



Aalto University
School of Electrical
Engineering

ELEC-E7830 Value Network Design for Internet

Value Network Configuration

Case Joikusoft

Kasper Jääskeläinen

Mikko Nousiainen

Xing Huang



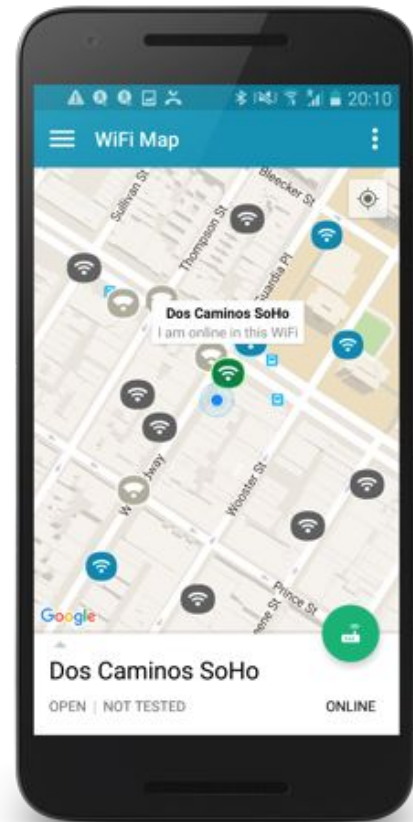
22.2.2016

Case Description

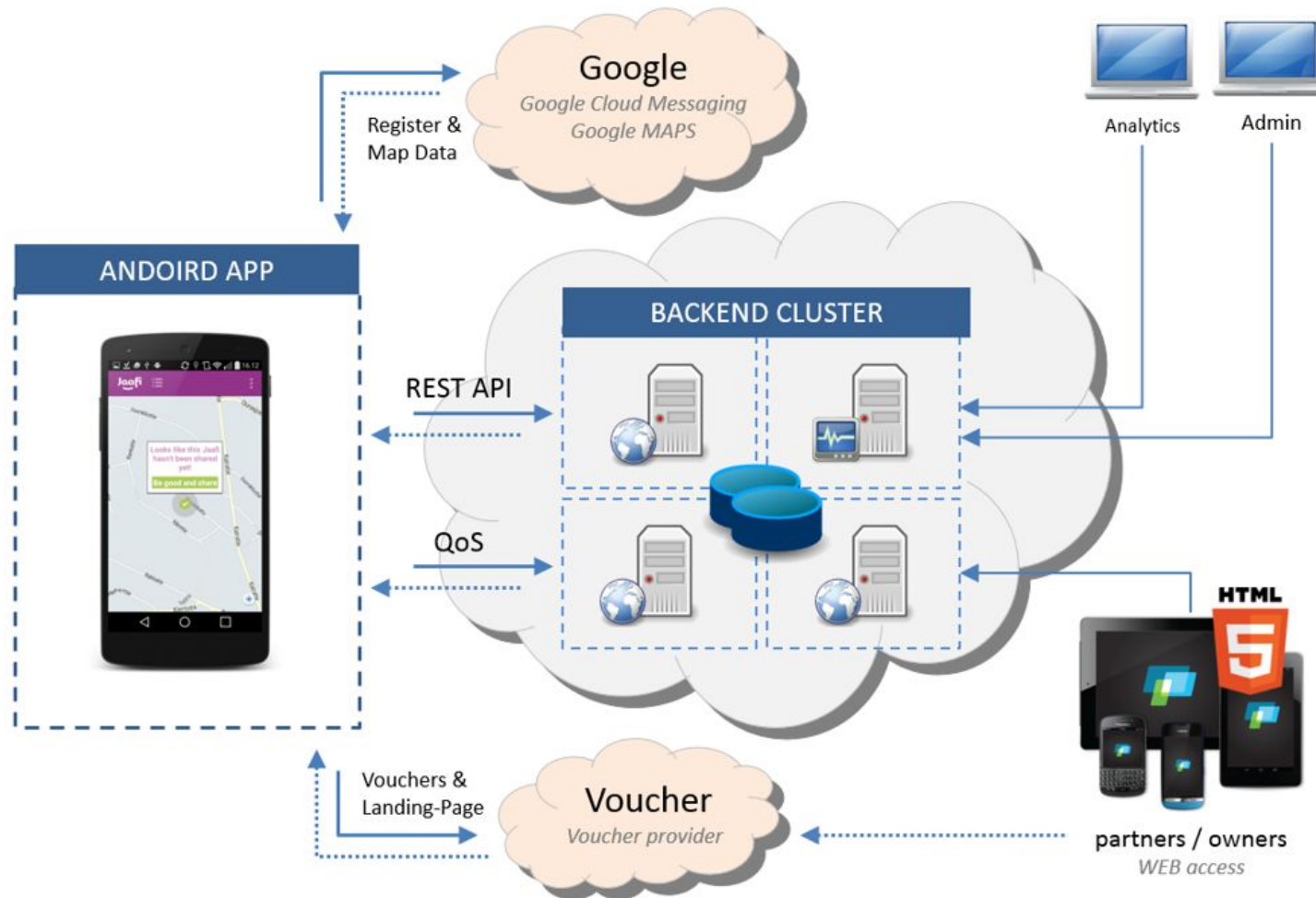


JoikuSpot WiFi

- New Service for locating & sharing WiFi-networks
- Focus is on good quality connections & ease-of-use
- Joiku was first to introduce 3G + WLAN tethering to mobile users using Symbian platform



Technical Architecture



Scope and Stakeholders

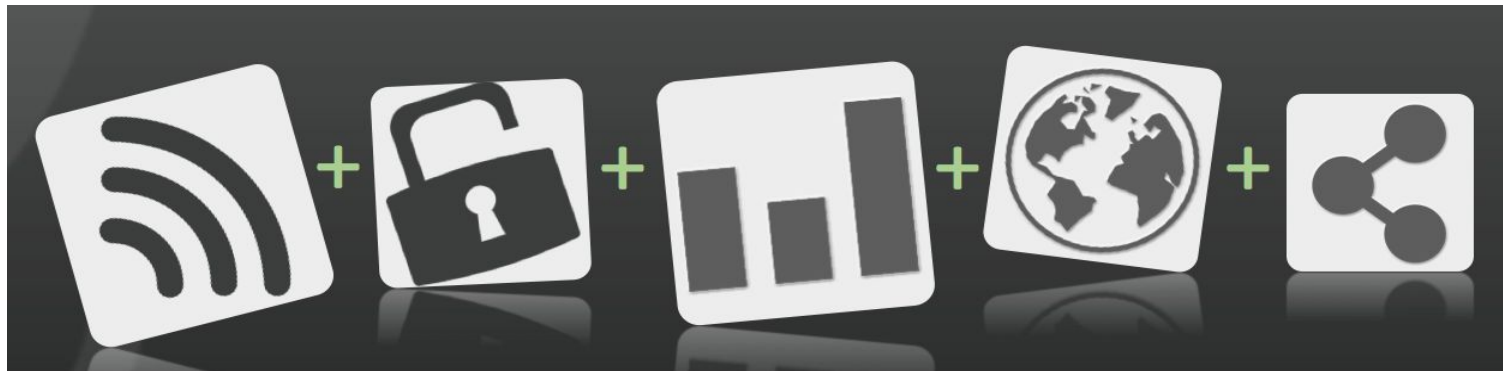
- Time frame: 5 years
- Scope to create profitable mobile app & service in reasonable time frame
- Stakeholders:
 - WiFi device users
 - Digital Development Platform Owners (e.g. Google & Apple)
 - Operators
 - Venue owners
 - Investors
- Markets
 - World-wide, with some exceptions

Key Trends

- Data usage is still growing exponentially
- Resource limitations are growing problem (radio spectrum limits for mobile networks & WiFi congestion)
- Growing markets have problems to increase the network coverage fast enough
- Mobile Roaming still relatively expensive
- WiFi is spreading fast and relatively cheap
- Younger users are more willing to share, “the culture of sharing”

Key market uncertainties (1/2)

- How to differentiate the service?
 - Lots of competing apps in the market
- What will Google do?
 - They have huge database of WiFis already, why they haven't acted on this market?
- Future of WiFi-access?
 - 4G & 5G and other future technologies



Key market uncertainties (2/2)



- How will operators react?
 - Some operators are already blocking phone WiFi features
- What are the main generators for revenue?
 - Smart promotion & revenues from advertising
 - Wlan owners or users
 - No ads directly in the application, smart promotion a possibility
- How to achieve critical mass of users? (ca. 1 million)
 - How to attract and keep active users?

