



Welcome to the 1st
Fitbit developers Singapore
meetup

#made4fitbit



Frédéric Harper

Senior Developer Evangelist @ Fitbit

@fharper

@fitbitdev

Fitbit SDK & Web API Overview



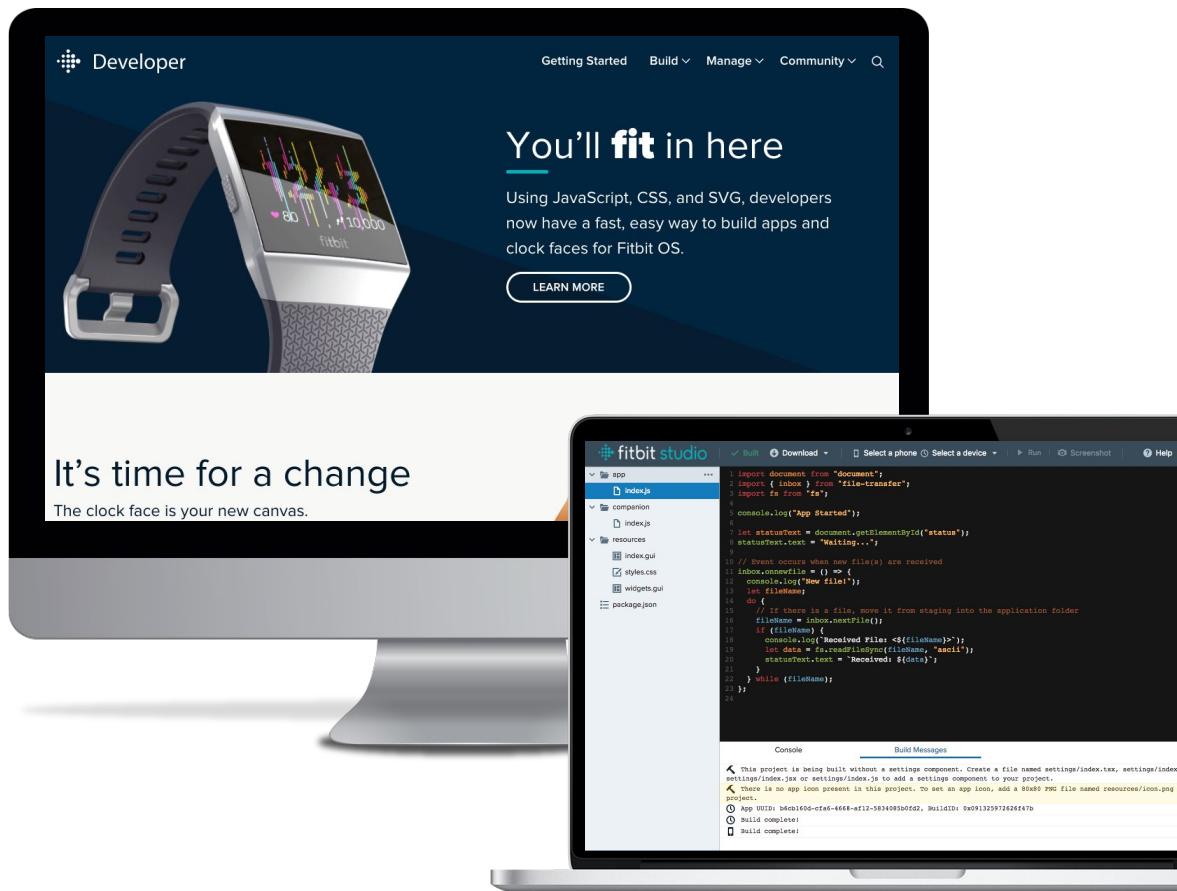
#made4fitbit

Fitbit OS SDK



Developer Platform

- Standards based SDK with JavaScript, SVG & CSS
- Easily create apps from anywhere with Fitbit Studio
- Simulator available on macOS & Windows



SVG

```
<svg>  
  <rect x="0" y="0" width="116" height="100%" fill="blue" />  
  <rect x="116" y="0" width="116" height="100%" fill="white" />  
  <rect x="232" y="0" width="116" height="100%" fill="red" />  
</svg>
```



UI components

Tumbler, Checkbox Tile List, Combo buttons...



