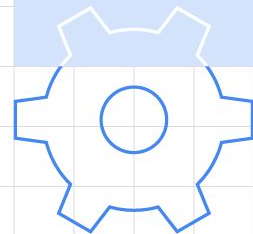
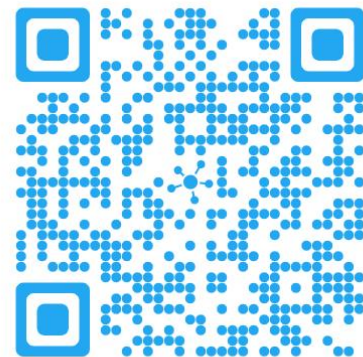
Solution Design Roadmap

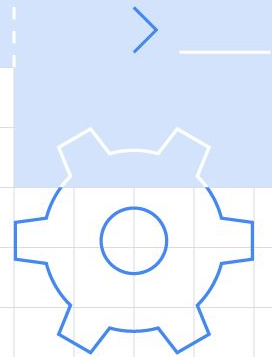
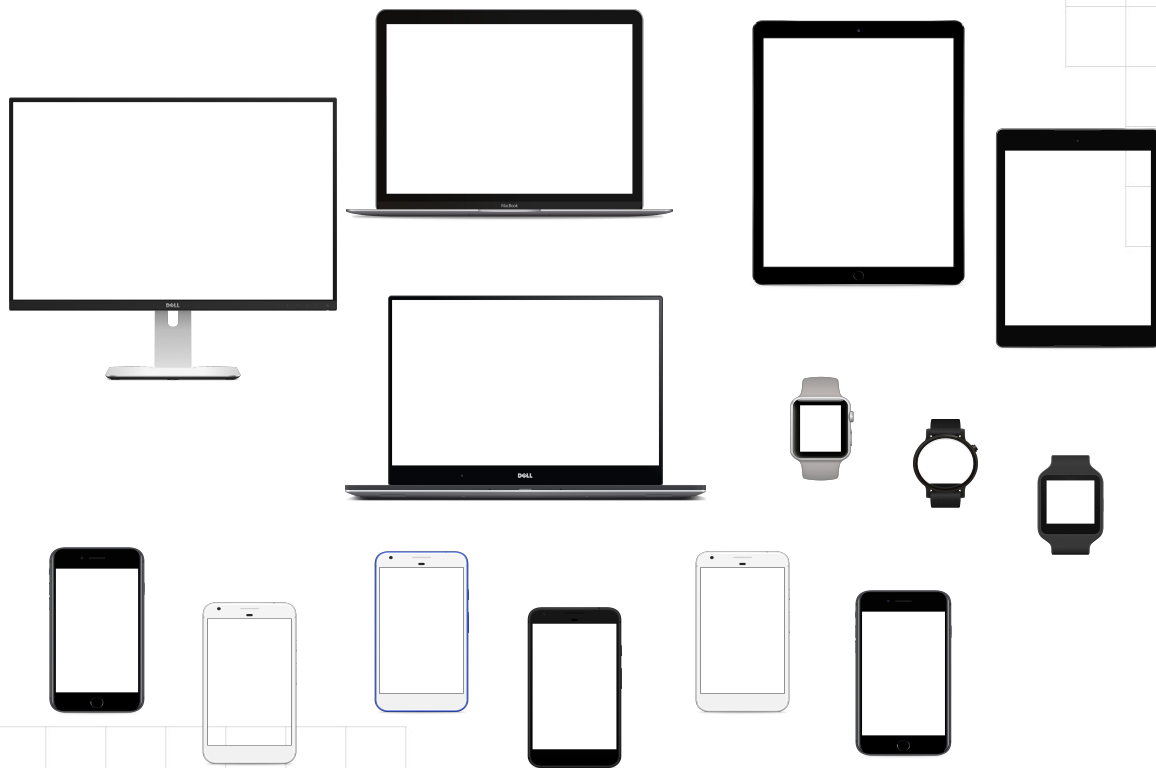


