



Adaptive Web Components: Context Matters!

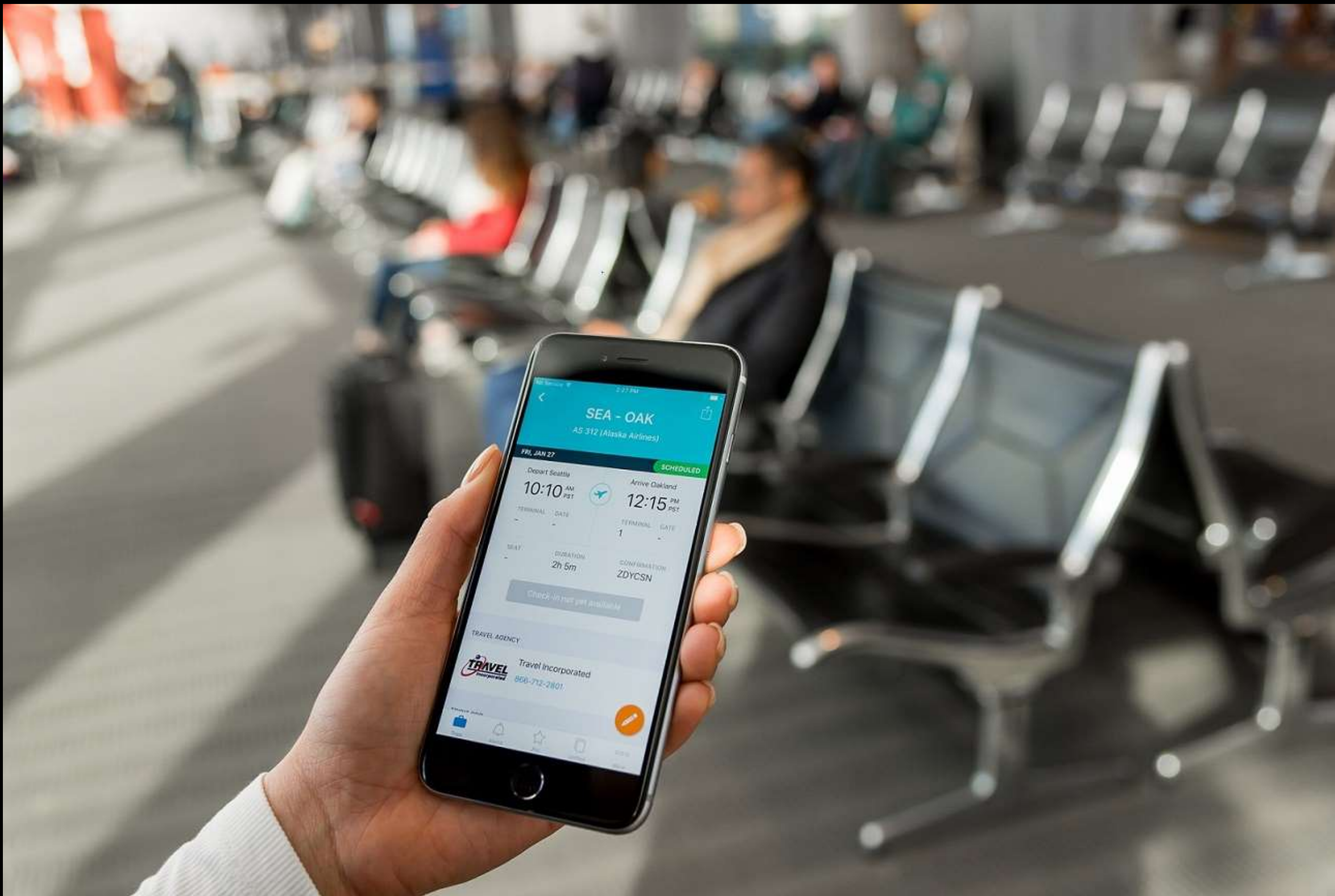
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SAP SE