CSS

```
.screen {  
    width: 100%;  
    height: 100%;  
    viewport-fill: lightblue;  
}  
  
.container {  
    width: 60%;  
    height: 60%;  
    x: 20%;  
    y: 20%;  
}
```

```
.inner {  
    width: 100%;  
    height: 100%;  
    x: 0;  
    y: 0;  
    fill: red;  
}
```

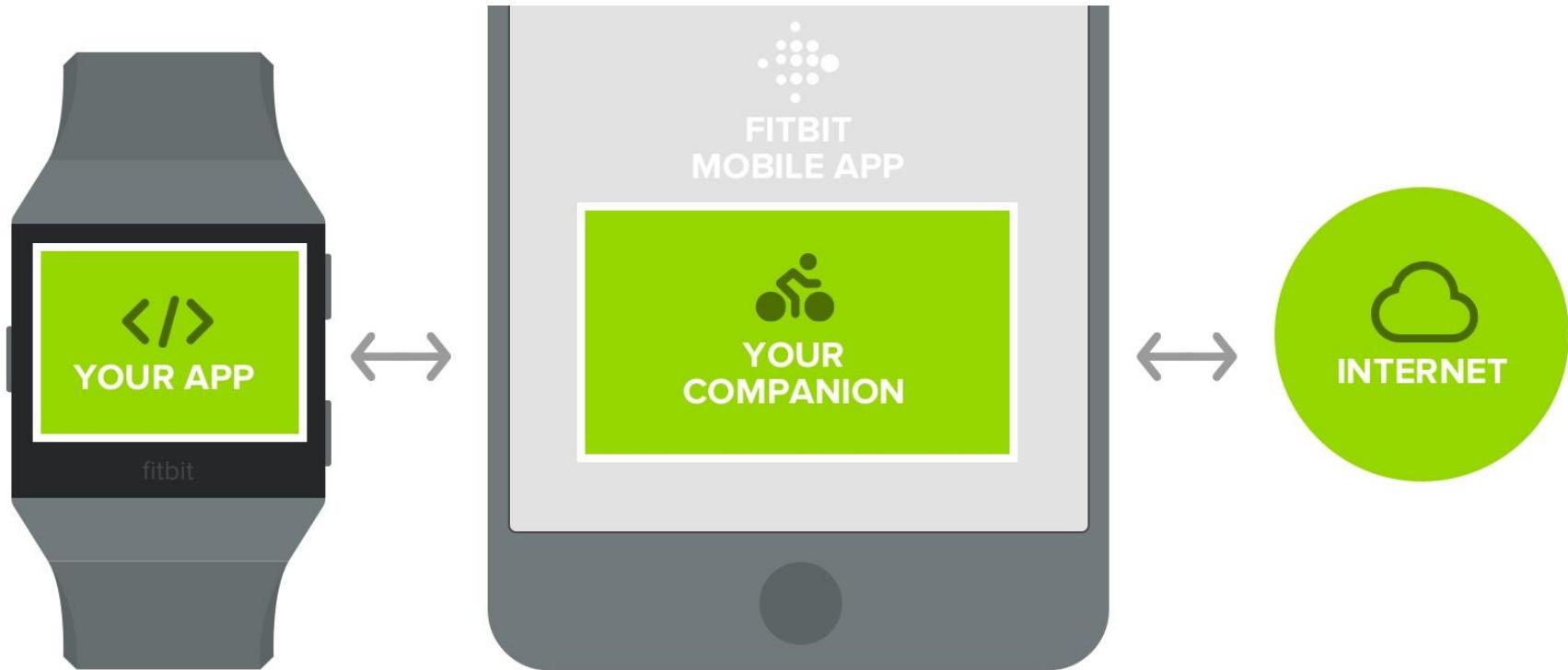


JavaScript

```
import document from "document";
var demo = document.getElementById("demo");
demo.text = "Demo Text";
```

