Lappeenranta open data and public transport

Why and what to do?

The innovation

- “Not inventing the wheel again”
  - Benchmarking proved processes to achieve value in a different market
  - Helsinki (& Tampere)

- Lappeenranta city public transportation information portals
  - Open database
  - Mobile app
  - Web app

- Lappeenranta City Open Data project ?

Open database

- Opening the public transport data creates a platform for business and usability
  - May have a condition that application of data must present useful functions for the public
  - And maybe restrictions for business use (not too harsh)
- Opening different databases from the city altogether
  - Creating possibilities for entrepreneurs, companies and citizens
    - E.g. Healthcare (not restricted data), utilities, waste management, tourism
- Plus it’s all ‘free’ for the city
  - Creates revenue from taxes

Feasibility

TELOS

- Technological
- Economic
- Legal
- Operational
- Scheduling

Technological

- All proven technical applications
  - Open data portal
  - Web app
  - Mobile app
- Development should be made
  - Prevent publishing obsolete apps and services

Economic

- If applications implemented through the open data project
  - No cost for city
  - Possible revenue, while people would use more public transport
- If made by city itself -> costly
  - Maybe even poor quality
  - No positive ramifications (employment, entrepreneurship possibilities etc.)

Legal

- If not releasing protected data, shouldn’t be any legal issues
  - Contractual secrets
  - Personal data
- Must take into account laws about fair competition and laws regarding city officials dealing with business activities

Operational

- If applications implemented through the open data project
  - Only operational output is the creating the open data project
- Operational duties for city servants should be made as light as possible
  - Minimizing costs for city
  - Project operational leadership -> Thesis subject?

Scheduling

- All depends on the city’s schedule
  - Entrepreneurs are quite efficient
- Open data project should be launched as soon as possible
- This project would anyway be useful even if it took time to be finish.
  - the system is always needed

SWOT-analysis

S - Revenue creating - Cheap way to improve PT services - Doesn’t need much developing	W - Possible and unavoidable abuse of open data - Lack of open data
O - New users for PT services - New business - More route options for PT	T - No open data available - Technical flaw

Value proposition

- What does the city have to lose?
  - Open data project not very expensive
  - Especially if benchmarked thoroughly
- What can the city achieve?
  - Good publicity
  - Greater usability of public transport
  - Other possible outcomes from contributors
  - Savings with better services (win-win)
  - Revenue from taxes

Working methods and tools

- User driven innovation
- 5 Whys

User Driven innovation

- People become more creative when they recognize and try to get rid of the obstacles
- We are from different backgrounds, by working together we are able to get new ideas, our advantage is also that the problem is same from everyone
- Sampo, Helsinki, Finland (Industrial management)
- Simo, Kotka, Finland (IT)
- Yongyi, Tianjin, China (IT)

Tools

5 Whys

- strategy is an easy and often-effective tool for uncovering the root of a problem
  - It works by repeating the question “why” until the root cause of the problem is apparent

Why 5 Whys?

