



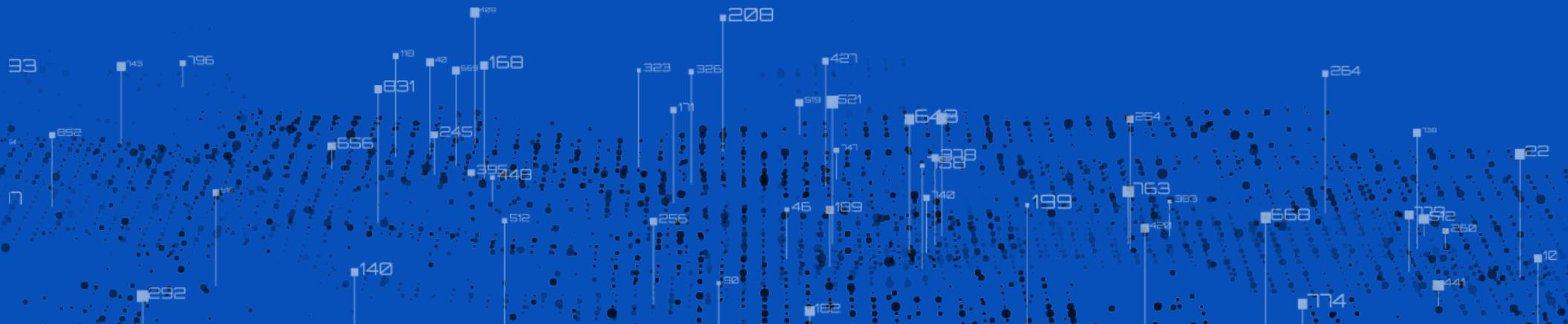
**Zeelo**

**Intelligence beyond location**

**Location intelligence has opened up  
a whole new world for businesses**



**Location intelligence provides  
useful data & insights  
for better business decisions at any time**



# Agenda

1. What is Zeelo?
2. Importance of location data
3. Personalized experiences
4. Data Analysis
5. CMS
6. How to use Zeelo?
7. Technology
8. Value Proposition
9. About Cherrypicks

# What is Zeelo?

Zeelo, formerly known as Starbeacon, is a full end-to-end SaaS product, enabling exceptional user experiences in **real-time indoor navigation, geofencing marketing, augmented reality (AR), and location data services.**





# Micro Location

Data is the new trend

# Indoor positioning challenge

## Outdoor GPS

- Fail to use satellite positioning through the GPS
- Receivers struggle with inability to see the satellites and multi-path signals



## Indoor positioning

- Positioning accuracy is poor
- Transmitter and receiver is needed to improve accuracy
- Heavy installation cost



## Zeelo's Micro Location

- Hybrid positioning technology
- Bluetooth and magnetic resources
- None / less beacon installation needed
- Accuracy → 1-3m
- Collaborating with IndoorAtlas



# Zeelo at shopping malls



**Micro location** know where you are standing (1-3m)  
→ accurate geofencing (popup / push notifications / AR signages)



**Navigation, Wayfinding**



**Personalized app** look once login based on the data collected and processed and analysed, generating user profile



# Importance of location data

With micro location  
we can now get a lot more insights from customers

## without location data

By guess

By passively getting data from merchants

By observations

By count (if have)

## with location data



Can generate **customers user profiles**



**Further business use,**  
ie. mall planning (tenant mix for leasing),  
cross-merchant promotions, personalized  
promotions to draw traffic



Without **micro-location**, we may not be  
able to get the wanted accurate data

## Benefits to both

### Merchant



**Draw traffic**  
(navigation & AR signages)



**Business generation**  
(AR signages linking to ticketing)



**Brand enhancement**  
(AR signages or branded avatar)

### Customers



**Enhanced user experiences**



**More interaction** with mall/merchants



**Personalized app experience**  
increase loyalty and engagement

# Differences between Starbeacon and Zeelo



**Positioning Tech**

Beacon only

Fusion

**Accuracy**

3-10 meters

1-3 meters

**Blue Dot**

On closest path

User's actual location

**Location Push**

Proximity

Geofence

**AR**

Relative to device

Relative to physical world

**Location Data**

Zone-based location

Micro location

**ConfEx**

N/A

Integrated

**Crowd Density**

N/A

Integrated

**CMS**

Single region

Multi-region

# Zeelo solutions



Indoor location  
service solution



Location-based  
AR solution



Location-based  
ConfEx solution



Data  
services



CMS

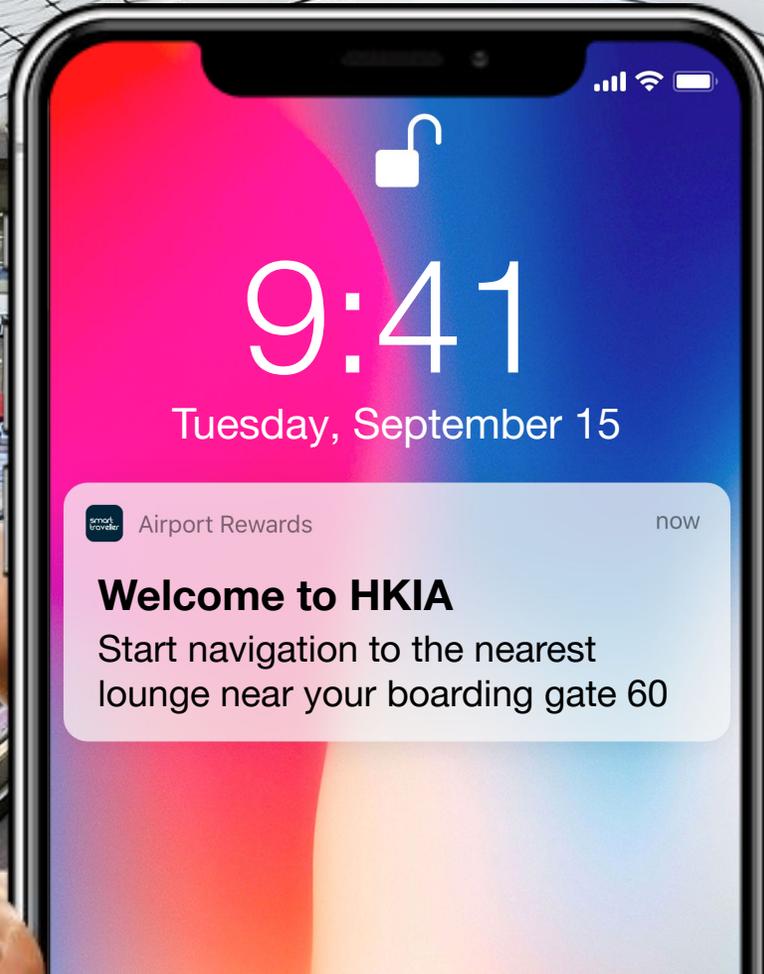
The background features abstract, organic shapes in shades of light green and bright blue, set against a white background. The shapes are fluid and rounded, creating a modern and clean aesthetic.

# **Personalized Experiences**

Personalized experiences

# Indoor location service solution @ HKIA

Geofence notification

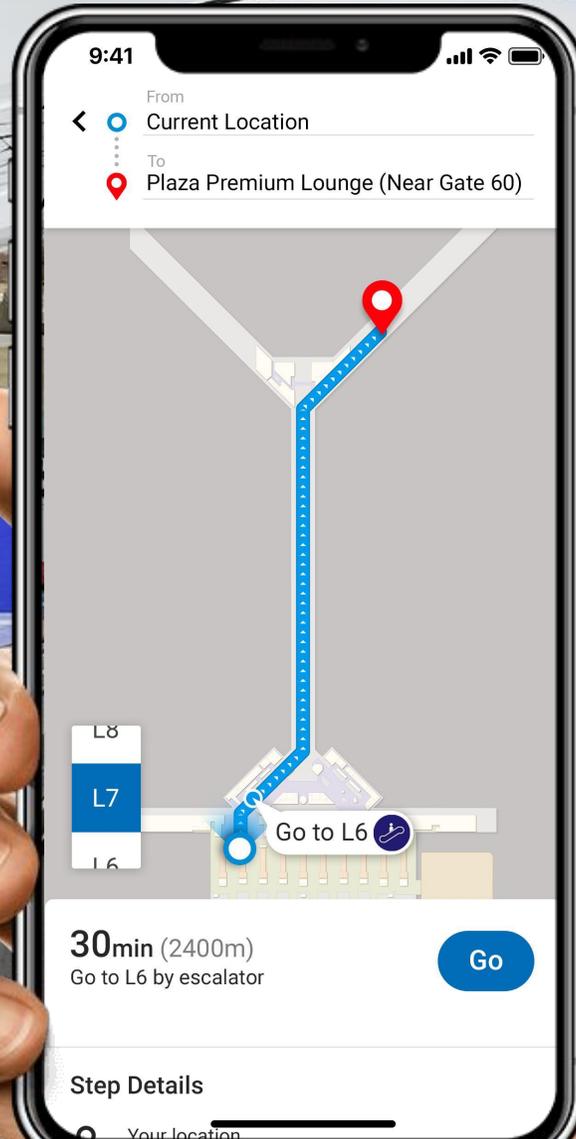


Powered by ARwiz - GeoAR

Personalized experiences

# Indoor location service solution @ HKIA

Real time turn-by-turn navigation

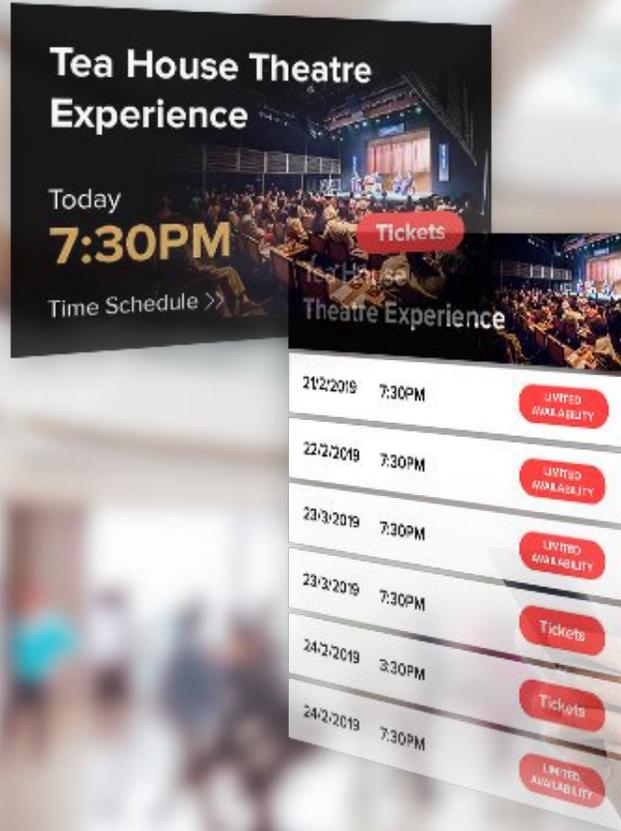


Powered by ARwiz - GeoAR

Zonal Push Notification

# Indoor location service solution

Geofence notifications – Right Time At the Right Place



Tea House Theatre Experience

Today  
**7:30PM**

Tickets

Time Schedule >>

Date	Time	Availability
21/2/2019	7:30PM	LIMITED AVAILABILITY
22/2/2019	7:30PM	LIMITED AVAILABILITY
23/2/2019	7:30PM	LIMITED AVAILABILITY
23/2/2019	7:30PM	Tickets
24/2/2019	3:30PM	Tickets
24/2/2019	7:30PM	LIMITED AVAILABILITY



