Nawigacja z wykorzystaniem WiFi

Powered by Cisco Mobility Services Engine & Looksoft

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WiFi pokrywa większość miejsc gdzie najczęściej przebywamy

Location of Mobile Usage
percentage of total time spend in activity

- Mobile Internet
  - In-transit: 20%
  - Office: 17%
  - Home: 42%

- Mobile Video
  - In-transit: 16%
  - Office: 14%
  - Home: 49%

20% to również są: Galerie Handlowe/Sklepy, Dworce/Lotniska, Stadiony/Kina/Muzea, Szpitale/Hotele/Szkoły...

WiFi Addressable
- 80% Internet
- 84% Video

Source: Cisco IBSG Connected Life Market Watch, 2011
Base: Respondents engaged in activity

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Czego klienci oczekują po WiFi?
Cisco Internet Business Solutions Group (IBSG) Customer Research

Wi-Fi is a viable alternative to mobile with new sources of value, especially when integrated with mobile networks.

Key Research Insights

- *It’s All About the Home* – the home is the number one place for connected mobile devices and as a origin for Wi-Fi traffic, it is growing
- *The Device World is Wi-Fi* – almost all devices are Wi-Fi enabled; with the exception of smartphones Wi-Fi is the preferred way to connect to the Internet
- *People Prefer Wi-Fi to Mobile* – customers strongly see the benefits of Wi-Fi and prefer it to mobile in all attributes, except coverage
- *A Seamless Experience* – seamless hand-off and integration between mobile and Wi-Fi is a critical customer requirement
- *New Ways to Make Money* – customers are interested in new Wi-Fi services that enhance the retail experience, provide roaming and secure access to remote content
- *Wi-Fi Can Fight Churn* – offering free Wi-Fi may be a way to retain existing broadband customers and to attract new ones from competitors
- *Wi-Fi + Mobile = “New Mobile”* – customers are interested in a combined Wi-Fi-mobile offer that provides pervasive cost effective, seamless mobility without surprises

enhance retail experience
mamy na to pewien pomysł…
The customer’s personal mobile device and its characteristics are detected before they enter the venue.

The customer is seamlessly and securely connected to the Wi-Fi network based on their personal preferences and profile, including device type and roaming credentials.

The customer receives highly relevant content and services based on their preferences, profile, and real-time location within the business venue.

**Customer:** Presence in the venue.

**IT:** Understand network utilization, peak usage, number and types of devices on the network.

**Business:** Insights into customer online and onsite behavior, most traffic paths, dwell times, location density etc.
Usługa lokalizacyjna
Elementy logiczne

- Presence Detection
- MSE Location Services
- Location Analytics

- Auto On-Boarding
- Hot Spot 2.0
- Lobby Ambassador
- ISE

Mobile Concierge
MSE Location Analytics + Cisco Prime Infrastructure

Concierge enables engaging with customers via different media

On Device without Application 802.11u/MSAP (QC)

Browser (Future)

Mobile App

Different ways to implement app

App Editor

Mobile Concierge SDK

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Mobile Concierge – App Based Integracja z Looksoft
Usługa lokalizacyjna - Mobile APP
Jak to działa?

1. User downloads Mobile app
2. User installs app, accepts T&C's
3. App registers with App Server
4. User Enters Venue
5. MSE Captures MAC addr & location of device, notifies app server
6. App server looks up DB confirms if MAC belongs to a registered user
7. App Server pushes notification over 3G/4G
8. User Accepts notification, mobile app is started, user on boarded to WiFi network
Demonstracja przykładowu użycia lokalizacji WiFi
Gdzie to się może przydać?

**RETAIL**
- Consumers
- Context rich promotions
- Informed purchase decisions
- In-store experiences

**HOSPITALITY**
- Guests
- Maps with featured attractions
- Happy hour show tickets
- Gift shop promotions

**TRAVEL**
- Passengers
- Staff security to passenger traffic flow
- Flight updates gate directions
- Improve travel experiences

**HEALTHCARE**
- Patients
- Wayfinding patient apps
- Improved patient experiences
- Medical device location history

**EDUCATION**
- Students
- Campus maps directions
- Stadium sales athletic event experience
- Real-time bus maps
Smartfon może więcej – natywna obsługa Chipset Qualcomm (Snapdragon)