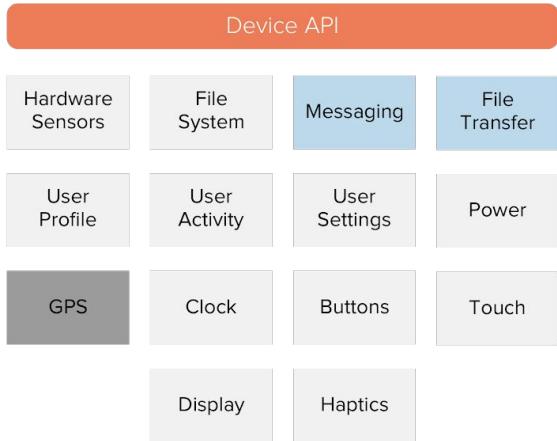


Platform Architecture



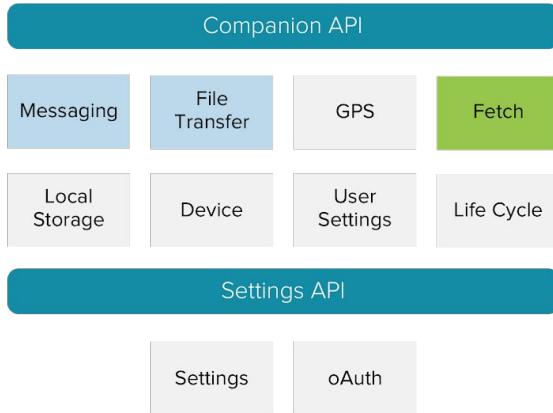
Platform Architecture

Fitbit OS devices



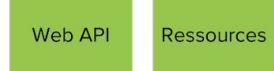
Comms

Mobile



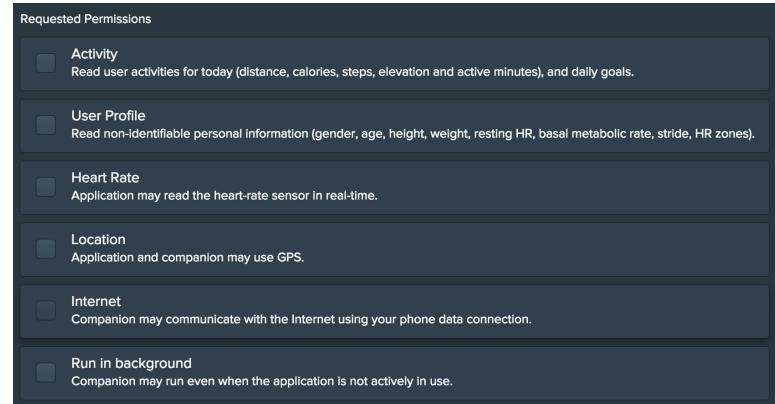
Comms

Internet



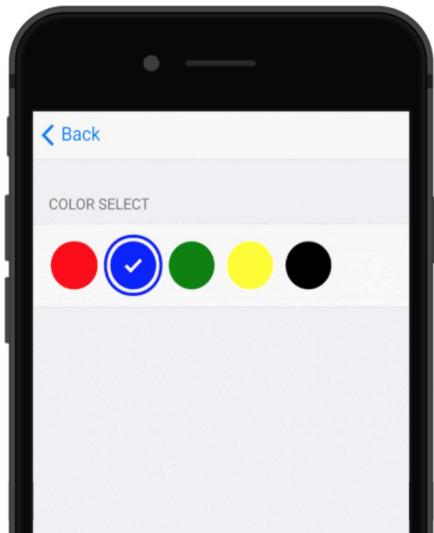
Permissions

- Developers request permissions
- Users accept requests on install



Settings

- Uses React JSX
- Make clock faces and apps configurable
- Prebuilt components for easy setup
- Persist data in settingsStorage
- Simple OAuth



Multiple Devices Resource Files

//Resources like CSS, images or GUI files
/resources/filename~**SCREEN-RESOLUTION**.ext

//Specific
/resources/styles~**300x300**.css
/resources/styles~**348x250**.css

//Fallback
/resources/styles.css

Multiple Devices

```
//Device API
import { me as device } from "device";

//Companion API
import { device } from "peer";

//Backward compatibility
if (!device.screen) device.screen = { width: 348, height: 250 };
```

Gallery App Manager (GAM)

- Our “App Store”
- Public & private apps
- Review process for public apps

Gallery App Manager

Logged In

Cliff Star Clockface

UUID	deb27b30-a0ad-4195-8448-7d055f5d5a9c	Published
Link	https://gam.fitbit.com/gallery/clock/deb27b30-a0ad-4195-8448-7d055f5d5a9c	Your Clockface is available to users in the Fitbit App Gallery.

Localized details

English ...