**15% off** upon patronage at lunch & dinner period



Shopping & Dining full order up to **40% off**



**HK\$100 Coupon**

Personalized experiences

# Location-based ConfEx solution

Timely Information On The Spot For Direct Engagement



Personalized experiences

# Location-based ConfEx solution

Recommendation To Trigger Further Exploration



Personalized experiences

# Location-based ConfEx solution

Buy Tickets In A Few Clicks

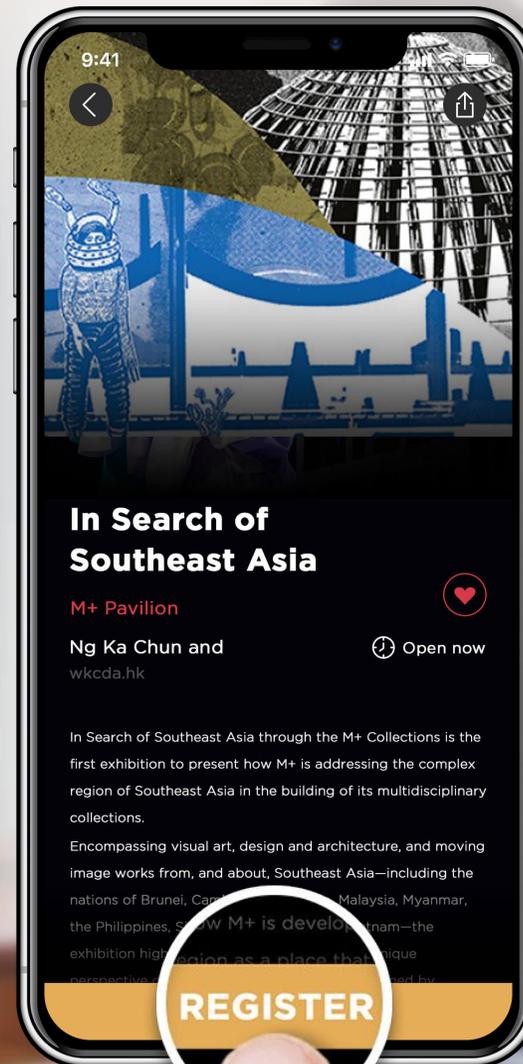
Choose your preferences



Personalized events/  
news of his interest



Bookmark event /  
register beforehand



Personalized experiences

# Location-based AR solution @ West Kowloon Cultural District

AR social wall

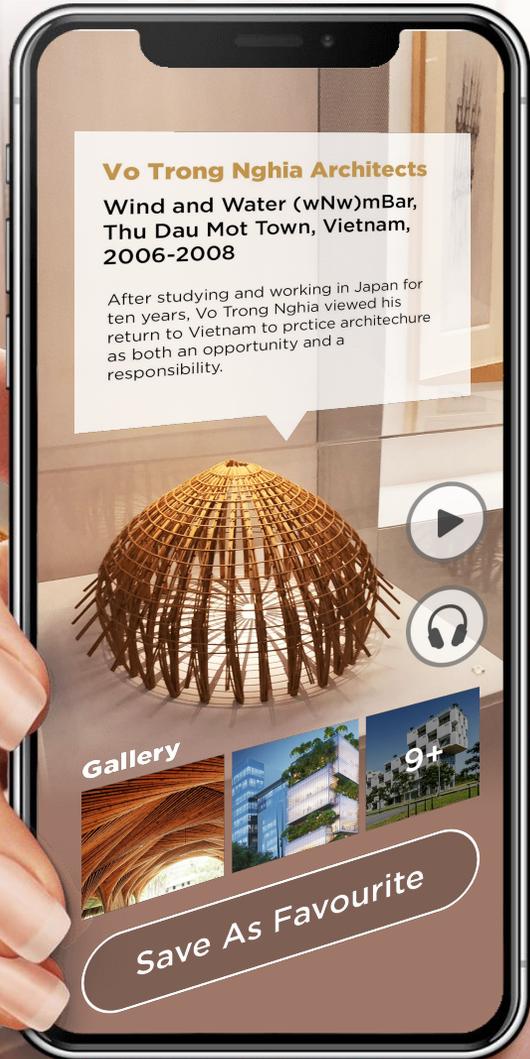


Powered by ARwiz - GeoAR

Personalized experiences

# Location-based AR solution

AR virtual signages



**Hans Tan**  
Spotted Nyonya: Vessel with No Cover, Spotted Nyonya Candle Holder

**WOHA**  
Spotted Nyonya: Vessel with No Cover, Spotted Nyonya; Candle Holder

**Vo Trong Nghia Architects**  
Spotted Nyonya: Vessel with No Cover; Spotted Nyonya: Candle Holder

Zonal Push Notification

# Indoor location service solution

Geofence notifications – Right Time At the Right Place



Personalized experiences

# 3D Avatars changes with locations

Create your own branded



# Showcase - Hong Kong Science & Technology Parks



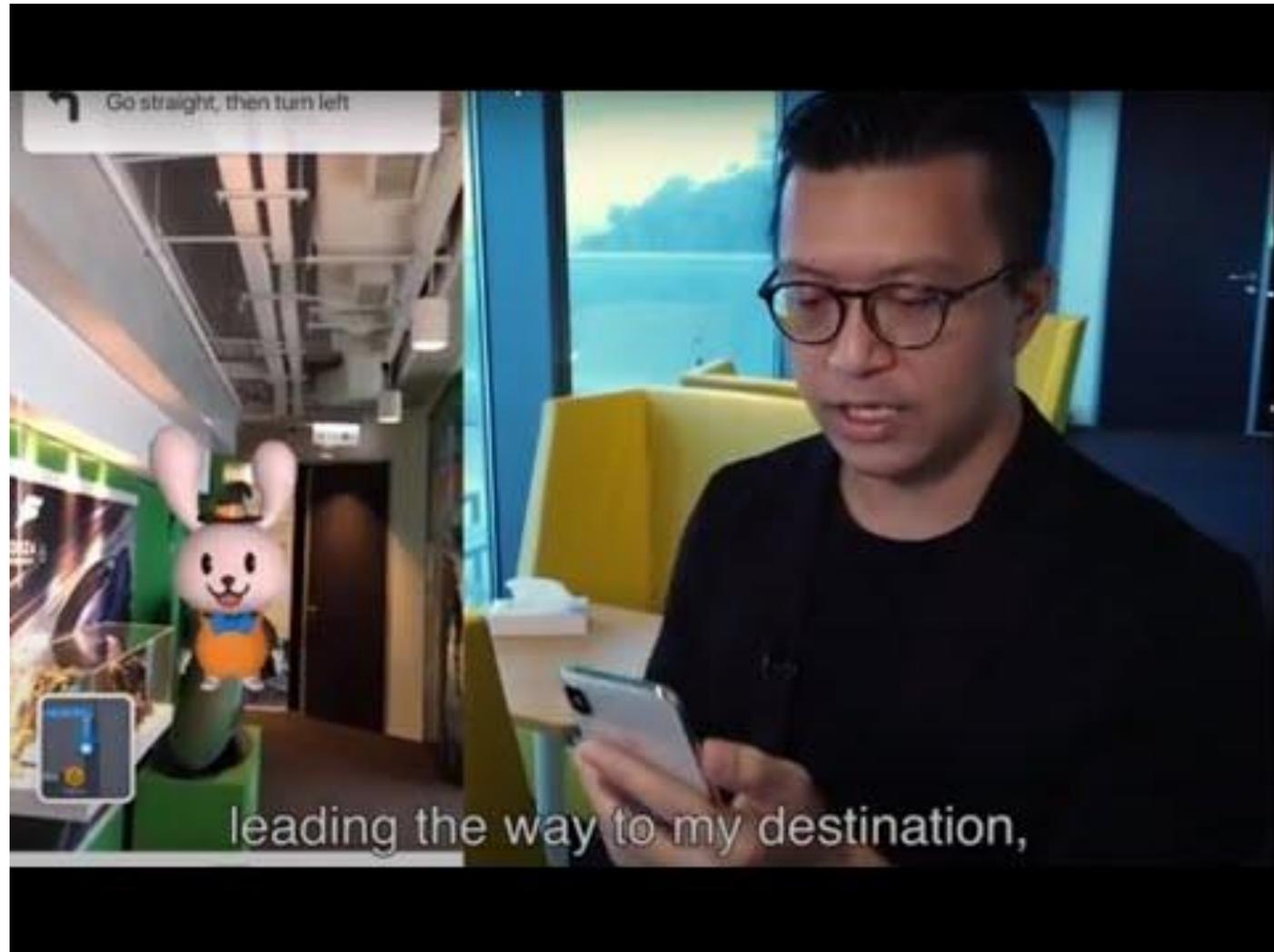
cherrypicks | 創奇思

Explore Hong Kong Science and  
Technology Parks with AR

*(powered by ARwiz)*

Indoor navigation

# Showcase – Microsoft 5G IoT Makerspace



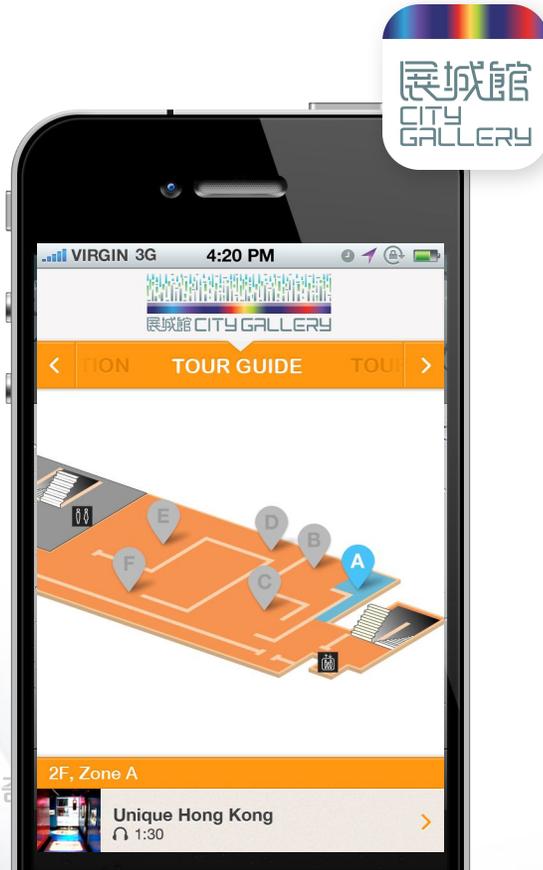
# Showcase - Hong Kong International Airport