Scenarios

Deployment of WiFi LANs?

		Venue Owner Driven	ISP or Regulation Driven
How the value is generated?	Quality WiFi LAN Access Driven	<p>Viable ecosystem</p> <ul style="list-style-type: none">• A lot of WLANs available• Quality varies a lot• App users create most of value• Users need last-mile WiFi connection	<p>Hostile ecosystem</p> <ul style="list-style-type: none">• Very challenging• ISPs dominate VNCs• Regulations limit WiFi-sharing• Users don't need WiFi
	WiFi-Sharing & Smart Promotion Driven	<p>Booming ecosystem</p> <ul style="list-style-type: none">• Both app users and venues can create value equally• Maximum amount of VNCs available for monetization• Both last-mile connection, WiFi sharing & venues attract users & can enable growth	<p>Niche ecosystem</p> <ul style="list-style-type: none">• ISPs capture larger part of value network (last-mile) but can't dominate• WiFi sharing & Venues create some value and attract users

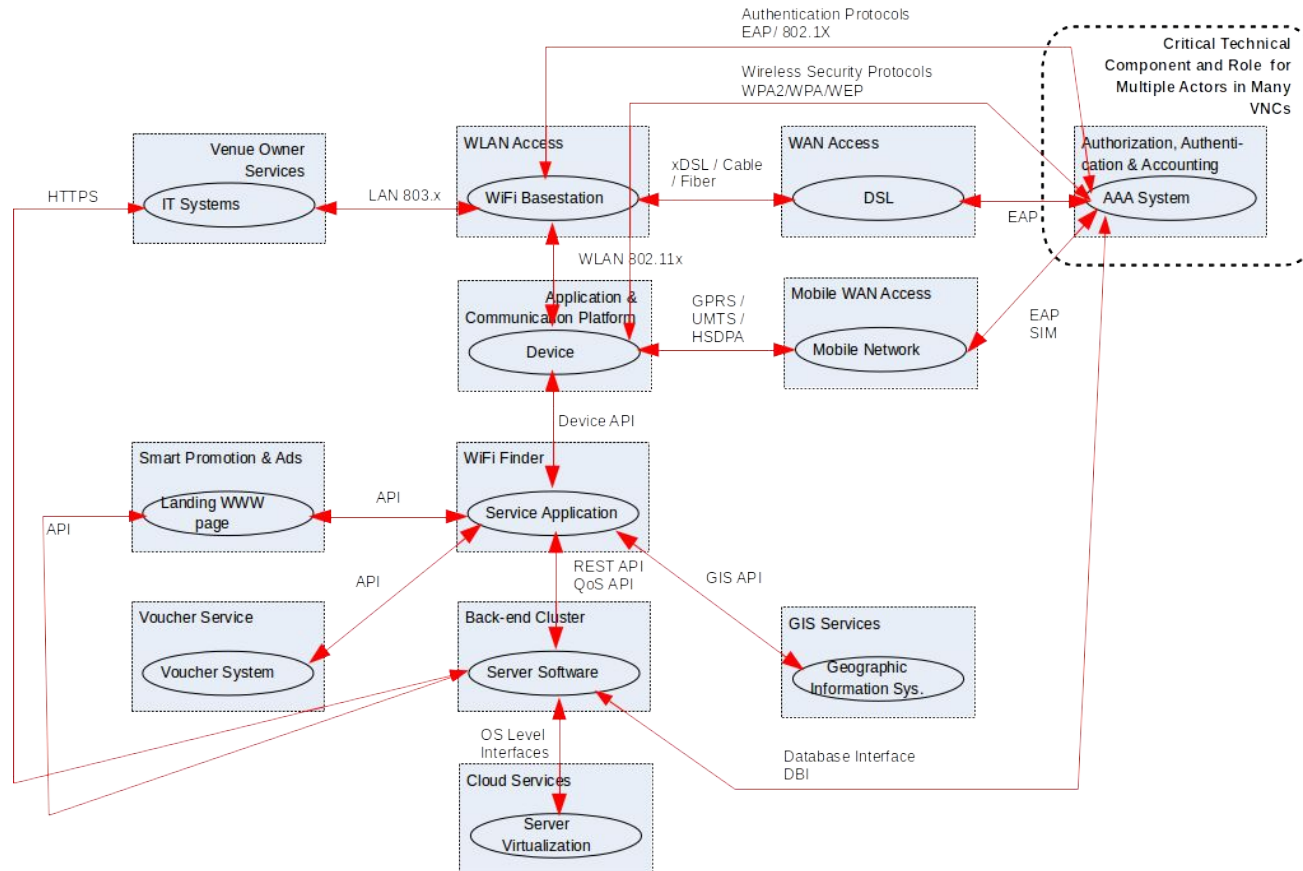
Value Propositions

Target Stakeholders	Value Proposition
WiFi Device End Users	<ul style="list-style-type: none">• Quality over quantity: Find quantifiably better WiFi hotspots than from competitors• Excellent ease of use and user experience: Fast, lightweight and unintrusive application• Previously known and trusted brand
Venue Owners	<ul style="list-style-type: none">• Secure and flexible sharing of WiFi locations and passwords: QR-codes & messages (SMS, IM, e-mail)• Enhance your WiFi base station with cloud intelligence• Usage data and analysis services• Make WiFi Serve the Business: Grow sales using Smart Promotion and integrate sales services & processes to your WiFi

Service Domain: CDIs & CSFs

Critical Design Issues	Critical Success Factors
<ul style="list-style-type: none">• Quality measurement service must be designed to offer accurate and quantifiable information• Service security must be top priority due the value of data stored (WiFi access keys, location data, user data)• Data Analysis Services must be designed from ground up to offer relevant and accurate data• Service Design must address technical and business integration capabilities to 3rd party services for maximum network effect to aid monetization	<ul style="list-style-type: none">• Quality over quantity: Find quantifiably better WiFi hotspots than from competitors i.e. offer better service• Excellent ease of use and user experience: Fast, lightweight and unintrusive application• Sharing of WiFi keys must be effortless and secure• Data Collected from Service users can be analyzed and valuable insights are gained• Monetization happens “behind curtains” to gain and keep users.

