

Microsoft Location Framework

Ein Framework zur dynamischen Karten- und
Positionsdarstellung

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Überblick

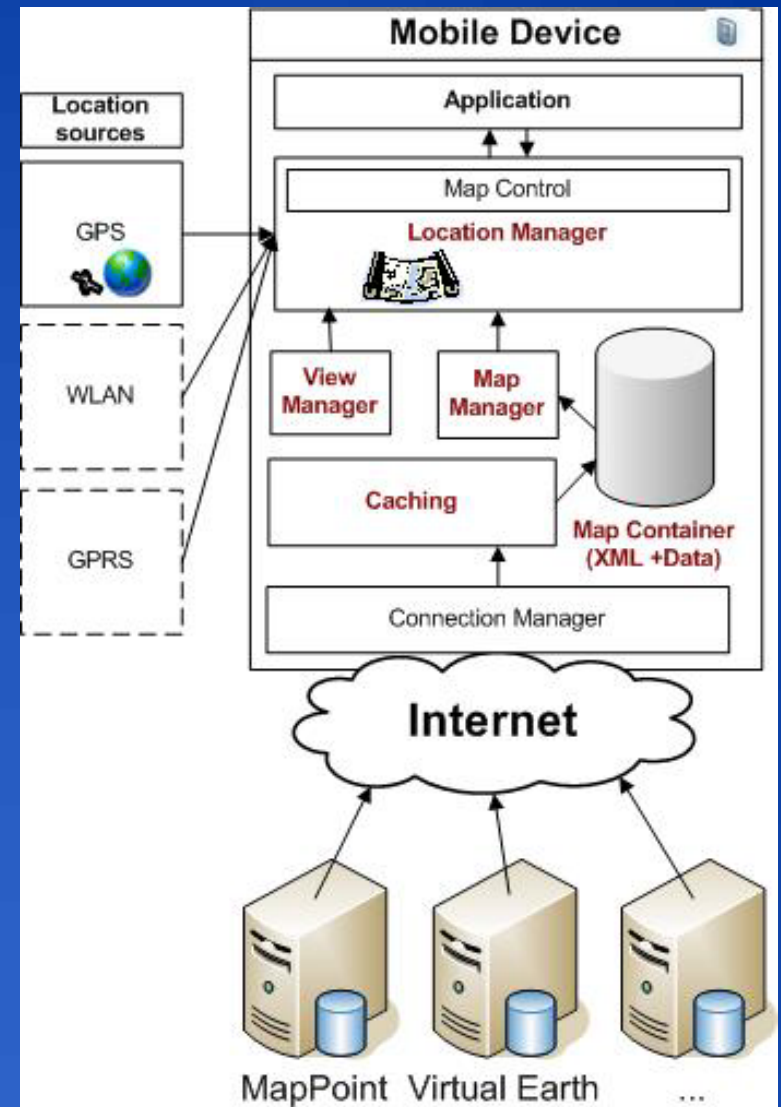
- EMIC
- Architektur
- Funktionsumfang
- Demoapplikationen
- Dokumentation
- Ressourcen

EMIC

- European Microsoft Innovation Center
- Sitz in Aachen
- Derzeit ca. 35 Mitarbeiter
- Forschungsprojekte
- Technologietransfer
- Schwerpunkte: Mobility und Security

Location Framework Architektur

- Klassenbibliothek
- .net (C#)
- Erweiterbar
- Offen
- Flexibel



Funktionsumfang

- Entwickelt um jeden Kartentyp auf jedem Gerät mit Microsoft Plattform darstellen zu können
 - Desktop/Laptop
 - Tablet PC
 - PDA
 - Smartphone
- Areas of interest
- Points of interest
- GPS Unterstützung
- Simulationsunterstützung
- Caching

Funktionsumfang

- Unterstützte Kartentypen:
 - Mappoint
 - Virtual Earth
 - Jede Bitmap-basierte Karte
 - Historische Karten
 - Gebäudepläne
 - Lineare und nichtlineare Karten
 - Horizontale und vertikale Karten
 - Möglich: Vektorkarten