# Pioneers in providing personalized experiences

Research and development has been started since 2013

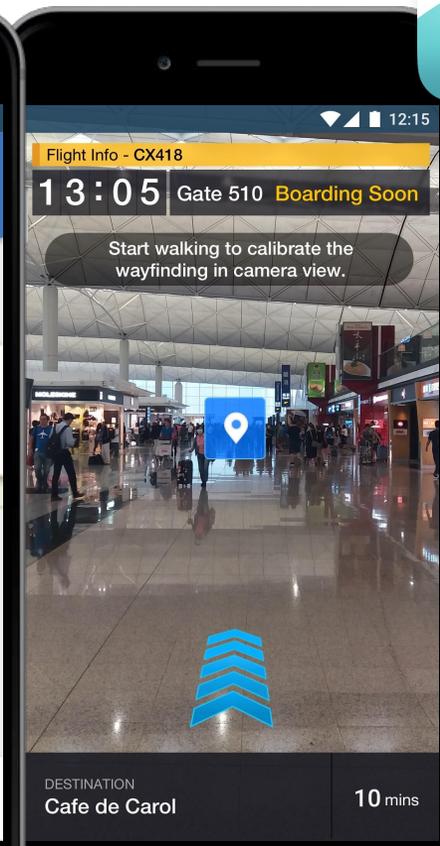
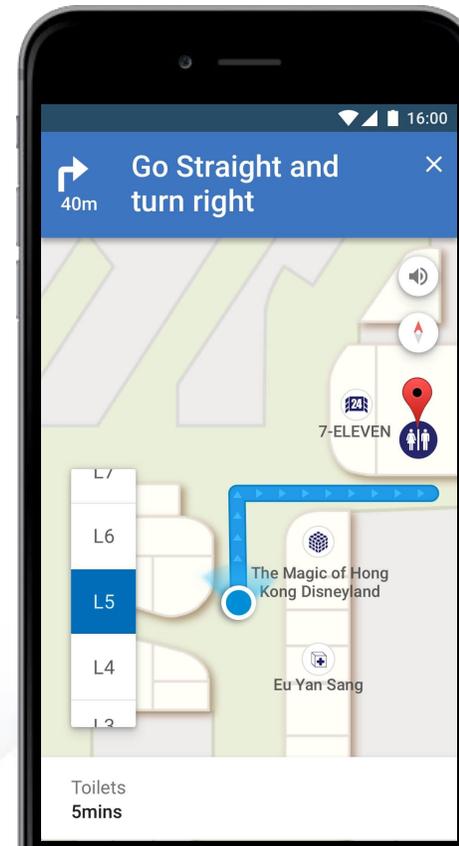
## City Gallery (Sonic) 2013



## HKIA (Magnetic field with indoor atlas) 2016

2D navigation

AR navigation

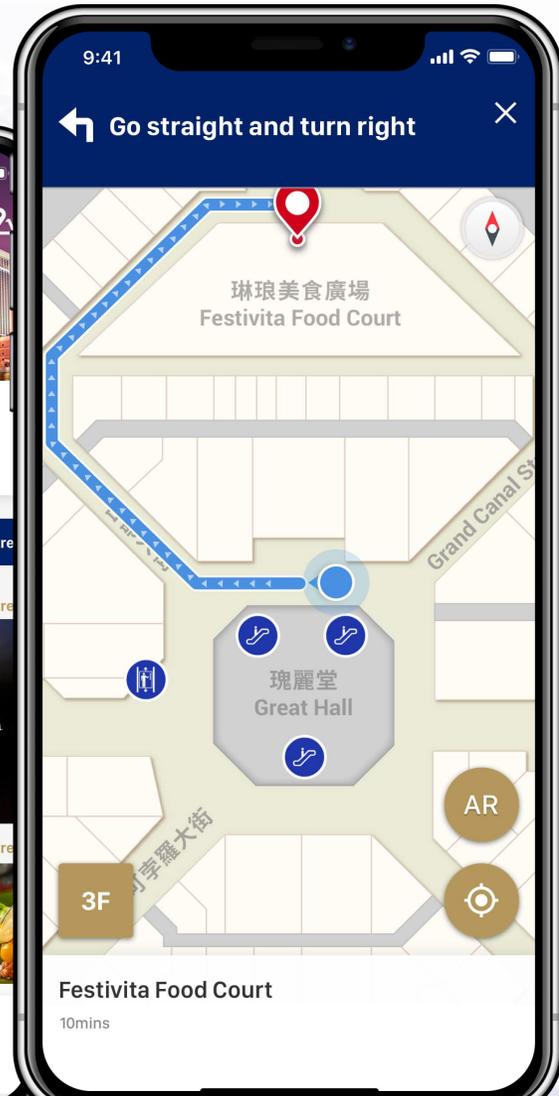
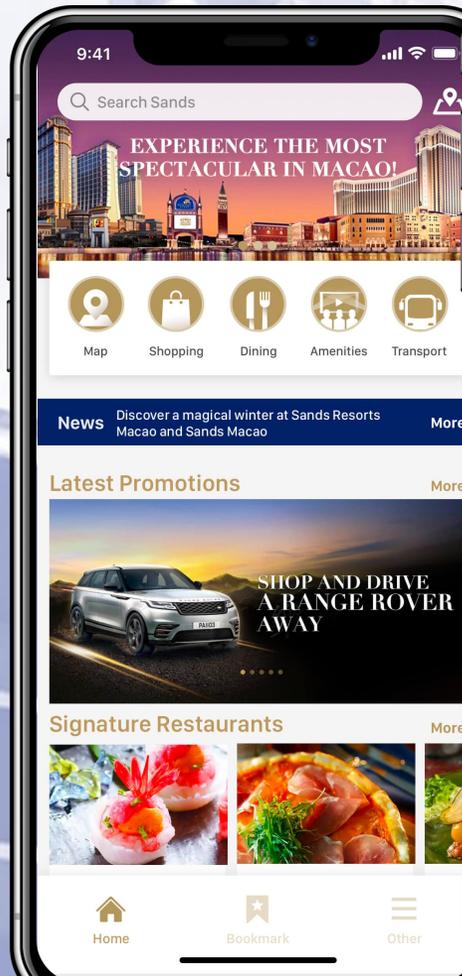


# Showcase - Sands Resorts Macao



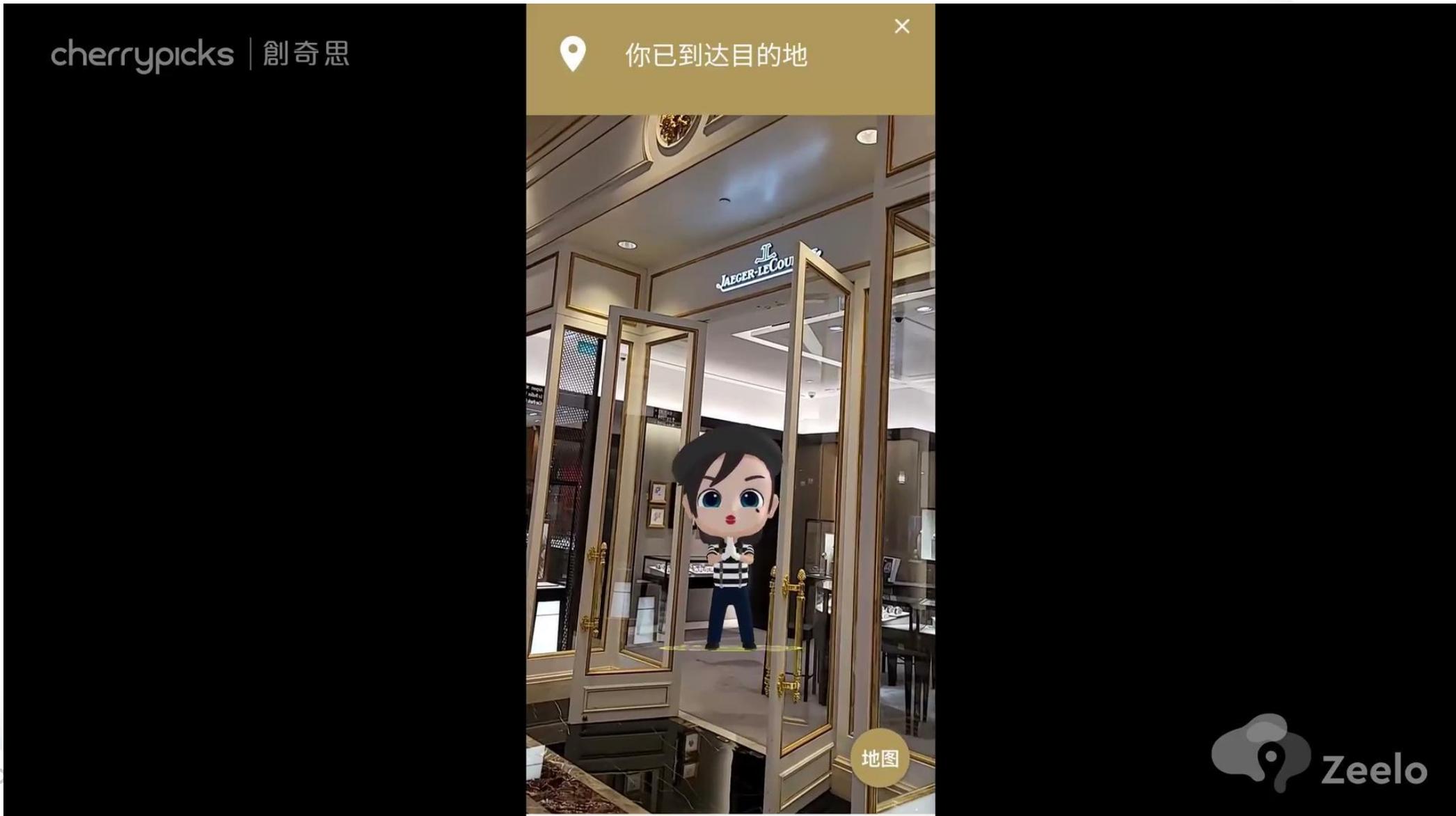
## 2D navigation

### Landing



- Redefine visitor experience with the world's first indoor navigation on gaming floors at the industry-leading, world class integrated resorts
- Build the infrastructure to understand customer behaviour
- Commercial focused location intelligence analysis
- Targeted location services and intelligence to deliver strategies on increasing the commercial value of properties