Technology Domain



Technology Domain: CDIs & CSFs

Critical Design Issues	Critical Success Factors
<ul style="list-style-type: none">• Software Development is agile and fast• Client software doesn't waste resources• User Interface design supports ease of use• Software has multiple open APIs• Software can support and connect multiple platforms and supplemental 3rd party services e.g. GIS service	<ul style="list-style-type: none">• Server software is scalable• Client software is fast and lightweight• Software included in solution is easy to use• Software is technically easy to integrate to 3rd party solutions

Organization Domain

- Core team, 2 persons
 - At some point more workers +2 persons
- Technology bought from 3rd party
 - Maps and servers

Organisation Domain: CDIs & CSFs

Critical Design Issues	Critical Success Factors
<ul style="list-style-type: none">• Strong core team needed• People with ability to build or have existing connections to relevant stakeholders are top priority in recruiting for sales roles• Technically adept and versatile personnel will be in high demand	<ul style="list-style-type: none">• Organisation can grow fast enough• Organisation can hire skilfull people as needed• Organization manages to create strong ties to relevant organizations that help to produce or can utilize the offered service platform

Financial Domain

Investments

- Own capital
- Ask for venture capital
- Business angel
- Still looking for money

Revenues

- Break-point within a year
- Should become very fast after launch
- Different revenue models

Costs

- Online maps
- Data
- Offline maps costs more
- Labors

Pricing

- Knowledge already
- No adds
- No money from user

CSFs for customer value

- Compelling Value Proposition
 - *“Good quality Wi-Fi with easy access and flexible ways to share”*
- Clearly Defined Target Group
 - Android users using Wi-Fi
- Unobtrusive Customer Retention
 - Valuable and good app
 - No adds
- Acceptable Quality of Service
 - Fast maps and quick downloads
 - Reliable data

CSFs for Network Value

- Acceptable Profitability
 - Break-point within one year
 - Revenues grows faster than costs
 - Revenue sources need clarification
- Acceptable Risks
 - Own money used vs. investor money used
 - Investor control vs. own shares
- Sustainable Network Strategy
 - Partners: Geographich Infromation Service Providers, Voucher Service Providers, Point-Of-Sales System Integrators, Venue Owners and Investors
- Acceptable Division of Roles
 - Own application, clear role