Follow us on **Social Media**

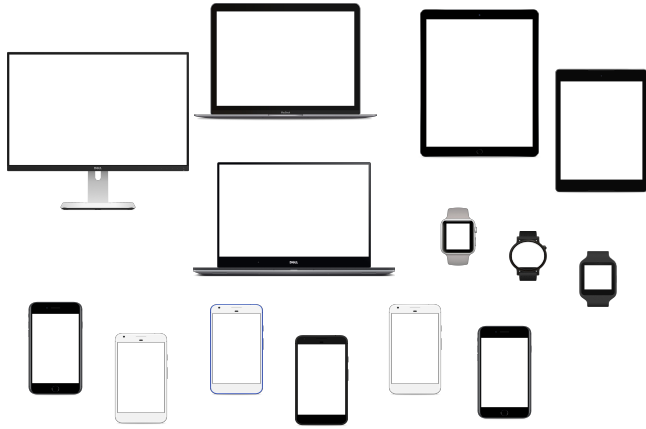
- Facebook Page: Developer Student Club – HKUST
- Instagram: hkust_dsc
- YouTube Channel: HKUST Developer Student Club
- Twitter: @DSCHKUST
- Email: hkustdsc@gmail.com

Scan the QR Code for
more information





Front-end (client)



Back-end (server)

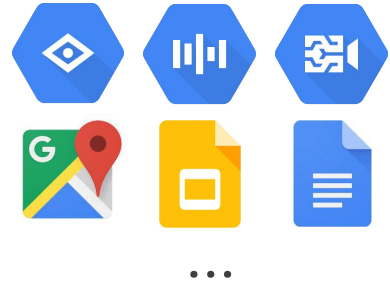
Running Code



Data Storage



Other Services



example:

photo-sharing app

Front-end (client)

Back-end (server)

Running Code

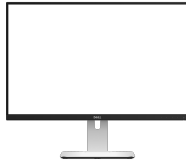
Data Storage

Other Services

example:

photo-sharing app

Front-end (client)



Web

Back-end (server)

Running Code



Cloud
Functions

Data Storage



Firebase
Firestore

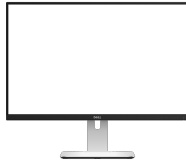


Firebase
Storage

Other Services

example:
photo-sharing app

Front-end (client)



Web

Back-end (server)

Running Code



Cloud
Functions

Data Storage



Firebase
Firestore



Firebase
Storage

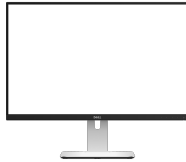
Other Services



Cloud Vision
API

example:
photo-sharing app

Front-end (client)



Web

Back-end (server)

Running Code



App Engine
Standard

w/

Django (Python)
Express.js (Node.js)
Ruby on Rails (Ruby)
Spring (Java)

...

Data Storage



Firebase
Firestore



Firebase
Storage

Other Services



Cloud Vision
API

example:
photo-sharing app

Front-end (client)



Web

Back-end (server)

Running Code



App Engine
Flexible

w/

Django (Python)
Express.js (Node.js)
Ruby on Rails (Ruby)
Spring (Java)

...

Data Storage



Firebase
Firestore



Firebase
Storage

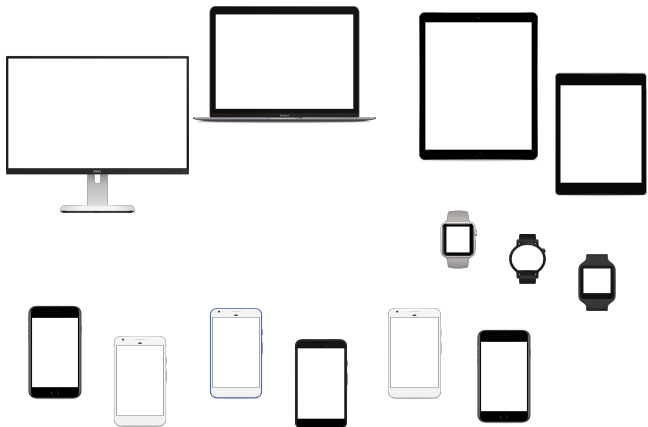
Other Services



Cloud Vision
API

example: photo-sharing app

Front-end (client)



Back-end (server)

Running Code



App Engine
Flexible

w/

Django (Python)
Express.js (Node.js)
Ruby on Rails (Ruby)
Spring (Java)

...