# Showcase - Sands Resorts Macao



Indoor navigation

# Showcase - 佛光GO



## Showcase – Navigate NetDragon Headquarters in Fuzhou with Tianqingzhu



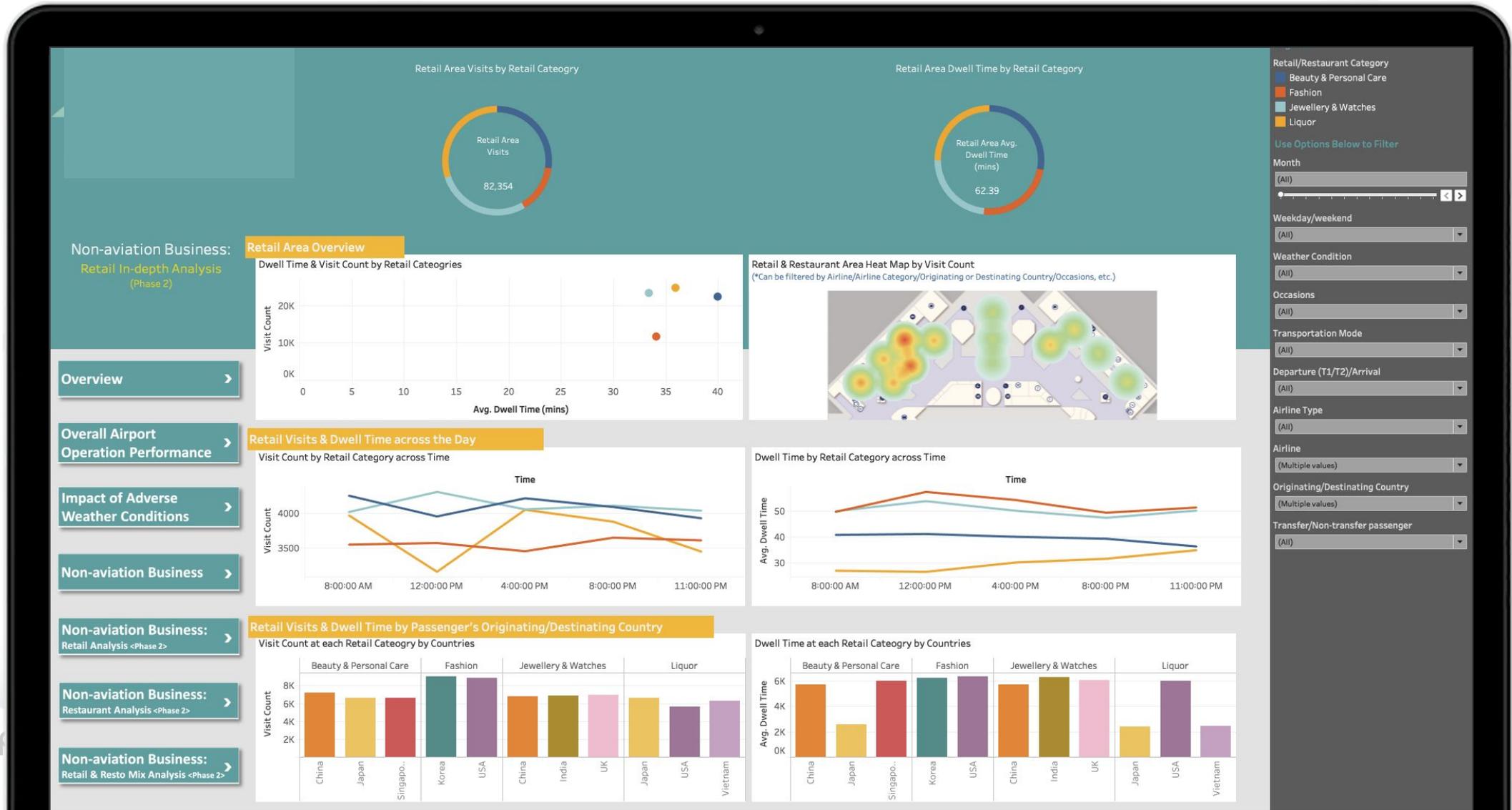
# Showcase - West Kowloon Cultural District



Virtual avatar changes in appearance with locations.

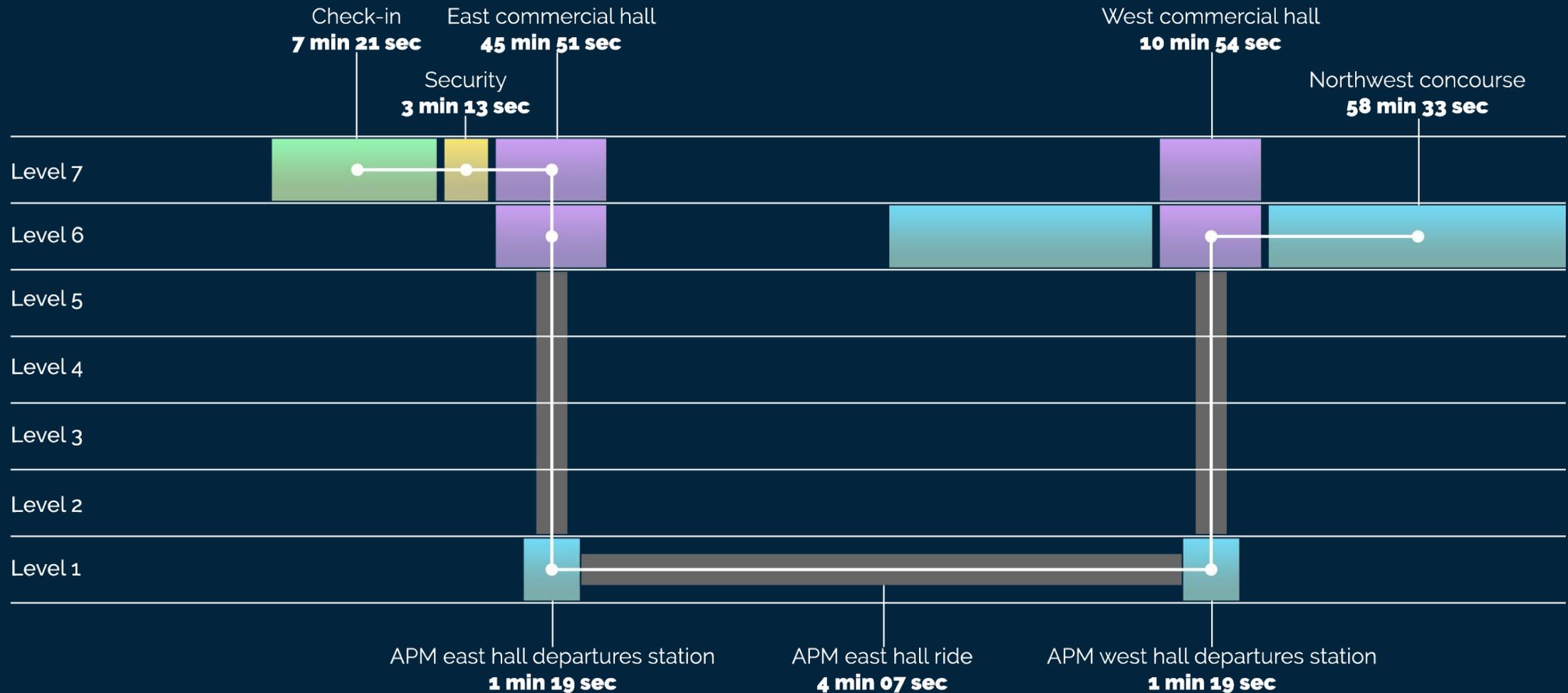
# **Data Analysis**

# Dashboard – Heatmap (Division management review on retails & restaurants)



# Management of Different Data Source

## Per location data to produce ad-hoc path intelligence analysis



# Heat Map

Navigation bar with tabs: HeatMap\_L1, HeatMap\_L2, HeatMap\_L3, HeatMap\_L5, HeatMap\_LG, HeatMap\_L1M, Ad



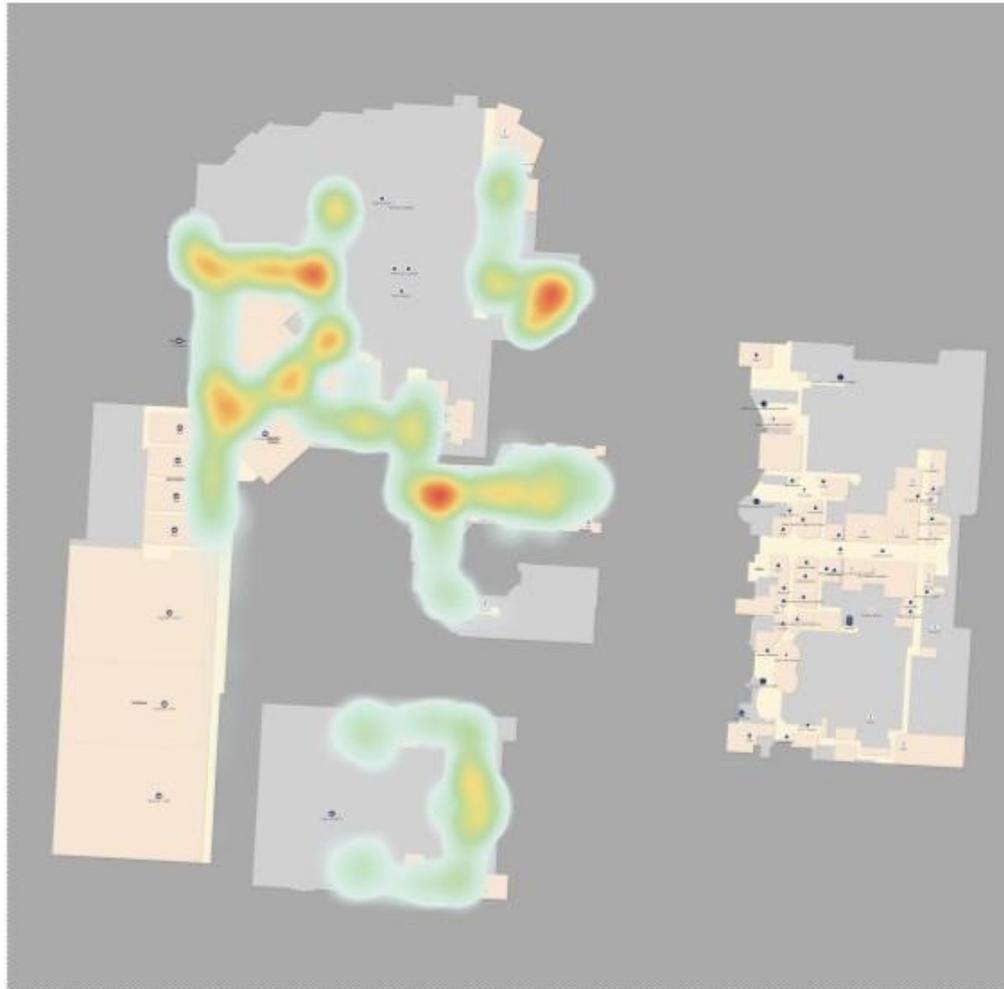
Date  
2020/2/5      2020/2/19  
[Calendar icon]

time  
[All] [Dropdown arrow]

No.of visit (HeatMap)  
1      144  
[Slider bar]  
**Red Spot(s)**

# Heat Map

Navigation tabs: < HeatMap\_L1 HeatMap\_L2 HeatMap\_L3 HeatMap\_L5 HeatMap\_LG HeatMap\_L1M Ad >



Date: 2020/1/5 - 2020/1/19

time: (All)