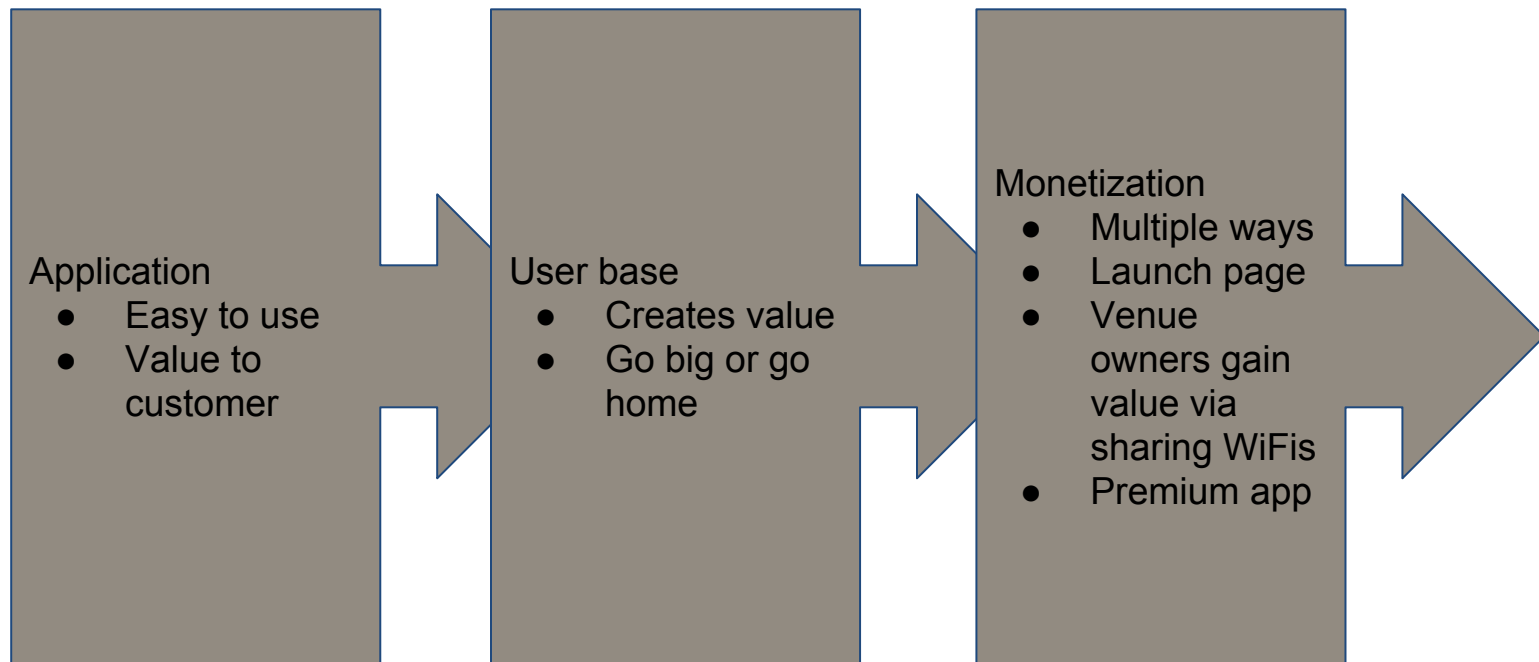
Proposals to Company

- **Develop the application fast**
 - Move from beta to launch as soon as possible
- **Go big or Go home**
 - Look for self reinforcing loops in value creation and value exchange: Attract user base with free top quality features and monetize the created platform industry from “behind the curtains”.
- **Manage Resources Smartly**
 - Be ready to scale fast employee and service wise.
 - After initial launch and check of viability, be ready to move other platforms fast
- **Create something exciting in the app** (e.g. gamification, collection of vouchers)
- **Prioritize the easy and secure sharing of WiFi passkeys** and build cloud services that enhance the WiFi base station features and add value for common and professional users.

Questions?