Data Storage



Firestore

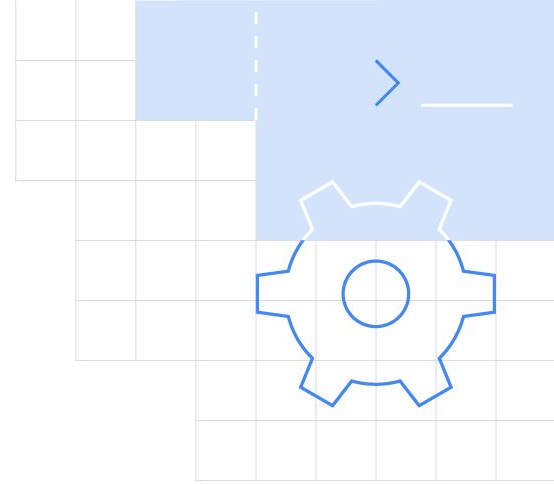


Storage

Other Services



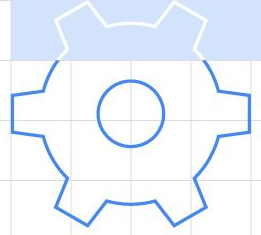
Cloud Vision
API



How can we do this?

How can we do this?

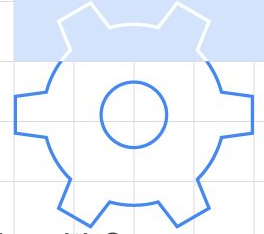
- 1) Considerations
- 2) Research
- 3) Design



step 1:

considerations

- What does my application require?
- How many people are on my team?
- How experienced are we?
- What languages / tech are we comfortable with?
- What is our budget?
- What is our timeline?
- How accelerated is our timeline?
- How much load does this service have to provide?
- What security considerations must we make?
- What compliance considerations must we make?
- What technologies do we have to integrate with?
- ...



bit.ly/google-cloud-4-words

step 2: **research**

Developer Student Clubs

DEVELOPER CHEAT SHEET EXTENDER PACK

Android

Android Wear OS Platform	Apps for Smart Watches
Android TV Platform	Apps for TVs
Android Cars Platform	Apps for Automobiles
Android Chrome OS Platform	Apps for Chromebook
Android Things Platform	Build smart IoT devices
Android NDK Platform	Use C(++) with Android

Flutter

Flutter	Beautiful Cross-Platform Mobile Apps
---------	--------------------------------------

Tensorflow

Tensorflow	develop/train ML models
Tensorflow.js	Tensorflow for browser/Node.js
Tensorflow Lite	lightweight tf for mobile/embedded
Tensorflow Extended	End-to-end ML Platform

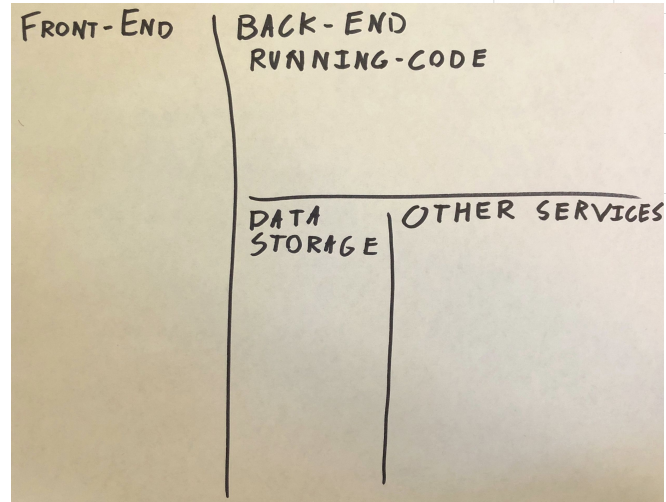
Web

Chrome Devtools	Web developer-tools in Chrome
Lighthouse	Easy but comprehensive audits
Workbox	Add offline supported webapps
Progressive Web Apps	Reliable, fast, engaging webapps

Youtube

IFrame Player API	Embed Youtube in websites
Android Player API	Embed Youtube in Android
iOS Helper Library	Embed Youtube in iOS
YouTube Player Parameters	Custom playback experience
Youtube Data API	Programmatically manage Youtube data
Youtube Analytics API	Retrieve Youtube Analytics
Youtube Live Streaming API	Programmatically manage video streams
YouTube Subscribe Button	Enable subscriptions anywhere

step 3: tech design



workshop:

e-commerce ,
food-delivery,
productivity app,
(insert your idea here)