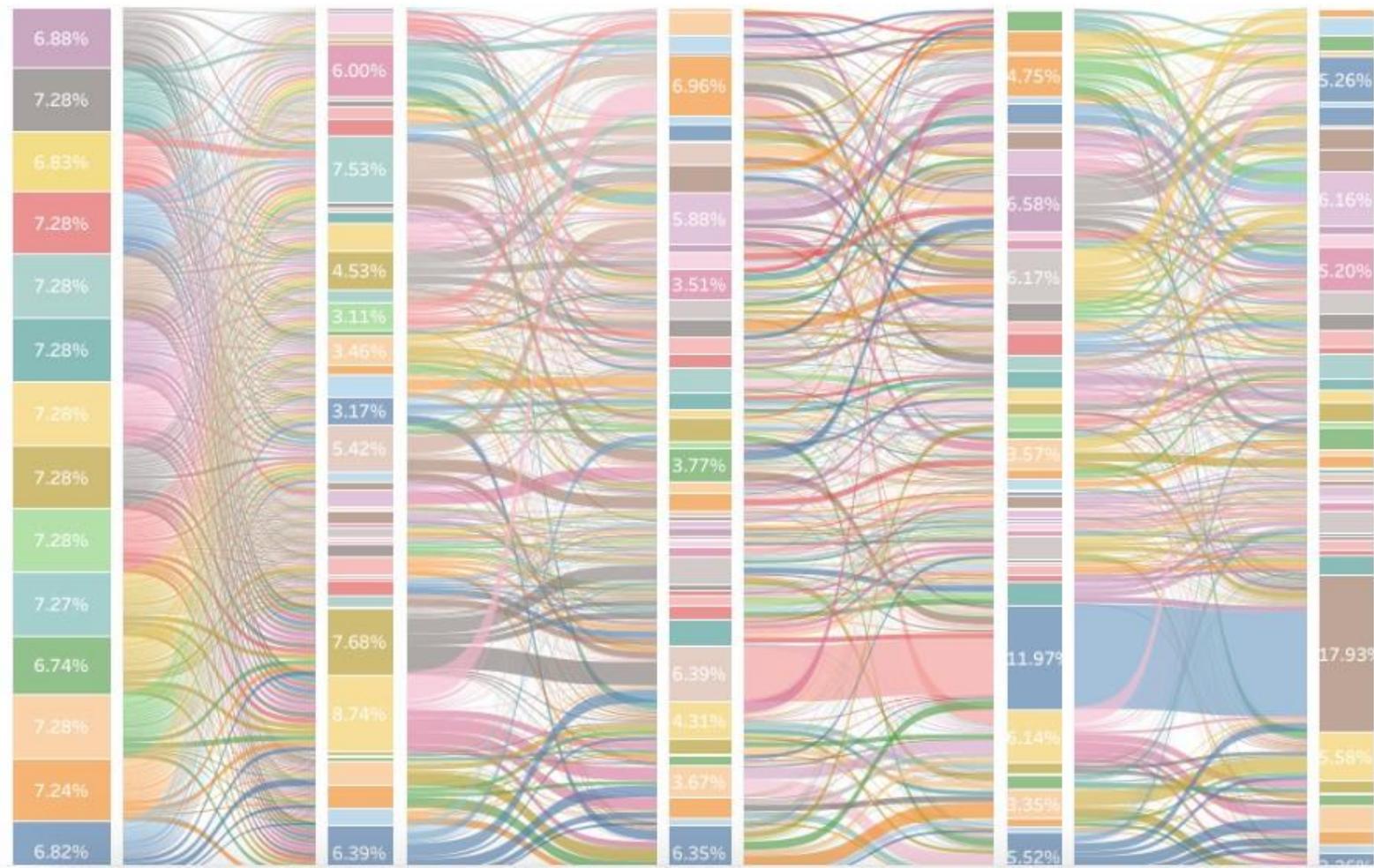
No. of visit (HeatMap): 1 - 259

Red Spot(s)

# Traffic Flow (User Journey)

Hover the mouse over the flows and chart parts to display paths, the Step details and sizes. You can also choose the date to display . Date 2019/12/17  2019/12/30

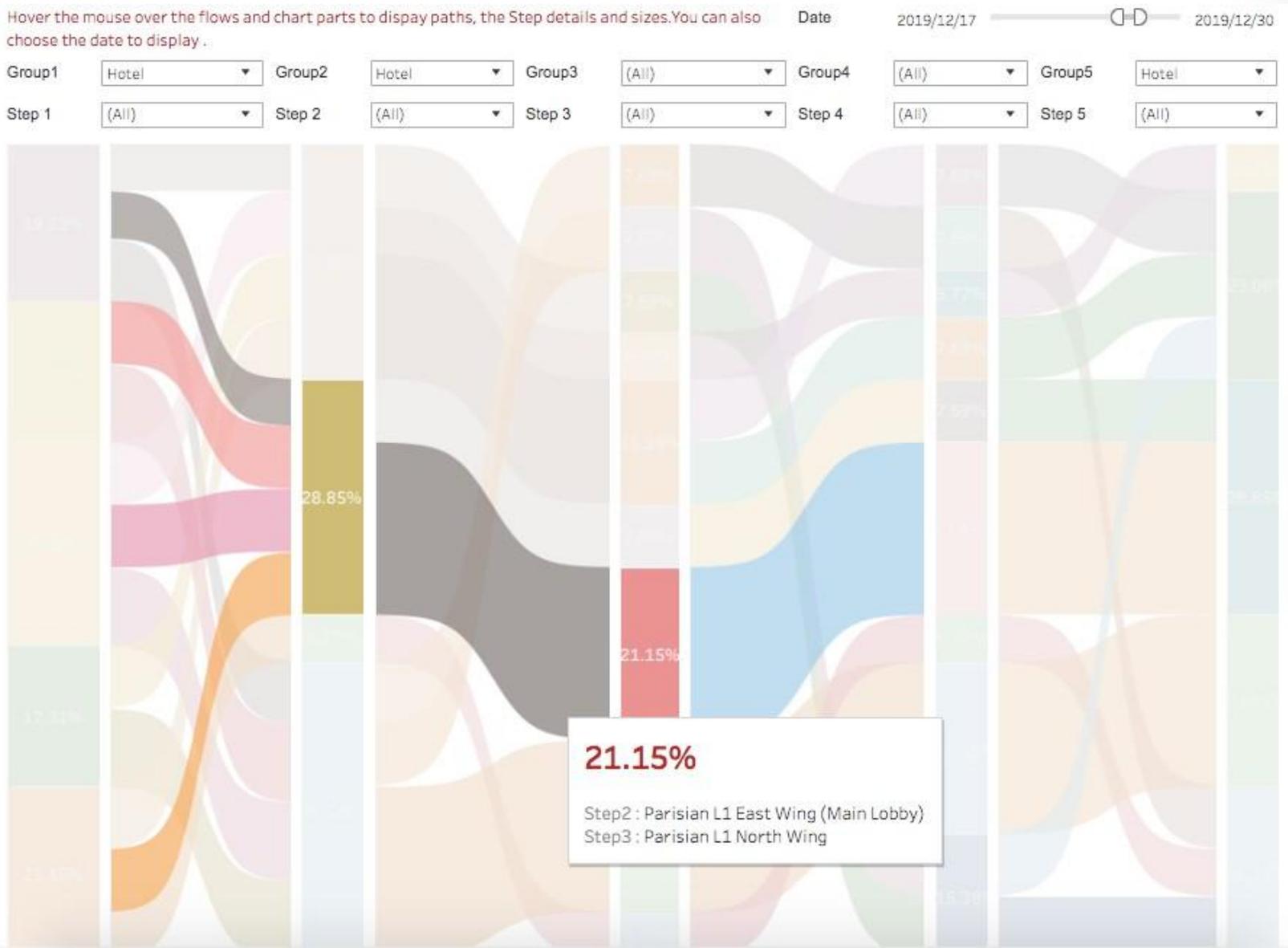
Group1  Group2  Group3  Group4  Group5   
Step 1  Step 2  Step 3  Step 4  Step 5



# Traffic Flow (User Journey)



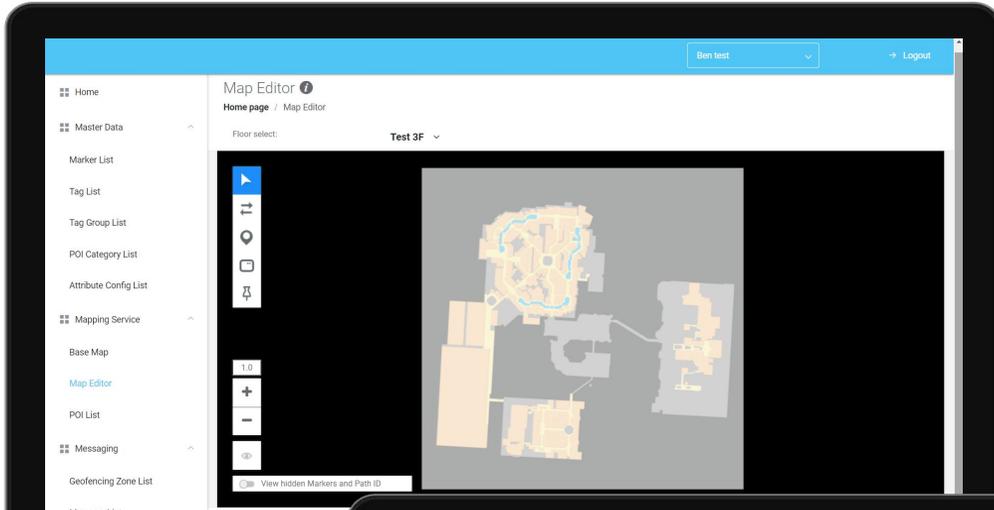
# Traffic Flow (User Journey)