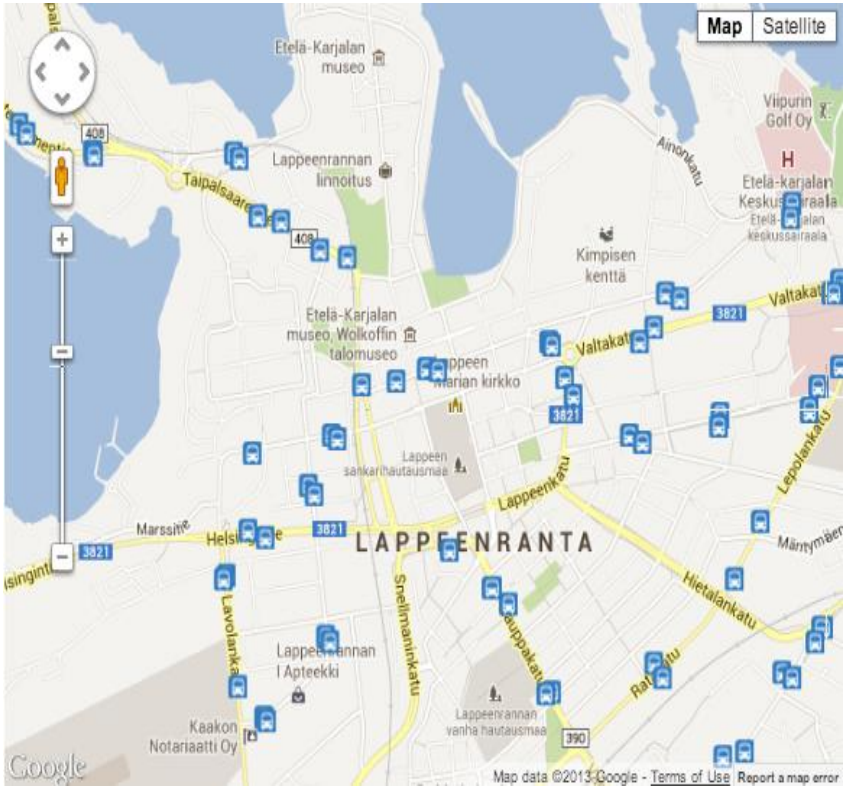
- In our case this tool is effective because the problem solution is simple
- Solution is simple if we are able to access all the needed data
- There already is similar applications in use in other places
- Our designed application combines all the good things from our experiences

Problems

- Route guidance at the moment is hard to use
- It doesn’t work on mobile devices
- It’s slow
- People need to see bus data precisely (maybe also live data)
- Travelers and foreigners do not understand Finnish
- Also do not know the city, so they should be able to use GPS and POI’s
- Expensive to travel and also to develop new software for route guidance

Route guidance (now)

- Really hard to use bad UI
- Does not support POI input
- Does not support other languages (than Finnish)
- No bicycle and walking