July 18, 2018

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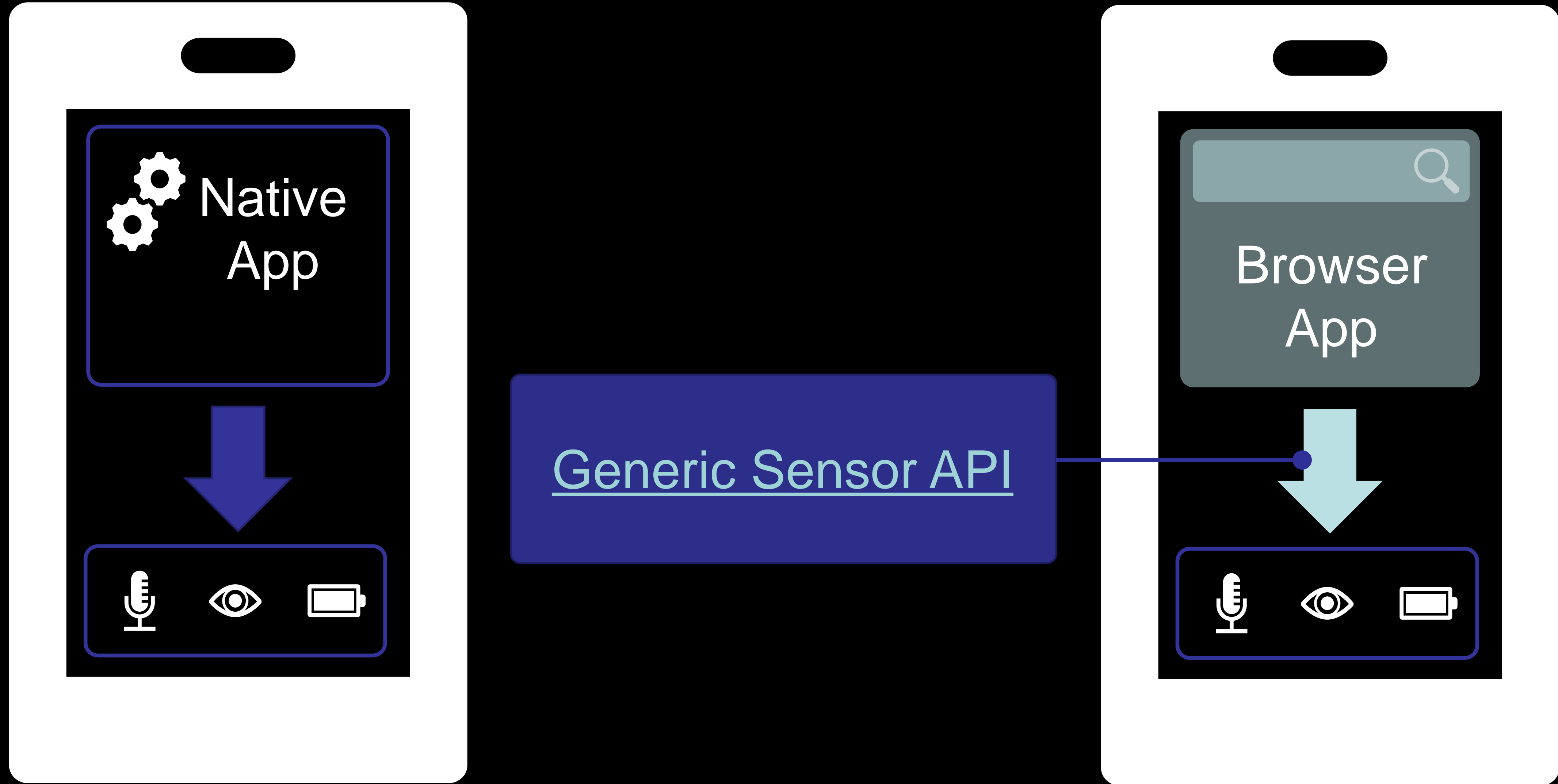
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Extended Context

- Light level
- Location
- Velocity
- Time
- Temperature
- Battery charging level
- ...