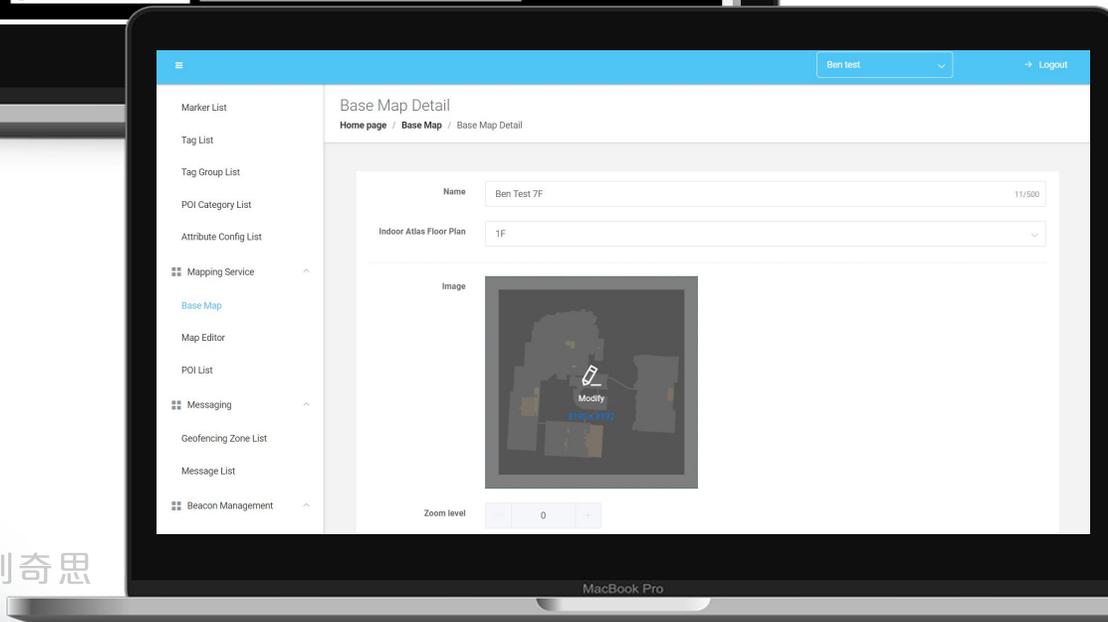


**CMS**

# All-in-one easy Content Management System



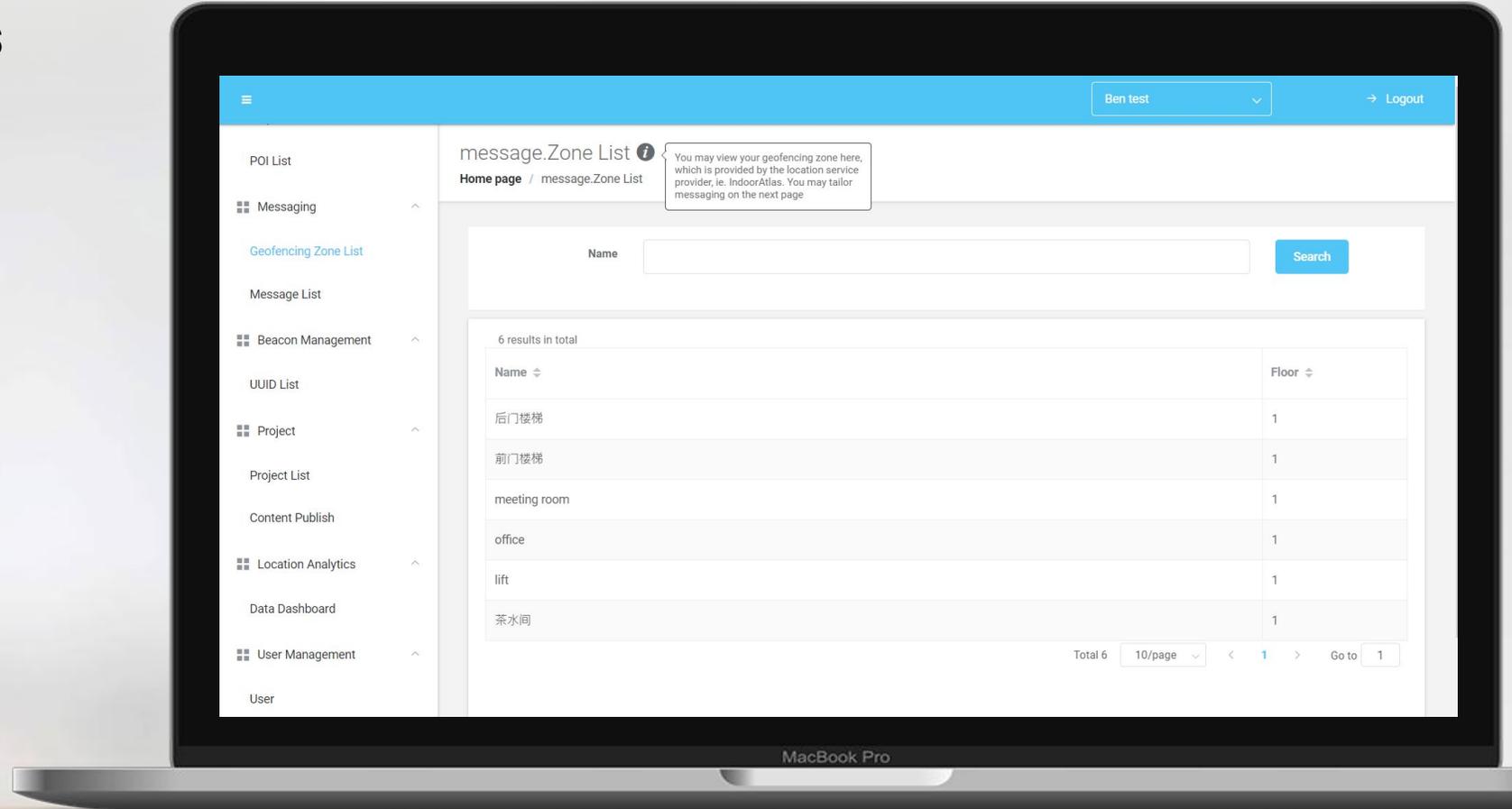
Allow to configure map information without App update and monitor real-time status of beacon device.



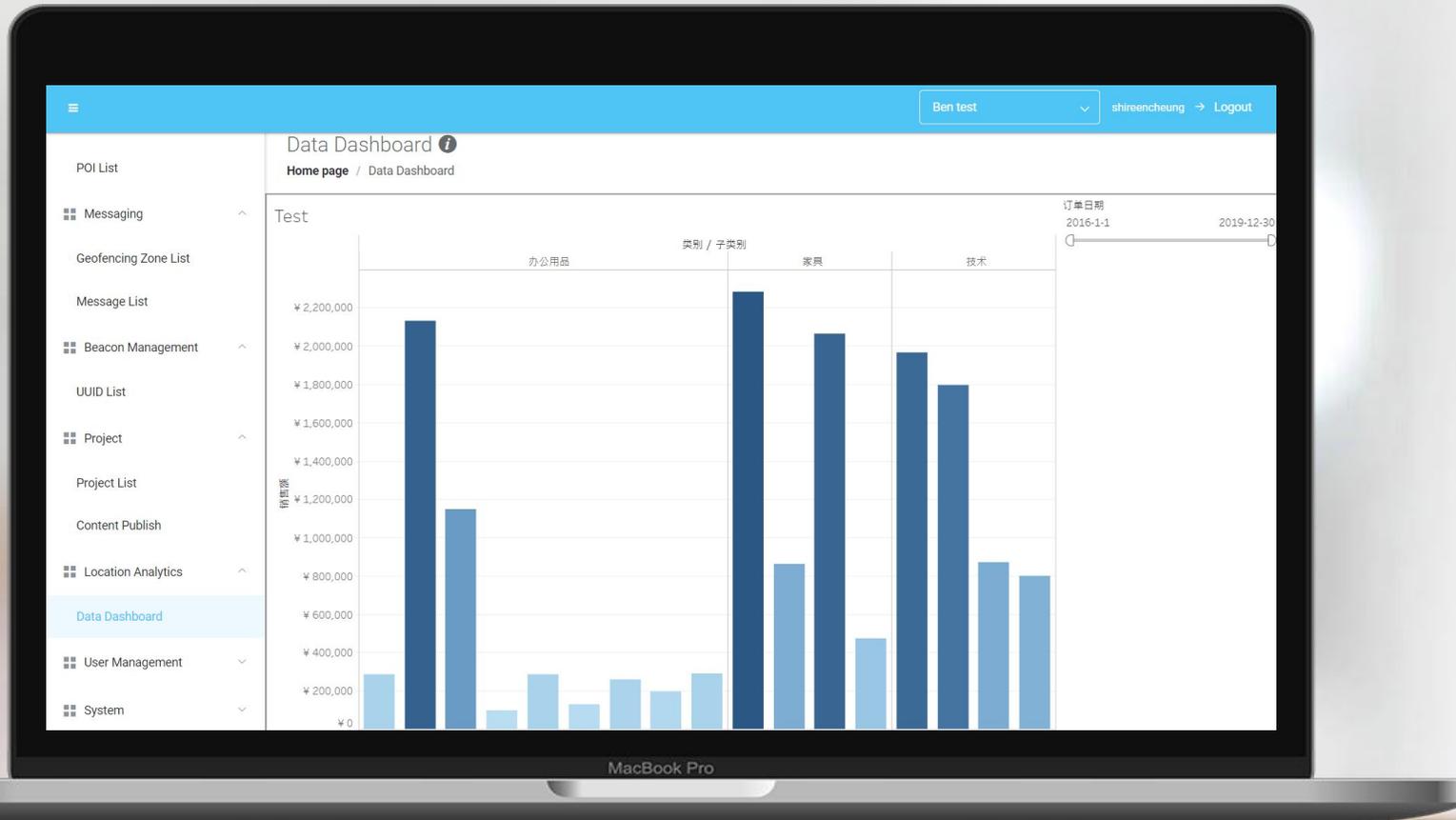
Able to identify the defective beacons that will be needed to be replaced.

