



Welcome to the 1st
Fitbit developers Singapore
meetup

#made4fitbit



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Fitbit SDK & Web API Overview



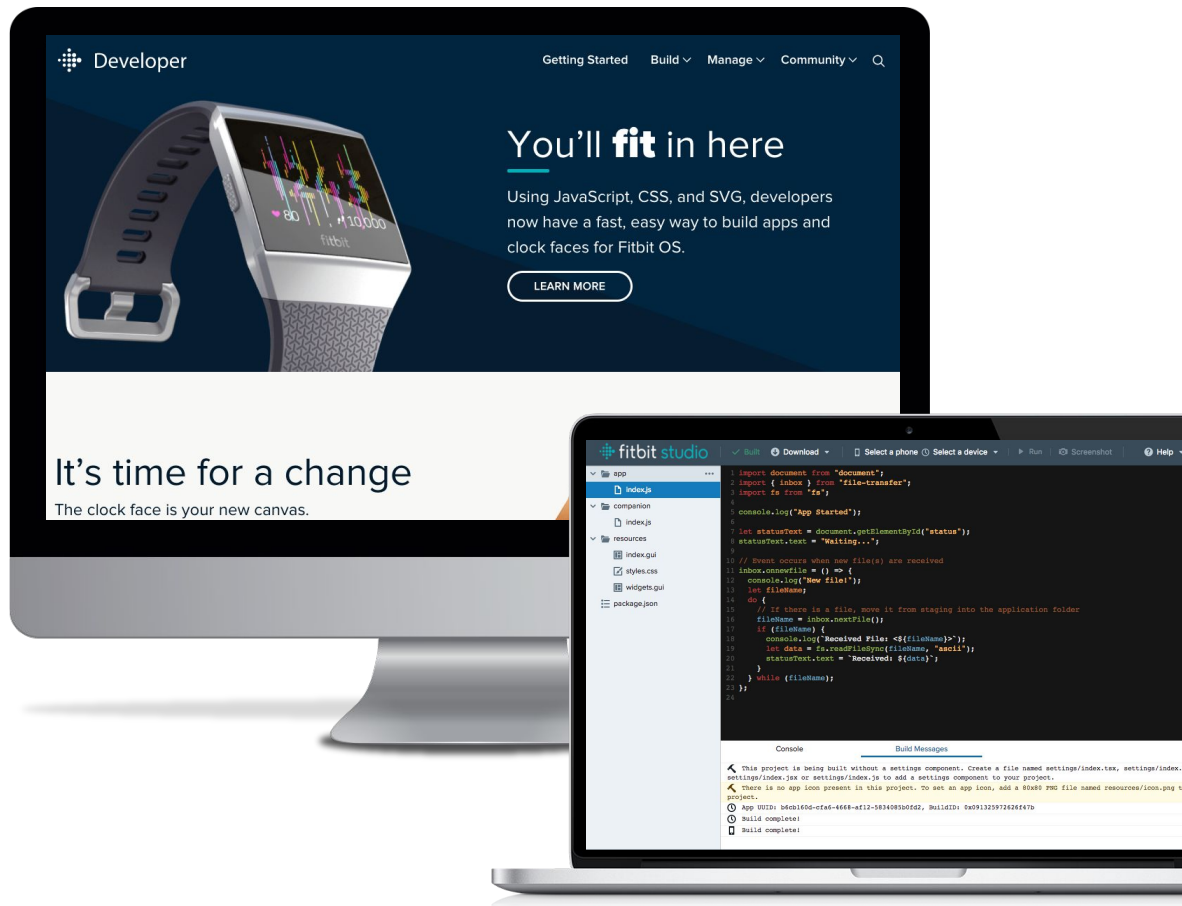
#made4fitbit

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;  
}
```

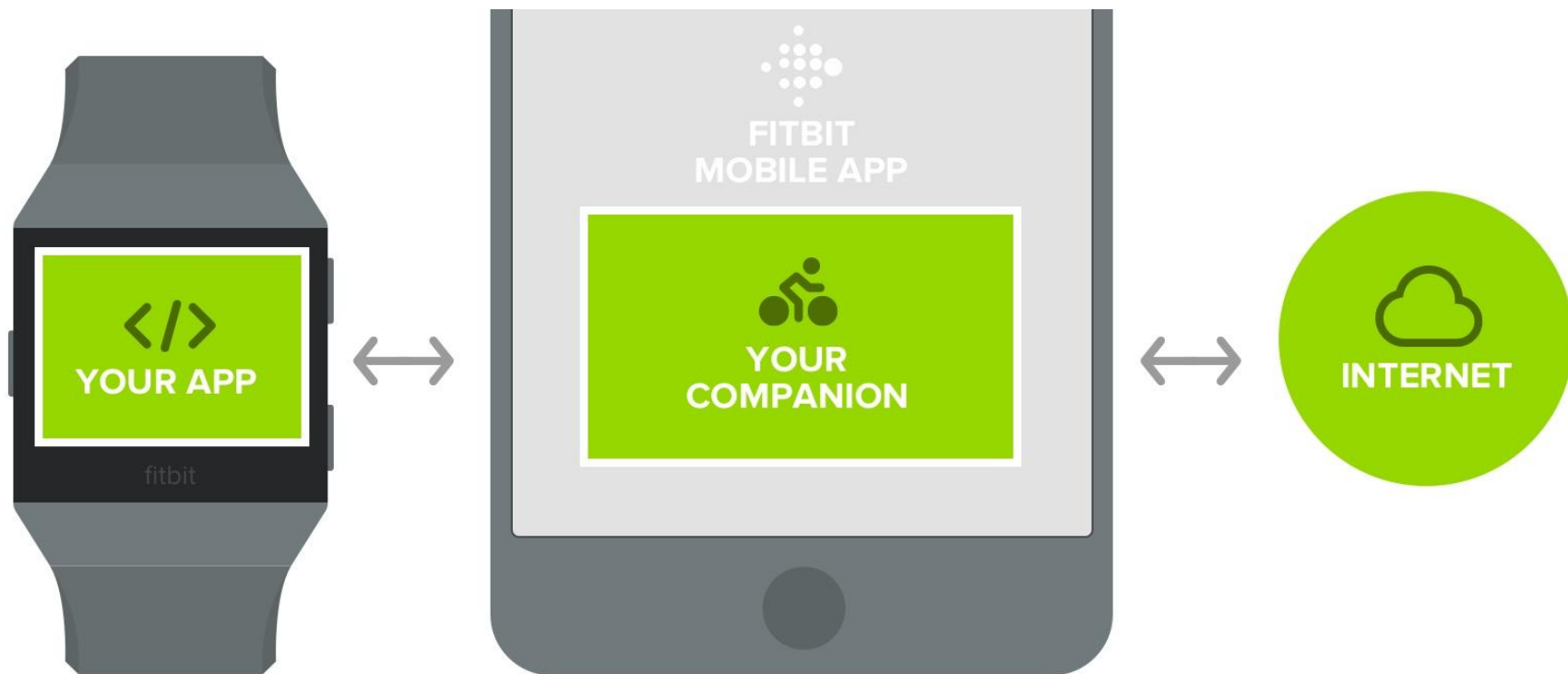


JavaScript

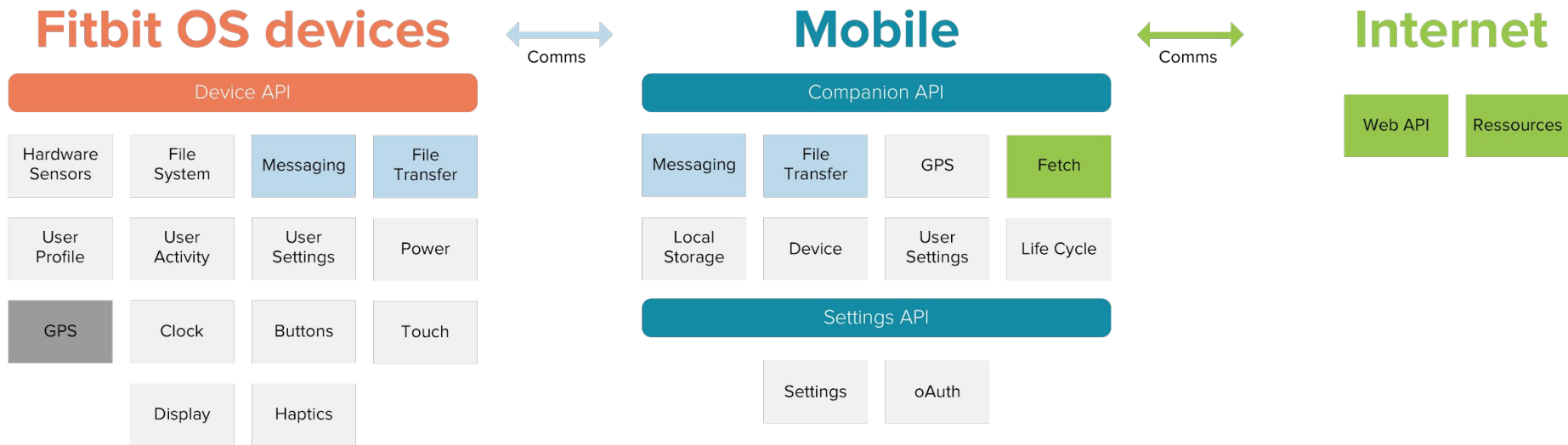
```
import document from "document";  
var demo = document.getElementById("demo");  
demo.text = "Demo Text";
```



Platform Architecture



Platform Architecture



Permissions

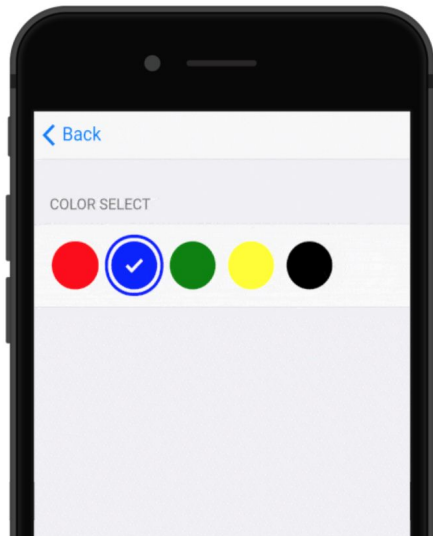
- Developers request permissions
- Users accept requests on install

Requested Permissions

<input type="checkbox"/>	Activity Read user activities for today (distance, calories, steps, elevation and active minutes), and daily goals.
<input type="checkbox"/>	User Profile Read non-identifiable personal information (gender, age, height, weight, resting HR, basal metabolic rate, stride, HR zones).
