How F# Learned to Stop Worrying and Love the Data

Tomas Petricek @tomaspetricek

Conspirator behind http://fsharp.org

software stacks

trainings teaching F# user groups snippets

mac and linux cross-platform books and tutorials

F# Software Foundation

F# community open-source MonoDevelop

http://www.fsharp.org

contributions research support

consultancy mailing list

The Data

THE WORLD BANK
Working for a World Free of Poverty

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Data

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7 tips for data visualization
Tariq Khokhar | Posted on 14 Oct 2012

Last week, the World Bank Data team descended on New York City for Visualized - a two day event exploring the "evolution of communication at the intersection of big data, storytelling and design." Read More >>

Bono and data beyond 2015: How can the Bank measure up?
Grant Cameron | Posted on 16 Nov 2012

Speaking at the World Bank on Wednesday, musician and activist Bono made the call for "open data and transparency" to "turbocharge the fight against poverty." Read More >>

New data resources on poverty, gender, jobs, health and more
Maryna Taran | Posted on 7 Nov 2012

Discover Open Data specialized dashboards and tools that help investigate and compare indicators, showcase creative visualizations and reveal the stories behind the numbers. Read More >>

🕐 Updates

Doing Business
Updated 25 October 2012

Open Government Data Toolkit
Updated 10 July 2012

Open Data Services

8,000+
Time series indicators in dataBank >>

850+
Datasets in Finances >>

11,000+
Activities in Projects & Operations >>

700+
Surveys in Microdata >>

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Google

population of london

population **of the world**

population **of london**   I'm Feeling Lucky »

population **of china**

population **of uk**

8,174,100 (2011)

London, Population

London - Wikipedia, the free encyclopedia

en.wikipedia.org/wiki/**London**

In March 2011, **London** had an official **population** of 8,174,100, making it the most populous municipality in the European Union, and accounting for 12.5% of the ...

Greater London - City of London - History of London - Demographics of London

```
let wb = WorldBank()
w b.
```

[DEMO]

Exploring WorldBank Data

Asynchronous programming

Asynchrony matters

Node.js and **C# 5.0**

F# Async workflows

Without **inversion of control**

Exception handling and **loops** simple

Sequential and **parallel** composition

F# to JavaScript

[DEMO]

WorldBank App for the Web

F# to JavaScript

TypeScript type provider

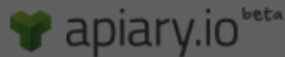Import types for JS libraries
Somebody else writes them!

Libraries & frameworks

Open source: FunScript and Pit
Commercial: IntelliFactory **WebSharper**

Accessing REST services

REST (Representational State Transfer) is a **style of software architecture** for distributed systems such as the **World Wide Web**. REST has emerged as a predominant Web service design model.

Accessing REST services

[DEMO]

Introducing Apiary Type Provider

Apiary.io Type Provider

Common REST conventions

GET /movie/{id}　　　　　　　Get movie summary
GET /movie/{id}/casts　　　Get cast details

Types from JSON samples

{ "page": 1, "total_pages": 1, "total_results": 5,
  "results": [{ "title": "Skyfall", "id": 94221 }] }

[DEMO]

The Movie Database App for the Web

Type Providers in Action

WorldBank Type Provider

JSON Type Provider

Apiary Type Provider

TypeScript Type Provider

[SUMMARY]

Where to learn more?

Online resources

www.fsharp.org Information & community

www.tryfsharp.org   Interactive F# tutorials

User groups and trainings

Functional and F# trainings

In London and New York

Get in touch tomas@tomasp.net

F#unctional Londoners meetup

http://meetup.com/FSharpLondon/

F#, Data and Services

other languages   web

tool support   extensibility   code-first

type script   **Love the Data**   REST

unstructured data   static typing

inference   **and integration**   schema

R language   transparent   java script