# All-in-one easy Content Management System

## Tailormade Geofencing zones & messages



# All-in-one easy Content Management System



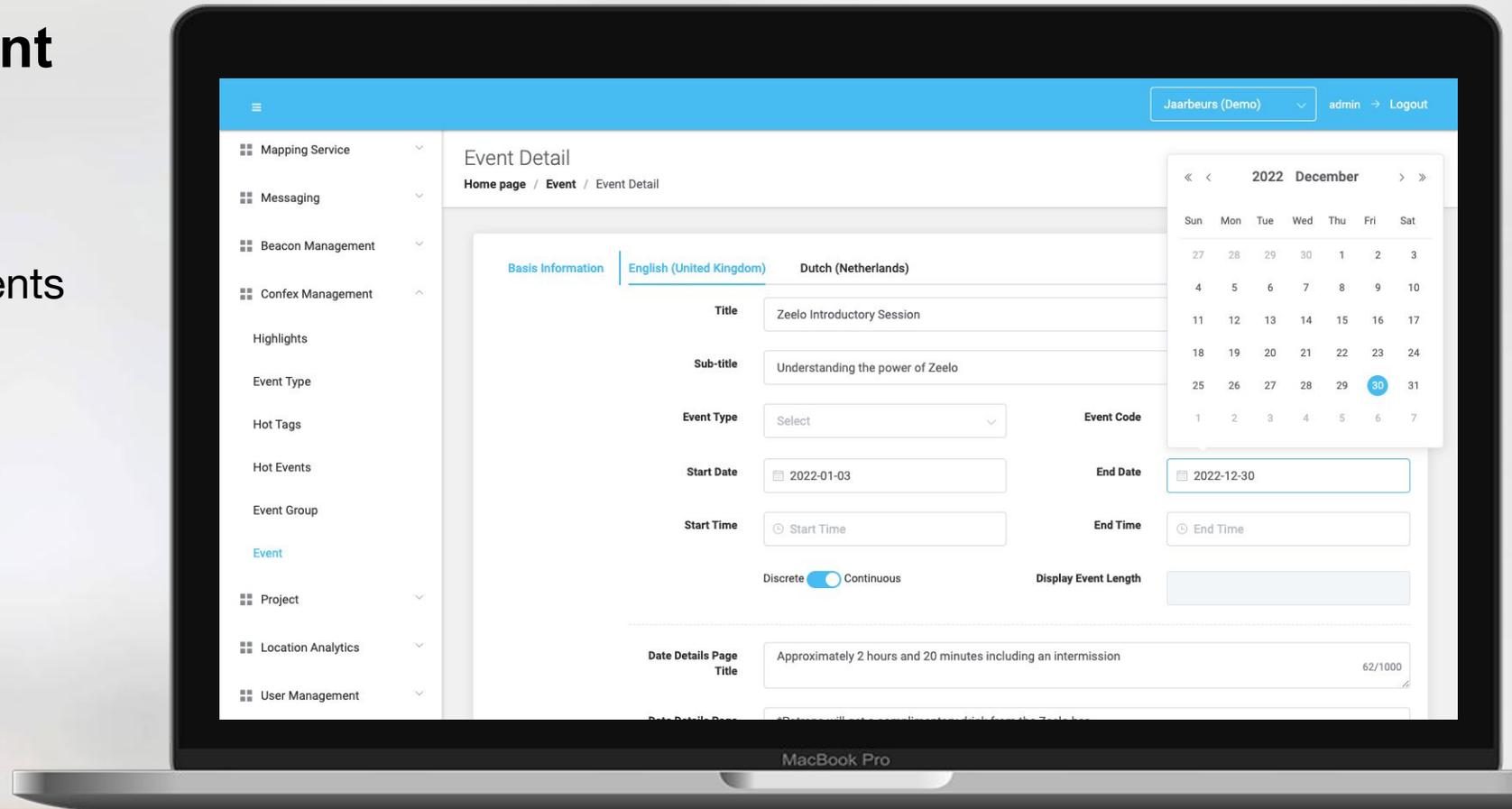
## Dashboard

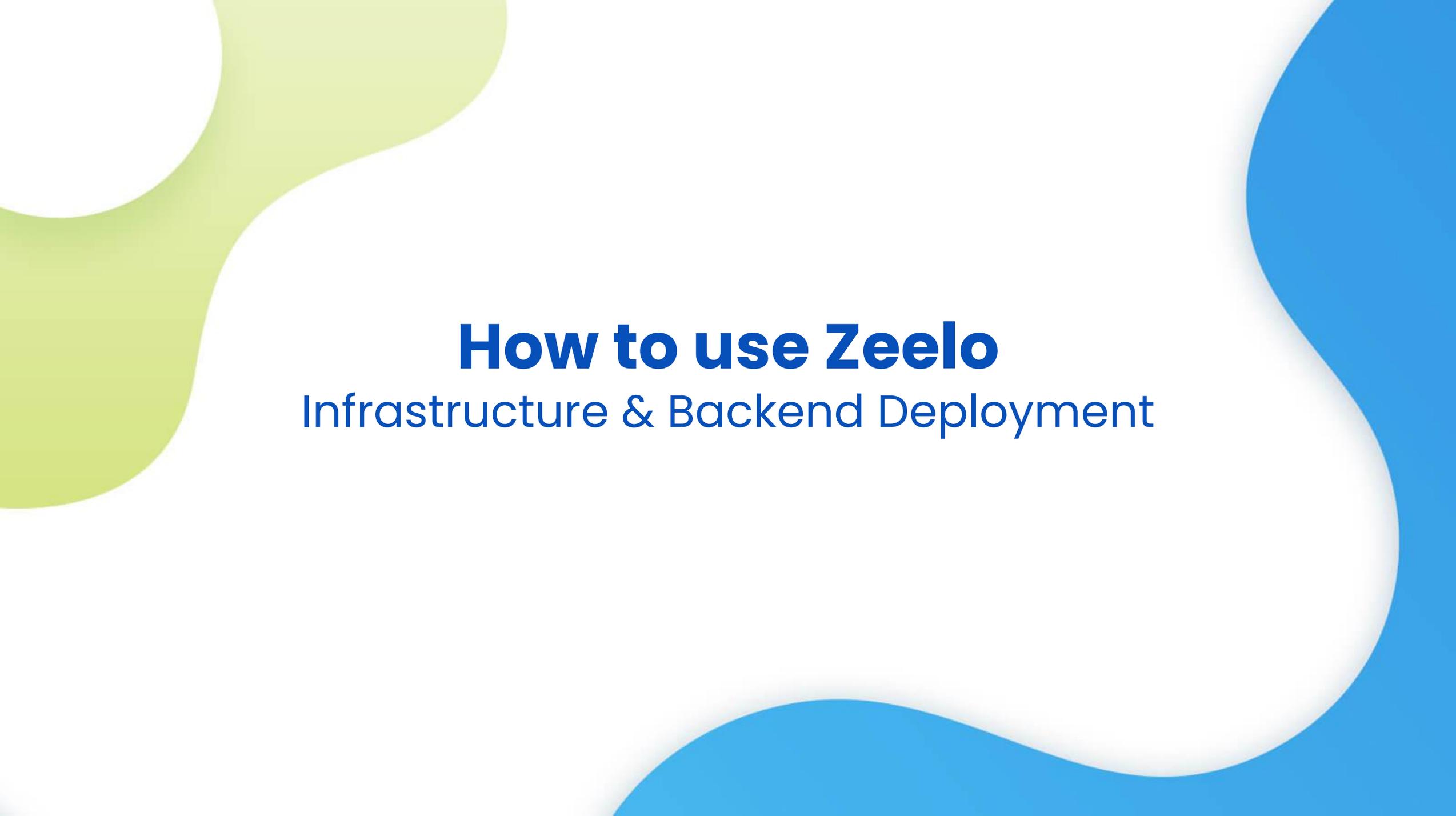
- Visitor behaviours and segments
- Visitor engagement rate
- Various correlations generated for business forecast and strategy planning

# All-in-one easy Content Management System

## ConfEx Management

- Create & Update Events
- Status & Scheduling
- Highlighted and Hot Events
- Event Types & Groups
- Keywords
- Call to Action





# **How to use Zeelo**

## Infrastructure & Backend Deployment

## Step 1 Solution

# Integrate GeoAR with Public Maps and GPS

## Connect Public Maps, such as Google Maps, into GeoAR system

### Our Zeelo backend would allow the District administration to manage its

- Point of Interests (POIs): Tourist Spots, Shops, Malls, Facilities, Transport Hubs and stations etc.
- Descriptions, interactions can be defined for different POIs
- Wayfinding leveraging GPS and complimented by our Zeelo multi-sensor fingerprinting technologies

### Benefits

- AR signages highlighting major POIs
- Excellent user experiences to navigate in the district
- AR signages enabling promotions, advertising opportunities and delivering Tourism services
- Location data collected for users, including pathing, correlations among POIs, dwell time etc., for tourism service planning and city planning.

## Step 2 Solution

# Indoor Positioning and wayfinding experience in selected venues

### Wayfinding and Fingerprinting for selected Indoor POIs

#### It is suggested to select the following venues for implementing indoor positioning capability

- Shopping Mall: Central Embassy (our partner IndoorAtlas already has preliminary fingerprinted map)
- Tourism Spot: Bangkok Art and Culture Centre
- BTS Station: Siam BTS and Chalom BTS (exit detections)

### Implementation of indoor positioning capabilities

- Fingerprinting with our Zeelo multi-sensors fingerprinting technologies
- Planning and implementing ibeacons in areas requiring additional signals to ensure accurate positioning

### Benefits

- Seamless Indoor and Outdoor AR and 2D wayfinding in this spots
- Build up showcases to attract malls and other properties to invest in the indoor positioning capabilities
- AR signages enabling promotions, advertising opportunities and delivering Tourism services
- Location data collected for users indoor areas, including pathing, correlations among POIs, dwell time etc., for tourism service planning and city planning.

## Step 3 Solution

# Information, Gamifications and Social Experiences

**With our Zeelo Content Management System, users can create and update descriptions of tourism spots, services information and facility information.**

**It is suggested that some gamification experiences can be built to attract end users, such as tourists, local shoppers, to create more engaging experiences.**

### Gamification suggestions

- AR Photos: Users can take photo of scenic spots together with 3D avatars or branded virtual graphics (such as logos or other 3D objects)
- iButterfly like location based coupon collection game.

### Social Experiences

- AR Social Wall for users to leave comments and notes of their Instagram posts in specific areas, e.g. Blessing notes post in Thao Maha Phrom Shrine

### Benefits

- Users can find locations they are interested but don't need specific address, e.g. restaurants around me, ATM in the areas.
- Engaging experiences for users to leverage their AR cameras.
- Digital Social Walls to increase viral in digital spaces and create new experiences for visitors

## Step 4 Solution

# Build up a district wide loyalty program with INSTORE

- INSTORE enables individual merchants to manage their own loyalty program and input their shop information
- District can leverage malls, trade organizations or local aggregators, to create a district wide loyalty program
- The shoppers can access all the coupons/concessions provide by merchants and incentive their shopping
- Merchants can motivate shoppers to go into the store by using INSTORE's i Beacons to push "Walk-in" Coupons to reward Shoppers first visit or repeat purchase.

## Implementation

- Recruit merchants, no matter they are street-side shops, retail chains in malls, or even street hawkers, can join the platform
- Merchants will receive our operations manual and a box of iBeacons.
- They can just stick the iBeacons inside the store
- Download our Merchant app and initiate the iBeacon automatically
- Trainings will be provided to Merchants to self operate the platform and manage their coupons, loyalty

## Step 4 Solution

# Build up a district wide loyalty program with INSTORE

### User Experiences

- Users can receive different coupons by walking along the whole district
- For every purchase, they will collect stamps/loyalty points by showing their user QR code to the merchant
- Merchant will scan the user QR code of the users and dispatch the points/stamps to the shoppers
- Our system will keep records of the shoppers' transaction and loyalty points
- Users can redeem coupons and loyalty points for gifts in merchant's outlets

### Benefits

- A self-managed and sustainable loyalty platform for shoppers
- District administration can attract shoppers/tourists by running a district wide reward program
- Build stickiness for users to the District
- On-going revenue opportunities for District and Aggregators
- Collect micro-location data for visitors' patronage to different shops
- Location based promotion push to visitors for shopping incentives

The background features abstract, organic shapes in shades of green and blue. A light green shape is on the left, and a blue shape is on the right, both with soft, wavy edges. The central area is white.

**Technology**

# A Location Technology That Makes A Smarter Venue

## **Real-time and high accuracy positioning.**

1-3 meters accuracy by fusing 5 technologies (Pedestrian dead reckoning, Magnetic field, Bluetooth and Wi-Fi signals).

## **Quick to implement & scalable technology.**

Limited no. of beacons required thus low setup and maintenance cost even for large venue (1 beacon every 200 square meters).

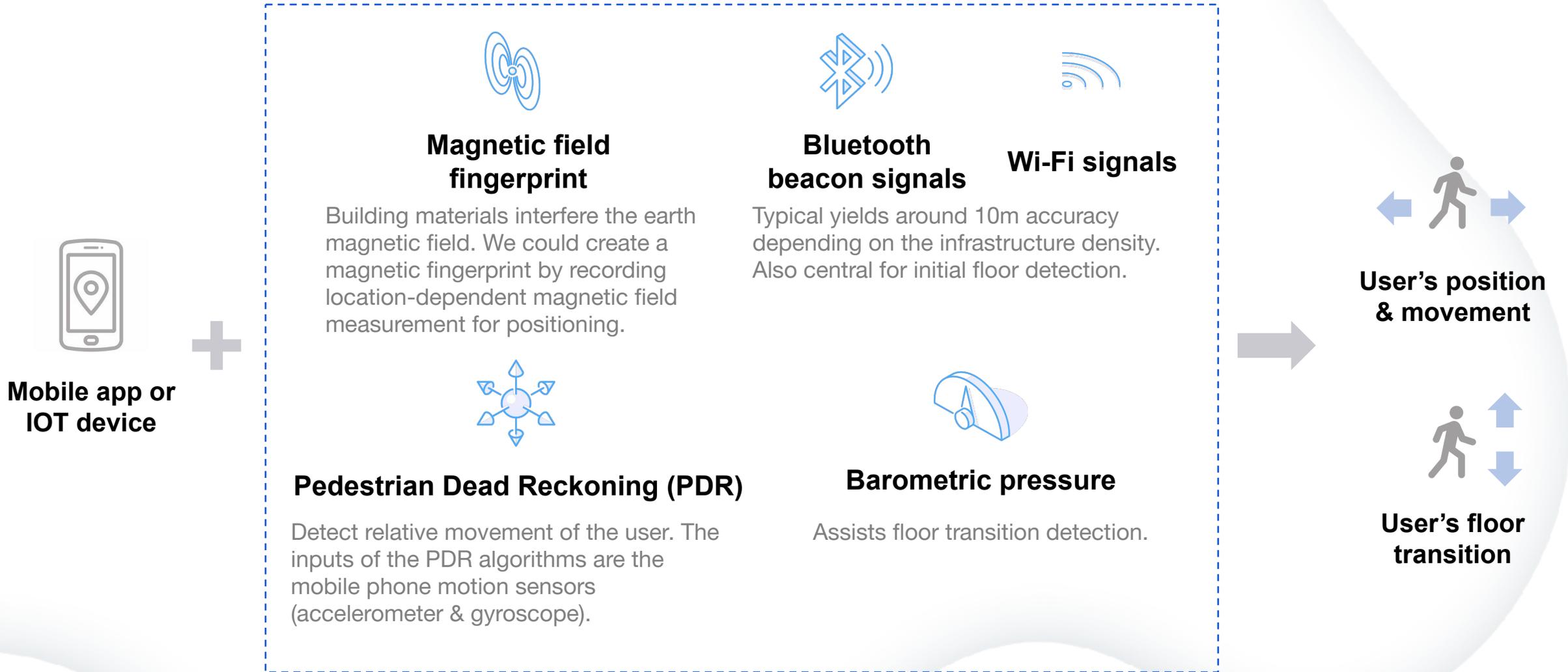
## **Consistent & reliable performance.**

Able to track movement of user and asset in the venue with flexible installation position, thus has minimal visual impact.