• Dwa filary współpracy z Qualcomm:
  — Nawigacja wewnątrz budynkowa z asystą infrastruktury
    • Zintegrowanie komunikacji pomiędzy MSE – Qualcomm
  — Mobile Service Locator – rozgłaszanie usług sieciowych
    • Wbudowana obsługa klienta MSAP w Chipset Qualcomm

• Integracja MSE – Qualcomm wprowadza wiele ułatwień w nawiązywaniu połączeń w przypadku braku aplikacji na smartfonie – MSE wysyła push aktywnej ikony

  — Logika usługi nieco przypomina AGPS – aparat zna koordynaty AP oraz zna uprawnienia użytkownika – np. elektryk z ekipy utrzymaniowej otrzyma inny plan obiektu niż sprzątaczka.

  — Smartfon otrzymuje z sieci informację o wskazanym SSID
Mobile devices using the Qualcomm Snapdragon chipset will have a built-in MSAP client which will communicate with the MSE to fetch Service Advertisement and make them available to the user.

1. Qualcomm based mobile device enters the venue
   - If the phone finds MSAP support in the beacons, it will try to find the MSAP server hostname (the MSE hostname) from the DNS SRV record

2. Embedded MSAP client tries to detect support for MSAP using the beacons coming from the APs

3. Once the MSE hostname is resolved the MSAP client on the phone communicates with the MSAP service to fetch all available Service Advertisements
Location Analytics

ThinkSmart Integration

Logika biznesowa dostępna z poziomu MSE
Visualizing the Data

- Both 2D and 3D views are available, with 3D as the default. 3D building representation requires using a browser that supports WebGL.

Note: Not all browsers support WebGL on all hardware.

Ideally the hardware would have a 3D graphics card to ensure compatibility with WebGL.
Intro to the Analytics UI

- Analytics View with default building

3D Result Visualization Area

Analysis Control Panel
A Better Analytics UI For Outdoors

- Two Dimensional Analytics View with Open Street Maps

2D Result Visualization Area

Identical Analysis Control Panel
Analysis Control Panel

- Allows the customer to define the type of analysis they want to carry out and on what subset of devices, such as date, time, zone, etc.

- Switch between analysis and reporting
- Rule types to specify which devices are considered in the analysis
- Type of analysis to conduct
- Building to conduct the analysis on
- Start the analysis
Defining a Rule Set

- A number of rules together is called a “rule set”
  - These can be saved and loaded to repeat the defined analysis criteria

In order to describe the subset of data, parameterized rule types have been created.
- The rule around date presents the user with valid dates of location points in the database.
- The time rule allows the user to specify any hour/minute within 24 hours.
- Rules on paths identify devices with possible start, finish and/or intermediate points on a path.
Navigation and Information Panel

- The panel in the upper right-hand corner provides navigation, view, and parameter selections

Select 2D view or overhead perspective

Point, Orbit, Pan and Zoom controls

Additional Information

Select 3D view

Parameter Selection

Result Visualization controls
Interface Navigation Demo

- Analytics UI is reached at http://your.mse.ip.address:8080/ui
Selecting the Reporting button within the Analytics Visualization view takes you to the Report Generation view.
Available Reports

- With this release of analytics processed on the MSE we are limited to five pre-canned report options
Focusing the Report Output

- Although reporting is limited to pre-designed formats, each report can still be customized to focus the output to a smaller data set.
Report Output Format

- Once a report is run the results are returned as a downloadable .pdf file
Czy moja sieć Wi-Fi nadaje się do lokalizacji?

Wymagania lokalizacyjne
Zalecenia dotyczące projektowania sieci pod lokalizację

- Dla każdej sieci można włączyć lokalizację ale nie dla każdej wyniki będą dokładne
- Zawsze zacznij od planowania radiowego
- W praktyce może zajść potrzeba zagęszczania sieci
  - Używaj mniejszych, częściowo nachodzących na siebie komórek
  - Dla usług data only: 10% AP może się nakładać
  - Dla usług data+voice: 20% AP może na siebie nachodzić
  - Dla zwiększenia dokładności pomiaru AP nie powinny być rozmieszczone w jednej linii oraz w odległościach 15 – 22m od siebie
  - Średnio na obiektach typu lotnisko przypada 1 AP na 230 – 460 m kw
  - Anteny (AP zintegrowane) nie powinny być instalowane wyżej od podłogi niż (3 – 6m)
  - Antenna diversity i/lub ClientLink powinny być włączone