Name	Cliff Star	Screenshots
Description	A simple clock with a cinematic effect.	Screenshots are shown at the top of your app's gallery page.
Features:	- Customise the color of the clock text - Persistent settings - 12h/24h based on Fitbit account settings	
This uses a great photo from Unsplash.com by Andrew Preble.		

build a clock face

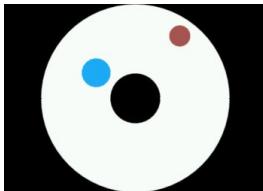
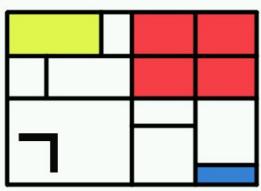
demo

Clock face Development Station



S U 1 3 0 8
1 0 5 3 4 3
0 1 3 7 5 1
C O D E 7 3 4

110 34 130
AVG BG UNITS CARBS
12% HIGH 57% BAS 2,345 CALORIES
9% LOW 43% BOL FEB 21 5:47

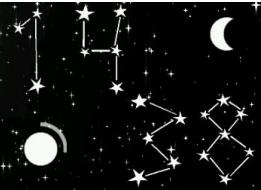


Pill Name:
Tylenol
Last Taken At: Take a Pill!
11:03 p
Pill Name:
Advil
 Take a Pill!

05:32:48 13 DEC
RHR 68 AT 105
ZONE RECOVER 78

07/32

SMART WATCH ACTIVITY STATS
14,543 1,993 28
12:24:48
LIGHT EXERCISE SHORTCUTS



12:40 pm
Sunday, December 17
4,489 22 mins

1 1 1 1
1 1 1 1
1 1 1 1
1 1 1 1
1 1 1 1

3
6

6,544 2,626
8 6
86 13

06:56
HAPPY HOLIDAYS!

6,973 Steps 43°F Rain
08:59 pm
SU MO TU WE TH FR SA
December 16 2017

09:53
HIGH 5,936
8 16 64 256
2 2 8
16 4
2 8
1,712
RESET

10:51 Connected
26.1 km/h
14.1 km/h 543 m

40/64 fl oz

Thu 16 Nov
5:19 PM
17°
Cloudy

TUE 08:30 19 DEC 57%
19 DEC 57%

16:18
322
Pug

November 2017
SU MO TU WE TH FR SA
5 6 7 8 9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28 29 30

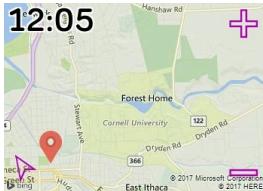
Design. Create. Save. Share.
your own watch face with the tip of your finger!

4 x 25 Kick @ 0:50
0:27
116 rep 1/4

DATE MONTH YEAR BATT
18 Nov 2017 100%
* HOUR MIN SEC
02:33 13
DAY Sat
Goodmays Drizzle 8°C

WEDNESDAY 22
ALMOST X TWENTY - FIVE
TEN QUARTERS A HALF
PAST I TORONTO TWO FOUR
THREE FIVES XYSEVEN
ELEVENTEN NINE I GHT
TWELVES NOON O'CLOCK
DECEMBER 20 - 2987!!

* 100%
05:52 P
Sat, 25 Nov 2017
London Cloudy 5°C
Saturday - beautiful day!!



9598 20:34 Thu 15 92

FRI DEC 22

Fitbit Web API

REST APIs

- Activity
- Body & Weight
- Devices
- Food Logging
- Friends
- Heart Rate
- Sleep
- Subscriptions
- User

JSON

```
{
```

```
  "Activities": [
```

```
    {
```

```
      "activityId": 51007,  
      "activityParentId": 90019,  
      "Calories": 230,  
      "Description": "7mph",  
      "Distance": 2.04,  
      "Duration": 1097053,  
      "hasStartTime": true,  
      "isFavorite": true,  
      ...
```

did I sleep enough?

demo

Next steps

be part of the community

1. Join the Discord community, follow us on Twitter...
2. Create a free Fitbit account
3. Use a Fitbit OS device, or use the simulator
4. Create local apps and clock faces
5. Publish your masterpiece in GAM
6. Share your hard work on Twitter using #made4fitbit



be a local
ambassador





You'll **fit** in here

Using JavaScript, CSS, and SVG, developers now have a fast, easy way to build apps and clock faces for Fitbit OS.

[LEARN MORE](#)

It's time for a change

The clock face is your new canvas.

[LEARN MORE](#)



Have fun!

A black and white photograph of a man with a shaved head and a well-groomed beard and mustache. He is wearing dark-rimmed glasses and a dark zip-up hoodie over a light-colored t-shirt. He is smiling warmly at the camera. The background is a plain, light-colored wall.

Frédéric Harper

fharper@fitbit.com

dev.fitbit.com

outofcomfortzone.net