## **Seamless transitions.**

Technology fusion supports smooth floor and indoor-outdoor transition; Least interruption to provides best user experience.

# High Precision With Our Fusion Technology



# Proven Beacon Technology That Is Easy to Set Up

## Easy to deploy.

- Stick on with industrial-grade 3M adhesive
- Self-powered
- No wiring involved

## Easy to maintain.

- Beacon health monitoring dashboard

## Proven communication technology.

- CE and OFCA certified
- Well deployed in large venues (e.g. HKIA, MTR, Sands Macao)

Shenzhen BCTC Testing Co., Ltd.  
BCTC Building & 1-2F East of B Building, Pengzhou Industrial, Fuyuan 1st Road,  
Qiaohu Community, Fuyong Street, Bao'an District, Shenzhen, China



### Certificate of Compliance

Certificate Number: BCTC-LH180902651C

**Applicant** : Kontakt Micro-Location Sp. z o.o.  
Ul. Stoczniovcow 3 30-709 Krakow, Poland

**Manufacturer** : Kontakt Micro-Location Sp. z o.o.  
Ul. Stoczniovcow 3 30-709 Krakow, Poland

**Product** : kontakt.io Beacon SB18-3

**M/N** : kontakt.io Beacon SB18-3

**Trademark** : kontakt.io

Essential requirement	Applied Specifications/Standards	Report No.
Art.3.1(a) Safety	EN 60950-1: 2006+A2:2013	BCTC-LH180902652S
Art.3.1(a) Health	EN 62479:2010	BCTC-LH180902651-1E
Art.3.1(b) EMC	Draft ETSI EN 301 489-1 V2.2.0 (2017-03)	BCTC-LH180902651-2E
	Draft ETSI EN 301 489-17 V3.2.0 (2017-03)	
Art.3.2 Radio	ETSI EN 300 328 V2.1.1 (2016-11)	BCTC-LH180902651-3E

The EUT described above has been tested according to the listed standards and found in compliance with the council Radio Equipment Directive (RED) 2014/53/EU. The observations and test results referenced from this Certificate are relevant only to the sample tested. This Certificate is for the exclusive use of BCTC's Client and is provided pursuant to the agreement between BCTC and its Client. This Certificate is part of the full test report(s) and should be read in conjunction with it.




This certificate of conformity is based on a single evaluation of the submitted sample(s) of the above mentioned product. It does not imply an assessment of the whole product and relevant. Directives have to be observed.  
Tel: 400-788-9558 0755-33207888  
Http://www.bctc-lab.com




### LCB Certificate of Type Approval

On the basis of the LCB certification undertaken, the sample(s) of the below equipment has been found to comply with the relevant specification(s) listed on this certificate at the time the evaluation(s) was carried out.

**Name & Address of Certificate Holder:** STARBERRY LTD  
UNIT C-D, 16/F, 10 KNUITSFORD TERRACE, TSIMS/HATSUI,  
KOWLOON, HONG KONG

**Name & Address of Manufacturer:** KONTAKT MICRO-LOCATION SP. Z O.O.  
UL. STOCZNIOWCOW 3 30-709 KRAKOW, POLAND

**Equipment Information**

- Type of Equipment: Radio Equipment Exempted from Licensing
- Brand name: Kontakt.io
- Model number: kontakt.io Beacon SB18-3
- Trade name: N/A

**Specification/ Issue date:** HKCA 1035 Issue 7 (May 2016)

**Certification Issuing Office Name & Address:** Intertek Testing Services Hong Kong Ltd.  
2/F, Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong.

**Certification Number:** HKQ023800179

**File Reference Number:** HK18101011

**Additional information in Appendix I & II.**

*Digitally signed by Ho Wai Kin, Ben  
Location: Intertek  
Testing Services  
Hong Kong, Ltd.*

**Signature**

**Name:** Ho Wai Kin, Ben  
**Position:** Senior Technical Supervisor  
**Date:** 05 Nov 2018

1. Intertek Testing Services Hong Kong Ltd. is a Local Certification Body accredited under section 27(2)(b) of the Telecommunications Ordinance (Cap. 396) Hong Kong.  
2. This is an on-site certification by LCB in our call-in information Note (CIN) Scheme "System or Certification of Telecommunications Equipment (not Industrial, Scientific, and Medical (ISM) Equipment) by the Local Certification Bodies (LCB Scheme)" issued by the Office of the Communication Authority, Hong Kong on October 2014.  
3. This document is for the exclusive use of Intertek's Client and is provided pursuant to the Certification agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of this agreement. Intertek assumes no liability for any party, other than the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this document and/or certificate. Only the Client is authorized to permit copying or distribution of this document and/or certificate and then only in its entirety. Any further use of the Intertek name for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. Failure to comply with the purpose of ensuring appropriate usage of the Certification in accordance with the agreement, they are not for the purposes of production quality control and do not relieve the Client of their obligations in this respect.  
4. Intertek Testing Services Hong Kong Ltd., 2/F, Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong, Tel: (852) 2753 8888, Fax: (852) 2785 5487.

Intertek Page 1 of 3 Intertek Hong Kong - CT1-APAC-CERT-007 (1-December-2017)

# The Simple Process of Indoor Positioning



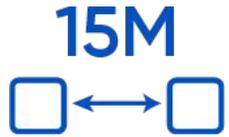
**Precise venue info collection  
using IndoorAtlas  
fingerprinting tool**  
(from magnetic, WiFi, BLE &  
barometer)

**Fingerprint map  
generation**

**Positioning**

**Location data  
capture for  
analytic purpose**

# Beacon installation



**15 meters  
per Beacon**



**Easy stick  
& remove**



**Battery  
long lasting**



**no  
maintenance  
Needed  
(1-2 yrs)**



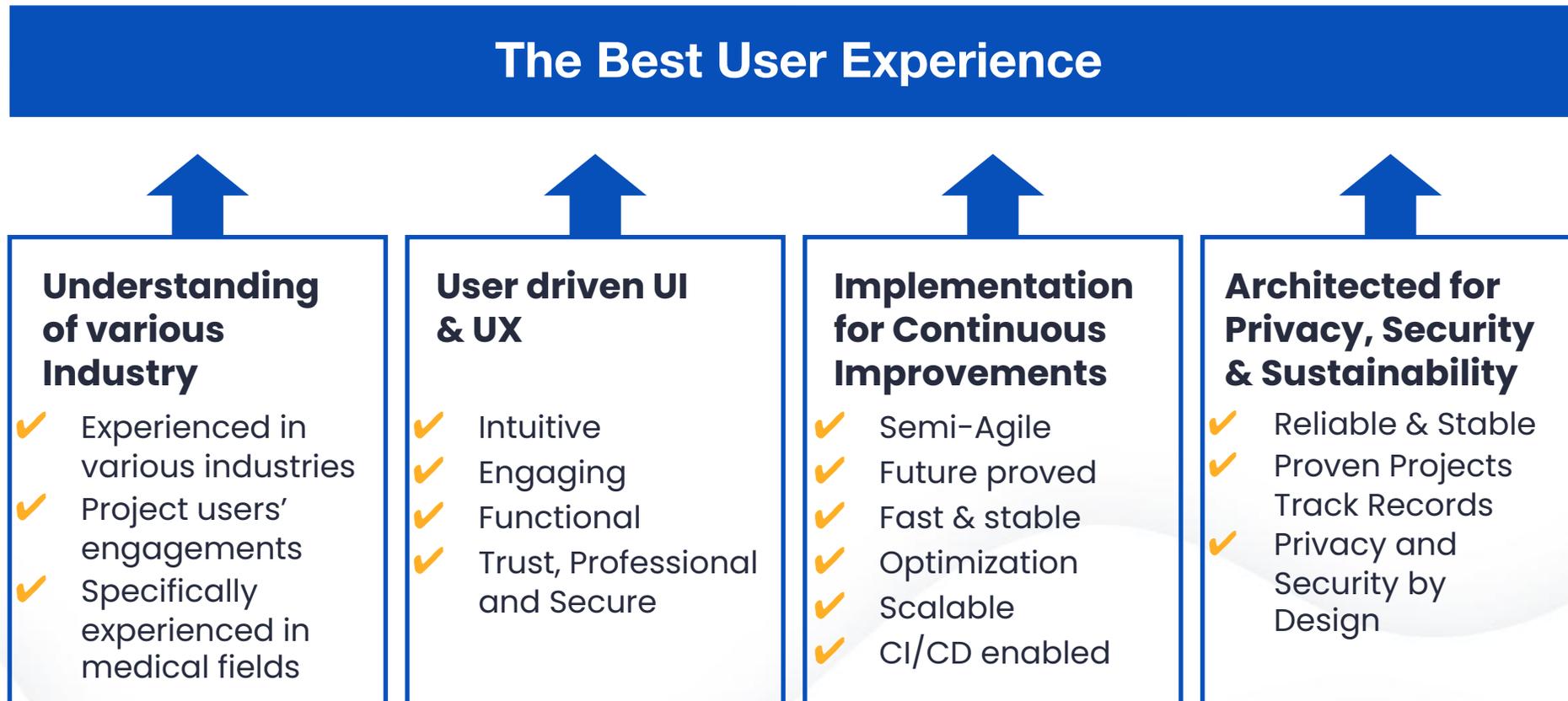
**Update  
of SDK**

The background features abstract, organic shapes in shades of light green and bright blue, set against a white background. The shapes are fluid and rounded, creating a modern, clean aesthetic.

# **Value Proposition**

# Our value proposition

We provide the best services with the best experts. We believe in the best mobile app experiences come from the co-creation of mobile technology expertise with the enlightened industry leaders. The value proposition we offered from Cherrypicks include:



# cherrypicks



**No.1**

Mobile Innovation &  
Smart City Company



**21**

Years of Mobile  
Innovation  
Experience



**10+**

World Class  
Innovation or  
Pending Patents  
in Mobile



**200+**

Professionals



**120+**

Top Honors in  
Digital Marketing  
& Technology