Sensor Data



Adaptive Web Components (AWC)

- Web Components:
 - Custom Elements
 - Shadow DOM
 - HTML Templates

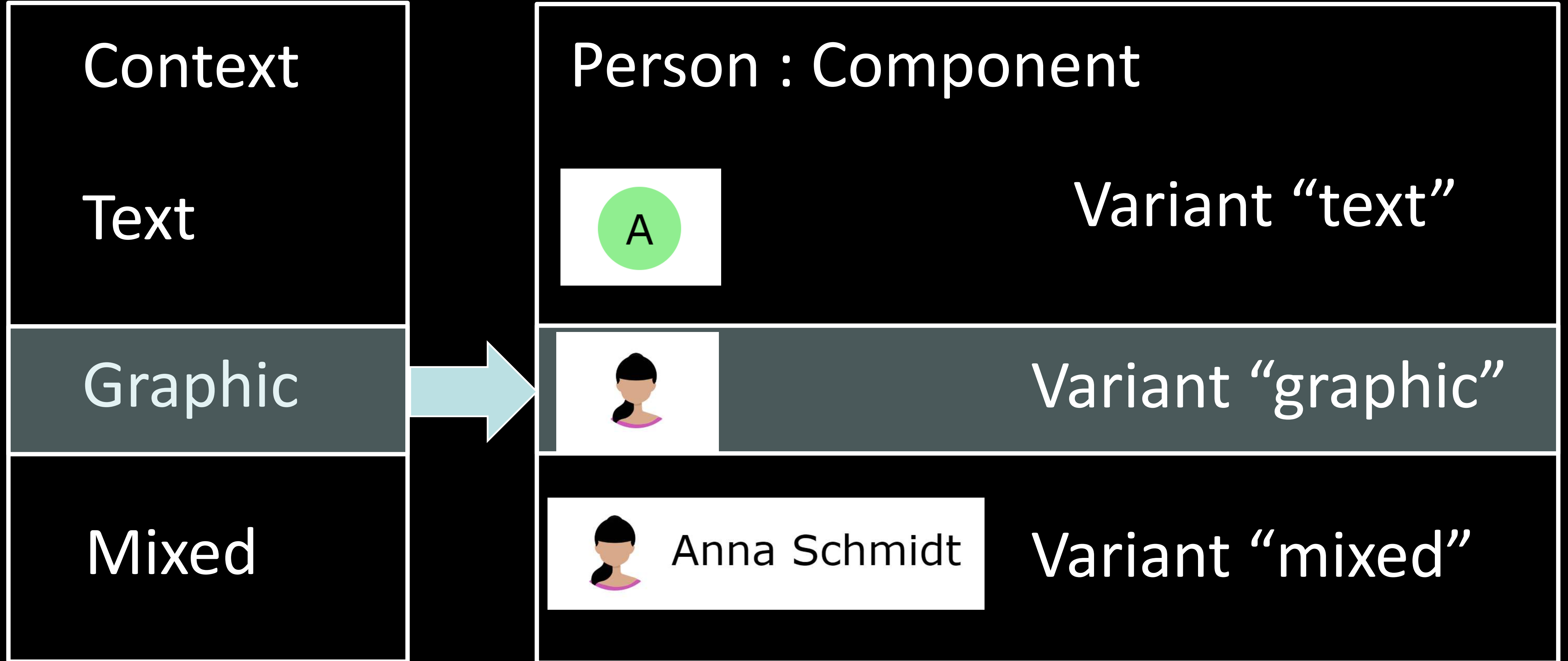
AWC on GitHub:

<https://github.com/FraunhoferIAO/awc-core>

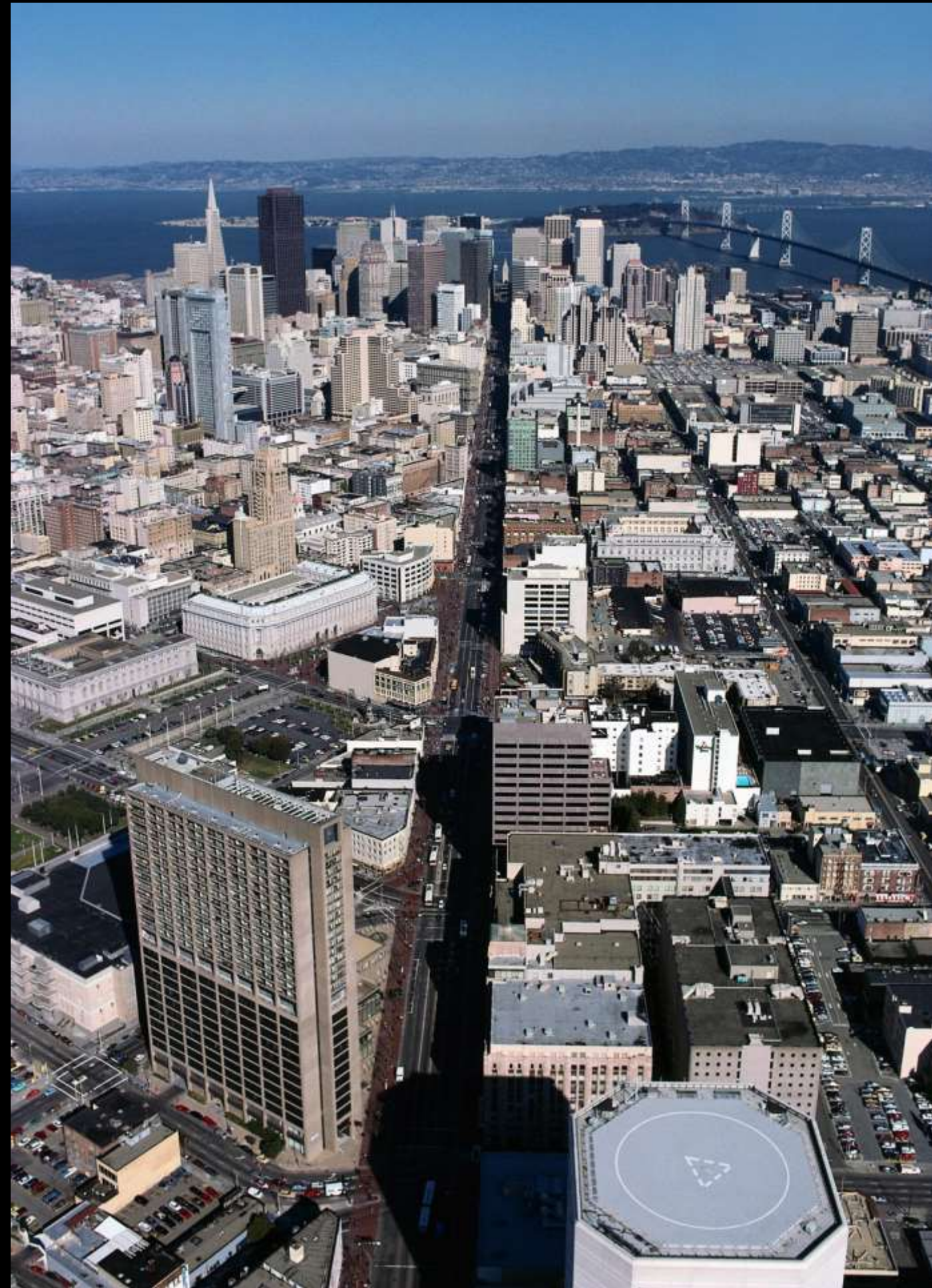
AWC – Context Style

```
@context (5 < lightLevel <= 15), (55 <= lightLevel < 70) {  
    body {  
        background-color: black;  
        color: white;  
    }  
}
```

AWC – Variants



Demo: Context Styles



Ever sat in one of the shaking cable cars in San Francisco and ordered a wrong pizza because the train is rattling along so the buttons get all mixed up? ...