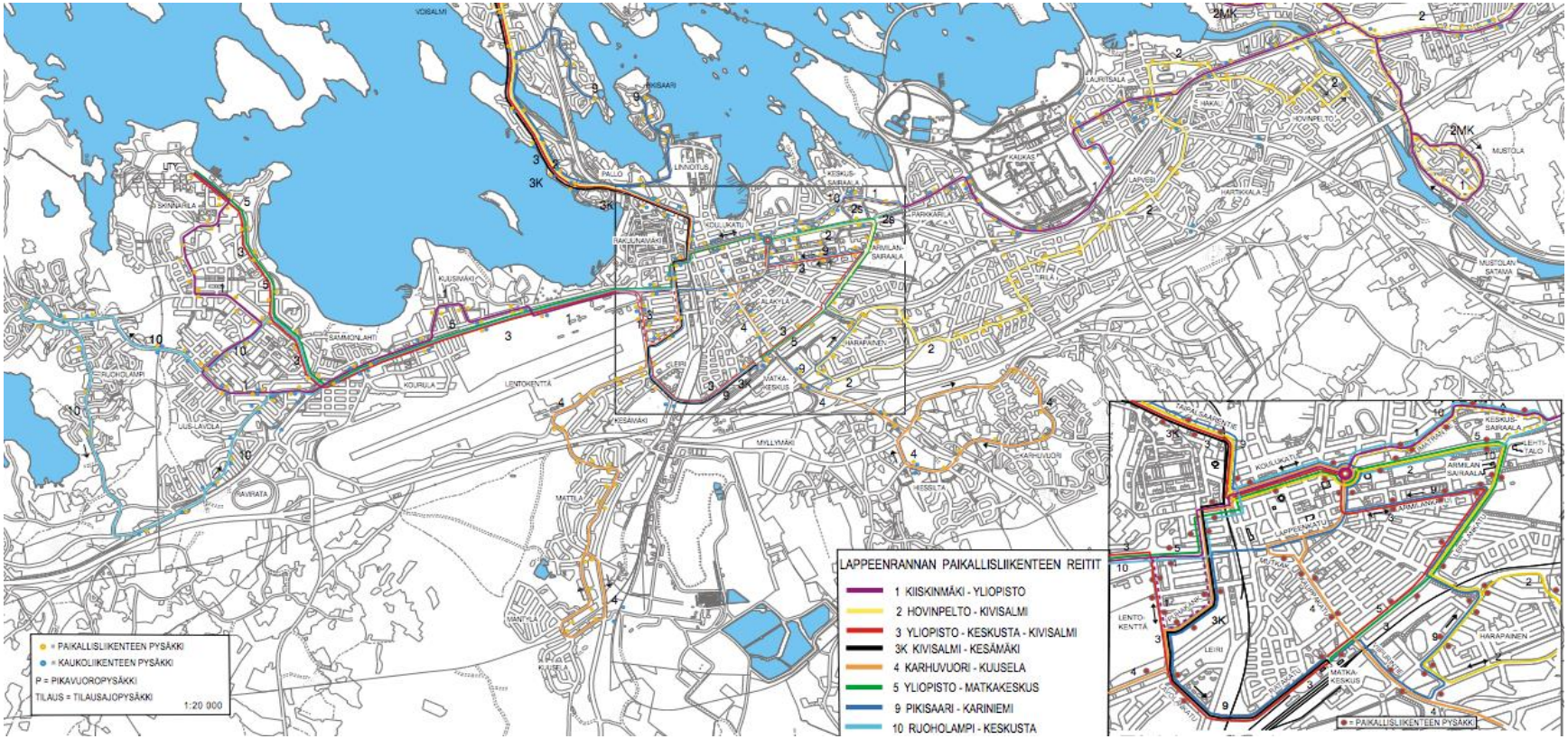
Open data

- Maps
- Bus schedule
- GPS, Reverse GPS, POI
- Bicycle route
- Walking route
- Skiing route
- Weather

Maps

- Google Maps API
- Design the new map
- developers.google.com/maps/

Bus


LAPPEENRANNAN PAIKALLISLIIKENTEEN REITIT
1 KIISKINMÄKI - YLIOPISTO
2 HOVINPELTO - KIVISALMI
3 YLIOPISTO - KESKUSTA - KIVISALMI
3K KIVISALMI - KESÄMÄKI
4 KARHUVUORI - KUUSELA
5 YLIOPISTO - MATKAKESKUS
9 PIKISAARI - KARINIEMI
10 RUOHOLAMPI - KESKUSTA
= PAIKALLISLIIKENTEEN PYSÄKKI
= KAUKOLIIKENTEEN PYSÄKKI
P = PIKAVUOROPYSÄKKI
TILAUS = TILAUSAJOPYSÄKKI
1:20 000

Bus

- Bus Number:
  - Line 1, 2 and 5
  - Line 3 and 3k
  - Line 4 and 9
  - Line 10
- Bus Route: www.lappeenranta.fi
- Bus Schedule: www.lappeenranta.fi
- Bus Stops: lprwilima.lappeenranta.fi:8080
- Price: www.lappeenranta.fi

Green Track

- Add skiing tracks (Winter time)
- Add walking and jogging tracks
- Add bicycle trail
- Data can be found in www.lappeenranta.fi
- More information: kartta.lappeenranta.fi

Weather

- Weather info + Mapping = More User Friendly
- Lappeenranta: en.ilmatieteenlaitos.fi/weather/lappeenranta
- Lahti: en.ilmatieteenlaitos.fi/weather/lahti

App

- Most popular mobile OS:
  - Android, iOS, WP
- Most development tools are free
- Thin or Fat client
  - Mobile app or base on web

Data we need

- Coordinates
- Geocoding (POIs, stops and addresses)
- Reverse geocoding
- Bus number
- Routing
- Stop timetable
- Weather

Optional:

- Cycling, walking and skiing routes
- Bus real time location