Refining based on CDIs



Technology Domain

- Application uses
 - WiFi
 - Location
- Maps
 - Important part
- Download only relevant data
 - Saving phone memory and battery
- Technology to measure the quality of the WiFi
- Analyzed data can be used

Robustness check

- **Internal validity:**

people can find and use free and good wifi

- **Predictive validity:**

judging by the beta version, the app is good enough to deliver the value

- **Robustness:**

In short term, the environment will not change

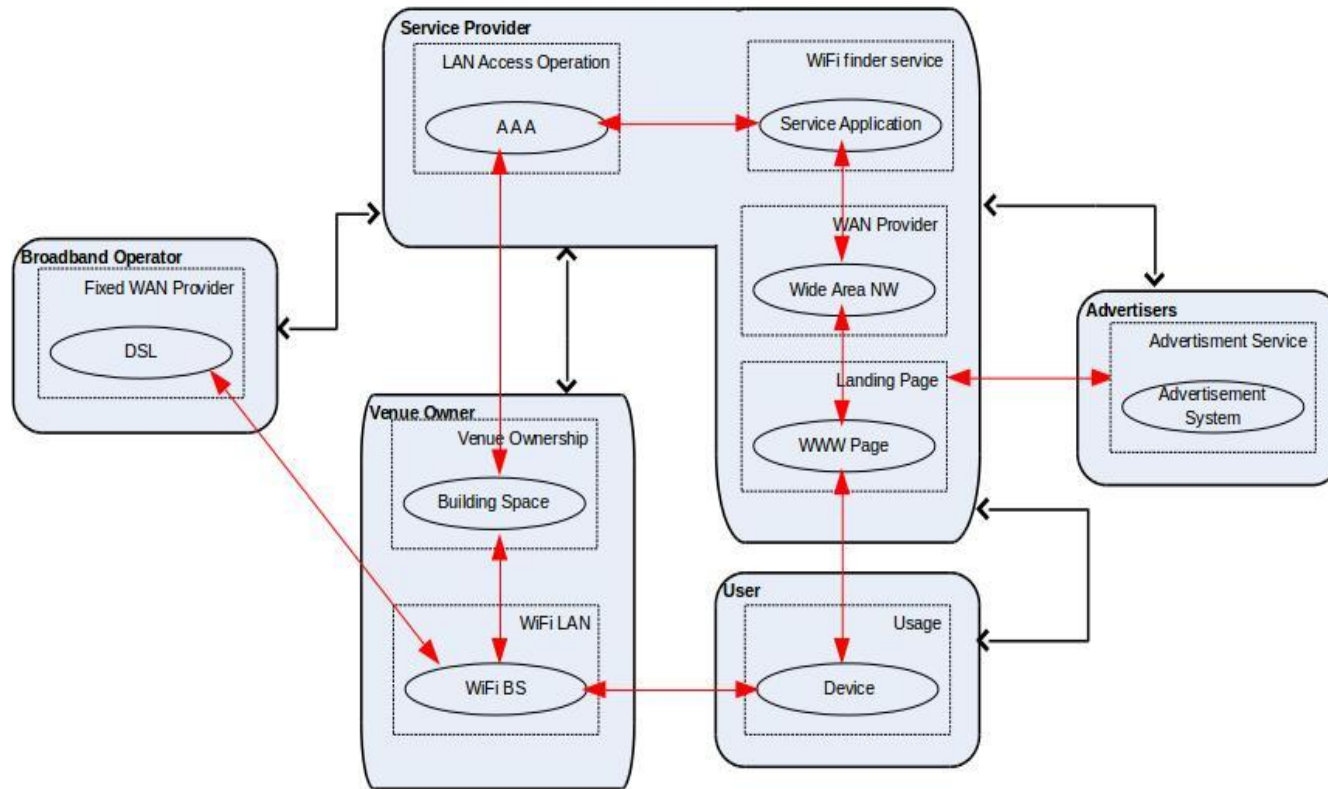
- **Adaptability:**

Value Distribution in Scenarios

Deployment of WiFi LANs?

		Venue Owner Driven			ISP Driven		
Value of free WiFi	Low	Very challenging			ISP dominate		
		Operators	Competitors	Joiku	Operators	Competitors	Joiku
		€	€	€	€€€		
High		Booming ecosystem			No threat		
		Operators	Competitors	Joiku	Operators	Competitors	Joiku
		€	€	€€€	€	€	€€

Device Owner Driven VNC



Venue Owner Driven VNC