Demo App

- OpenUI5:
<https://openui5.hana.ondemand.com/>
- Adaptive Web Components:
<https://github.com/FraunhoferIAO/awc-core>
- Generic Sensor API:
<https://www.w3.org/TR/generic-sensor/>

1 - Context queries

```
<context-style >
```

```
  @context (vibrationLevel > 0){  
    .sapMBtn.ui5-awc_adaptiveButton .sapMBtnContent {  
      padding: 1.5rem;  
      font-size: 1.2rem;  
    } ...  
  }
```

```
  @context (vibrationLevel > 1){  
    .sapMBtn.ui5-awc_adaptiveButton .sapMBtnContent {  
      ...  
    } ...  
  }
```

```
</context-style>
```

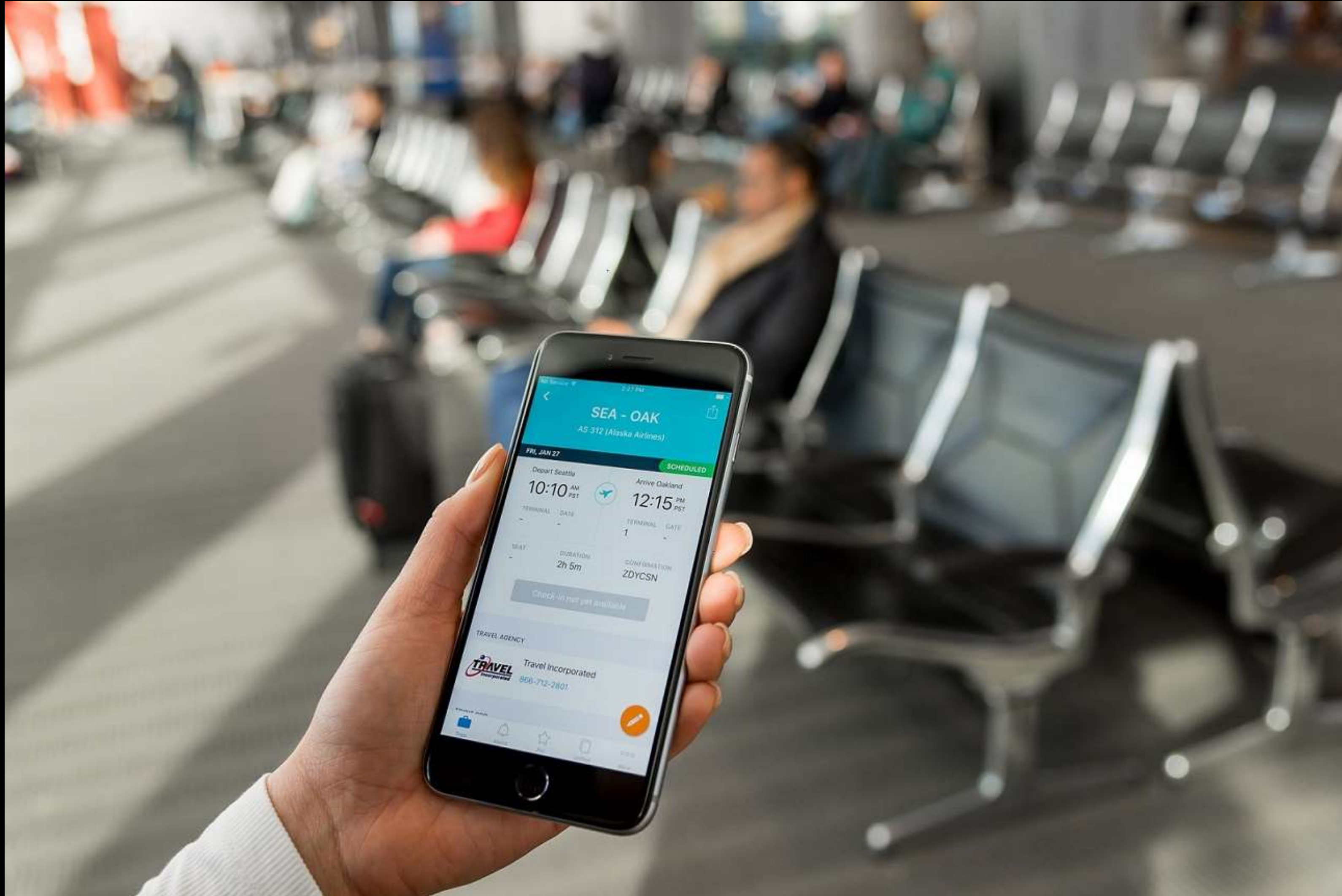

2 – AWC Profile Store

```
var oProfileStore = new awc.ProfileStore(true);  
oProfileStore.changeProfile({  
    "vibrationLevel": iValue  
});
```

