

# M3-Weather: A Smart-M3 World-Weather Application for Mobile Users

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# Idea

M3-Weather is the world-weather widset implemented in Smart-M3

**Problem:** mobile users need receiving up-to-date weather information

- regularly
- browser-based approach is not convenient

**Solution:** weather is displayed on user's device

- current location
- widest approach



**Open source (GPLv2)! Maemo!! Linux!!!**



# Basic use-case scenario



## Example:

Weather data by 25.10.2010  
16:00 GMT+3

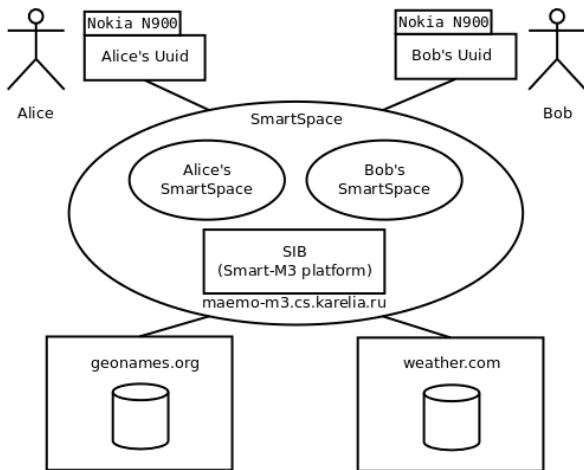
Traveling in Finland,  
North to South

The detection process:

- 1** coordinates (**device**)
- 2** nearest city (**user**)
- 3** weather data (**user**)



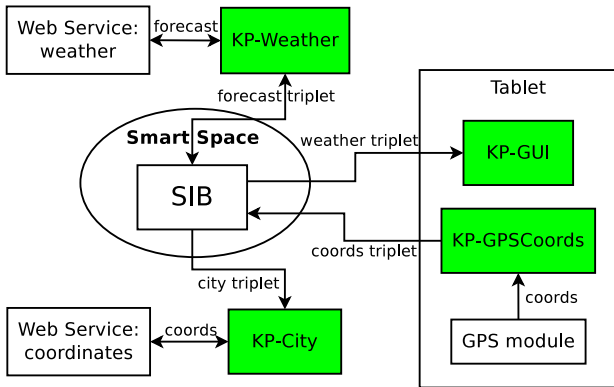
# Multiple users



- Smart-M3
- SIB maintains users' smart spaces
  - ▶ Each client has unique ID (Uuid)
  - ▶ Non-intersecting personal spaces (**now**)
  - ▶ Interactions in composite smart space of personal spaces (**future**)



# Distributed Application



KPs on user device

- KP-GUI
- KP-GPSCoords

KPs on dedicated servers

- KP-City
- KP-Weather

KP for testing:

- KP-Coords (not shown)

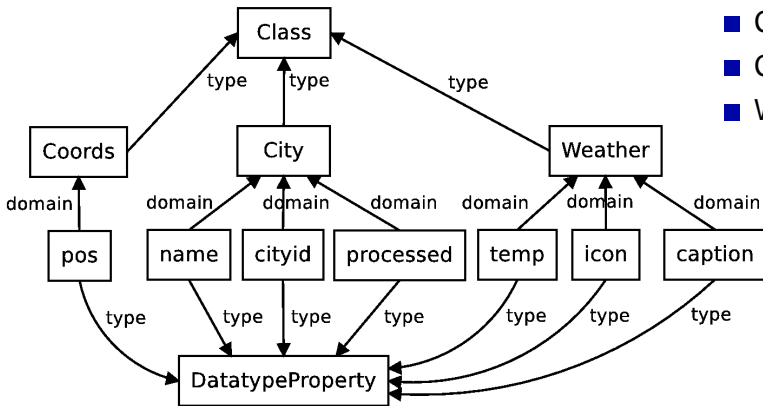


# KP Roles

- 1 KP-GUI** is a desktop widget subscribing to weather and city data and visualizing them
- 2 KP-GPScoords** regularly requests the device **GPS module**
- 3 KP-City** subscribes for coordinates.  
*When updated it sends a request for the nearest city name to web-server (e.g., [GeoNames.org](#))*
- 4 KP-Weather** subscribes for city names.  
*When updated it sends a request for the weather forecast to web-server (e.g., [Weather.com](#))*
- 5 KP-Coords** allows manual input of coordinates