Front-end (client)

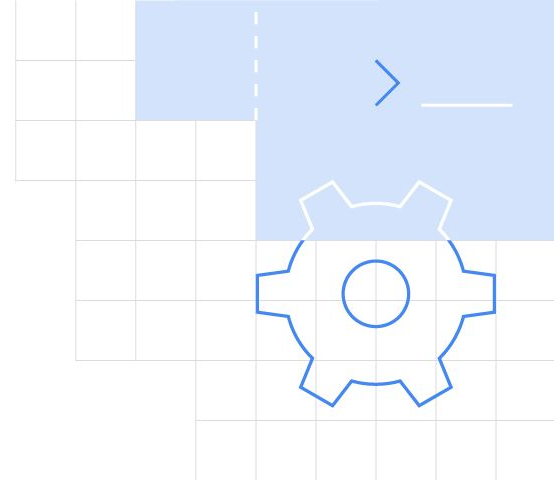
Back-end (server)

Running Code

Data Storage

Other Services

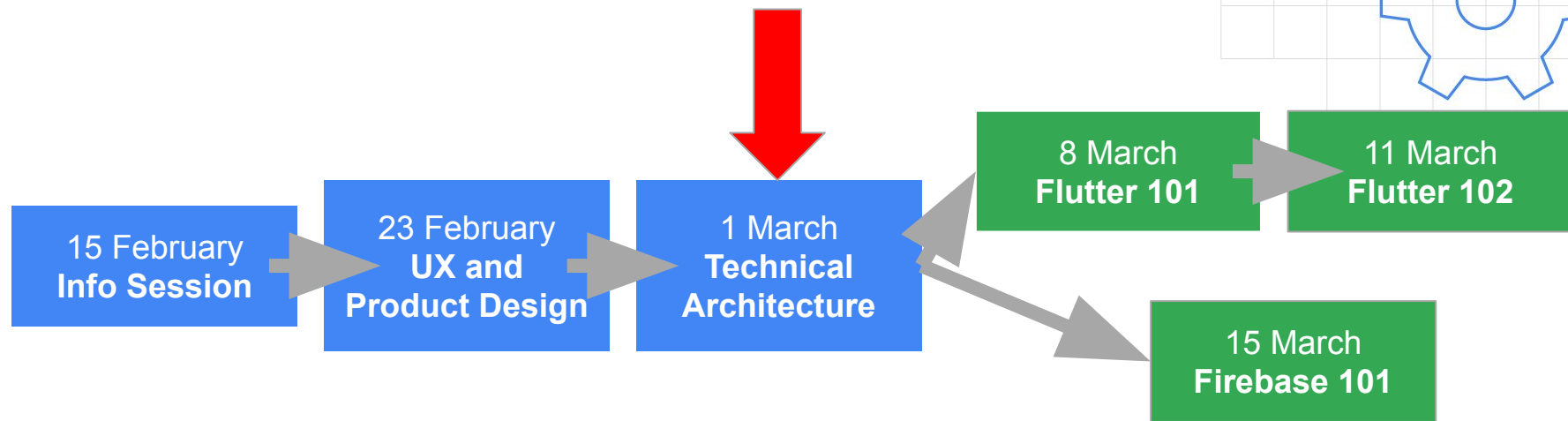
Go!



Google Solution Challenge - Technical Advising



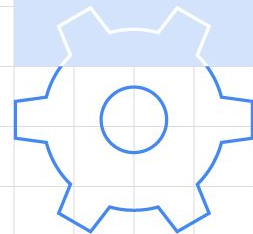
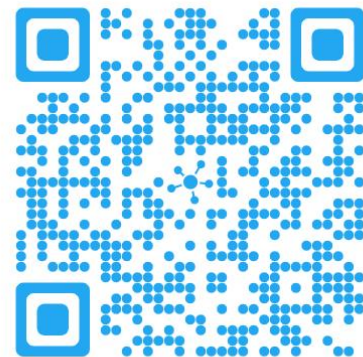
Solution Design Roadmap



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Q&A