Funktionsumfang

- Unterstützung von unterschiedlichen Kartenansichten
 - Umschalten zwischen unterschiedlichen Kartentypen
 - Umschalten zwischen unterschiedlichen Maßstäben
- Flexibler „Referenzpunkt“
 - Unbeweglich, beweglich
 - Fokussierung kann gewichtet werden
 - Automatische Auswahl der besten Perspektive

Funktionsumfang

- Areas of Interest

- Unterschiedliche Typen:

- Kreis

- Rechteck

- Polygon

- Eventtrigger bei betreten bzw. verlassen

- Werkzeuge

- Erzeugen von Kartendaten

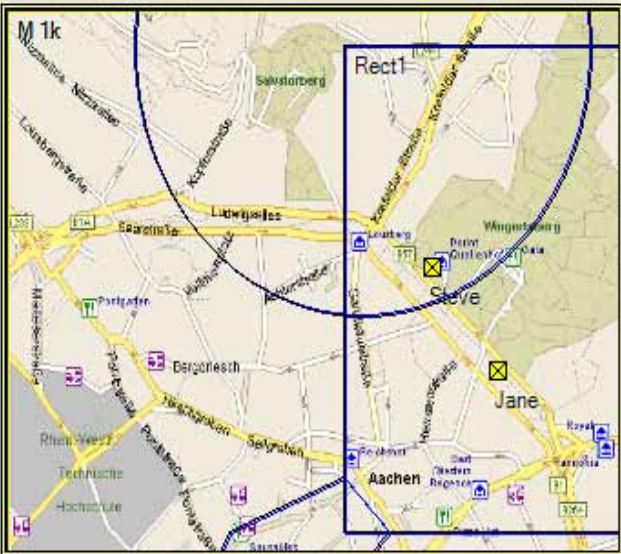
- Mappoint

- Virtual Earth

- Nichtlineare Karten: Triangulation

Demoapplikation: Areas und POI's

This is the map: Aachen_Center_3.5km



1. **Area EXITED: Lat: 50.7857893984242 degrees
2. **Area ENTERED: Lat: 50.7857328270162 degrees
3. **Area ENTERED: Lat: 50.7857328270162 degrees
4. **Area ENTERED: Lat: 50.7857328270162 degrees
5. **Area EXITED: Lat: 50.782541585227 degrees
6. **Area EXITED: Lat: 50.7770324842692 degrees
7. **Area ENTERED: Lat: 50.7771004595862 degrees
8. **Area ENTERED: Lat: 50.7820280797952 degrees

Items in /Behavior of maps:

- 1. Create User #1
- 2. Create RectangleAre
- 3. Create CircleArea
- 4. Create Polygon
- 5. Create User2

Get Map Resolution

Appearance of maps

-
-
-
-
-

User #1 Location Source:

- Simulated
- GPS

Demoapplikation: Indoor

The screenshot displays a software application window titled "Form1" with a standard Windows-style title bar. The main interface is divided into several functional areas:

- Map View:** A 2D floor plan of an indoor space. A yellow square icon labeled "Jane" is positioned in the center. Other icons include "Copier_X" (14 m), "Doug" (12 m), and "Copier_C1" (28 m).
- Location Data Panel:** A white box on the right containing the text:
Jane's Location:
Lat: 1.05717339625779E-05 degrees
Lng: -4.42492494434064E-05 degrees
Alt: 18 meters
frame: EMIC_OFFICE
- Control Buttons:** A "Start" button and an "Add Coffee Shop" button are located to the right of the location data.
- MapQuery Panel:** A panel with tabs for "UI", "MapQuery", and "Wander". It includes:
 - Toggle Signposts:** Three buttons labeled "Signpost Emic", "Signpost Jane", and "Signpost Coffee".
 - Center of Attention:** Two radio buttons, "Jane" (unselected) and "EMIC" (selected).
- Target Resolution Panel:** A panel on the right with buttons for "Max", "Zoom In", and "Zoom Out". Below these buttons, it displays "Pixel/meter = 51,5572".
- Map Interaction Panel:** At the bottom left, there are buttons for "Strech/Clip" and "Edit Criteria...". Below them, a section titled "Screen Click Indicates" contains:
 - Radio buttons for "Wander Destination" (selected) and "Location Input".
 - A checkbox for "Lock Location" which is currently unchecked.