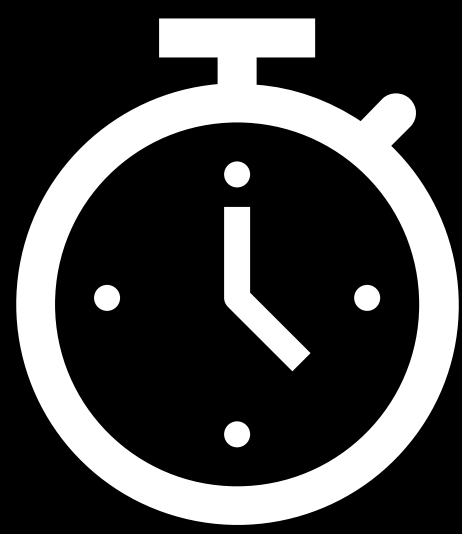
3 – Sensor Event handler

```
var sensor = new Accelerometer({frequency: 60});  
sensor.start();  
sensor.addEventListener('reading', function () {  
    var ivibrationLevel = processSensorData();  
    oProfileStore.changeProfile({  
        "vibrationLevel": ivibrationLevel});  
}).bind(this));
```


Demo: Adaptive Variants



Traveler App



Just enjoy your trip!

Time Before Trip

One Month

One Week

Trip Day

OSCON

07/15/2018 - 07/21/2018

07/15/18 Frankfurt (FRA) - Amsterdam (AMS)

07/15/18 Amsterdam (AMS) - Portland (PDX)

07/20/18 Portland (PDX) - Amsterdam (AMS)

07/21/18 Amsterdam (AMS) - Frankfurt (FRA)

UX-DAY

Oct 10, 2018 - Oct 10, 2018

SAP TECHED

Oct 23, 2018 - Oct 23, 2018

+

Just enjoy your trip!

Time Before Trip

One Month

One Week

Trip Day

OSCON

07/15/2018 - 07/21/2018

07/15/2018 08:00 Frankfurt (FRA)

07/15/2018 09:00 Amsterdam (AMS)

07/15/2018 10:00 Amsterdam (AMS)

07/15/2018 14:00 Portland (PDX)

07/20/18 Portland (PDX) - Amsterdam (AMS)

07/21/18 Amsterdam (AMS) - Frankfurt (FRA)

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Just enjoy your trip!

Time Before Trip

One Month

One Week

Trip Day

OSCON

07/15/2018 - 07/21/2018

03:45

8:00 AM Frankfurt (FRA) Gate 1

9:00 AM Amsterdam (AMS) Gate 9

10:00 AM Amsterdam (AMS) Gate 3

2:00 PM Portland (PDX) Gate 7

07/20/18 Portland (PDX) - Amsterdam (AMS)

07/21/18 Amsterdam (AMS) - Frankfurt (FRA)

UX-DAY

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Live Coding

Demo Apps

■ Context Style

- Demo: <https://github.com/mak-elena/ui5-awc-shakeDemo>
- GitHub: <https://github.com/mak-elena/ui5-awc-shakeDemo>

■ Adaptive Variants

- Demo: <https://mak-elena.github.io/ui5-awc-variantsDemo/>
- GitHub (initial state):
<https://github.com/mak-elena/ui5-awc-variantsDemo/tree/demo-variant1>
- GitHub (final state):
<https://github.com/mak-elena/ui5-awc-variantsDemo>

Resources

- OpenUI5:
<https://openui5.hana.ondemand.com/>
- Adaptive Web Components (AWC):
<https://github.com/FraunhoferIAO/awc-core>
- Generic Sensor API:
<https://www.w3.org/TR/generic-sensor/>
- Generic Sensor API Demo:
<https://intel.github.io/generic-sensor-demos/>



Thank you!

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