<input type="checkbox"/>	Heart Rate Application may read the heart-rate sensor in real-time.
<input type="checkbox"/>	Location Application and companion may use GPS.
<input type="checkbox"/>	Internet Companion may communicate with the Internet using your phone data connection.
<input type="checkbox"/>	Run in background Companion may run even when the application is not actively in use.

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

Cliff Star Clockface

UUID

deb27b30-a0ad-4195-8448-7d055f5d5a9c

Link

<https://gam.fitbit.com/gallery/clock/deb27b30-...>

Published

Your Clockface is available to users in the Fitbit App Gallery.

Localized details

[English](#)

...

Name

Cliff Star

Description

A simple clock with a cinematic effect.

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.

Screenshots

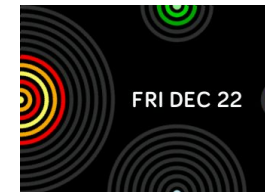
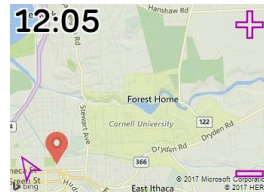
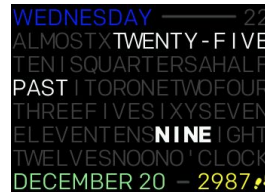
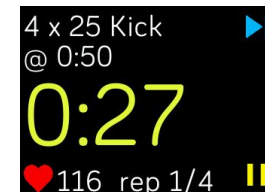
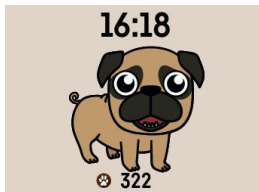
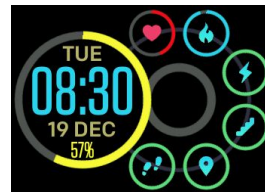
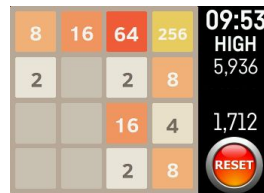
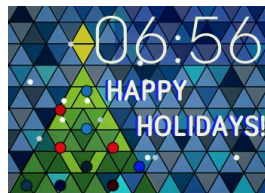
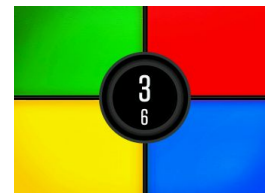
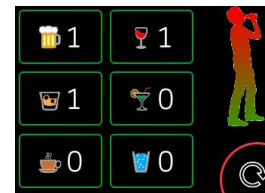
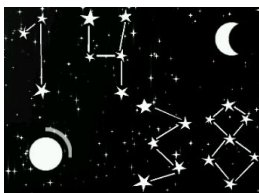
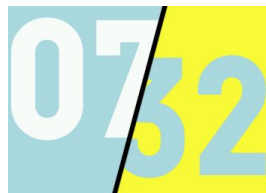
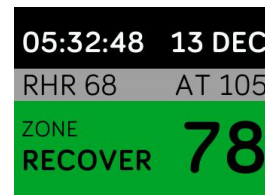
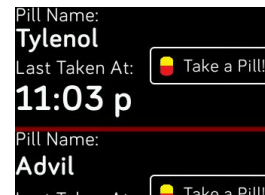
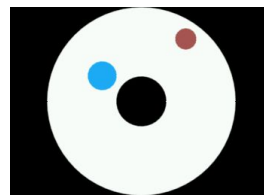
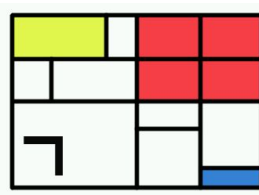
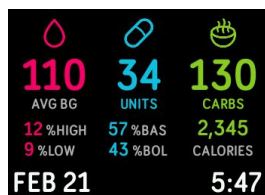
Screenshots are shown at the top of your app's gallery page.



build a clock face
demo

Clock face Development Station





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!



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