Demoapplikation: Views

The screenshot displays a software application window titled "Paris Rouaner". The main area is a map of Paris, France, showing streets, landmarks, and a river. A smaller inset map in the top-left corner shows a GPS device screen with a map and a list of locations: Sainte-Anne, Golden Tulle, Washington, Opéra, Louvre, Jardin du Palais-Royal, Maison de la France, Maison Alexis Daurand, and Brian. Below the inset map, there are buttons for "Jane" and "Brian" and a "Preferred Map Resolution" label. A "Signposts" section contains a list of landmarks with checkboxes: Arch de Triomphe, Eiffel Tower, Louvre (checked), La Défense, Notre Dame (checked), and Montmartre. Below this list are buttons for "Show Sun Orientation" and "MapCriteria Editor". At the bottom of the interface, there are several buttons: "Reset!", "Send Jane to Notre Dame", "Send Brian to Notre Dame", "Send Jane", "Send Brian", "Send Jane to Eiffel Tower", and "Send Brian to Eiffel Tower". A red banner at the bottom of the application window contains the text "Build custom mapping/location aware applications!".

Demoappliaktion: Nichtlinear

FormTestUserSimulation

Garibaldi Provincial Park

FLUTE BOWL
See inset for more details

BURNT STEW TRAIL

TO SUN BOWL

LITTLE WHISTLER

GLACIER BOWL

CAMEL BACK

T-BARS
ELEVATION: 1,970m/6,463ft

SYMPHONY BOWL

BOUNDARY PISTE

BOUNDARY PISTE