# M3-Weather Ontology



## Basic classes

- Coords
- City
- Weather

This ontology is simple and easily extendable





# Open Source Code (GPLv2)

All sources are published on

<http://gitorious.org/m3-weather/>

KPs for mobile devices are packages in the Maemo repository:

- **m3w-widget:**

<http://maemo.org/packages/view/m3w-widget/>

- **m3w-gps:**

<http://maemo.org/packages/view/m3w-gps/>

- **m3w-coords:**

<http://maemo.org/packages/view/m3w-coords/>

Try them ...



## Code metrics

KP Name	Language	Middleware	LOC	Downloads*
KP-Coords	ANSI C	SmartSlog, KPI_low	262	35147
KP-GPScoords	ANSI C	SmartSlog, KP_low	280	31230
KP-City	ANSI C	SmartSlog, KPI_low	583	—
KP-Weather	ANSI C	SmartSlog, KPI_low	518	—
KP-GUI	Qt/C++	KPI_low	563	44297
Total	—	—	2206	110674

\* Download counters are by 09.11.2010

<http://maemo.org/download-stats/>

KPI\_low is an interface for implementing Smart-M3 KPs in ANSI C

<http://sourceforge.net/projects/kpilow/>

SmartSlog is ANSI C Library Generator for Smart Space Ontology  
(listen the next talk today)

<http://sourceforge.net/projects/smartslog/>



# Testing

- Over 50 separate tests
- Volunteers
- Real-life tests: traveling through Karelia with N900

In total, 5 bugs have been found

- critical: 1
- major: 1
- normal: 1
- enhancement: 2

Project bugzilla: <http://oss.fruct.org/bugzilla/>

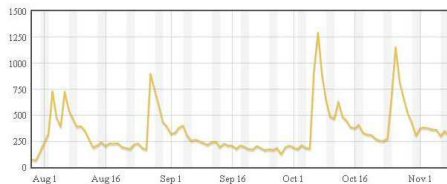
**No open bugs at the moment ...**

**... we need more bugs found by you!**

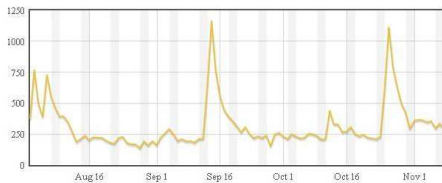


# Download statistics

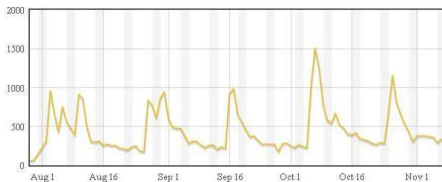
## m3w-gps



## m3w-coords



## m3w-widget



<http://maemo.org/download-stats/>



# Project team



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Korzun



- M3-Weather project wiki

<http://oss.fruct.org/wiki/M3-Weather/>

<http://fruct.org/node/319/>

- Open source code

<http://gitorious.org/m3-weather/>

- Packages for Maemo/MeeGo

  - m3w-widget**

<http://maemo.org/packages/view/m3w-widget/>

  - m3w-gps**

<http://maemo.org/packages/view/m3w-gps/>

  - m3w-coords**

<http://maemo.org/packages/view/m3w-coords/>

Please, send your **comments** to [m3-weather@cs.karelia.ru](mailto:m3-weather@cs.karelia.ru)  
and **bugs** to <http://oss.fruct.org/bugzilla/>



# Thank you