SKI AREA BOUNDARY

LOW ROLL

PIKA'S TRAVERSE

T-BAR RUN

HARMONY RIDGE

BACK BOWL

HEADWALL

HARMONY PISTE

DIE HARD

RABBIT TRACKS

ROUNDHOUSE LODGE
ELEVATION: 1,850m/6,069ft

Jane

BOOMER BOWL

GUN BARRELS

THE GLADES

CLIFF AREA

RATFINK

COUGAR

CHUNNY'S CHOICE

DAPPER'S DELIGHT

MARMOT

EGO BOWL

PIG ALLEY

UPPER WHISKEY JACK

SNOWMAKING RESERVOIR

LOWER RATFINK

EMERALD EXPRESS - 425m/1394ft

MERCHANTED FOREST

LOWER WHISKEY JACK

RAVEN

THE CHIC PEA
ELEVATION: 1,662m/5,453ft

WHISTLER RACE CENTRE

FRANZ'S CHAIR - 272m/892ft

BIG RED EXPRESS - 555m/1821ft

OLD CROW

ARMBIGAN

OLD MAN

SPONY TRAIL

PARROUSE

BAMANAPEL

ORANGERDEL

Restart playback

0 - Many runs then down to base

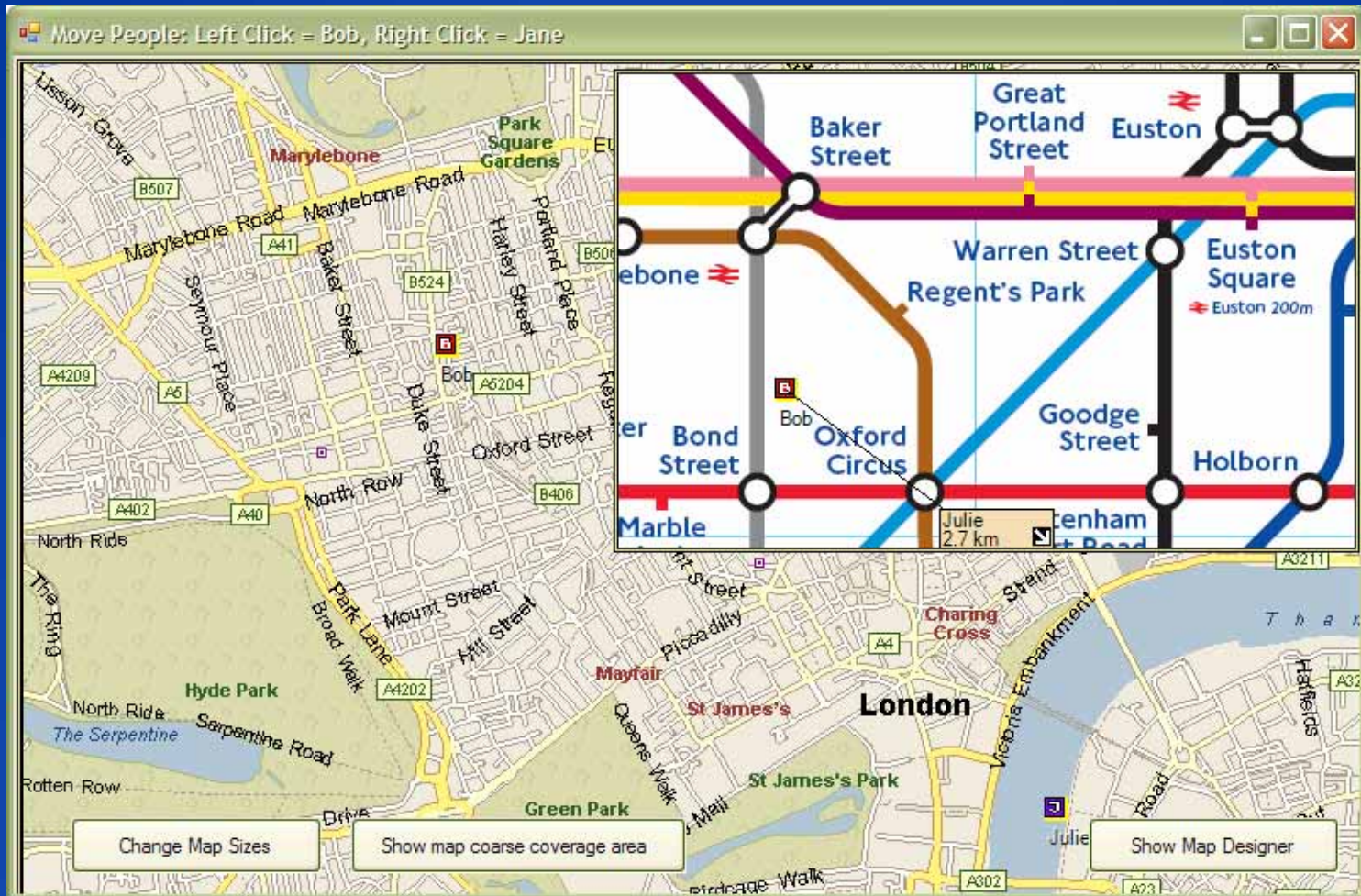
Show map triangles

Pause

Show Map Designer

Lat: 50.061006
Lng: -122.935
Alt: 1803.9 met

Demoapplikation: Nichtlinear



Weitere Applikationen

- Caching von Karten und POI's
- Virtual Earth Mobile
- Historische Karten
- Flughafenübersichtsplan
- VESUV Forschungsprojekt (in Arbeit)

Dokumentation

- Beschreibung
- Viele Beispielapplkationen mit Sourcecode
- Hilfe-Datei
- Tutorial-Dokument

Location Framework

● Ressourcen

● EMIC:

<http://www.microsoft.com/emea/emic/default.aspx>

● Vesuv:

<http://www.vesuv-projekt.de/>

● Location Framework:

<http://www.microsoft.com/emea/emic/downloadcentre.aspx>

Vielen Dank für Ihre
Aufmerksamkeit!